

THE PIRBRIGHT INSTITUTE

England & Wales · Charity number 228824

Details

Other names	THE INSTITUTE FOR ANIMAL HEALTH
Status	Registered
Legal form	Charitable company
Company number	00559784
Registered	1977-07-25
Register	View on the Charity Commission register

Contact

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Activities

Objects: TO CONDUCT AND PROMOTE SCIENTIFIC RESEARCH ON DISEASES OF ANIMALS, INCLUDING EXOTIC DISEASES AND TO DEVELOP APPROPRIATE METHODS FOR THEIR CONTROL, AND ON ALL MATTERS CONCERNED WITH ANIMAL HEALTH AND ANCILLARY THERETO AND TO PUBLISH THE RESULTS OF SUCH RESEARCH; AND TO PREPARE, EDIT, PRINT, PUBLISH, ISSUE, ACQUIRE AND CIRCULATE ANY LITERARY WORKS OR MATTERS TREATING OF OR BEARING ON THE SAID RESEARCH WORK, ESTABLISH AND MAINTAIN COLLECTIONS OF MATERIAL, LITERATURE AND SCIENTIFIC DATA RELATING THERETO, DISSEMINATE INFORMATION OBTAINED THEREFROM, AND CONTRIBUTE TOWARDS THE PROVISION OF A LIBRARY OR LIBRARIES DESIGNED TO ASSIST SUCH WORK.

Activities: To conduct and promote scientific research on infectious diseases of farm animals, including exotic diseases and to develop appropriate methods for their control; and on matters concerned with animal health and ancillary thereto, and to publish the results of such research.

Classification

- **How:** Sponsors Or Undertakes Research
- **What:** Education/training
- **Who:** The General Public/mankind

Geography

- Surrey

Finances

Period end	Income	Expenditure	Assets	Employees
2025-03-31	£52,700,000	£59,519,000	£324,632,000	398
2024-03-31	£44,669,000	£54,986,000	£331,551,000	384
2023-03-31	£46,862,000	£50,602,000	£341,648,000	357
2022-03-31	£59,110,000	£46,518,000	£345,238,000	361
2021-03-31	£80,683,000	£48,000,000	£330,646,000	373

Trustees

Name	Role	Appointed
Alison Hardy		2021-01-01
Dr Ian Walker		2025-01-01
Dr Linda Magee OBE		2023-01-30
Dr Tim Harry		2025-01-01
Michael Tsang		2024-07-25
Paul Logan		2021-01-01
Paul Norris		2025-04-01
Professor Charles Michael Turner		2022-11-16
Professor Julian Hiscox		2026-03-26
Tamsin Webster		2023-10-12

Accounts

**ANNUAL REPORT AND ACCOUNTS
FOR THE YEAR ENDED 31 MARCH 2025**

CHARITABLE OBJECTIVES

THERE ARE THREE REASONS FOR CONTROLLING DISEASES OF ANIMALS:

- the direct impact of the disease on the health and welfare of the animals;
- the indirect impact on human health, welfare and prosperity due to reduced availability of food; and
- the spread of infections causing disease from animals to humans (zoonoses).

There is also the added possibility of disease transferring from humans to animals (reverse zoonoses). The World Health Organisation states that zoonoses comprise a large percentage of all newly identified infectious diseases as well as existing infectious diseases of humans.

PIRBRIGHT'S CHARITABLE OBJECTIVES ARE:

- to conduct and promote scientific research on diseases of animals, including exotic diseases, and to develop appropriate methods for their control, and on matters concerned with animal health, and ancillary thereto, to publish the results of such research; and
- to prepare, edit, print, publish, issue, acquire and circulate any literary works or matters treating of or bearing on the said research work, establish and maintain collections of material, literature and scientific data relating thereto, disseminate information obtained therefrom, and contribute towards the provision of a library or libraries designed to assist such work.



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FOREWORD BY THE CHAIR OF THE BOARD OF TRUSTEE DIRECTORS

As Chair of the Board of Trustee Directors, it is my pleasure to present the Trustees' Report incorporating the Strategic Report for the year 1 April 2024 to 31 March 2025.



THE PIRBRIGHT INSTITUTE AIMS TO PROVIDE THE UK AND INTERNATIONAL COMMUNITY WITH THE CAPABILITY TO PREDICT, DETECT, UNDERSTAND AND RESPOND TO THE THREAT OF SERIOUS VIRAL DISEASES OF LIVESTOCK, AND THEIR SPREAD FROM ANIMALS TO HUMANS.

Pirbright's contribution remains a critical one both for the UK and globally. The excellent facilities available at Pirbright and the significant continuing investment made by UKRI Biotechnology and Biological Sciences Research Council (BBSRC) have further strengthened the Institute, allowing world-class science to thrive on the site. The Board of Trustee Directors are confident that The Pirbright Institute has the scientific and support personnel, coupled with the high-containment facilities, to deliver scientific excellence to achieve its strategic aims.

The Pirbright Institute's scientific strategy is underpinned by a series of partnerships with stakeholders globally, including other UKRI-funded institutes, academic and research institutions, government agencies, international charities and philanthropic foundations. The Institute is also committed to playing a key role in nurturing the next generation of researchers, technical specialists and innovators, and is committed to offering apprenticeship opportunities and technical training courses (both in person and online) to contribute to the broader impact UK science makes nationally and globally.

In the year of the report, Pirbright's exciting five-year science strategy, funded by BBSRC, provides core infrastructure support for its flagship scientific programmes in 2024/25. The ability of the Institute to respond to national emergencies is being demonstrated by its monitoring of bluetongue virus infections in England and preparing for any threats from the recent foot-and-mouth disease virus outbreaks in Europe.

Competitively won research grant income at the Institute is key to the Institute's financial sustainability and there was a very strong series of awards over the last year, which exceeded the target required within the budget. The Institute remains very proactive in identifying new sources of income to support its science and growth in grant income continues to be positive.

Culturally, the Institute is committed to equality, diversity and inclusivity (EDI) in all it does. It has built on its Athena Swan Silver award in 2023 to further enhance what it does in this area to ensure it is proactive in supporting an inclusive environment with a focus during the past year on mental health. The Athena Swan Charter is used across the globe to support and transform gender equality within higher education and research.

Pirbright is committed to environmental sustainability and energy efficiency in all activities, including decommissioning older buildings. Despite new infrastructure developments,

Pirbright has reduced its level of power consumption over the past year and will realise further efficiencies in future, especially through the Combined Heat and Power Plant (CHP) and a large number of energy reduction projects.

As Trustee Directors, we are committed to continual improvement of the governance of the Institute and ensuring we are fully aligned with the Charity Governance Code. We continue to reflect on our board effectiveness through an annual review and through external reviews whilst ensuring effective communication occurs between the Board of Trustee Directors and the Senior Leadership Board. The Board of Trustee Directors receives regular updates from Pirbright staff at each board meeting with an opportunity for question-and-answer sessions. Trustee Directors are managing to spend time around Board meetings interacting with staff and visiting facilities, especially new infrastructure developments on campus. As Trustee Directors, we recognise that we have a responsibility to engage with employees and students who work at the Institute to ensure we understand any issues or concerns and are fully informed of matters that directly affect them. We have expanded these opportunities for interaction in the last year by attending all-staff briefings and arranging Trustee Director 'drop in' sessions and will do more in the year ahead.

As Trustee Directors, we have a responsibility to ensure the future success of Pirbright. To assist in discharging these responsibilities, the Board has three sub-committees: the Finance and Audit Committee, the Risk and Assurance Committee and the Nominations and Governance Committee. In addition, the Trustee Directors have a Scientific Advisory Board, which comprises world-leading scientists from academia and funding agencies. An annual joint meeting between the Board of Trustee Directors and the Science Advisory Board provides the opportunity for discussion about the Science Strategy, horizon scanning and external factors impacting delivery.

On behalf of the Board, I am grateful for the commitment and contribution that the Director, the Senior Leadership Board and indeed all the staff at The Pirbright Institute have made in the last year to ensure its continued success in the future.

PROFESSOR VINCENT EMERY

Chair of Board of Trustee Directors, The Pirbright Institute

REPORT BY THE DIRECTOR & CEO

In the financial year 2024-2025, The Pirbright Institute again achieved a strong performance. We continue to deliver very effectively against our scientific objectives and secure additional external funding from an increasingly broad range of funders.



HUMANS AND ANIMALS CONTINUE TO BE THREATENED BY HIGH CONSEQUENCE VIRAL DISEASES THAT CAN HAVE A MAJOR IMPACT ON HEALTH AND PROSPERITY.

The outbreak of Bluetongue virus 3 continues in Europe and in the UK which has caused widespread disruption to the livestock industry. Pirbright staff have provided critical capability to provide the UK laboratory capacity to help control this outbreak. This year there were two separate foot-and-mouth disease outbreaks in Germany and Hungary, the first outbreaks in Europe for about 20 years, which alerted all countries to the constant threat of this devastating disease. Pirbright is the World Reference Laboratory for foot-and-mouth disease (WRLFMD) and has been supporting the control of these diseases and assessing the threat to the UK.

The potential spread to humans from zoonotic viruses was highlighted by the infection of dairy cattle in the USA by H5N1 avian influenza, we are constantly monitoring the threat of bird flu jumping into mammals as a bridge to causing widespread infection of humans. Fortunately, there is greater connectivity and collaboration between organisations that traditionally worked on animal and human diseases, an activity often described as “One Health”. These partnerships have been effective in carrying out important research to improve the control of SARS-CoV-2, Mpox and influenza and will provide greater resilience in the face of new animal or human epidemics and pandemics.

This year marks a milestone in Pirbright’s development, the conclusion of the construction phase of the infrastructure building programme that started about 15 years ago and has cost approximately £450m. We now have state-of-the-art laboratories and animal facilities operating at the highest level of biological containment, alongside lower containment facilities that are essential to deliver a unique national capability. It is critical these new facilities are operated rigorously to the highest quality management standards, which includes highly trained staff.

We are building on our in-house training programme to share this knowledge with other organisations, nationally and internationally, using a range of mechanisms, including hosting training courses, visiting other sites and e-learning. We are working with the Royal Society of Biology to develop accredited courses to facilitate knowledge sharing.

The key drivers of success and sustainability of Pirbright are delivering excellent science to improve human and animal health, robust and proactive financial management and effectively controlling and mitigating the high inherent risks of working with viruses. I am very grateful to all our staff for their commitment to excellence.

PROFESSOR BRYAN CHARLESTON MRCVS FRS

Director & CEO

The Pirbright Institute

ABOUT PIRBRIGHT

Pirbright is a world-leading centre of excellence in research and surveillance of virus diseases of farm animals and viruses that spread from animals to humans. The Institute receives strategic funding from UKRI BBSRC and works to enhance capability to contain, control and eliminate these economically and clinically important viral diseases through highly innovative fundamental and applied bioscience.

OUR PURPOSE

Pirbright's charitable objective is to conduct and promote scientific research on diseases of animals, including exotic diseases, and to develop appropriate methods for their control.

OUR MISSION

The Institute's mission is to be the world's leading innovative centre for preventing and controlling viral diseases of livestock.

OUR VISION

The vision of Pirbright is to apply scientific research to prevent and control viral diseases, protecting animal and human health and the economy. The Pirbright Institute Science Strategy can be found on the Institute's website: pirbright.ac.uk

OUR STAFF AND STUDENTS

Pirbright employs around 400 staff, with its research supported by 56 PhD students and 16 Interns from a range of backgrounds, and the Institute prides itself on its diversity. The Institute is based on a campus site in Pirbright in Surrey.

OUR VALUES

The staff and students working at the Institute take **PRIDE** in everything we do, which is reflected in our values:

Passion – for the highest-quality standards, delivery and performance.

Reliability – in everything we do: leadership, learning, biosecurity, problem anticipation and containment of unexpected events.

Innovation – is the driving force behind our fundamental and applied science. Our work is positioned at the cutting edge of science to deliver solutions for global good.

Dignity and respect – we respect and trust all in our diverse community.

Excellence – we aim to deliver the best in all aspects of our work, including health, safety, biosafety, scientific research, customer service and environmental protection.

OUR SCIENCE

Pirbright provides national and international capacity to predict, detect, understand and respond to emerging new viral diseases of livestock and endemic viruses that are circulating in and outside of the UK.

Our diagnostics, surveillance facilities and expertise enable us to act as a national capability, protecting the UK from livestock viral diseases that threaten our borders, allowing us to act decisively and swiftly in the event of an outbreak to control it as rapidly as possible. Our fundamental research falls under two science programmes, which study either hosts or viruses and their interactions.

INSTITUTE STRATEGIC PROGRAMMES

Pirbright's science is organised into two closely linked and highly integrated programmes, one on virus biology and the other on host responses. Together they deliver important new knowledge and innovative disease control measures.

PROGRAMME ONE:

VIRUS LIFECYCLES AT MULTIPLE SCALES

Pirbright's research programme focusing on viruses is driven by the overarching question: "How do viruses replicate within the infected cell, induce species-specific disease, transmit between hosts and circulate around the globe?" The research is focused on three broad topics: biology of virus-infected cells; virus-host interactions controlling species-specific outcomes; understanding and predicting disease spread. These topics are led by Professor Nicolas Locker, Dr Helena Maier and Dr Naomi Forrester-Soto, respectively. Together, they drive scientific delivery of the programme across Pirbright.

Overall, this programme will:

- Generate new fundamental knowledge of the life cycles of high-consequence viruses, develop new approaches for engineering attenuated viruses as novel vaccines and investigate how co-infecting viruses compete and evolve.
- Investigate how virus-host interactions control species specific pathology and understand how viruses overcome barriers to species jumping.
- Use 'omics, systems and imaging datasets to build in-silico models of the infected cell.
- Study how viruses transmit between hosts by both direct mechanisms and via insect vectors. Use appropriate models and genotype-to-phenotype studies to predict large-scale spread, zoonotic potential, impact of climate change and risk to the UK.
- Provide an international hub for veterinary, zoonotic and One Health studies of viral disease.

PROGRAMME TWO:

HOST RESPONSES TO VIRAL INFECTION

Pirbright's host programme is driven by the overarching question: "What properties of the host determine the outcome of viral infection?" The programme focuses on three broad topics: a fundamental understanding of immune responses; differential outcomes of viral infections; enhanced protective responses in vertebrate hosts. Professor Simon Graham, Dr Wilhelm Gerner and Professor Elma Tchilian are respective Topic Leads for each of these areas, supporting scientific delivery, monitoring and review of this programme of research.

Overall, this programme aims to:

- Advance our understanding of complex immune responses using comparative systems approaches to better define the molecular and cellular basis of protection.
- Identify new vaccine targets and delivery methods that induce the most broadly protective responses.
- Enhance disease control measures for existing viruses and enable rapid responses to future threats.
- Help predict and risk assess potential viral threats to the UK.
- Actively contribute to the larger One Health agenda by promoting and using natural host species and viruses related to human pathogens.
- Enable and enhance bioscience research across the UK and internationally through collaboration and strategic research partnerships.

These strategic programmes officially started on 1 April 2023, following the application process to UKRI BBSRC for continued strategic investment through the Institute Assessment Exercise (IAE) 2022. The science builds on our previous strategic investments, and these strategic programmes underpin Pirbright's overall science strategy, which is further supported by significant leveraged funding

INSTITUTE STRATEGIC PROGRAMMES CONTINUED

DIAGNOSTIC AND SURVEILLANCE EXPERTISE

Pirbright has a long history of protecting the UK from disease and has been home to the WRLFMD for over 60 years. We also operate the Non-Vesicular Reference Laboratory (NVRL) for several high-consequence diseases of growing importance, including bluetongue, African swine fever, peste des petits ruminants, rinderpest, African horse sickness, lumpy skin disease and sheep and goat pox. These laboratories provide an essential diagnostic and advice service to the UK Government Department for Environment, Food & Rural Affairs (Defra), United Nations Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (WOAH).

Our laboratories receive samples from all over the world and are instrumental in providing countries with sophisticated data on strains of viruses causing disease and helping to select vaccines to aid control. Furthermore, our scientists have provided training to improve diagnostic capacity in Argentina, Ghana, Indonesia, India, Jordan, Kenya, Philippines, Saudi Arabia, South Korea, Thailand, Türkiye and Zambia. During 2024-2025, the Pirbright reference laboratories processed 94,025 samples. In addition, since August 2024 the NVRL (with support from other departments) have been responding to bluetongue virus-3 and -12 outbreaks, resulting in diagnostic report cases, tracings and surveillance activities. As a result, over 87,100 samples were tested.

The international reference laboratories are accredited to ISO/IEC 17025, a UKAS-accredited laboratory number 4025. In 2024-25, this accreditation was renewed following a successful assessment by UKAS.

NATIONAL RESEARCH ORGANISATIONS (NRO)

The National Research Organisations (NRO) is a newly formed group representing the UK's independent and government affiliated research institutions. These organisations deliver world class science and research for the benefit of the UK and the rest of the world. The NRO has been formed to evolve the landscape of research in the UK, by working with the Government to make UK research more financially sustainable and easily accessible for evidence-based policy. It has the support of the Science Minister and will work with the Department of Science Innovation and Technology to achieve its initial aims while building relationships across Government departments to promote evidence-based policy decision making and increasing the coherence and efficiency of research to ensure long term financial sustainability.



PIRBRIGHT SCIENCE HIGHLIGHTS 2024-2025

The scientific progress outlined in this report focuses on our research into viruses affecting livestock and zoonotic viruses, which have implications for animal and human health, as well as food and economic security worldwide. Our advancements in research, vaccine development and diagnostic tests contribute to global preparedness in combating viral outbreaks through prevention and control. Shown below are several of the projects undertaken by Pirbright during the year which highlight the impact and importance of our work. For more information, please visit pirbright.ac.uk to explore our latest findings.



LAUNCH OF BIORISK PROFESSIONAL REGISTRATION SCHEME

A new UK-wide professional registration scheme for biorisk specialists has been launched by the Royal Society of Biology (RSB) in partnership with the Biorisk Strategic Leadership Group (BSLG), coordinated by The Pirbright Institute. The Biorisk Professional Registration Scheme (BPRS) offers two levels, Registered Biorisk Adviser (RBA) and Registered Biorisk Specialist (RBS), to benchmark competence, support career development, and ensure consistent standards in biosafety. Covering roles across academia, healthcare, and industry, the scheme addresses long-standing training gaps and promotes high standards in biological risk management throughout the UK bioeconomy sector.

www.pirbright.ac.uk/news/launch-biorisk-professional-registration-scheme

INVESTIGATING BIRD FLU IN CATTLE

The Pirbright Institute is conducting urgent research into the causes of human H5N1 bird flu cases in the U.S., following virus detection in pasteurised milk and infections in dairy workers.

Building on its leading bird flu programme, Pirbright aims to track the virus's spread and understand its transmission among wild birds, poultry, and cattle. The research supports global disease prevention efforts by informing policy with scientific evidence.

A recent study confirmed that standard pasteurisation temperatures effectively inactivate H5N1 bird flu viruses in cows' milk, making it safe to drink. This research was a collaborative effort, led by Professor Ian Brown, Group Leader, Avian Virology. The study responded to a H5N1 outbreak in U.S. dairy cows, which raised concerns about virus-laden milk and the potential for human infections. While human cases are rare, they can be severe. The researchers warn against consuming raw milk in affected areas, as it may carry infectious H5N1 virus.

www.pirbright.ac.uk/news/watch-investigating-bird-flu-cattle



RESEARCH PROVIDES 'ATLAS' FOR STUDIES INTO PIG LUNG IMMUNITY

A new study which mapped immune responses in pig lungs after influenza infection or vaccination has revealed key insights into respiratory immunity. Researchers found that IL-1 β , effective in mice, did not protect pigs and instead reduced regulatory T cells. They also identified long-lasting IFI6 gene activity, indicating persistent immune changes post-infection. The research highlights pigs as a valuable model for human and livestock immunity, offering a gene expression "atlas" for future studies. This research highlights how vaccine design affects lung immune cells, helping to improve long-term protection against respiratory viruses in both animals and humans.

www.pirbright.ac.uk/news/research-provides-atlas-studies-pig-lung-immunity



GLOBAL QUEST FOR VACCINE TO CUT METHANE IN CATTLE

Scientists from The Pirbright Institute and the Royal Veterinary College, supported by a £7m (\$9.4m) grant from the Bezos Earth Fund, are leading a global effort to develop a proof-of-concept vaccine to reduce methane emissions in cattle. Methane, mainly produced by microbes in cows' stomachs, is a major contributor to climate change. The three-year study aims to create vaccines that inhibit methanogen microbes by triggering targeted antibody responses. If successful, this could significantly cut livestock-related greenhouse gas emissions and contribute to global climate goals. The project builds on existing research and involves international collaboration with AgResearch New Zealand. www.pirbright.ac.uk/news/global-quest-vaccine-cut-methane-cattle



NEW EFFICIENT METHOD DEVELOPED TO TACKLE AVIAN INFECTIOUS BRONCHITIS VIRUS

Pirbright researchers, in collaboration with New England Biolabs, have developed a faster, more efficient method to study infectious bronchitis virus (IBV), a major poultry pathogen. Using a data-optimised Golden Gate Assembly process, the new reverse genetics system enables rapid analysis of IBV genes, supporting quicker vaccine development and improved outbreak response. The method addresses challenges from IBV's rapid mutation and poor vaccine cross-protection. It may also be applied to study other coronaviruses and large-genome viruses, accelerating research into vaccines and treatments. The work was funded by the BBSRC and New England Biolabs and published in PLoS ONE. www.pirbright.ac.uk/news/new-efficient-method-developed-tackle-avian-infectious-bronchitis-virus



PIRBRIGHT FORGES PARTNERSHIP TO TACKLE LUMPY SKIN DISEASE

A UK-India research partnership, co-funded by UKRI and the Indian government, aims to better understand and control lumpy skin disease (LSD) in Indian cattle. Led by The Pirbright Institute, ICAR, and the Royal Veterinary College, the project will develop improved assays to measure immune responses, identify factors influencing disease spread and severity, and generate risk maps. LSD, a viral disease first reported in India in 2019, poses a major threat to farmers' livelihoods. A longitudinal study in Karnataka, selected due to high case clusters, will examine vector patterns and village-level risk factors to support targeted control strategies. www.pirbright.ac.uk/news/pirbright-forges-partnership-tackle-lumpy-skin-disease



WEB PORTAL TACKLES FOOT-AND-MOUTH DISEASE

A new web portal, OpenFMD, has been launched to support global foot-and-mouth disease (FMD) surveillance and control. Developed by The Pirbright Institute, EuFMD, and Epi-interactive, the platform offers analytical tools for real-time data sharing and genomic analysis. Presented to the Global FMD Research Alliance, OpenFMD is a central resource for scientists and policymakers, enhancing global FMD intelligence. It is backed by international partners including FAO, WOA, and Defra, and may serve as a model for tackling other global diseases. The Pirbright Institute hosts the World Reference Laboratory for Foot-and-Mouth Disease and leads this collaborative initiative. www.pirbright.ac.uk/news/web-portal-tackles-foot-and-mouth-disease

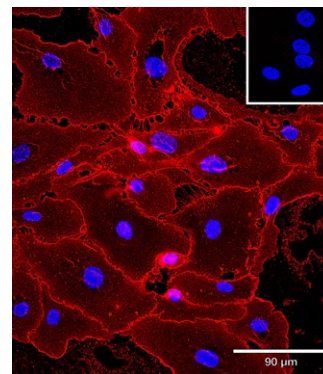
PIRBRIGHT TESTING VITAL IN TACKLING BLUETONGUE

The Pirbright Institute is supporting the UK's response to a growing bluetongue virus (BTV-3) outbreak, with confirmed cases on at least 13 premises across Norfolk, Suffolk, and Essex. A Restricted Zone has been declared, with Kent and East Sussex identified as high-risk areas. Bluetongue affects ruminants but poses no risk to humans. Pirbright's Reference Laboratories are screening blood samples to detect infections, identify serotypes, and track the virus's origin. Pirbright is also monitoring vectors and using modelling to assess transmission risk and guide control measures. Movement restrictions are in place. www.pirbright.ac.uk/news/pirbright-testing-vital-tackling-bluetongue



PROIMMUNE AND PIRBRIGHT COLLABORATE TO ADVANCE ANIMAL HEALTH

The Pirbright Institute has partnered with ProImmune to develop Ankyrons, innovative target-binding proteins that offer a powerful alternative to traditional antibodies in animal health research. These small, high-affinity proteins are selected from a trillion-clone library and provide greater specificity, sensitivity, and reproducibility. The collaboration focuses on creating Ankyrons™ for under-researched targets in species such as cattle, pigs, birds, and mosquitoes, including pathogens like foot-and-mouth disease virus and African swine fever virus. This partnership aims to accelerate global animal health research and expand access to advanced tools for studying disease and biology across species. www.pirbright.ac.uk/news/proimmune-and-pirbright-collaborate-advance-animal-health



OUTBRED PIGS CAN SERVE AS MODEL FOR HUMAN THERAPEUTICS

Researchers at The Pirbright Institute have shown that commercial outbred pigs can serve as a cost-effective alternative to Gottingen minipigs for testing how long monoclonal antibodies (mAbs) remain in the body after injection. These lab-made antibodies are used to treat cancer, autoimmune, and infectious diseases, making pharmacokinetic studies essential for optimizing treatment. The study, published in *Frontiers in Immunology*, found that outbred pigs, despite their rapid growth, are reliable models for mAb testing, potentially advancing therapeutic development. The research was conducted with U.S. partners and supported by the Gates Foundation and UKRI BBSRC. www.pirbright.ac.uk/news/outbred-pigs-model-human-therapeutics



PIRBRIGHT JOINS UKRI-BACKED NETWORK TO TACKLE LIVESTOCK DISEASES

The Pirbright Institute has joined the UKRI-funded One Health Computational Network (OHCN) to help detect, predict, and prevent viral diseases in animals. The network integrates genomic, ecological, and population data using advanced computational tools, including AI, to improve epidemic preparedness. Co-led by Pirbright researchers, OHCN supports UKRI's five-year strategy to tackle complex health challenges. It will assess virus risks at the human-animal interface, monitor viral evolution, and foster interdisciplinary collaboration through workshops and a symposium. The initiative aims to secure further funding to develop innovative tools for early virus detection and control. www.pirbright.ac.uk/news/pirbright-ukri-tackle-livestock-diseases





MAJOR NEW FACILITY SUPPORTS PANDEMIC PREPAREDNESS

During the year, Practical Completion was achieved on a major new high-containment science facility, the Brooksby Building, dedicated to researching high-impact viral livestock diseases and zoonotic viruses. Named after FMDV research pioneer John Brooksby, the 4,745m² facility enhances the UK's ability to study and respond to threats such as foot-and-mouth disease, African swine fever, bluetongue, and mosquito-borne viruses like Rift Valley fever.

Built by Kier to top international biosafety standards and funded by UKRI BBSRC, the facility complements Pirbright's existing high-containment laboratories and insectaries. It will strengthen the UK's epidemic preparedness, support global collaborations, and enable cutting-edge research on viruses exacerbated by climate change.

Pirbright Director Professor Bryan Charleston called it the final piece in the UK's world-class viral disease research infrastructure. The building cements Pirbright's role as a National Capability and global leader in livestock virology and zoonotic disease control. www.pirbright.ac.uk/news/major-new-facility-supports-pandemic-preparedness

STUDY CONFIRMS THE CLINICAL IMPACT OF A BTV-3 OUTBREAK ON THE UK SHEEP POPULATION

A new study by The Pirbright Institute reveals that bluetongue virus serotype 3 (BTV-3) poses a moderate clinical threat to UK sheep and may remain infectious longer than previous strains. First detected in southern England in November 2023, BTV-3 has since spread across 28 counties, marking the first UK outbreak in over 15 years.

Pirbright researchers infected five British sheep to assess clinical symptoms, infection dynamics, antibody response, and transmissibility to *Culicoides* midges. Results showed mild to moderate disease, including fever, lameness, diarrhoea, and behavioural changes, with potential for prolonged infectivity (up to 28 days) - raising concerns over extended transmission risk.

The findings, published in *Veterinary Record*, provide essential guidance to vets and farmers on identifying symptoms and managing infection. The study supports ongoing outbreak control efforts, with Pirbright's Reference Laboratories working with the Animal and Plant Health Agency to screen animals and monitor virus spread. Vigilant disease reporting remains crucial to prevent further spread across the UK. www.pirbright.ac.uk/news/clinical-impact-bluetongue-uk-sheep



RESEARCH OFFERS HOPE FOR FUTURE AFRICAN SWINE FEVER VACCINE

Scientists at The Pirbright Institute have developed a safer modified live vaccine for African swine fever virus (ASFV) by altering the CD2v protein, which enables the virus to bind red blood cells and persist in the blood. The modified virus no longer binds to red cells but still triggers strong immune responses in pigs, providing protection with only mild symptoms. This approach reduces virus persistence without compromising vaccine effectiveness. The findings offer a promising path towards safer ASFV vaccines and improved control of this deadly disease affecting global pig farming and food security. www.pirbright.ac.uk/news/research-african-swine-fever-vaccine





WOAH MARKS 100 YEARS OF OUTSTANDING PIRBRIGHT SCIENCE

A centenary review by the World Organisation for Animal Health (WOAH) highlights The Pirbright Institute's global impact on controlling livestock diseases. The publication celebrates Pirbright's key contributions to the control of foot-and-mouth disease (FMD) by pioneers like John Brooksby and Fred Brown, and its leadership in eradicating rinderpest. It also recognizes Pirbright's ongoing research in areas such as FMD, peste des petits ruminants (PPR), and One Health approaches. The review showcases the Institute's century-long role in advancing animal health, biosecurity, and vaccine innovation, reinforcing its position as a global leader in combating transboundary and emerging livestock diseases.

www.pirbright.ac.uk/news/woah-marks-100-years-pirbright-science



PIRBRIGHT SHARES AWARD TO MAKE AFFORDABLE ANTI-PARASITE VACCINE

Scientists at Moredun Research Institute and The Pirbright Institute have received £1.7 million from the Bill & Melinda Gates Foundation to develop a low-cost vaccine against the barber's pole worm (*Haemonchus contortus*), a deadly parasite in sheep and goats. Widespread in tropical regions and rising in temperate areas due to climate change, the parasite causes severe anaemia and death. Resistance to traditional wormers is common, making new solutions urgent. The vaccine will use monoclonal antibody technology to target a weak spot in the parasite's gut, offering an affordable alternative for farmers, especially in low- and middle-income countries.

www.pirbright.ac.uk/news/barbers-pole-worm-parasite-vaccine



AFRICAN PARTNERSHIP ADVANCES ANIMAL HEALTH RESEARCH

Researchers from The Pirbright Institute are collaborating with the University of Ghana and the Roslin Institute to strengthen animal health research and data science in Ghana. The project, which includes workshops on genome sequencing, bioinformatics, and data science, focuses on improving local expertise in disease analysis, particularly for foot-and-mouth disease and African swine fever. The partnership aims to reduce reliance on external resources and enhance Ghana's ability to respond to outbreaks. By improving disease surveillance, the initiative supports animal health, food security, and public health, with long-term benefits for both countries.

www.pirbright.ac.uk/news/ghana-partnership-animal-health-research

CVIM PARTNERS QUANTOOM BIOSCIENCES TO ADVANCE VACCINE DEVELOPMENT

The Centre for Veterinary Vaccine Innovation and Manufacturing (CVIM) at The Pirbright Institute has partnered with Quantoom Biosciences to advance mRNA and self-amplifying RNA (saRNA) vaccines for livestock. Using Quantoom's Ntensify® mini platform, the team developed vaccine candidates targeting peste des petits ruminants virus (PPRV) in sheep and is now examining other diseases like bluetongue. The installed platform allows rapid, cost-effective RNA vaccine development. This collaboration supports CVIM's mission to accelerate next-generation vaccine production for neglected and emerging livestock diseases, contributing to global food security, pandemic preparedness, and the One Health approach. www.pirbright.ac.uk/news/cvim-partners-quantoom-biosciences



NEW STRATEGIES FOR INFECTIOUS BRONCHITIS VIRUS VACCINE DEVELOPMENT

Pirbright scientists have developed a new targeted vaccine approach for infectious bronchitis virus (IBV), a highly contagious avian coronavirus that severely impacts poultry health and productivity. Traditional

vaccines rely on unpredictable methods, limiting rapid responses to emerging strains. In a Journal of Virology study, researchers used "targeted attenuation" to weaken the virus by modifying the conserved nsp3 macrodomain, maintaining immune protection without compromising efficacy. This strategy offers

a faster, more adaptable solution for IBV and has potential for broader coronavirus vaccine development, improving poultry welfare, food security, and contributing to both animal and human health. www.pirbright.ac.uk/news/new-strategies-infectious-bronchitis-virus-vaccine-development

FINANCIAL REVIEW OF THE YEAR

The financial year under review was the second year of the five-year settlement from BBSRC, following a detailed Institute Assessment Exercise undertaken in 2022-2023.

The settlement provided is flat funding for the five-year period and becomes more challenging as Pirbright moves through this period, particularly as energy prices, although down from their peak, remain significantly higher than those experienced historically. The Institute has undertaken several projects which have significantly reduced energy usage including consolidating activities into new and more energy-efficient buildings, improving steam and heat capture from the combined heat and power plant and replacing ageing energy infrastructure. This has significantly reduced energy usage on site, more than covering the increase in energy demand arising from the new Brooksby building, which although not yet operational for science, is running 24/7.

Inflation also remained high, with much work undertaken by the Procurement team to resource consumables and consolidate suppliers to hold costs whilst maintaining the quality of the products purchased.

These mitigations have protected the Institute's financial position to some extent; however, the results have been significantly helped by the increase in grant funding received through competitively won awards.

INCOME

Total income amounted to £52.7m (2024: £44.7m); this increase was entirely due to income from scientific grants increasing by £8.8m. Investment in tangible fixed assets in the year totalled £11.1m (2024: £8.3m). This was funded by grants from the Institute's principal sponsor, BBSRC, Defra and other awarding bodies, including the Gates Foundation.

EXPENDITURE

Expenditure undertaken to support continuing activities in the year amounted to £59.5m (2024: £55.0m), driven by higher scientific activity and increased depreciation charges as new buildings came online.

Staff costs are the Institute's most significant expenditure accounting for £20.8m (35 per cent of expenditure) in the year (2024: £18.6m, 34 per cent of expenditure). The increase of £2.2m (11.8%) is in part attributable to the pay review during the year but more significantly due to the higher number of staff positions occupied in line with the significantly higher value of grant-funded science undertaken by Pirbright, as compared to the previous year.

As mentioned above, energy costs are also very significant to Pirbright, with the site requiring power equivalent to 5,000 homes to maintain containment of viruses. In the previous year energy costs, net of funding from BBSRC of c.£2.3m to protect the Institute against excessive energy prices, were £1.8m, indicating a gross cost of c.£4.1m. This year this cost rose to £2.5m. However, unlike last year, no support has been received from BBSRC, demonstrating the significant value of the energy reduction projects to the financial sustainability of Pirbright.

Repairs and maintenance costs fell by £3.2m from £6.7m in 2024 to £3.5m in the year as the number of BBSRC Capital grants to refurbish ageing equipment and infrastructure was significantly reduced, with the current focus of our inhouse maintenance teams on preparing the Brooksby building for full operational readiness.

Finally, as the new buildings and facilities have come online over the past few years, the depreciation charge has steadily risen, increasing from £11.3m in 2023-24 to £11.9m this year, an increase of c.£0.6m. Although this expense is charged to unrestricted reserves, resulting in a deficit in that area for the year, it is offset by a transfer from the restricted fixed asset reserve equivalent to the annual depreciation charge.

GRANT PROPOSALS

The Institute continues to achieve notable success with scientific grant applications. During the year, Pirbright researchers submitted grant proposals with a sponsor value of £24.4m (2024: £29.8m) and were awarded grants with a value of £12.2m (2024: £22.6m) in line with the KPI for the year. However, the grant funding environment is becoming increasingly competitive due to the financial constraints of funders and the Institute is working hard to ensure our grant submissions are of the highest standards to ensure they have the greatest chance of success.

CASH AND TERM DEPOSITS

Cash and term deposits at 31 March 2025 were £22.8m (2024: £27.9m), a reduction of £5.1m in the year, as a result of significant payments for the capital development on site during the year in relation to the practical completion of the Brooksby building in November 2024. Pirbright deposits its cash with UK-registered financial institutions with a minimum rating of "A" on Moody's, Standard & Poor or Fitch in accordance with the Institute's investment policy. Investment income from cash deposits was £1.0m (2024: £0.9m), largely unchanged in the year.

FINANCIAL REVIEW OF THE YEAR CONTINUED...

NET MOVEMENT IN RESERVES

Pirbright has three categories of reserves: restricted reserves, which represent monies provided by BBSRC to support development activity on site and business cases, together with the assets developed with previously awarded funds; designated reserves, which represent funds put aside for specific projects; and general reserves. During the year, total reserves decreased from £331.6m to £324.6m, a decrease of £7.0m (2024: £10.0m). The Institute recorded a net increase in general reserves of £0.6m (2024: £2.2m), a net increase in designated reserves of £0.3m (2024: £0.3m) and a net decrease in restricted reserves of £7.9m (2024: £12.5m).

The decrease in restricted reserves was specifically in the Fixed Asset Fund, as development of the Pirbright site continues under the Master Plan, with depreciation now being incurred on buildings coming online exceeding new funding, as the second phase of the Plan nears completion. The Fixed Asset Fund reserves fell by £6.9m (2024: £11.2m) as the depreciation of assets now in use outstripped new investment in assets on the site. During the year, construction of the Brooksby Building achieved practical completion with work on going to ensure that the facility is ready to undertake science in the summer of 2026. The Brooksby Building is a self-contained, standalone, large animal experimental facility designated to accommodate in vivo studies involving high-containment pathogens of livestock, such as foot-and-mouth disease virus (FMDV), as well as pathogens that can spread from livestock to humans.

RESERVES POLICY

Unrestricted funds

As in previous years, it is the policy of the Trustee Directors to ensure the General Fund in the unrestricted reserves is maintained at a level which will ensure the Institute can manage fluctuations in income and unforeseen cost pressures, as well as provide cover for the redundancy liabilities taken over from BBSRC, when the staff of the Institute were transferred to the Institute in January 2017 under a Transfer of Undertakings (Protection of Employment) exercise. Due to the higher level of science activity being undertaken by Pirbright, this target has increased from £7.6m last year to £10.1m this year.

At 31st March 2025 unrestricted general reserves were £10.6m (2024: £10.0m). The Trustee Directors are aware that the Charity SORP has a requirement to determine the level of free reserves the Institute should hold and will work during the financial year 2025-2026 to establish a free reserves policy. At 31st March 2025 after allowing for restricted funds, designated funds and the carrying value of fixed assets, free reserves amounted to £2,254k (2024: £1,612k).

Designated funds

Designated funds have been set aside by the Institute for specific purposes to support the purchase of science equipment, the support of up to three of our early year career scientists via strategic career development awards, various projects to improve the site and support the occupation phase of the capital development programmes on the Pirbright site.

Restricted funds

The Institute has been undertaking a significant building programme within the Pirbright site for which funding has been received from BBSRC. The funding of this programme is via grants, which are held within the restricted funds in the Fixed Asset Fund and the Fixed Asset Revaluation fund; the total fund value is £307.4m (2024: £314.6m). This funding is solely and specifically granted for the purpose of the building programme, hence the inclusion within the restricted fund. This represents the value of the buildings that have already been constructed. Pirbright also has several smaller restricted funds, which are held to support the capital development programme, support the running costs associated with the Brooksby Building prior to practical completion and the revaluation of the investment property.

Full details of all reserves and movements in the year can be found at Note 15 to the Financial Statements.

FUNDRAISING ACTIVITIES

Section 162a of the Charities Act 2011 requires charities to make a statement regarding fundraising activities. Although the Institute does not undertake direct fundraising from the general public, with the legislation defining fundraising as "soliciting or otherwise procuring money or other property for charitable purposes," we must disclose the value of such income in the year. We have received no such income during the current or previous financial year and have consequently received no complaints in respect of our fundraising activities.

PIRBRIGHT'S PERFORMANCE 2024-2025

PIRBRIGHT'S PRINCIPAL OBJECTIVES

- To continue a world-leading research programme publishing groundbreaking scientific research, winning research funding, recruiting and retaining the brightest and the best staff and students.
- To develop further the Pirbright long-term vision of scientific research, with impact in enhancing our collaborations with agencies to improve disease control in low- and middle-income countries.
- To continue to implement the fully funded development programme to provide additional animal research facilities for the study of high-consequence pathogens. These facilities will further enhance Pirbright as a unique national and international capability.
- To develop strong strategic collaborations with other global centres of excellence to support the Institute Strategic Programme grants.
- To diversify our funding through greater collaboration with international partners via various new funding opportunities.
- To maintain high-containment infrastructure, to manage the safety, security, environment and quality risks from our work with high-consequence pathogens, and to provide training and expertise to external partners in these areas.



PIRBRIGHT'S KEY PERFORMANCE INDICATORS (KPIs)

- Publications in relevant scientific journals, with a benchmark of 1.0 paper per postdoctoral scientist a year.
- Success rates for research grant proposals over the next five years: 35% in terms of successful applications and 30% in terms of value of the awards.
- Annual research income of at least £12.5m externally won funding each year over the next five years.
- Recruitment and the retention of high-quality staff and students; to achieve less than 15% annual staff turnover a year.
- Compliance with all statutory requirements as a major hazard site, close cooperation with regulators and conformity to applicable standards such as ISO/IEC17025.

OUR PERFORMANCE AGAINST OUR KPIs

- We published 118 papers in a range of high-impact journals achieving an average of 0.95 publications per postdoctoral scientist in the year. During the year we reviewed our publication strategy with a tightening of the criteria used as to what is published and where. This has resulted in fewer publications leading to the target of 1.0 publication per postdoctoral scientist being slightly lower in the year.
- Some 43% grant applications were successful and 50% in terms of value of the awards against significant UK and international competition. The annual grant income for 2024-2025 was £22.5m, exceeding the £12.5m target by 80%.
- At the end of March 2025, the rolling annual average voluntary staff turnover figure was 10.1%, below 13.9% at the end of last year and below the 15% target.
- Pirbright is subject to a HSE Major Hazard Intervention Plan comprising 3-4 scheduled HSE inspections each year to monitor compliance with its licence under the Specified Animal Pathogens Order 2008 (SAPO) and with regulations under the Health & Safety at Work etc Act 1974. No legal improvement notices or enforcement letters were issued by HSE (or any other

regulatory authority) against Pirbright in the year. Post year-end an HSE improvement notice has been received requiring changes to our processing of incoming samples; an action plan is being implemented to comply with this notice by the deadline of November 7, 2025.

- Pirbright's quality management system, Reference Laboratories & Disinfectant Testing are accredited to ISO/IEC 17025:2017 by the United Kingdom Accreditation Service (UKAS) and thus subject to an annual surveillance audit. Accreditation has been successfully maintained for 2024-2025 and the annual surveillance audit gave no improvement actions. No other enforcement action was taken against the Institute during the year by any other regulatory or audit body on any aspect of biorisk, animal scientific procedures regulation, health and safety, security, environment, quality or wider compliance. Nor were there any incidents reportable to any regulatory or audit body under any applicable legislation or standard.

DELIVERING THE BBSRC INSTITUTE STRATEGY

The BBSRC Institute Strategy, published in July 2021, sets out BBSRC's approach to supporting and working in partnership with the institutes it strategically funds.

The strategy outlines three themes that underpin the principles of its strategic investment:

- Capability
- Connectivity
- Culture

To support this, Pirbright has established a range of additional activities around these themes to help deliver the strategy.

CAPABILITY

Our capability continues to be enhanced with further recruitment this year of scientific leaders, including those who are already expert in their field, and those with potential to be future world leaders. Dr Georgina Limon-Vega now leads the Applied Epidemiology Group delivering a transdisciplinary programme with a focus on translational research, to understand the socioeconomic impacts of transboundary animal diseases and control measures. Dr Steven Fiddaman further strengthens our diverse cohort of Institute Fellows, building a programme of research focused on genomics of both the host and the virus. Following the introduction of the Pirbright Strategic Career Development Awards we have appointed two talented researchers to advance Pirbright strategic science and advance their career trajectories. We were also delighted to have supported an early career researcher with a successful application for a BBSRC Discovery Fellowship. All these appointments help further strengthen our critical mass, expanding our interdisciplinary teams to deliver science of national and international strategic importance. At Pirbright we provide support across all stages of the scientific career path, helping to ensure that we maintain and continue to develop the scientific capabilities of Pirbright and of the broader UK research ecosystem.

This year saw the launch of a new professional registration scheme for biorisk specialists. In conjunction with the Royal Society of Biology this benchmarking system has been developed with the Biorisk Strategic Leadership Group (BSLG), which is co-ordinated by Pirbright and brings together the UK's High Hazard Biological facilities and other key stakeholders. The scheme will support the development of specialist skills and recognised competencies, it will facilitate individual progression and career opportunities, as well as equipping the UK with the right knowledge and expertise to support a safe and secure bioscience community. Moreover, our training portfolio provides an outlet to share Pirbright's expertise, across disciplines and specialisms, enabling us to play a leading role in strengthening the capability and specialist training of the UK bioscience workforce. Another highlight this year was a practical poultry health course aimed at industry specialists that made a welcome return following a five-year break. The course was developed and delivered in partnership with the University of Surrey and was positively received by the wide range of attendees.

Finally, a significant milestone this year was the practical completion of the Brooksby building, a new high containment science facility. The new facility complements the existing state-of-the-art high containment laboratories and extensive insectary facilities at Pirbright and reinforces our role as a unique UK National Capability. It is undergoing operational readiness which will allow science delivery to begin in summer 2026.

CONNECTIVITY

Pirbright continues to act as a central hub for collaboration, providing expertise in animal health, immunology, virology and related disciplines to many national and international consortia. This year we joined a new network, the One Health Computational Network (OHCN), an interdisciplinary project strengthening UKRI's work on tackling livestock disease. OHCN links datasets across organisations to develop new computational tools. A funded research project between Pirbright, the Royal Veterinary College and the Indian Council for Agricultural Research (ICAR) was established, aligning expertise to tackle Lumpy Skin Disease virus, which first reached India five years ago with devastating consequences for the agricultural sector and people's livelihoods. The collaboration addresses important knowledge gaps to better understand the main drivers of lumpy skin disease infection in India and ultimately inform tailored control strategies. Furthermore, we have continued our collaboration with partners in India to implement tools that support improved quality and yields in FMD vaccine production, providing manufacturing support and strengthening R&D capacity in India.

This year, in collaboration with a whole range of partners, we saw success with two doctoral landscape awards. The training initiatives led by the University of Oxford, and the University of Surrey, co-funded by BBSRC and NERC, and funded by BBSRC respectively, will train over 50 students per year across critical areas of interdisciplinary research in the life and environmental sciences. The interdisciplinary life and environmental science landscape award (ILESIA) includes five partners, and the Wessex One Health doctoral training partnership includes six partners from the university and public sector research establishment (PSRE) communities. These programmes support our connectivity across the ecosystem, in the shared endeavour to train the next generation of research leaders and build capability and capacity in the sector.

We continue to work with our strategic partners outlined within our Institute Strategic Programme Grants to advance scientific knowledge and increase critical mass. Plus, we work closely with the seven other BBSRC institutes across all our capabilities.

CULTURE

A major piece of work this year was a full staff and student Culture Survey. A survey is run every two years as an opportunity for everyone to shape a workplace founded on inclusivity and connectivity. It provides the chance to identify key challenges and contribute to the development of continued positive change to help foster a diverse, inclusive and supportive environment. Choosing to use an external platform meant that survey results were available instantly and engagement levels were high. The results informed several focus and interest groups, which helped identify solutions to areas highlighted in the survey. A comprehensive Culture Plan has subsequently been developed, outlining the steps we will take to continue to improve, and how we will measure success. The Equality, Diversity and Inclusion (EDI) Manager works with the EDI Committee to monitor the Culture Plan, reporting to the Senior Leadership Board.

With support from BBSRC we have contributed to several Connecting Cultures Fund projects. The fund supports the eight strategically funded BBSRC research institutes to work together to drive change for a positive research culture. Led by the EDI Manager, Pirbright has coordinated a unique mentoring opportunity, MentforMe, which was open to participants across all eight institutes. MentforMe aimed to foster connections, facilitate learning, build lasting networks and support career development. This comprehensive programme has not only supported mentoring opportunities, but has fostered great connectivity across the institutes resulting in a greater diversity of mentors and mentees. Outcomes of the project were presented at the Connecting Culture Conference held in March 2025, which was attended by a range of Pirbright staff, from different backgrounds, disciplines and career stages.

STAKEHOLDER ENGAGEMENT – SECTION 172 STATEMENT

The Trustee Directors consider that the decisions they have made during the financial year have satisfied the requirements of S172(1) of the Companies Act 2006 and they have acted in good faith to promote the success of the Institute, and in doing so, have considered the stakeholders and matters outlined in S172(1).

The Board of Trustee Directors has the ultimate responsibility for the Institute and delivery of our charitable objectives. Key decisions made by the Trustee Directors during the year included:

- Approval of the Operational Plan and Budget for 2024-2025, including the pay award and the third year of the five-year cycle of funding from BBSRC.
- Approval of Delegation of Authority from Trustee Directors to the Director of the Institute, Company Secretary and the Senior Leadership Board.
- Appointment of three new Trustee Directors.

THE TABLE BELOW SETS OUT PIRBRIGHT'S SIGNIFICANT STAKEHOLDERS

	HOW WE ENGAGE
Employees	Employee engagement forms a central part of the Institute's strategy. We use a variety of ways to communicate with our staff and students in a dialogue so we can also gain feedback. Communication channels include a monthly e-newsletter, intranet, forums, staff briefings, surveys, digital screens, internal seminars, blogs and workshops. Further information about our employees can be found on page 27.
Students	Pirbright has a vibrant student community and we are committed to supporting, nurturing and offering additional learning and training opportunities to them. Find out more on page 27.
Funders	We engage with funders at all stages of the funding process and have regular dialogue and face-to-face meetings with our key investors. Please see page 30 for more information.
Research organisations and partners	Pirbright undertakes numerous collaborations with universities, research institutes and disease-control agencies around the world. More details are given on page 29.
Pharma	Partnerships with pharmaceutical companies are essential for the development of vaccines, diagnostics and medicines. Find out more on page 29.
Farmers	We engage with the farming community through specialist farming press, through farming organisations and bodies and media outlets, including BBC World Service and BBC Radio 4 Farming Today, as well as at agricultural events.
Regulators and government	As a major hazard site, Pirbright works closely with the Health & Safety Executive (HSE), counter-terrorism security authorities, the Home Office and other regulators. As a national capability for the prevention and control of exotic viral diseases of livestock, Pirbright works closely with Defra, UKRI BBSRC and others. As the World Reference Laboratory for certain pathogens and a regional Reference Laboratory for others, Pirbright works closely with the UN Food & Agriculture Organization (FAO) and World Organisation for Animal Health (WOAH). As an ISO/IEC 17025-accredited testing laboratory, Pirbright works with the UK Accreditation Service (UKAS). See page 23 for more details.
Public	We engage with the public through our outreach and public engagement programmes. Please see page 21 for more information.
Local community	Our neighbours are extremely important to us and we engage by supporting the local community in a number of ways, including sponsoring local events, volunteering in local conservation initiatives such as Fox Corner Conservation and engaging with the parish, borough and county councils over development on our campus. Our scientists also visit local schools and colleges – more information can be found on page 21.
Suppliers	One of the ways we engage with our suppliers is through Supplier Days held several times a year at Pirbright. We hold regular meetings with our suppliers both about purchasing and ethical matters, particularly those around modern slavery and human trafficking principles.

ENGAGING WITH THE PUBLIC

Researchers and operational staff at Pirbright are dedicated to public engagement, interacting with audiences including schools, students, farmers and the wider public. In 2024-2025, communications facilitated 30 science-led face-to-face public-engagement activities, inspiring young scientists and adults at schools, careers fairs and community events, from the large-scale Harwell (Diamond Light Source) Open Day and ACS Steam (Thorpe Park) events to Pirbright village Armed Forces Day and the village school summer fair.



INSPIRING FUTURE SCIENCE CAREERS

Pirbright volunteers have attended 23 face-to-face career events in 2024-2025, focusing on secondary and sixth form students, helping us to inspire more students from a wider range of backgrounds and interests to consider scientific careers. Over 100 staff volunteers, from post-doctoral researchers to heads of professional departments, attended external events, lectures and workshops including at Farnborough College and Guildford College Careers Fairs.



COMMUNITY ENGAGEMENT

The Pirbright Institute maintains longstanding partnerships with the Pirbright Parish Council, St Michael and All Angels Parochial Council and residents' groups. Over the past decade, we have attended and sponsored initiatives in the local community.

During the year we sponsored and attended the Pirbright Village Primary School Summer Fair, and Armed Forces Day, both in June, to promote the Institute's world-class research and to interact with our local community. We worked closely with the Parish Council, offering briefings ahead of construction commencement on CVIM and on the upgrade of Ash Road.

The Institute also engages with the community through environmental stewardship. Our involvement in maintaining the Fox Corner Community Wildlife Area provides staff recreational opportunities and fosters collaboration with residents and the Surrey Wildlife Trust, chosen as Pirbright's Charity of the Year for 2025. Further community work is planned with the Fox Corner Community Wildlife Area Committee to clear willow, Himalayan balsam and other non-native plants from the pond and wider site. The Institute has also introduced regular monthly litter picks along the Ash Road verges and provided the startup funding for a Pirbright allotment and wildflower garden project which has been developed by our researcher Jim Chadwick.

Finally, the Institute expanded its community involvement by donating two brand new computers to Pirbright Primary School, which have been installed in the hall and in one of the teachers' planning rooms.



SUPPORTING EXISTING AND NEW VOLUNTEERS

The success of Pirbright's engagement programme relies on the appreciated contribution of its dedicated volunteers from our teams. Training is crucial for supporting both staff and students, as well as attracting potential future

volunteers. This past year, the Institute has had approximately 30 Science, Technology, Engineering and Mathematics (STEM) ambassadors. We actively encourage participation in the STEM Learning Network, connecting schools with STEM ambassadors who volunteer their

expertise for talks and events. Additionally, we provide specialised training for PhD and placement students to enhance their understanding of engagement and equip them with the necessary communication skills to interact effectively with the public.

COLLABORATIONS AND NETWORKS

Pirbright works with many different external collaborators from academia, industry and non-profit organisations. In the 2024-2025 financial year, we entered into 69 new collaboration agreements with 46 organisations based in 16 countries.

Of the 69 organisations, 38 were academic, 10 commercial and 21 public bodies, non-governmental, or charities. These collaboration agreements reflect new research projects with external partners, including universities in the UK and abroad, multinational pharmaceutical companies and research institutes with an interest in animal health or zoonoses. Our research collaborations include projects related to providing support for a public laboratory in Zambia, developing RNA vaccines for livestock, and studying avian influenza with multiple international partners.

We have ongoing collaborations with new and existing commercial partners in a variety of projects. We are working with a European animal pharmaceutical company to develop candidate vaccines against infectious bronchitis virus for use in poultry, and we have continued working with multiple industrial and academic partners to develop different tools to control African swine fever, including different vaccine platforms and continuous cell lines.

We also entered into 25 new confidentiality agreements, including 18 with commercial partners, allowing us to have open conversations to discuss potential partnerships, and 102 agreements related to the transfer of material to and from Pirbright and organisations in 32 different countries.

Pirbright plays a key role in many international consortia and partnerships to develop new technologies and improve the health of livestock, including leading a two-year consortium project with international partners to develop a new vaccine and companion diagnostic assay for Nipah virus, joining with New Zealand partners to develop proof-of-concept data for a potential vaccine that may reduce methane emissions in cattle, working with the government of India to understand and control lumpy skin disease, joining the UKRI One Health Computational Network to enhance monitoring and detect emerging viruses earlier, and collaborating with the Moredun Research Institute to develop an affordable anti-parasite vaccine.

Pirbright is a coordinating member of the UK's BSLG, a network comprising the UK's high hazard biological facilities. This group has been focussed on developing a formal competency assessment and registration scheme for biosafety professionals and was launched in July 2024. This scheme will ensure consistency of the training, assessments, and continued high quality of the professionals tasked with ensuring high biocontainment facilities operate safely.

Pirbright has been awarded five grants through the Tropical Infections Disease Consortium, a Medical Research Council (MRC)-funded Impact Accelerator Award, coordinated by the Liverpool School of Tropical Medicine, with the London School of Hygiene and Tropical Medicine (LSHTM), the Jenner Institute at the University of Oxford, and Public Health England. These projects, with collaborators such as Oxford, the UK Health Security Agency, and LSHTM, aim to develop diagnostic assays for use in low-income settings, researching potential treatments for livestock diseases, and studying vaccine candidates against African swine fever virus and henipaviruses.

In March 2025, Pirbright coordinated and ran the inaugural UK Laboratory Management Biosciences Conference, for bioscience laboratory managers to exchange knowledge, share best practice and network. Approximately 70 people from more than 20 different organisations attended. The theme of this year's event was "Sustainability in Science" and included many stimulating presentations and discussions.

Scientists from Pirbright research groups and the World Reference Laboratory for Foot-and-Mouth Disease have been successfully networking with government agencies, public laboratories and private vaccine manufacturers in India to improve FMDV vaccine manufacturing practices and quality.

The UK-China Centre of Excellence for Research on Avian Diseases (CERAD), founded by Pirbright and four Chinese collaborators in 2015, has been successfully expanded and now comprises 12 research organisations focussed on sharing knowledge related to avian disease research.



RISK MANAGEMENT AT PIRBRIGHT AS A MAJOR HAZARD SITE

Risk management is critical to the safe reliable operation of Pirbright as a major hazard site.

Risk management at Pirbright has three broad objectives:

- To facilitate science excellence and capability, both in research and in diagnostic surveillance.
- To reinforce financial sustainability and high reliability.
- To ensure the work of the Institute cannot jeopardise the UK livestock population and agricultural economy, the health and safety of people, or the environment.

Risk management at Pirbright includes a risk & opportunities register, key and safety performance indicators (KPIs and SPIs), and operational planning linked to both risks and opportunities and to strategic objectives. The risk & opportunities register is updated quarterly and reviewed for action by Senior Leadership Board (SLB) and Trustee Directors. The register includes operational risks (biorisk, health and safety, security, cyber, environment, quality, engineering), continuity risks, strategic risks (reputational, enterprise, financial, political), and opportunities. The register also identifies where the assurance for risk mitigation is monitored and verified. There is an internal audit and inspection programme for critical risks and areas. Pirbright actively maintains open and cooperative relationships with stakeholders, regulators and accreditation bodies. A portfolio of insurance protects Pirbright and its stakeholders. Policies include property damage and business interruption; employers, public, product and management liabilities; and professional indemnity.

BIORISK

Many of the animal viruses studied at Pirbright are high-consequence pathogens, i.e., are not endemic to the UK and so could cause a disease outbreak if released. Authority to work with such pathogens is via a Specified Animals Pathogens Order (SAPO) Licence issued and enforced by the HSE.

Pirbright's SAPO Licence is at Containment Level 4 (the highest level) and the Institute is classified as a major hazard site. Each year there is an HSE intervention plan, and during the year, this comprised visits by specialist inspectors including scrutiny of containment and control in laboratories working with vector-borne zoonotic viruses. There were also security inspections by specialist counter-terrorism police officers and audits by insurers. Biorisk management at Pirbright comprises containment engineering and operational controls. Engineering infrastructure includes sealed facilities, negative pressure cascades, high-efficiency air filtration, effluent treatment plants, incinerators, autoclaves, fumigation chambers and automation and control systems. Operational arrangements include risk assessments, operating procedures, management of change,

training and competency, waste management, transport procedures, emergency plans and exercises, learning from experience, audits and inspections, planned preventative maintenance (PPM), validation and testing. Pirbright has all these measures in place, and each element is examined by HSE every few years through its intervention plans. All high-containment facilities at Pirbright are less than 20 years old.

QUALITY AND ORGANISATION

Diagnostic surveillance and disinfectant testing at Pirbright are in UKAS-accredited testing laboratories (no. 4025) to ISO/IEC 17025 quality standard, which is integral to their role as a UK Reference Laboratory for Defra and a UK national capability, and their global role as a WOA Reference Laboratory and FAO/ WOA World Reference Laboratory for specific viruses. Pirbright's management system ensures conformity with ISO/IEC 17025 and underpins wider risk management across the Institute. The annual ISO/IEC 17025 surveillance audit of the Reference Laboratories in April 2024 by UKAS gave an extremely positive outcome, with no significant findings.

In addition to its risk management system, assurance arrangements and regulatory oversight, Pirbright actively works to improve its risk control and resilience. During the year this included BBSRC-funded capital projects for development of an integrated alarm management system software solution and extensively refurbished control room to address HSE-identified human factors issues, replacement of obsolete controllers in air handling systems, and replacement of the whole IT infrastructure of network, servers and storage. In the year, there were also internal projects to implement functional safety and process safety management systems in Estate Management Services (EMS), to integrate human factors management into processes, to improve control of musculoskeletal risks, to further enhance technical and organisational cyber security, to improve management of change processes, and to develop major hazard leadership training. Pirbright strives to adopt best practice, which includes coordinating the cross-sector UK BSLG, active roles in the BSL4ZNet international consortium of high containment facilities and the EuFMD consortium of European FMDV facilities, and publication of peer-reviewed papers and symposia presentations on biorisk.

RISK MANAGEMENT

Principle risks are summarised in the table below.

	CONTEXT	CONTROL / MITIGATION
BIOSAFETY (UNINTENTIONAL RELEASE OF, OR EXPOSURE TO, HIGH CONSEQUENCE PATHOGEN)	Pirbright is classified by the Health & Safety Executive (HSE) as a major hazard site, because release of the high-consequence viral pathogens of livestock animals that the Institute works with (such as foot-and-mouth disease virus) could cause a serious disease outbreak, leading to destruction of many animals, extensive national disruption and severe economic loss. Some of the pathogens are also zoonotic, which means they can infect humans and cause serious illness.	Physical, engineering, operational and management measures for biological containment in compliance with relevant UK legislation (Specified Animal Pathogens Order 2008, Control of Substances Hazardous to Health Regulations 2002, Genetically Modified Organisms (Contained Use) Regulations 2014), associated standards (including FAO/ EuFMD minimum standards for labs working with foot-and-mouth disease virus), and Approved Codes of Practice and guidance; and in alignment with ISO 9001, ISO 14001, ISO 35001, ISO 45001 and IEC 61511. Also, an annual HSE Major Hazard Intervention Plan, and staff cohort of competent biorisk advisers.
BIOSECURITY (DELIBERATE RELEASE OF, OR EXPOSURE TO, HIGH CONSEQUENCE PATHOGEN)		Physical, operational and management measures for security in conformity with requirements of the UK National Counter Terrorism Security Office, with oversight by regional counter terrorism security advisers, 24/7/365 guard force, background screening of new starts, and multiple layers of physical security.
QUALITY	As well as being a leading research institute, Pirbright provides diagnostic and surveillance Reference Laboratories for a range of pathogens for the UN Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (WOAH), and is funded by UKRI BBSRC and Defra as a UK national capability to provide diagnostic capacity to support the detection and control of national disease outbreaks. The quality of Pirbright's scientific output is therefore critical, and FAO, WOAH and Defra / UK Government require the Reference Laboratories to be accredited to the ISO/ IEC 17025 international quality standard.	Accreditation of the Reference Laboratories to ISO/IEC 17025 by the UK Accreditation Service (Pirbright is UKAS Accredited Testing Laboratory No 4025), development and implementation of a quality management system across the Institute, an internal audit programme, and alignment to ISO 9001 and other relevant ISO management standards in key operational areas in support of the Reference Laboratories.
ANIMAL WELFARE	Research with animals is an integral part of the research programmes at Pirbright and is carried out to extremely high UK standards of ethics and animal welfare, which are the most stringent in the world, addressing this critical reputational risk.	Physical, operational and management measures for animal welfare in compliance with UK legislation (Animal Scientific Procedures Act 1986) and associated Approved Codes of Practice and guidance, oversight by UK Home Office, application of 3Rs (Replace, Refine, Reduce) and ARRIVE guidance (Animal Research: Reporting In Vivo Experiments).

Continued overleaf

	CONTEXT	CONTROL / MITIGATION
RESEARCH SECURITY AND INTEGRITY	Pirbright's science is highly global and collaborative, but there is a significant risk that state actors or other hostile entities could steal or misuse Pirbright's materials, technology, data or IP.	A Trusted Research & Innovation Policy & framework that assess risks from individuals and organisations involved in collaboration, from overseas trips and meetings, and from non-UK staff, students and visitors to Pirbright. This includes mechanisms for due diligence and for compliance with export licencing under the Export Control Act 2002, the Export Control Order 2008, and the National Security & Investment Act 2021.
CYBER SECURITY	Pirbright has to address the cyber, continuity, people and financial threats faced by organisations in all sectors. Potential consequences of these are amplified for Pirbright because of the possible effects on its biological and quality risks. Cyber-attack could impact containment systems and inhibit science output, unless robust tested countermeasures are in place and kept current.	Comprehensive portfolio of cyber security countermeasures and management systems in conformity with requirements of UK National Cyber Security Centre 10-Steps and HSE OG86 (cyber security requirements for critical controls), with segregation of critical resources from networks and carrying out regular drills, training and exercises. Also processes to manage and monitor GDPR compliance.
CONTINUITY	National power outages could impact containment systems and inhibit science output, unless maintained tested backups and plans to manage such situations are in place and subject to regular review and exercises.	Plans for incident and crisis management, business continuity plans in alignment with ISO 22301, backups and contingencies for critical services and supplies, contingency plans for Reference Laboratories for disease outbreaks, and all plans regularly tested by drills, training and exercises.
PEOPLE	- Recruitment and retention issues could lead to shortage of the essential specialist skills for safe and reliable operation of facilities and to adverse impacts on science capability, unless effective strategies are developed and implemented to mitigate such issues. - Insufficient funds for maintenance could lead to reduced reliability of containment systems or of science equipment, unless there is rigorous financial control and successful winning of competitive funding.	Allowances for responsibilities and for recruitment and retention, training and development, career pathways with merit awards and a career development policy and process, annual performance and personal development reviews, generous pension provision and life cover, and employee benefits platform and assistance programme.
FINANCIAL		Rigorous systems for financial planning, control and monitoring; ongoing risk management; processes and support to facilitate preparation, submission and management of competitive funding grants and capital funding bids; commercial business development programme, with Pirbright Innovations Ltd as a vehicle for commercial work; comprehensive portfolio of insurance; anti-fraud and anti-bribery policies; annual audit; and ongoing reportage to BBSRC as core funder, landlord and strategic partner.
ECONOMIC	Adverse effects on the UK and world economy from global and other events are a substantial threat to the funding landscape and to the operational cost base, particularly from high levels of inflation and the impact of rising energy costs.	Inflation is factored into business planning, including planned increases in income from competitive funding sources and appropriate commercial activities, and savings from improved procurement and BBSRC-funded 'spend-to-save' capital works, including projects to reduce energy consumption and costs.

A SUSTAINABLE FUTURE

The Institute is committed to environmental sustainability, biodiversity and reducing its carbon footprint. Pirbright is also conscious of its broader social and governance responsibilities.

The cutting-edge research undertaken at the Institute is made possible by a range of highly specialised facilities, both in high- and low-containment environments. However, these facilities require a significant amount of energy to operate and maintain our biosecurity. The amount of energy used onsite is comparable to that needed to power some 5,000 homes, and with the significant increase in energy prices in recent years, energy conservation and reduction are important to us. We are also very conscious of the greenhouse emissions we create and take our responsibility to reduce our carbon footprint seriously.

In total the energy used by the site has increased from 47.4m kWh to 49.8m kWh, an increase of some 2.4m kWh or c.5%. However, some of this increase has arisen due to the increased onsite electricity production by the Institute's Combined Heat and Power Plant (CHP) which uses around 2kWh of gas to produce 1kWh of electricity, accounting for just under a quarter of this increase. The main driver for the increase in energy consumption is the Brooksby facility coming online. The building used 1.8m kWh of energy in the year despite not being fully operational for science until the summer of 2026, although the energy usage of this facility is not expected to increase significantly at that time. Overall, energy consumption on site was largely flat despite the significant increase in science undertaken in the year increasing by 27% over that undertaken in the prior year.

The Pirbright Energy Policy and Action Plan, as drawn up in 2023-2024, has led to the implementation of heat and steam recovery from the CHP, energy setback on the most energy-hungry building, the Plowright Building, and chiller water system optimisation. These projects were all funded by BBSRC and largely completed during the year. These initiatives will reduce energy consumption on site by around 5.8% in the coming year. In addition, Pirbright has recently received funding of c.£680k to complete the upgrade of all steam systems on site which will reduce energy usage by a further 10.0%.

The amount of energy consumed by the Institute is directly related to the level of science activity on the site. The data on the right reflect the Institute's best estimates of its environmental impact during the 2024-2025 financial year.

The Institute continues to base its environmental objectives around the UKRI Environmental Sustainability Strategy, which drives towards a zero-carbon future by 2040. This ensures new building proposals will consider the carbon impacts of facilities throughout their life, from the building materials used to energy consumption and energy sources employed once operational.

The Institute's environment and energy team promote the continual improvement of energy and environment performance on the Pirbright site, monitor and review the energy and environment policy, report on and action results of inspections and audits and provide a forum for personnel to raise queries related to energy and environmental sustainability.

Pirbright's finances are also aligned to the green agenda, and we place some of our cash deposits in the Barclays'

Green Deposit Scheme. This allows deposits by the Institute to be earmarked against the bank's green bonds, which in turn are matched against a range of climate-related projects, including energy efficiency, renewable energy, green transport, sustainable food, agriculture and forestry, waste management and greenhouse gas emission reduction. In March 2025, the GBP market value of Green Bonds held by Barclays totalled over £1.7 billion, with a total CO2 impact of almost 2.8million tonnes. At 31st March 2025, the Institute had £5.7m deposited in this scheme.

During the year, the Institute reintroduced allotments on the site for the use of staff and students. This initiative not only allows our teams to cultivate fruit and vegetables, but the area also provides a tranquil space for staff and students to relax during lunch breaks or hold meetings in an informal environment.

Finally, we recognise our broader responsibilities and during the year published our Modern Slavery & Human Trafficking Statement and have recently published an update on last year's plan and our new plan for 2025-2026. During the year, 94% of all new staff and students successfully completed training as well as the 11% outstanding from the previous year. No concerns were received through an anonymous channel set up for staff and students to report concerns, whether these were on the Pirbright site or encountered through our work around the world. And we ensured all our collaboration agreements included the right to terminate contracts with partners who don't adhere to the principles adopted by the Institute and that all our current suppliers have also adopted UK legislation in this regard. The full plan and updates can be found at Modern Slavery & Human Trafficking Statement on our website.

GREENHOUSE GAS EMISSIONS	2024-2025	2023-2024
EMISSIONS TONNES CO₂e		
Scope 1: Gas	8,828,860	8,222,130
Scope 2: Electricity	527,260	724,980
Scope 3: Official business travel	4,001	6,470
Total emissions	9,360,121	8,953,580
Emissions per £ of grant received	0.23	0.24
ENERGY CONSUMPTION kWh		
Scope 1: Gas	47,152,968	43,827,272
Scope 2: Electricity	2,606,558	3,561,046
Scope 3: Official business travel	13,707	11,754
Total energy consumed	49,773,233	47,400,072
Consumption per £ of grant received	1.23	1.40
FINANCIAL INDICATORS		
Total energy cost £'000	2,466	4,390
Energy cost per £ of grant received	6.58p	11.72p
Cost of official business travel £'000	5	5
Cost of official business travel per £ of grant received	0.0001p	0.0001p

OUR PEOPLE

Our scientists are supported by highly skilled on-site specialists in health, safety, biosecurity, engineering and research services, as well as our support functions such as IT, Finance, HR and Security.

EMPLOYEE ENGAGEMENT

The Pirbright Institute Research Culture Statement demonstrates our passion for the work we do and provides a clear set of expectations to guide our thinking and planning. This statement also ensures our approach continually and consistently supports and directs the work we undertake that enables the Institute to operate as a world-class organisation.

The Institute is committed to an open and inclusive culture, where difference is celebrated and the contributions of all are encouraged, valued and respected, and to this end we have embedded equality into every aspect of our work. This commitment is reflected in our continued desire to create and enable an environment where everyone feels welcome and can be themselves whilst at work. We are committed to nurturing and promoting equality, diversity, and inclusion (EDI) as a way of working and this has become the golden thread through all our processes and decision making.

Providing opportunities for individual recognition and reward is central to our Pirbright Research Culture. In addition to our employee reward package, we encourage our employees to apply for personal promotion. This scheme recognises an individual's work and commitment through a standard of delivery that is over and beyond their current role scope and responsibilities and is rewarded with a personal grade promotion. Another is to recognise the additional dedication and commitment of individuals not yet ready for promotion and allows a within-band salary increase. Successful employees were celebrated in person at all-staff events and via the intranet.

In addition to individual recognition, we also acknowledge and recognise exemplary team effort. Teams are nominated by and voted for by their peers. The winners of these awards are celebrated at our Christmas event.

Our EDI Committee reports directly to the SLB and is empowered to make operational decisions. With representation from across the Institute, this committee meets regularly to manage and escalate any topics or issues identified.

Representatives from the EDI Committee also work closely with HR and Health and Safety and Bio Safety (HSBS) to deliver a complimentary Wellbeing programme. Consisting of information and awareness, these sessions are conducted online and in person via training courses, workshops and webinars covering a wide range of physical, cultural and mental health-related topics.

HOW WE COMMUNICATE

Accurate and timely communication is key to us keeping our workforce informed and updated. There are several avenues available to facilitate both direct information sharing and two-way dialogues.

In addition to our various groups and committees, there are formal, regular information-sharing forums, such as a quarterly Director-led staff briefing, monthly Management Forum

meetings, newsletters and ad hoc focus groups, etc. SLB conduct fortnightly 'site walks', meet a member of SLB for coffee, and SLB drop-ins. HR also conduct regular drop-in sessions, giving employees an opportunity to raise topics of their choice in a supported and informal environment. Our Communications team encourage and support individual blogs on a wide range of topics, and general information is posted on the intranet and site-wide screens. Additionally, knowledge-sharing talks led by our scientists and/or external visitors are scheduled on a monthly basis for everyone. Employees have various options available to raise a concern confidentially, via our active-bystander and whistle-blowing processes, or directly to SLB, via a dedicated email address, should the need arise.

The Institute conducts regular staff surveys that are followed up with focus groups to further develop the feedback and enable employees to co-develop action plans with a view to continuous improvement. This year we engaged with a new survey platform that enabled 'real time' interaction with those completing the survey whilst maintaining the full confidentiality of the employee. This new platform has significantly improved our ability to react quickly to issues and concerns raised by our staff. As well as an Employment Action Plan being drawn up, enhanced holiday and sick pay allowances have been put in place following feedback that these were out of step with other organisations in our sector.

The Institute also communicates via a Staff Representative Forum. This forum has representation from across the Institute and is the conduit to gain employee feedback on changes to policies and procedures.

TRAINING AND DEVELOPMENT

Employees are encouraged to discuss with their line manager the training opportunities available and courses that would enhance their career aspirations.

Through our dedicated Learning & Development (L&D) manager, we offer a comprehensive training programme that is available to all with an online booking process. All training options are advertised on the internal intranet and in all-staff emails. Our training programme includes role-specific courses and opportunities for personal development and qualifications. We deliver career development options such as project management and unconscious bias awareness. Additionally, L&D have delivered management training on leading, promoting and supporting EDI, managing teams and an emerging leaders programme.

RETENTION AND RECRUITMENT

As a world-renowned research institute, we attract top talent from around the globe, with staff and students currently representing more than 30 different nationalities, contributing to the enrichment of our overall cultural diversity. To further enable this diversity, the Institute supports overseas candidates with visa costs and the global talent mobility scheme.

At the start of the year our staff voluntary turnover was, on average, around 13%, falling steadily through the year to around 10% at the year end. The UK talent market remains particularly volatile with candidates staying actively engaged in multiple opportunities enabling them to move quickly as roles are offered, although this has slowed over recent months. There are several different skill sets such as data analysis, electrical engineering and IT, which continue to be hard to fill.

We recruited 107 staff to fill vacancies through the year, this was a significant increase for the previous year when we filled 98, driven entirely by the increased level of science activity undertaken. 32% of these vacancies were filled through our internal redeployment process, either as a result of grant funding ending for specific projects or for those employees looking for development opportunity and progression.

As at the end of the year, we are supporting 46 employees with their immigration needs across all Directorates.

SUMMARY OF PIRBRIGHT'S GENDER PAY GAP

The gender pay gap is defined as the difference between the mean or median earnings of male and female employees, expressed relative to male earnings. The mean pay gap is the difference between the average hourly earnings of men and women. The median pay gap is the difference between the midpoints of hourly earnings of men and women.

The Institute is pleased to have maintained a relatively equal gender balance in terms of employee numbers over the last year with the gender pay gap staying largely unchanged between 2024 and 2023; the Institute's mean hourly pay gap has remained at 11.6% whilst the median hourly gap has also fallen from 11.6% in 2023 to 7.6% in 2024.

Over the last 6 years we have seen a decrease in our gender pay gap, reducing by 4.4% from 16.0% to 11.6%. There are fewer women in senior roles across science, capability and support disciplines, which make up a large proportion of our workforce, as well as a higher proportion of women in lower graded roles in relation to men. This reflects worldwide trends and is not seen solely within the Pirbright Institute.

Whilst we are confident that men and women are paid equally for carrying out equivalent roles across the Institute, we recognise the need to redress the gender balance across all bands of the workforce and several initiatives have been put in place to support this change.

We offer a range of flexible working arrangements and family-friendly policies, which enables us to attract and retain equal numbers of women and men. We are also able to report that both men and women have benefited from our enhanced flexible and family friendly policies, including shared parental leave.

The full report can be found on our website.

OUR STAFF AND STUDENT PROFILE

The balance of gender split amongst our staff and students remains fairly equal with c.48.4% male, 48.0% female and 2.6% non-binary at the end of the year, although this does differ between directorates, specifically our Estate Management Services, HR and IT Teams which all experience a gender balance challenge.

IMPACT OF INNOVATIONS AT PIRBRIGHT

Commercial activity is an important element of the Institute's strategy to diversify funding streams and ensure a more financially sustainable organisation for the future.

Pirbright generates impact and ensures effective use and exploitation of our research results by licensing technologies such as vaccine candidates to industrial partners, especially pharmaceutical companies. Most often, licences follow extensive funded collaborations with our industrial partners. Examples of new and potential technologies available for licensing include a vaccine against porcine reproductive and respiratory syndrome virus (PRRSV), currently in industrial evaluation, and antibodies that may be used to develop diagnostic assays against peste-des-petits ruminants virus (PPRV). Additionally, Pirbright continues to provide poultry vaccine manufacturers with the opportunity to work with us to develop multivalent avian vaccines against diseases like Marek's disease, infectious bursal disease, and Newcastle disease.

Pirbright continues to support research into African swine fever virus (ASFV), which causes devastating losses in pigs, and is currently spreading across China and into Europe. Our work includes developing vaccine candidates for this complex virus, considering multiple vaccine platforms, such as live attenuated and subunit vaccines. We have worked with industrial partners, including a recent collaboration with The Vaccine Group, a spinout company from the University of Plymouth.

The Pirbright Training team continues to develop and deliver training courses in three key areas of expertise: control of viral diseases of livestock, high containment engineering, and biosafety practices. The team can develop training in different formats, including face-to-face, online instructor-led and self-directed eLearning, and all content is developed in a format to make learning as engaging as possible, including through the use of text, quizzes, highly effective graphic design, and interactive videos.

The sale of eLearning courses expanded in the year, both in terms of the number of customers and the number of different courses purchased. Customers included large government bodies, research organisations, and private industry. Courses included those related to viral disease, such as bluetongue, influenza, and African swine fever, as well as the use and maintenance of

biological safety cabinets and HEPA filters. In addition, we have provided in-person training on maintenance of HEPA filters, laboratory diagnostics of livestock diseases, and poultry health.

Pirbright, in partnership with the University of Surrey, has relaunched the Poultry Health Course. This course, aimed at industry specialist and veterinarians, introduced 16 delegates to a variety of poultry health issues including viral, bacterial, and parasitological diseases, hatchery practices, and field investigations. It offered an opportunity to learn from poultry experts, join in active panel discussions, and network with other delegates and lecturers.

Other sources of commercial income include the provision of research reagents, such as material used in diagnostics developed by Pirbright researchers. As part of our reference laboratory capabilities, we also perform some commercial services, such as diagnostic kit evaluations, disinfectant testing, and some diagnostic testing. In addition, Pirbright experts also provide consultancy services on a variety of topics such as the control of animal diseases.

Pirbright's Centre for Veterinary Vaccine Innovation and Manufacturing continues to work on evaluating vaccine platforms and vaccine candidates for livestock, with a particular focus on emerging diseases, and those affecting low- and middle-income countries. CVIM has partnered with Quantoom Biosciences to evaluate and optimise the development and manufacturing of RNA vaccines.



INVESTING IN OUR FUTURE

Continual enhancement of the facilities on the Pirbright site is imperative to maintain and support the world-class science and research undertaken. BBSRC continues to provide considerable capital funding to the Institute through the award of capital grants, including the Small Value Capital Grant Award as part of our core funding.

THE AWARDS RECEIVED DURING THE YEAR INCLUDED:

PROJECT: IT INFRASTRUCTURE CAMPUS REPLACEMENT AND UPGRADE TO INCLUDE CISCO NETWORK, VIRTUAL SERVER ESTATE DATA STORAGE & BACKUP PLATFORM

AUTHOR(S): TIM HAYWOOD AND CHRIS OVERTON

VALUE: £4,172,394

FUNDER: BBSRC CAPITAL FUNDING

This award provides funding to support the replacement and upgrading of IT Infrastructure at Pirbright, including software, hardware, storage, servers and network connections that work together simultaneously to underpin our IT services. These systems need to be replaced and upgraded to not only maintain capabilities but also to improve resilience, provide enhanced scalability in line with anticipated scientific demands, improve internal processes and communication between departments, and improve Pirbright's connectivity with our partners and collaborators.



PROJECT: ISO11 INCINERATOR LIFE EXTENSION

AUTHOR(S): ANTHONY CLARKE

VALUE: £1,511,442

FUNDER: BBSRC CAPITAL FUNDING

This award provides funding to upgrade the ISO11 incinerator, to give a reliable lifespan of a minimum of 10 years at SAPO CL4 operation. These works include replacing both burners with new diesel burners, replacing the incinerator control system with new open protocol system, replacing continuous emissions monitoring system (CEMS) and secondary chamber oxygen monitoring with new systems, incinerator kiln refractory lining upgrade to the primary and secondary combustion chambers, a diesel fuel system upgrade and fuel tank replacements.

**PROJECT: SITE STEAM UPGRADE PHASE 2****AUTHOR(S):** DAVE GILLIES**VALUE:** £678,959**FUNDER:** BBSRC CAPITAL FUNDING

This award provides funding to increase the Institute's sustainability (both environmental and financial), reduce carbon emissions, and safeguard the steam supply to all buildings utilising steam generated at Pirbright. Savings realised by this project will further enhance and augment those being realised by previous initiatives such as the installation of the CHP. These works include full utilisation of the CHP waste heat boiler (steam generation), removal of the inefficient and end-of-life Western Boiler House and increasing load on the currently underutilised efficient steam generation plant, and upgrading two of four steam boilers with burners capable of 10:1 turndown ratio to enable more efficient operation at low production rates, such as during the summer months.

PROJECT: THE BROOKSBY BUILDING: BUILDING AUTOMATION AND CONTROL SYSTEM (BACS) ALARM CATEGORISATION AND INTEGRATION, ADDITIONAL BACS ALARMS AND UNINTERRUPTED POWER SUPPLY REQUIREMENTS

AUTHOR(S): BEN WILLIAMS AND MAZ AL-ZOBAIDY**VALUE:** £1,025,901**FUNDER:** BBSRC CAPITAL FUNDING

This award provides funding to carry out additional works to the BACS that are required to be carried out within the Brooksbby building to ensure compliance with HSE and functional safety assessments. This consists of three work packages that, together, are considered an essential pre-requisite for full operation and control of the building to safely work at SAPO4, including FMDV and ACDP3 levels. These works include re-categorisation of fire alarm systems, additional monitoring alarms and Uninterrupted Power Supplies (UPS) for BACS control panels.

**SMALL VALUE CAPITAL GRANT (SVCG)**

A further five science projects were supported by the Pirbright SVCG, part of our strategic investment from the BBSRC. These projects totalled approximately £179k, providing support for replacement of essential laboratory equipment underpinning our research activities, as well as equipment that allowed expansion of our capabilities. Equipment purchased included replacement centrifuges and rotors, new ultrapure water units, and replacement

and upgrading of western blotting imaging systems in the National Virology Centre situated in The Plowright Building. Furthermore, in line with our continued ambitions for data driven bioscience, funding was provided to foster data sharing, re-use and collaboration using dynamic analysis environments. This project supports our promotion of Open Science and delivery of FAIR data principles.

In addition, nine operational projects were supported by the Pirbright SVCG.

These projects totalled approximately £327k. These projects included an isolation unit fire alarm upgrade, incinerator hall and isolation unit tank room fan resilience upgrade, site safety improvements, change to isolation unit compound condensate return, tumble dryers, composter, uninterrupted power supply batteries, uninterrupted power supply air circuit breakers, boilers and bathroom and kitchen refurbishment in Pirbright's residential properties.

GOVERNANCE AND MANAGEMENT

The Pirbright Institute is an independent company, limited by guarantee (Company Number 559784) and a registered charity (Charity Number 228824). It is governed by a Board of non-executive Trustee Directors who provide strategic input to the Senior Leadership Board at Pirbright. Science at the Institute is reviewed by an independent group of leading researchers who comprise the Science Advisory Board and whose role is to provide advice and guidance on science strategy and direction.

ORGANISATION AND GOVERNANCE

The Annual Report provides information for legal purposes on the charitable company, its activities and its main achievements. The financial statements have been prepared in accordance with the Charities Act 2011, the Companies Act 2006, the Memorandum and Articles of Association and Accounting and Reporting by Charities: Statement of the Recommended Practice applicable to charities preparing their accounts in accordance with Financial Reporting Standards applicable to the UK and Republic of Ireland (FRS102), effective 1 January 2019.

THE BOARD OF TRUSTEE DIRECTORS

The Trustee Directors serving on the Board during the year and since the year end were:

- Professor Vincent Emery – Chair
- Professor Mike Turner – Deputy Chair
- Rona Chester (Resigned 31 March 2025)
- Jon Coles (Resigned 31 December 2024)
- Alison Hardy
- Dr Tim Harry (Appointed 1 January 2025)
- Dr Paul Logan OBE
- Dr Linda Magee OBE
- Paul Norris (Appointed 1 April 2025)
- Professor Deenan Pillay
- Jane Tirard (Resigned 31 December 2024)
- Mike Tsang (Appointed 25 July 2024)
- Dr Ian Walker (Appointed 1 January 2025)
- Tamsin Webster

Trustee Directors are appointed by the existing Trustee Directors for three years, when they are eligible for reappointment for a second term. In exceptional circumstances, Trustee Directors can be appointed for a further three years beyond that giving a maximum of nine years.

Prior to the recruitment of a new Trustee Director, a skills audit of all Trustee Directors is undertaken to determine the skills required of the incoming Trustee Director(s); consideration is given to both the skills required to replace those of the Trustee Director who is leaving Pirbright and also new skills that have been identified due to the changing environment in which the Institute is working. The Trustee Directors then appoint a recruitment agency specialising in non-executive and Trustee Board Member appointments to undertake the recruitment on

their behalf. This process is managed by the Nominations and Governance Committee, with interviews undertaken by members of this committee and the Chair of the Board of Trustee Directors.

TRUSTEE DIRECTORS PURPOSE

The purpose of the Board of Trustee Directors is to ensure that the Institute carries out its purpose for the public benefit in accordance with its memorandum, articles of association and governing law, and to ensure that they comply with their duties under Section 4 of the Charities Act 2011 to have due regard to the public benefit guidance by the Charity Commission.

The Trustees Directors are satisfied they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission. Based on this guidance, and as described in the Trustee Directors' Report, the Trustee Directors believe the activities of The Pirbright Institute to be charitable in nature.

The main focus of the Trustee Directors is on leadership, strategy, performance and risk assurance, with a focus on maintaining Pirbright's reputation, staff and infrastructure while protecting the Institute's sustainability.

Furthermore, the Trustee Directors must act in the Institute's best interests; they must ensure that the Institute's resources are managed responsibly; they must act with reasonable care and skill; they must ensure that the Institute complies with all statutory accounting and reporting requirements; and they must meet the oversight requirements expected of a major hazard site.

The Board of Trustee Directors has established three committees to support it in its work: the Finance and Audit Committee, the Risk and Assurance Committee and the Nomination and Governance Committee.

The Trustee Directors have also established a Scientific Advisory Board, comprised of independent leading scientists, to provide advice, guidance and recommendations regarding the scientific strategy and direction of the Institute. In addition, the Science Advisory Board provides assurance to the Trustee Directors on the quality of science and research, the relevance and importance of the scientific strategy, and advises on the Institute's positioning within the international scientific landscape.

TRAINING OF TRUSTEE DIRECTORS

The Institute continually reviews its practices for induction and ongoing Trustee Director training. All Trustee Directors joining Pirbright undergo extensive training, which covers:

- Building an understanding of the nature of the Institute, its purposes, and the stakeholder landscapes in which it operates. In particular, this covers the importance of leadership in a major hazard environment.
- Developing an understanding of the role, including legal duties and ethical expectations.
- Building a link and relationship with the Institute and its employees, beyond that of the SLB.
- Developing an understanding of the Institute's main relationships and future opportunities.

Trustee Directors are encouraged to attend appropriate external training events where these will facilitate the undertaking of their role and understanding of their responsibilities.

The Trustee Directors undertook a review of the effectiveness of the Board in 2021 which was facilitated by Campbell Tickell, an organisation with expertise in Board governance. During the year, Campbell Tickell reviewed the progress made against the action plan arising from that initial review, which showed good progress had been made against the objectives set out at the time. A plan of actions arising from the latest review is currently being implemented, including a self-appraisal of adherence to the Charity Governance Code for England & Wales (as updated in 2020).

CONFLICTS OF INTERESTS

Trustee Directors and any co-opted members are required to declare any conflicts or potential conflicts of interest at Board of Trustee Directors and sub-committee meetings, and these are recorded in the minutes. Depending on the conflict, the Chair may require a Trustee Director or co-opted member to either leave the meeting or not take part in a discussion or decision on a particular issue. During the year, no Trustee Director declared a conflict of interest.

TRUSTEE DIRECTORS' INDEMNITY INSURANCE

The Institute maintains liability insurance for the Trustee Directors, with an annual aggregate cover limit of £10m for all claims against them in that capacity. The Trustee Directors have also been granted a qualifying third-party provision under section 233 of the Companies Act 2006. Neither the Institute's indemnity nor insurance provides cover if a Trustee Director is proved to have acted fraudulently or dishonestly. The premium and related costs in respect of this policy were £31,752 (2024: £36,279).

COMPLAINTS

The Trustee Directors and the staff of the Institute are committed to providing a high-quality, responsive and transparent service to all the people and organisations with which we interact. However, the Trustee Directors are aware that sometimes Pirbright will not reach the high standards they have set themselves, so they have established a complaints procedure for external parties to raise a complaint against the Institute.

No complaints were received during the year (2024: None). Full details of the complaints procedure can be found on the Institute's website.

RELATED PARTIES

The Institute has a subsidiary undertaking, Pirbright Innovations Limited. The Trustee Directors consider that the activities of the subsidiary are not material to the financial position of the Pirbright Institute Group and have therefore elected not to produce consolidated financial statements.

GOVERNANCE STRUCTURE

THE INSTITUTE HAS FIVE MEMBERS

Chair of the Board
of Trustee Directors

Chair of the
Science Advisory Board

BBSRC
UKRI

National
Farmers' Union

Royal College of
Veterinary Surgeons

BOARD OF TRUSTEE DIRECTORS

Professor Vince Emery
(Chair)

Professor
Mike Turner (Deputy Chair)

Rona Chester

Alison Hardy

Dr Paul Logan

Dr Linda Magee OBE

Dr Tim Harry

Professor Deenan Pillay

Tamsin Webster

Michael Tsang

Dr Ian Walker

SENIOR LEADERSHIP BOARD

Professor Bryan Charleston MRCVS
FRS – Director and CEO

Professor John Hammond –
Director of Research

Helen Watts –
Director of Finance and
Company Secretary FCA

Dr Andrew White –
Director of Risk and
Assurance

SCIENCE ADVISORY BOARD:

Professor Geoffrey Smith FRS – Chair

Professor Martin Beer

Professor Mary Cameron

Professor Gary Entrican

Professor Dierdre Hollingsworth

Professor Deenan Pillay

Professor Eleanor Riley CBE

Professor Helen Sang OBE

Professor Mark Harrs

FINANCE AND AUDIT COMMITTEE

Michael Tsang – Chair

Rona Chester

Dr Ian Walker

NOMINATIONS AND GOVERNANCE COMMITTEE

Dr Linda Magee OBE – Chair

Alison Hardy

Tamsin Webster

RISK AND ASSURANCE COMMITTEE

Dr Paul Logan OBE – Chair

Tim Harry

Professor Mike Turner

BOARD OF TRUSTEE DIRECTORS



PROFESSOR VINCENT EMERY **CHAIR OF THE BOARD OF TRUSTEE DIRECTORS**

Professor Vincent Emery is President of the University of Hertfordshire's branch campus in Egypt. He graduated with a first-class BSc in Biochemistry with Chemistry and PhD from the University of Southampton. He received his professorship at UCL in 2000. His research on viral infections has secured over £29 million in grants, he has an H-index of 78 and his work has 21,000+ citations. Professor Emery is a Fellow of the Royal Society of Biology and the American Society of Transplantation.



PROFESSOR MIKE TURNER **DEPUTY CHAIR OF THE BOARD OF TRUSTEE DIRECTORS**

Professor Mike Turner is a consultant, currently working for the World Health Organization, Honorary Professor at the University of Glasgow and a member of council at the London School of Hygiene and Tropical Medicine. Formerly, Mike was Director of Science at Wellcome, Europe's largest biomedical research foundation and, before that, Professor of Parasitology at Glasgow.



RONA CHESTER

Rona is a fellow of the Institute of Chartered Accountants with over 30 years' experience in leading financial teams in both the public and private sector. More recently, Rona was the Chief Operating Officer at Sport England, the lottery distributor, where additional responsibilities included grants management, commercial and IT, as well as contributing to the development of the organisation's strategy.



ALISON HARDY

Alison is a solicitor and partner with City law firm Ashurst LLP, where she leads the real estate dispute resolution practice. Alison is experienced in all aspects of commercial real estate. She is actively involved in diversity and inclusion and is the partner sponsor of Ashurst's social mobility and inclusion network, which is working to remove barriers to entry into, and progression within, the legal profession.



DR PAUL LOGAN OBE

Prior to his retirement in 2020, Paul was a senior civil servant in the Health and Safety Executive (HSE), which he had joined as a regulatory scientist. During his time in HSE, he chaired a number of industry/government committees. He was Director of the division in HSE with responsibility for regulation of major hazards industries, including chemical manufacturing, oil refineries, explosives manufacturing and storage, and high-containment laboratories.



DR LINDA MAGEE OBE

Linda is a life sciences sector specialist in the UK Government's Department for Business and Trade. She supports the UK sector team and international network to identify opportunities for the UK economy and businesses in life sciences and healthcare. Linda was previously Chief Operations Officer of NIHR Manchester Academic Health Science Centre (MAHSC) and Commercial Director of Greater Manchester Academic Health Science Network (GMAHSN). She also co-founded Manchester Biotech and set up Bionow while working for the Northwest Development Agency. Linda established the National Biomanufacturing Centre at Speke. She was awarded an OBE in 2009 for services to biotechnology.



DR TIM HARRY

Tim is a scientist by background with experience in both the private and public sectors, now serving in various non-executive, advisory, and trustee roles at Board level. He has a proven track record across biotech startups, major pharmaceutical companies, Fortune 500 firms, and public institutions. Skilled in strategy, leadership, and project delivery particularly in regulated, science-focused environments, Tim has led complex change initiatives resulting in innovation, campus development, and broader societal and commercial benefits. His Board-level expertise now supports his current portfolio of governance roles.



PROFESSOR DEENAN PILLAY

Deenan is Emeritus Professor of Virology at University College London. He has been a clinical virologist for the last 30 years, working within the Public Health Laboratory Service, Health Protection Agency, NHS and academia. His main interest has been the use of antiviral therapy, and emergence of drug resistance, particularly regarding HIV. From 2013 to 2019, he was Director/CEO of the Wellcome Trust-funded Africa Health Research Institute based in South Africa. He is currently Non-Executive Director of an NHS Trust and until recently, chaired Independent SAGE, a scientific group focused on public engagement and discussion on COVID-19.



TAMSI WEBSTER

Tamsin is an experienced HR leader with senior roles in firms like BlackRock, UBS, and Lloyds Banking Group. At ECI Partner, she oversees the full employee lifecycle, from recruitment to development and remuneration. She partners with the Diversity Project to promote DEI in asset management. A qualified leadership coach and project manager, Tamsin brings expertise in engagement, organisation design, and business transformation. With a strong background in regulatory environments across Financial Services and Telecoms, she supports growth and change. She holds a Psychology degree, an MA in Coaching, and an MSc in Viticulture and Oenology.



MICHAEL TSANG

Mike is a finance professional with over 20 years of experience in strategic planning, financial management, and systems optimisation. He is currently Director of Finance at ARIA, the UK's new R&D funding agency. Previously, he led the finance team through a major growth phase at the Francis Crick Institute. Mike began his career in Big Four audit before transitioning to the non-profit sector, where he supported healthcare initiatives across Asia and Sub-Saharan Africa.



DR IAN WALKER

Ian is an executive board member at Cancer Research UK, leading strategic priorities across policy, information, and communications. With over 20 years of experience in cancer prevention, diagnosis, and treatment, he has worked across the commercial, research, health, and public sectors. A scientist by training, Ian holds a BSc and PhD in Biochemistry, an MBA with distinction, and has completed executive education at Harvard Medical School. He also brings governance experience from trustee and non-executive roles in biotech, charity, and medical organisations.

SENIOR LEADERSHIP BOARD

The Board of Trustee Directors considers that the SLB is accountable for Institute strategy, risk mitigation and governance of day-to-day operational delivery. The SLB comprises the Institute Director and the Directorate heads; namely Director of Risk and Assurance, Director of Research and Director of Finance and Company Secretary. The remuneration and benefits of the SLB is based on the agreed and recognised salary banding for the Institute and is reviewed annually.



PROFESSOR BRYAN CHARLESTON MRCVS FRs

DIRECTOR AND CEO

Professor Charleston joined The Pirbright Institute (formally known as the Institute for Animal Health) in 1994 and focused on studies of the immune response to viral infections in cattle. His research group's efforts are focused on understanding the immune response to foot-and-mouth disease virus in cattle to develop novel vaccines. In recognition of his work, he was elected as a Fellow of the Royal Society in 2023.



PROFESSOR JOHN HAMMOND DIRECTOR OF RESEARCH

John contributes to all aspects of Institute senior management and focuses on the science-operations interface and research culture at the Institute. He is also Head of Programme: Enhanced host responses for disease control and leads the Immunogenetics Group at the Institute.



HELEN WATTS FCA
DIRECTOR OF FINANCE AND
COMPANY SECRETARY

As the Institute's Director of Finance and Company Secretary, Helen's remit includes all aspects of the Institute's finances as well as managing the IT and procurement functions. She is also a member of the Development Programme Board, as well as being a member of several working groups overseeing many aspects of the Institute's operations.



DR ANDREW WHITE
DIRECTOR OF RISK & ASSURANCE

Andy leads on all aspects of risk management including biosafety, health and safety, quality assurance, environment, crisis management and business continuity, biosecurity, plus wider enterprise risks such as financial, informational, operational, reputational and strategic. Andy is a biochemist by training and holds a PhD in protein structure and chemistry.

SCIENCE ADVISORY BOARD

The Institute's Science Advisory Board (SAB) provides valuable strategic oversight, input and advice on the Institute's science strategy and scientific directions.



PROFESSOR GEOFFREY L. SMITH FRS
CHAIR OF THE SCIENCE ADVISORY BOARD

Professor Geoffrey Smith is Professor Emeritus and Research Group leader at the University of Oxford. His research studies the interactions of poxviruses with the host cell and immune system. As a postdoc in Bernard Moss's laboratory at NIAID, USA, together with Michael Mackett, he developed vaccinia virus (the smallpox vaccine) as an expression vector and established the principle of using genetically engineered viruses as live vaccines.



PROFESSOR DR MARTIN BEER is Vice-President of the Friedrich-Loeffler-Institut (FLI) and head of the Institute of Diagnostic Virology, working with transboundary animal diseases, zoonosis and emerging diseases like avian influenza virus, Schmallenberg virus and pestiviruses.



PROFESSOR MARY CAMERON is a Professor of Medical Entomology in the Faculty of Infectious and Tropical Diseases, London School of Hygiene & Tropical Medicine (LSHTM). Mary has over 30 years' experience in delivering international-level field and laboratory research focusing on the surveillance and control of a wide range of vector-borne diseases, particularly leishmaniasis.



PROFESSOR GARY ENTRICAN is an immunologist who has specialised in the development of vaccines and diagnostic tests for the control of infectious diseases of ruminant livestock. He has developed many immunological tools and technologies, including kits for in vitro differentiation of ruminant dendritic cells and cytokine ELISAs.



DR MARK HARRIS was awarded an MRC AIDS Directed Programme Senior Fellowship in 1995 and began a lectureship at the University of Leeds in 1997, where he established a leading research programme on hepatitis C. His work, funded by major organisations including BBSRC, MRC, Wellcome, and industry, later expanded to include alphaviruses, Ebolavirus, and SARS-CoV-2. He received a Wellcome Investigator Award in 2011 and a Wellcome Discovery Award in 2024. His research focuses on viral replication, innate immunity, and antiviral drug development, including international collaborations, particularly with Brazil. He has also held numerous roles on grant panels and with the Microbiology Society, where he currently serves as General Secretary.



PROFESSOR DEIRDRE

HOLLINGSWORTH is a professor of infectious disease epidemiology at the Big Data Institute in the University of Oxford. She develops mathematical, statistical, and computational models which inform disease dynamics for a range of viruses, bacteria and helminths. She is an expert at translating these analyses to inform public health policy at national and international policy levels, including for the World Health Organization.



PROFESSOR DEENAN PILLAY

is Emeritus Professor of Virology at University College London and a clinical virologist with a focus on antiviral therapy, drug resistance and HIV. He is a Non-Executive Director of an NHS Trust and was the former Chair of Independent SAGE, which discusses COVID-19 with the public.



PROFESSOR ELEANOR RILEY CBE

is Professor Emeritus of Immunology and Infectious Disease in the School of Biological Sciences at the University of Edinburgh. She was formerly Head of Department of Immunology and Infection at the London School of Hygiene and Tropical Medicine and Director of the BBSRC Roslin Institute.



PROFESSOR HELEN SANG OBE

Professor Sang's main research focus at The Roslin Institute has been the development of technologies for genetic modification of the chicken, which are applied in basic biomedical research, biotechnology and investigating the potential for developing disease resistance in production chickens.

SUBCOMMITTEES

FINANCE AND AUDIT COMMITTEE

This committee provides assurance and advice to the Board in relation to the Institute's finances and other assets; business planning and corporate reporting; the Institute's strategic risks, and the statutory external audit and the programme of internal audits covering the enabling functions.

MICHAEL TSANG (CHAIR)

RONA CHESTER

DR IAN WALKER

NOMINATIONS AND GOVERNANCE COMMITTEE

This committee provides assurance to the Board in relation to all governance matters, with the aim of obtaining the highest possible standard of governance and compliance. The Institute has adopted the Charity Governance Code with this committee responsible for its implementation.

DR LINDA MAGEE OBE (CHAIR)

ALISON HARDY

TAMSIN WEBSTER

RISK AND ASSURANCE COMMITTEE

This committee provides assurance to the Board on the arrangements to meet legal duties and to manage risk within the Institute, working in consort with the Risk and Assurance Strategy and Plan, to oversee all risk management systems, controls and processes that may have an impact on the Institute's ability to meet its objectives.

DR PAUL LOGAN OBE (CHAIR)

DR TIM HARRY

PROFESSOR MIKE TURNER

STATEMENT OF TRUSTEE DIRECTORS' RESPONSIBILITIES

The Trustees Directors, who are also Directors of the charitable company for the purposes of company law, are responsible for preparing the Trustees' Report, incorporating the Strategic Report and the financial statements in accordance with applicable law and regulations.

COMPANY LAW REQUIRES THE BOARD OF TRUSTEE DIRECTORS TO PREPARE FINANCIAL STATEMENTS FOR EACH FINANCIAL YEAR.

This is in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable laws). Under company law the Board of Trustee Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and of the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period. In preparing these financial statements, the Board of Trustee Directors is required to:

- select suitable accounting policies and then apply them consistently,
- observe the methods and principles in the applicable Charities SORP,
- make judgments and accounting estimates that are reasonable and prudent,
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements, and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The Trustee Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions and disclose with reasonable accuracy at any time the financial position of the charitable company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also

responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Financial statements are published on the charity's website in accordance with legislation in the United Kingdom governing the preparation and dissemination of financial statements, which may vary from legislation in other jurisdictions. The maintenance and integrity of the charity's website is the responsibility of the trustees. The trustees' responsibility also extends to the ongoing integrity of the financial statements contained therein.

The Trustee Directors are satisfied that they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission and, based on this guidance, the Trustee Directors believe the activities of the Institute to be charitable in nature.

The Trustee Directors recognise that they must act in a way they consider, in good faith, would be most likely to promote the success of the Institute for the benefit of its members as a whole, and in doing so have regard, among other matters to:

- the likely consequences of any decision in the long term,
- the interests of the Institute's employees and students,
- the need to foster the Institute's relationships with key stakeholders,
- the impact of the Institute's operations on the community and the environment,
- the desirability of the Institute to maintain a reputation for high standards of business conduct, and
- the ability to act fairly as between members of the Institute.

The Trustee Directors recognise that they have a responsibility to engage with the employees and students who work at the Institute. To fulfil this responsibility staff are invited to each meeting of the Board of Trustee Directors to give a presentation and answer questions on their area of expertise, Trustee Directors regularly undertake walk rounds of the facilities on site, they attend Institute events such as official openings of new buildings and staff and student activity days, and they undertake drop-in sessions which staff are invited to attend; all of these give the Trustee Directors the opportunity to meet staff and students and engage with them to better understand the Institute, the work it undertakes and any concerns that staff and students may have.

The Board of Trustee Directors confirms that:

- so far as each Trustee Director is aware, there is no relevant audit information of which the charitable company's auditor is unaware, and the Trustee Directors have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

The Report of the Trustee Directors incorporating the Directors' Report and the Strategic Report was approved and signed on behalf of the Board of Trustee Directors.

PROFESSOR VINCE EMERY

Chair of the Board of Trustee Directors

Date: 16 July 2025



INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE PIRBRIGHT INSTITUTE

OPINION ON THE FINANCIAL STATEMENTS

In our opinion, the financial statements:

- give a true and fair view of the state of the Charitable Company's affairs as at 31 March 2025 and of its incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of The Pirbright Institute ('the Charitable Company') for the year ended 31 March 2025 which comprise the statement of financial activities, the balance sheet, the cash flow statement, the principal accounting policies and notes to the financial statements. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remain independent of the Charitable Company in accordance with the ethical requirements that are relevant to our

audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

CONCLUSIONS RELATED TO GOING CONCERN

In auditing the financial statements, we have concluded that the Trustee Directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate. Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Charitable Company's ability to continue as a going concern for a period of at least 12 months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the Trustee Directors with respect to going concern are described in the relevant sections of this report.

OTHER INFORMATION

The Trustee Directors are responsible for the other information. The other information comprises the information included in the Annual Report and Accounts, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a

material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

OTHER COMPANIES ACT 2006 REPORTING

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Trustee Directors' Report, which includes the Directors' Report and the Strategic Report prepared for the purposes of Company Law, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic Report and the Directors' Report, which are included in the Trustee Directors' Report, have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the Charitable Company and its environment obtained in the course of the audit, we have not identified material misstatement in the Strategic Report or the Trustee Directors' Report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

RESPONSIBILITIES OF TRUSTEE DIRECTORS

As explained more fully in the Trustee Directors' responsibilities statement, the Trustee Directors (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustee Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustee Directors are responsible for assessing the Charitable Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustee Directors either intend to liquidate the Charitable Company or to cease operations, or have no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

We have been appointed as auditor under the Companies Act 2006 and report in accordance with the Act and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to

influence the economic decisions of users taken on the basis of these financial statements.

Extent to which the audit was capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

Non-compliance with laws and regulations

Based on:

- our understanding of the Charitable Company and the sector in which it operates;
- discussion with management and those charged with governance; and
- obtaining an understanding of the Charitable Company's policies and procedures regarding compliance with laws and regulations,

we considered the significant laws and regulations to be the applicable accounting framework, UK tax legislation and the Animals (Scientific Procedures) Act 1986.

The Charitable Company is also subject to laws and regulations where the consequence of non-compliance could have a material effect on the amount or disclosures in the financial statements, for example, through the imposition of fines or litigations. We identified such laws and regulations to be health and safety legislation, data protection legislation and employment law.

Our procedures in respect of the above included:

- review of minutes of meeting of those charged with governance for any instances of non-compliance with laws

and regulations;

- review of correspondence with regulatory and tax authorities for any instances of non-compliance with laws and regulations;
- review of financial statement disclosures and agreeing to supporting documentation; and
- review of legal expenditure accounts to understand the nature of expenditure incurred.

Fraud

We assessed the susceptibility of the financial statements to material misstatement, including fraud. Our risk assessment procedures included:

- enquiry with management and those charged with governance regarding any known or suspected instances of fraud;
- obtaining an understanding of the Charitable Company's policies and procedures relating to:
 - o detecting and responding to the risks of fraud; and
 - o internal controls established to mitigate risks related to fraud.
- review of minutes of meeting of those charged with governance for any known or suspected instances of fraud;
- discussion amongst the engagement team as to how and where fraud might occur in the financial statements; and
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud.

Based on our risk assessment, we considered the areas most susceptible to fraud to be posting of inappropriate journal entries and management bias in accounting estimates.

Our procedures in respect of the above included:

- testing a sample of journals which met a defined risk criteria, by agreeing to supporting documentation;

- assessing significant estimates made by management for bias, including:
 - o the assessment of the useful economic lives of fixed assets;
 - o the assessment of the risks and rewards of ownership of the leasehold land and buildings owned by third parties.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members and remained alert to any indications of fraud or noncompliance with laws and regulations throughout the audit.

Our audit procedures were designed to respond to risks of material misstatement in the financial statements, recognising that the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery, misrepresentations or through collusion. There are inherent limitations in the audit procedures performed and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we are to become aware of it.

A further description of our responsibilities for the audit of the financial statements is located at the Financial Reporting Council's (FRC's) website at: <https://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

USE OF OUR REPORT

This report is made solely to the Charitable Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Charitable

Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Charitable Company and the Charitable Company's members as a body for our audit work, for this report or for the opinions we have formed.



FIONA CONDRON

(Senior Statutory Auditor)
For and on behalf of BDO LLP,
statutory auditor
Gatwick, UK
Date: 17 July 2025

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).



STATEMENT OF FINANCIAL ACTIVITIES

For the year ended 31 March 2025

	Note	Unrestricted Funds £'000	Restricted Funds £'000	2025 Total Funds £'000	2024 Total Funds £'000
Income from					
Core Strategic Grant	1	-	17,838	17,838	19,846
Charitable Activities					
- Grants		22,480	7,730	30,210	21,374
- Other Charitable Income	2	2,679	-	2,679	1,566
- Investment Income	3	1,973	-	1,973	1,883
Total Income		27,132	25,568	52,700	44,669
Expenditure on					
Cost of Raising Funds					
- Rental Income & Tenant Services	4	395	394	789	747
- Investment Management Costs	4	22	-	22	24
Charitable Expenditure					
- Grants for Scientific Research	4	41,824	13,855	55,679	51,245
- Science Rental Income & Tenant Services	4	1,202	1,184	2,386	2,369
- Other Charitable Activities	4	581	62	643	601
Total Expenditure		44,024	15,495	59,519	54,986
Net Income for the year before other recognised gains and losses		(16,892)	10,073	(6,819)	(10,317)
Net Gains on Investments	10	-	(100)	(100)	220
Net (expenditure)/Income before transfers		(16,892)	9,973	(6,919)	(10,097)
Transfers between Funds	15	17,838	(17,838)	-	-
Net Movement in Funds		946	(7,865)	(6,919)	(10,097)
Balance Brought Forward		12,241	319,310	331,551	341,648
Balance Carried Forward		13,187	311,445	324,632	331,551

All income and expenditure derives from continuing activities.

The accompanying notes on pages 50 to 61 form an integral part of these financial statements.

BALANCE SHEET

At 31 March 2025

Company number 00559784

	Note	£'000	2025 £'000	£'000	2024 £'000
Fixed Assets					
Tangible Fixed Assets	9	315,622		316,654	
Investment Property	10	2,270		2,370	
Investments	10	10		10	
			317,902		319,034
Current assets					
Stocks	11	607		452	
Debtors	12	8,404		4,831	
Term deposits over three months		5,662		5,382	
Cash at Bank & In hand		17,202		22,509	
		31,875		33,174	
Creditors: amounts falling due within one year	13	(25,145)		(20,657)	
Net Current Assets			6,730		12,517
Total Assets less Current Liabilities			324,632		331,551
Net Assets			324,632		331,551
Financed by					
Unrestricted Reserves	15		13,187		12,241
Restricted Reserves					
- Fixed Asset Fund	15		307,422		314,370
- Investment Revaluation Reserve	15		2,270		2,370
- Other Restricted Reserves	15		1,753		2,570
Total Funds			324,632		331,551

Approved by the Board of Trustee Directors on 16 July 2025



Professor Vince Emery
Trustee Director



Michael Tsang
Trustee Director

The accompanying notes on pages 46 to 56 form an integral part of these financial statements.

STATEMENT OF CASH FLOWS

For the year ended 31 March 2025

	Note	2025 £'000	2024 £'000
Net Cash provided by Operating Activities			
Net Movement in Funds		(6,919)	(10,097)
Interest & Rent Receivable		(1,973)	(1,883)
Deprecation		11,992	11,525
Decrease in valuation of Investment Property		100	(220)
(Increase) in Stocks		(155)	(265)
(Increase)/Decrease in Debtors		(3,395)	105
Increase in Creditors		4,456	1,989
Total Net cash provided by Operating Activities		4,106	1,154
Cashflows from Investing Activities:			
Interest & Rents Received		1,973	1,883
Decrease/(Increase) in Cash Deposits > 3 months		(280)	9,739
Purchase of Fixed Assets		(11,106)	(9,904)
Net Cash Use in Investing Activities		(9,413)	1,718
Change in Cash & Cash Equivalents in the year		(5,307)	2,872
Cash & Cash Equivalents at the Beginning of the Year		22,509	19,637
Cash & Cash Equivalents at the End of the Year		17,202	22,509
Analysis of Net Funds			
Cash & Cash Equivalents as above		17,202	22,509
Cash placed on Term Deposits > 3 months		5,662	5,382
Total Cash at the End of the Year		22,864	27,891
		As at 1 April 2024 £'000	Cashflow £'000
Net Cash at bank			As at 31 March 2025 £'000
Cash at Bank		22,509	(5,307)
Total		22,509	(5,207)
			17,302

The accompanying notes on pages 50 to 61 form an integral part of these financial statements.

PRINCIPLE ACCOUNTING POLICIES

The financial statements have been prepared on the historical cost basis, except for the revaluation of certain properties and financial instruments that are measured at revalued amounts at the end of each reporting period, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Institute's financial statements.

BASIS OF ACCOUNTING

The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2019) - (Charities SORP (FRS 102), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

The Institute meets the definition of a public benefit entity under FRS102. Assets and liabilities are initially recognised at historical cost or transaction value unless otherwise stated in the relevant accounting policy note(s).

GOING CONCERN

The Trustee Directors have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC, £17.6m per annum. This award originally runs from 1 April 2023 to 31 March 2028.

This source of funding, the consistent performance of attracting income from other funding bodies and the development of an operational plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security. Having considered the risks in respect of future funding, financial forecasts for the period to November 2026 and the level of reserves, the

Trustee Directors have concluded that it remains appropriate to prepare the financial statements on a going concern basis and there are no material uncertainties which the Trustee Directors have identified.

GROUP FINANCIAL STATEMENTS

The Trustee Directors have considered whether the requirement to prepare consolidated financial statements by virtue of section 405(2) of the Companies Act 2006 is appropriate for the financial year. The Trustee Directors consider that the results of its subsidiary, Pirbright Innovations Limited, are not material for the purposes of providing a true and fair view of The Pirbright Institute group as all activity with the subsidiary is due to intercompany transactions. Accordingly, these financial statements present information about the Institute as an individual entity and not its group.

INCOME

Income comprises unencumbered grants received from research councils, grant income from collaborative, commissioned and competitively awarded research projects, income from miscellaneous charitable activities, commercial and residential rents from the letting of Institute controlled property, and interest earned on the temporary investment of surplus funds. Income is recognised when the Institute becomes legally entitled to the income and the amount can be quantified with reasonable accuracy.

Grants related to collaborative, commissioned and competitively awarded research projects are recognised in income according to the terms of the grant:

a) Where the funder awards the grant on the basis of pre-agreed expenditure, which sets out the expected level of service or units of output, or a maximum

total budget is agreed, then the expenditure against the project actual spend is used as the income recognition point.

b) Where the funder reimburses costs properly incurred against the grant purpose, or will expect repayment of any unspent funds at the end of the project, the income recognition will be the expenditure on the project.

Some of the research grants are undertaken in collaboration with other research institutes. Where these arrangements have been entered into with Pirbright being the lead institute, the collaboration agreement entered into is solely between the funding body and the Institute. However, in the judgement of the Trustee Directors, such arrangements are entered into so that Pirbright acts as an agent to the other organisations named in the funding application. As a result, funds paid to collaborators are netted off the income received. If this judgement were not applied, both income and expenditure would be £2.0m (2024: £2.1m) higher than that in these financial statements.

All core BBSRC grants are recognised as revenue in the year they are received. Grant income including research grants received in advance of conditions being met is deferred until those conditions are fully satisfied. Rental and interest income is recognised based on the period to which it relates.

Capital grants are recognised in the statement of financial activities when entitlement passes, and once the criteria of certainty and measurement are met.

EXPENDITURE

Costs of charitable activities comprises costs incurred directly or in support of scientific research whether carried out in the Institute's own facilities or in other laboratories. Raising funds represents the

costs associated with trading and raising income including the Institute's rental activities and tenant services and investments.

All costs are allocated between the expenditure categories of the Statement of Financial Activities (SOFA) on a basis designed to reflect the use of the resource. Costs relating to a particular activity are allocated directly. Support costs, representing the staffing and associated costs of finance, personnel and general administration in supporting the operations of the Institute, are apportioned on an appropriate basis (see Note 5 to the financial statements – analysis of support costs for further details).

RESTRICTED FUNDS

Income received by way of grants, sponsorship, donation, or legacy which is directed by the funder as to be applied for specific purposes is accounted for within restricted income.

Awards applied within the terms dictated by the awarding authority on the acquisition or improvement of tangible fixed assets are also accounted for within restricted income and funds. The balance of the restricted fixed asset fund is reduced by the depreciation charges over the expected useful life of the asset. This treatment has been applied to reflect the assets being on land owned by a third party, therefore at the end of the lease they will revert to that third party (see further explanation below regarding the ownership of land and buildings). In addition, as detailed in note 19, there is a contingent liability to account to BBSRC for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent grant more than the financing requirements.

DESIGNATED FUNDS

Unrestricted designated funds comprise sums set aside by the Institute for specific purposes including the acquisition of scientific equipment, support of the Institute's Strategic Career Development Awards (SCDAs) which facilitate in-depth research and career progression, refurbishment of the Pirbright site, support for excess energy prices as funded by BBSRC and support for the

work required to occupy the new facility on site, the Brooksby Building.

UNRESTRICTED FUNDS

Income received which is not directed by the provider to be applied for specific purposes to an extent which exceeds the constraints of the Institute's constitution is accounted for within unrestricted general funds.

FIXED ASSETS

Fixed assets with a cost of £10,000 or more are capitalised and depreciated to their estimated residual values set out below. Assets with a cost of less than £10,000 are expensed in the year of purchase:

Land – 99 years being the length of the lease from BBSRC

Buildings – between 15 and 50 years dependent on the type of construction of the building

Plant and machinery – five years on a straight-line basis

Fixtures, fittings, tools and equipment – five years on a straight-line basis

No depreciation is provided on assets in the course of construction. Depreciation is charged from the date on which the asset becomes operational.

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The North site lease was renewed in December 2020 for 25 years and the South site lease for a term of 99 years. The Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such, follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required Scientific programme, which, in the Trustee Directors view, is highly unlikely.

Individual freehold and leasehold properties at the Pirbright site were revalued to fair value upon transition to FRS 102 (1 April 2014) with the surplus on book value being transferred to the revaluation reserve. The fair value at the

transition date was recognised as the deemed cost of the assets.

INVESTMENT PROPERTY

Investment property is included in the balance sheet at fair market value in accordance with FRS102 and, as such, no depreciation is charged in the year. Gains or losses arising from the revaluation are credited or charged respectively to the SOFA under net gains/(losses) on investments.

LEASED ASSETS

Rentals payable under operating leases are charged to the SOFA on a straight-line basis over the lease term.

Assets acquired under finance leases are capitalised as tangible fixed assets and depreciated over their useful lives. Finance charges and interest are taken to the SOFA in proportion to the remaining balance of capital repayments or net obligations outstanding.

Lease obligations on investment properties are treated as finance leases. The lease obligation is quantified at the point of the lease inception or the property becoming an investment property, whichever occurs later, based on the present value of the minimum lease payments, and is included in creditors. Any adjustments to the rent payable under such leases due to periodic rent reviews is considered to be contingent rent. Contingent rent is treated as expenditure as it becomes payable.

STOCK

Laboratory consumables are valued at the lower of cost and net realisable value.

TERM DEPOSITS OVER THREE MONTHS

Cash and terms deposits over three months comprise cash deposits held at the Institute's banks with a maturity of three months or more on the date of investment.

DEBTORS

Trade and other debtors are recognised at the settlement amount due after any trade discount offered. Prepayments are valued at the amount prepaid.

CREDITORS AND PROVISIONS

Creditors and provisions are recognised where the Institute has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably. Creditors and provisions are normally recognised at their settlement amount.

FINANCIAL INSTRUMENTS

The Institute only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value.

FOREIGN CURRENCY TRANSLATION

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at the rates of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of the transaction.

STAFF AND PENSION COSTS

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC and deployed back to the Institute.

Following the Transfer of Undertakings (Protection of Employment) exercise as of 1 January 2017, all BBSRC employees are now employed by Pirbright. The Institute therefore retains responsibility for paying employment costs in relation to all such employees, including basic pay and allowances, contractual

payments, tax, national insurance, and pension contributions.

Employees engaged prior to April 2015 remain members of the Research Councils' Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer.

The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the Government Actuary's Department on a periodic basis. The cost of providing pension and related benefits is charged to the SOFA. Some payments are to a defined benefit scheme as explained above and in Note 8 but there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

TAXATION

The Pirbright Institute is a registered charity within the meaning of the UK Taxes Acts and is, therefore, eligible to claim exemptions to income tax and capital gains tax.

JUDGEMENTS IN APPLYING ACCOUNTING POLICIES AND KEY SOURCES OF ESTIMATION UNCERTAINTY

Preparation of the financial statements requires the Trustee Directors and senior management to make significant judgements and estimates. The items in the financial statements where these judgements and estimates have been made include depreciation, which has been charged in line with the accounting

policy above. The amount of depreciation charged, and net book value of the assets is included in Note 9.

The Institute includes in its financial statements leasehold land and buildings owned by third parties because the Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. These assets are held at their deemed cost, being their fair value at the transition date of FRS 102. The judgements applied and the revaluation adjustments and net book value of the assets is included in Note 9.

NOTES TO THE TRUSTEE DIRECTORS' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2025

1. INCOME FROM CORE STRATEGIC GRANTS

2025
£'000

2024
£'000

BBSRC UKRI - Core Strategic Grant
Resource Contribution Grants

17,838
-

17,539
2,307

17,838

19,846

All income from core strategic grants in the current and prior year was restricted.

2. INCOME FROM CHARITABLE ACTIVITIES

2025
£'000

2024
£'000

Grant Income

BBSRC UKRI - Research Grants
BBSRC UKRI - Other Grants
Other Research Grants

5,096
7,730
17,384

3,189
3,752
14,433

30,210

21,374

Other Charitable Activities

2,679

1,566

32,889

22,940

Income from charitable activities included restricted income from grants of £7,730k (2023:£3,752k)

All other income from charitable activities in the current and prior year was unrestricted.

The analysis by region of funder is set out below:

2025
£'000

2024
£'000

United Kingdom
Europe
North America
Others

24,256
367
8,259
7

17,763
257
4,816
104

32,889

22,940

2. INCOME FROM CHARITABLE ACTIVITIES (continued)

	Unrestricted £'000	Restricted £'000	2025 Total £'000	
Current Year				
Analysis of Grants & Contracts Income				
BBSRC UKRI				
Competitive Project Grants - Research Grants	5,096	-	5,096	
Other Grants	-	7,730	7,730	
Total BBSRC UKRI	5,096	7,730	12,826	
Other				
DEFRA "Umbrella" Commissioned Projects	2,875	-	2,875	
DEFRA Surveillance	3,828	-	3,828	
Other Government Departments	-	-	-	
European Union	230	-	230	
Industry & Levy Boards	814	-	814	
Trusts, Foundations & Charities	1,190	-	1,190	
Other Research Income	8,447	-	8,447	
Total Other	17,384	-	17,384	
Total Income Grants & Contracts	22,480	7,730	30,210	
	Unrestricted £'000	Restricted £'000	2024 Total £'000	
Prior Year				
Analysis of Grants & Contracts Income				
BBSRC UKRI				
Competitive Project Grants - Research Grants	3,189	-	3,189	
Other Grants	-	3,752	3,752	
Total BBSRC UKRI	3,189	3,752	6,941	
Other				
DEFRA "Umbrella" Commissioned Projects	3,247	-	3,247	
DEFRA Surveillance	3,680	-	3,680	
Other Government Departments	210	-	210	
European Union	-	-	-	
Industry & Levy Boards	987	-	987	
Trusts, Foundations & Charities	529	-	529	
Other Research Income	5,780	-	5,780	
Total Other	14,433	-	14,433	
Total Income Grants & Contracts	17,622	3,752	21,374	
Other Income	Unrestricted £'000	Restricted £'000	2025 Total £'000	2024 Total £'000
Royalties	559	-	559	105
Diagnostic Testing	574	-	574	414
Supply of Reagents	321	-	321	157
Patent Reimbursement	206	-	206	119
Commercial Contract Research	519	-	519	99
Restaurant Revenue	107	-	107	105
Training & Lecture Fees	56	-	56	9
Other	337	-	337	558
Total Other Income	2,679	-	2,679	1,566

All other income in 2024 was unrestricted

3. INVESTMENT INCOME

	2025	2024
	£'000	£'000
Rental Income & Tenant Services	949	974
Bank Interest	1,024	909
	1,973	1,883

All Investment Income in the current and prior year was unrestricted.

4. ANALYSIS OF EXPENDITURE

	Staff Costs	Other	Allocated	2025
	£'000	Direct Costs	Support Costs	Total
	£'000	£'000	£'000	£'000
Current Year				
Unrestricted Funds				
Cost of Raising Funds				
- Rental Income & Tenant Services	-	-	395	395
- Investment Management Costs	-	10	12	22
Charitable Expenditure				
- Grants for Scientific Research	15,080	11,747	14,997	41,824
- Science Rental Income & Tenant Services	-	10	1,192	1,202
- Other Charitable Activities	-	305	276	581
Total Unrestricted Expenditure	15,080	12,072	16,872	44,024
Restricted Funds				
Cost of Raising Funds				
- Rental Income & Tenant Services	-	-	394	394
Charitable Expenditure				
- Grants for Scientific Research	-	-	13,855	13,855
- Science Rental Income & Tenant Services	-	-	1,184	1,184
- Other Charitable Activities	-	-	62	62
Total Restricted Expenditure	-	-	15,495	15,495
Total Expenditure	15,080	12,072	32,367	59,519

Included in allocated support costs are staff costs of £6,979k.

4. ANALYSIS OF EXPENDITURE (continued)

	Staff Costs	Other Direct Costs	Allocated Support Costs	2024 Total
	£'000	£'000	£'000	£'000
Prior Year				
Unrestricted Funds				
Cost of Raising Funds				
- Rental Income & Tenant Services	-	-	352	352
- Investment Management Costs	-	12	12	24
Charitable Expenditure				
- Grants for Scientific Research	13,397	8,855	12,481	34,733
- Science Rental Income & Tenant Services	-	-	1,053	1,053
- Other Charitable Activities	-	305	236	541
Total Unrestricted Expenditure	13,397	9,172	14,134	36,703
Restricted Funds				
Cost of Raising Funds				
- Rental Income & Tenant Services	-	-	395	395
Charitable Expenditure				
- Grants for Scientific Research	-	-	16,512	16,512
- Science Rental Income & Tenant Services	-	-	1,316	1,316
- Other Charitable Activities	-	-	60	60
Total Restricted Expenditure	-	-	18,283	18,283
Total Expenditure	13,397	9,172	32,417	54,986

Included in allocated support costs are staff costs of £5,778k.

5. ANALYSIS OF SUPPORT COSTS

	Rental Income & Tenant Services	Investment Management Costs	Grants for Scientific Research	Science Rental Income & Tenant Services	Other Charitable Activities	Total 2025	Basis of Allocation
	£'000	£'000	£'000	£'000	£'000	£'000	
Current year							
Unrestricted Funds							
Premises	212	-	9,119	1,059	79	10,469	% of floor area
Finance	34	12	768	59	69	942	time spent
Management	57	-	1,400	24	42	1,523	time spent
Human Resources	67	-	489	-	20	576	time spent
Information Technology	12	-	2,548	28	42	2,630	time spent
Procurement	7	-	529	20	20	576	time spent
Governance	6	-	144	2	4	156	time spent
	395	12	14,997	1,192	276	16,872	
Restricted Funds							
Depreciation	375	-	10,556	999	62	11,992	% of floor area
Repairs & maintenance	19	-	3,299	185	-	3,503	% of floor area
	394	-	13,855	1,184	62	15,495	
Total Support Costs	789	12	28,852	2,376	338	32,367	
	Rental Income & Tenant Services	Investment Management Costs	Grants for Scientific Research	Science Rental Income & Tenant Services	Other Charitable Activities	Total 2024	Basis of Allocation
	£'000	£'000	£'000	£'000	£'000	£'000	
Prior Year							
Unrestricted Funds							
Premises	189	-	8,117	942	71	9,319	% of floor area
Finance	33	12	727	56	66	894	time spent
Management	22	-	543	9	17	591	time spent
Human Resources	88	-	640	-	25	753	time spent
Information Technology	8	-	1,694	19	28	1,749	time spent
Procurement	9	-	692	26	27	754	time spent
Governance	3	-	68	1	2	74	time spent
	352	12	12,481	1,053	236	14,134	
Restricted Funds							
Depreciation	360	-	10,145	960	60	11,525	% of floor area
Repairs & maintenance	35	-	6,367	356	-	6,758	% of floor area
	395	-	16,512	1,316	60	18,283	
Total Support Costs	747	12	28,993	2,369	296	32,417	

6. NET (EXPENDITURE)/INCOME

	2025 £'000	2024 £'000
Net Income/(Expenditure) is stated after charging:		
- Auditors' remuneration		
- Audit Services	83	77
- Non-Audit Services (Taxation Advice)	-	29
- Depreciation	11,992	11,525
- Loss on Foreign Exchange Translations	(30)	(173)
- Hire of Plant & Machinery	2	2
- Rental of Land & Buildings	55	55

7. REMUNERATION OF THE TRUSTEE DIRECTORS

None (2024:None) of the Trustee Directors received any remuneration from the Pirbright Institute or its subsidiary, Pirbright Innovations Limited, during the year. Eleven Trustee Directors (2024:Eleven Trustee Directors) had travel and subsistence expenses of £2,941 (2024:£3,763) reimbursed in the year.

8. STAFF NUMBERS AND COSTS

The average number of people employed by the Institute during the year, analysed by category, was as follows:

	Number of Employees	
	2025	2024
Office, Management and Estate Support	132	134
Scientific	266	250
Total	398	384

The aggregate payroll costs of these people were as follows :

	2025	2024
	£'000	£'000
Wages & Salaries	16,420	14,481
Social Security Costs	1,771	1,691
Pension Costs	2,845	2,428
Total	21,036	18,600

	2025	2024
	£'000	£'000
Termination Payments		
- Redundancy	225	-
Total	225	-

At 31 March £187k (2024:None) of these payments were outstanding.

Some employees of the Institute are members of the Research Councils' Pension Schemes (RCPS), which are funded principally through employer and employee contributions. The pension schemes are defined benefit schemes and provide retirement and related benefits on final emoluments, redundancy, capability and ill health. The scheme is administered by the Research Councils' Joint Superannuation Services and the schemes' finances are administered by BBSRC UKRI. It is an unfunded scheme, there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme. The Institute pays employers' contributions at a percentage of scheme members' pensionable pay and emoluments as assessed by the Government Actuary's Department (GAD) on a periodical basis. The rate for the year was 26.0%, which was established following GAD's most recent assessment. The pension cost represents contributions payable by the Institute to the scheme and amounts to £667,715 (2024: £790,396).

Since April 2015, all new staff are members of The Pirbright Company Pension, a defined contribution scheme administered by Aviva on behalf of the Institute. The Institute contributes 10% of scheme members' pensionable pay and emoluments. The pension cost represents contributions payable by the Institute to the scheme and amounts to £2,349,713 (2024:£1,988,319).

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute.

Following the Transfer of Undertakings (Protection of Employment) (TUPE) exercise as of 1 January 2017, all BBSRC employees are now employed by the Institute. The Institute therefore retains responsibility for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the RCPS). The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer. The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the GAD on a periodic basis.

The key management of the Institute comprise the Senior Leadership Board and the Trustee Directors.

The total employee benefits (including wages and salaries, employer's national insurance and pension costs) of the key management personnel of the Institute were £634,479 (2024:£612,867).

The number of staff with emoluments greater than £60,000 (excluding pensions costs) was:

	Number of Employees	
	2025	2024
£60,000 - £69,999	17	16
£70,000 - £79,999	12	11
£80,000 - £89,999	8	3
£90,000 - £99,999	1	1
£100,000 - £109,999	3	3
£130,000 - £139,999	1	1

The number of staff earning over £60,000 for whom retirement benefits are accruing under defined benefit schemes amounted to 13 (2024:12) and the amounts paid in the year were £223k (2024:£218k).

9. TANGIBLE FIXED ASSETS

	Land & Buildings £'000	Plant & Machinery £'000	Fixtures & Fittings £'000	Assets Under Construction £'000	Total £'000
Cost/Revaluation					
At 1 April 2024	259,167	34,805	1,283	126,802	422,057
Additions	-	12	-	11,075	11,087
Disposals	-	(127)	-	-	(127)
Transfers	-	4,794	-	(4,794)	-
At 31 March 2025	259,167	39,484	1,283	133,083	433,017
Depreciation					
At 1 April 2024	81,351	22,769	1,283	-	105,403
Charge for year					
- Historic	7,312	3,475	-	-	10,787
- Revaluation	1,205	-	-	-	1,205
At 31 March 2025	89,868	26,244	1,283	-	117,395
Net Book Value					
At 31 March 2025	169,299	13,240	-	133,083	315,622
At 31 March 2024	177,816	12,036	-	126,802	316,654

Land and buildings include land with a book value of £12,552k (2024:£12,779k).

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The North Side lease was renewed in December 2020 for 25 years and the South Side lease for a term of 99 years. The Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required scientific programme, which, in the Trustee Directors view, is highly unlikely.

The Institute used the option in FRS102 to use fair value at the date of transition to FRS102, (1 April 2014), as deemed cost on transition. GVA Grimley Limited, Chartered Surveyors, and an independent valuer, provided a professional valuation.

The Institute derives a rental income from some of the buildings. This is included in these financial statements, with the leases associated with those buildings classified as investment properties, as per note 10 of these statements.

10. INVESTMENTS & INVESTMENT PROPERTIES

Investment in Subsidiary Undertaking

The Pirbright Institute owns the entire share capital of Pirbright Innovations Limited.

During the year the subsidiary continued to develop the UK Centre for Veterinary Vaccine Innovation and Manufacturing (CVIM) on the Pirbright site. The Trustee Directors consider that the activities of the subsidiary are not material to the financial position of the Pirbright Institute Group and have therefore elected not to produce consolidated financial statements.

During the year the subsidiary entered into a contract for the construction of the CVIM. At the year end the outstanding commitment in respect of this contract was £5,930k (2024 : Nil). There are also three contracts for the professional services for this build, with the outstanding commitment at the year-end totaling £159k (2024 : Nil). It is expected that these commitments will be settled by the Autumn of 2026. This commitment will ultimately be met by The Pirbright Institute.

	2025 £'000	2024 £'000
Statement of Income		
Income	1,004	538
Expenditure	(975)	(523)
Net Profit	29	15
Qualifying Charitable Donation to Parent	(29)	(15)
Retained Profit	-	-
 The assets and liabilities of the subsidiary were:		
Current Assets		
- Debtors	696	141
- Cash at Bank	160	89
- Creditors	(854)	(228)
Total Assets less Current Liabilities	2	2
 Share Capital	2	2
Reserves	0	0
Total Funds	2	2

10. INVESTMENTS & INVESTMENT PROPERTIES (Continued)

Investment in Properties	2025 £'000	2024 £'000
The value of Investment Properties were:		
At 1 April 2024	2,370	2,150
Change in valuation in the year	(100)	220
At 31 March 2025	2,270	2,370

Part of the site in Pirbright is sublet to a third party. In line with FRS102 this lease is therefore recognised as an investment property in these financial statements. The investment property was valued at 31 March 2025 by RICS Registered Valuers from Powis Hughes Ltd. The valuers are not employees or officers of the Institute.

The valuation has prepared in accordance with International Valuation Standards and the Royal Institute of Chartered Surveyors Valuation - Global Standards 2025 (RICS Red Book) together with the UK Supplement and FRS 102 The Financial Reporting Standard in the UK and Republic of Ireland on the basis of Fair Value using an Income Approach.

11. STOCKS

	2025 £'000	2024 £'000
Laboratory Consumables	607	452

The Institute's stock consists of laboratory supplies for research purposes.

12. DEBTORS : AMOUNTS FALLING DUE WITHIN ONE YEAR

	2025 £'000	2024 £'000
Trade Debtors	776	729
Prepayments	2,248	2,129
Accrued Income	3,846	822
Other Debtors	1,534	1,151
	8,404	4,831

13. CREDITORS : AMOUNTS FALLING DUE WITHIN ONE YEAR

	2025 £'000	2024 £'000
Trade Creditors	2,779	1,867
Taxation & Social Security	103	-
Accruals	4,576	4,217
Deferred Grant Income	17,687	14,573
	25,145	20,657

14. RECONCILIATION OF MOVEMENT IN ACCRUED & DEFERRED GRANT INCOME

	2025 £'000	2024 £'000
Accrued Income	3,846	822
Deferred Grant Income	(17,687)	(14,573)
	(13,841)	(13,751)
Net Deferred Grant income at the beginning of the year	(13,751)	(10,526)
Research Grant income received during the year	(22,570)	(20,847)
Research Grant income released to the SOFA during the year	22,480	17,622
Net Deferred Grant income at the end of the year	(13,841)	(13,751)

15. FUNDS

Unrestricted Designated Funds

Unrestricted designated funds comprise sums set aside for specific purposes including the acquisition and improvement of science equipment, the support up to three of our early career scientists via strategic career development awards, various projects to improve the site, and support of the occupation phase of the capital development programmes on the Pirbright site. These funds total £2,552k (2024: £2,248k) comprising £52k (2024: £8k) to maintain scientific equipment capability, £586k (2024: £613k) for the career development awards, £287k (2024: £Nil) for various site improvement projects and £1,627k (2024: £1,627k) to support the occupation costs associated with the development programme.

Restricted Funds

Restricted funds comprise grants received from funders specifically to be applied in the acquisition or improvement of tangible fixed assets or otherwise applied for such purpose as specified by the grants provided.

	Balance 1 April 2024 £'000	Net Income/ (Expenditure) £'000	Transfer between Funds £'000	Balance 31 March 2025 £'000
Current Year				
Unrestricted Funds				
General	9,993	(17,195)	17,838	10,635
Designated	2,248	304	-	2,552
Restricted Funds				
Fixed Asset Fund	301,873	(6,948)	1,205	296,130
Fixed Asset Revaluation Fund	12,497	-	(1,205)	11,292
	314,370	(6,948)	-	307,422
Other Restricted Funds				
Fixed Asset Project Support Costs	356	(237)	-	119
DP2 Phase Occupation Costs	1,098	(89)	-	1,009
BBSRC UKRI Core Grant Funding	-	17,838	(17,838)	-
Brooksby Support Costs	1,052	(491)	-	561
BBSRC Supplementary Energy Grant	2,370	(100)	-	2,270
Investment Property Revaluation	64	-	-	64
Other				
Total	331,551	(6,918)	-	324,632
	Balance 1 April 2024 £'000	Net Income/ (Expenditure) £'000	Transfer between Funds £'000	Balance 31 March 2024 £'000
Prior Year				
Unrestricted Funds				
General	7,783	(15,534)	17,744	9,993
Designated	1,893	(98)	453	2,248
				-
Restricted Funds				
Fixed Asset Fund	312,147	(11,474)	1,200	301,873
Fixed Asset Revaluation Fund	13,697	-	(1,200)	12,497
	325,844	(11,474)	0	314,370
Other Restricted Funds				
Fixed Asset Project Support Costs	731	(375)	-	356
DP2 Phase Occupation Costs	1,154	(56)	-	1,098
BBSRC UKRI Core Grant Funding	-	17,539	(17,539)	-
Brooksby Support Costs	1,414	(157)	-205	1,052
BBSRC Supplementary Energy Grant	615	(162)	(453)	-
Investment Property Revaluation	2,150	220	-	2,370
Other	64	0	-	64
Total	341,648	(10,097)	-	331,551

15. FUNDS (continued)

Fixed Asset Fund	2025 £'000	2024 £'000
Balance brought forward at 1 April 2024	314,370	325,844
Grants Received	7,730	3,752
Depreciation	(11,992)	(11,525)
Revenue Spend	(2,686)	(3,701)
Transfers	-	-
Balance carried forward at 31 March 2025	307,422	314,370

The Fixed Asset Fund represents funding received from BBSRC, for the past and future acquisition of tangible fixed assets. These assets are built on land that is not owned by The Pirbright Institute. The capital fund has been set up to assist in identifying those funds that are not free funds and it represents the net book value of tangible fixed assets held by the Institute and amounts received for capital but not yet spent.

The unexpended balance of unrestricted designated funds and restricted funds is invested temporarily and appears in the balance sheet under current assets.

Other Restricted Funds

Fixed Asset Project Support Cost grants have been received from BBSRC to provide funding towards support costs and overrun costs relating to the development programme capital projects.

The BBSRC core grant funding is received from BBSRC to ensure that the Institute's facilities are maintained at the necessary cutting-edge high containment level that is essential to provide a national capability.

Transfer between Funds	Unrestricted Funds £'000	Restricted Funds BBSRC Core Funding £'000	BBSRC Energy Support £'000	BBSRC Brooksby Support £'000
Transfer of funds to General Reserves	17,838	17,838	453	205

The transfer of funds during the year are as follows:

In accordance with the original grant offer letter, core funding from BBSRC UKRI is required to be shown as restricted income. The Institute subsequently received confirmation that the income could be applied for general purposes and therefore the transfer of income to unrestricted reserves has been made.

16. ANALYSIS OF NET ASSETS BETWEEN FUNDS

	Investments £'000	Fixed Assets £'000	Net Current Assets £'000	Total £'000
Current Year				
Unrestricted Funds	10	8,371	4,806	13,187
Restricted Funds				
Fixed Asset Capital Fund	-	295,959	171	296,130
Fixed Asset Revaluation Fund	-	11,292	-	11,292
Investment Property Revaluation Fund	2,270	-	-	2,270
Other Restricted Funds	-	-	1,753	1,753
	2,280	315,622	6,730	324,632
Prior Year				
Unrestricted Funds	10	8,371	3,860	12,241
Restricted Funds				
Fixed Asset Capital Fund	-	295,786	6,087	301,873
Fixed Asset Revaluation Fund	-	12,497	-	12,497
Investment Property Revaluation Fund	2,370	-	-	2,370
Other Restricted Funds	-	-	2,570	2,570
	2,380	316,654	12,517	331,551

The prior year numbers as shown in the table above have been restated to more accurately reflect the allocation of general reserves across the Institute's net assets. This has had no impact on total restricted and unrestricted funds or on net assets.

17. COMMITMENTS

Capital commitments at the end of the financial year for which no provision has been made:	2025 £'000	2024 £'000
Authorised but not contracted for	1,307	5,009
Operating lease commitments		
Land & Buildings		
- Within one year	55	55
- In two to five years	221	220
- In over five years	101	417
Plant & Machinery		
- Within one year	7	8
- In two to five years	-	-

18. LESSOR

The Institute leases out the investment properties under leases which have a eighteen month rolling break clause, exercisable by either party.

	2025 £'000	2024 £'000
- No later than one year	611	594
- Later than one year and not later than five years	305	297
Total	916	891

19. CONTINGENT LIABILITIES

There is a contingent liability to account to UKRI BBSRC for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent and capital grants in excess of the financing requirements. No such liabilities existed at either 31 March 2025 or 31 March 2024.

20. RELATED PARTY TRANSACTIONS

Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI).

BBSRC provides substantial funding to the Institute. The Institute is affiliated with BBSRC along with seven other institutes. Details of grants received from BBSRC UKRI are detailed in Notes 1 and 2 .During the year, BBSRC charged the Institute £Nil (2024: £Nil) for other costs and Engineering and Physical Sciences Research Council UKRI charged the Institute £NIL (2024: £31k) for other costs.

Pirbright Innovations Limited

Pirbright Innovations Limited, a wholly owned subsidiary whose registered office is the same as that of the Institute, acts as a special purpose vehicle for the Institute with regard to the project of constructing the UK Centre for Veterinary Vaccine Innovation and Manufacturing on the Pirbright site. During the year, Pirbright Innovations Limited charged the Institute £1,003k (2024: £538k) for this project. Details of the assets and liabilities of Pirbright Innovations Limited are detailed in Note 10.

REFERENCE AND ADMINISTRATIVE DETAILS

Trustee Directors:

Professor Vincent Emery: Chair

Professor Mike Turner: Deputy Chair

Alison Hardy

Dr Tim Harry

Dr Paul Logan OBE

Dr Linda Magee OBE

Paul Norris

Professor Deenan Pillay

Mike Tsang

Dr Ian Walker

Tamsin Webster

Director of the Institute:

Professor Bryan Charleston MRCVS FRS

Company Secretary:

Helen Watts FCA

Registered office of The Pirbright Institute and Pirbright Innovations Limited:

Ash Road, Pirbright, Woking, Surrey GU24 0NF

Auditor:

BDO LLP, 2 City Place, Beehive Ring Road, Gatwick, West Sussex RH6 0PA

Bankers:

Barclays Bank PLC, Wytham Court, 11 West Way, Oxford OX2 0JB

Lloyds Bank PLC, 5 High Street, Swindon SN1 3EN

Solicitors:

Charles Russell Speechlys LLP, 1 London Square, Cross Lanes, Guildford GU1 1UN

Penningtons Manches LLP, 9400 Garsington Road, Oxford Business Park, Oxford OX4 2HN



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[@pirbright_inst](https://twitter.com/pirbright_inst)



[@ThePirbrightInstitute](https://www.facebook.com/ThePirbrightInstitute)

The Pirbright Institute, Ash Road, Pirbright, Woking, GU24 0NF Email: enquiries@pirbright.ac.uk Tel: +44 (0)1483 232441

Accounts

**ANNUAL REPORT AND ACCOUNTS
FOR THE YEAR ENDED 31 MARCH 2024**

CHARITABLE OBJECTIVES

THERE ARE THREE REASONS FOR CONTROLLING DISEASES OF ANIMALS:

- the direct impact of the disease on the health and welfare of the animals;
- the indirect impact on human health, welfare and prosperity due to reduced availability of food; and
- the spread of infections causing disease from animals to humans (zoonoses).

There is also the added possibility of disease transferring from humans to animals (reverse zoonoses). The World Health Organisation states that zoonoses comprise a large percentage of all newly identified infectious diseases as well as existing infectious diseases of humans.

PIRBRIGHT'S CHARITABLE OBJECTIVES ARE:

- to conduct and promote scientific research on diseases of animals, including exotic diseases, and to develop appropriate methods for their control, and on matters concerned with animal health, and ancillary thereto, to publish the results of such research; and
- to prepare, edit, print, publish, issue, acquire and circulate any literary works or matters treating of or bearing on the said research work, establish and maintain collections of material, literature and scientific data relating thereto, disseminate information obtained therefrom, and contribute towards the provision of a library or libraries designed to assist such work.



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Front cover: Bluetongue virus (BTV) infection (green) in the salivary glands (red – tubulin) of the vector species *Culicoides sonorensis*. The salivary glands of *Culicoides* biting midges consist of two large lobes, each with four smaller accessory glands arranged as a rosette around them. Although the salivary gland lobes can support viral replication, the accessory glands are the primary site for BTV infection. Cellular nuclei and the ommatidia of the compound eyes can be seen in blue.
Image taken from Guimerà Busquets et al., 2023. doi: 10.1186/s12575-023-00221-2

Left: The BBSRC National Virology Centre: The Plowright Building.



FOREWORD BY THE CHAIR OF THE BOARD OF TRUSTEE DIRECTORS

As Chair of the Board of Trustee Directors, it is my pleasure to present the Trustees' Report incorporating the Strategic Report for the year 1 April 2023 to 31 March 2024.



THE PIRBRIGHT INSTITUTE AIMS TO PROVIDE THE UK AND INTERNATIONAL COMMUNITY WITH THE CAPABILITY TO PREDICT, DETECT, UNDERSTAND AND RESPOND TO THE THREAT OF SERIOUS VIRAL DISEASES OF LIVESTOCK, AND THEIR SPREAD FROM ANIMALS TO HUMANS.

Pirbright's contribution remains a critical one both for the UK and globally. The excellent facilities available at Pirbright and the significant continuing investment made by UKRI – Biotechnology and Biological Sciences Research Council (BBSRC) – have further strengthened the Institute, allowing world-class science to thrive on the site. The Board of Trustee Directors are confident that The Pirbright Institute has the scientific and support personnel, coupled with the high- containment facilities, to deliver world-class science and allow it to achieve its strategic aims.

The Pirbright Institute's scientific strategy is underpinned by a series of strategic partnerships with stakeholders globally, including other UKRI-funded institutes, academic and research institutions, governmental agencies, international charities and philanthropic foundations. The Institute is also committed to playing a key role in nurturing the next generation of researchers, technical specialists and innovators, and is committed to offering apprenticeship opportunities and technical training courses (both in person and online) to contribute to the broader impact that UK science makes nationally and globally.

In the year of the report, Pirbright has embarked on its exciting new five-year scientific programme funded by BBSRC, providing the core infrastructure support and funds for its flagship scientific programmes to enable the Institute to deliver its scientific strategy. The ability of the Institute to respond to national emergencies is being demonstrated by its preparedness for monitoring bluetongue virus infections in England.

Competitively won research grant income at the Institute is key to the Institute's financial sustainability and there is a very strong pipeline of awards over the next year, which exceeds the target required within the budget. The Institute is very proactive in identifying new sources of income to support its science and this is an area where growth is expected during the years ahead.

Culturally, the Institute is committed to equality, diversity and inclusivity (EDI) in all it does. It wishes to build upon its Athena Swan Silver award in 2023 to further enhance what it does in this area to ensure it is proactive in supporting an inclusive environment with a focus in the forthcoming year on mental health. The Athena Swan Charter is a framework used across the globe to support and transform gender equality within higher education and research.

Pirbright continues to be committed to acting in an

environmentally responsible way becoming more energy efficient in all activities, including decommissioning older buildings. This strategy has resulted in a substantial reduction in energy consumption on the site over the last year and providing a firm platform to realise further efficiencies in coming years. However, the carbon footprint of the Institute has increased in the year, due to our Combined Heat and Power plant (CHP) coming online. The CHP generates electricity by burning gas, there by moving the carbon footprint of this process from the supply chain to Pirbright.

As Trustee Directors, we are committed to continual improvement of the governance of the Institute and ensuring that we are fully aligned with the Charity Governance Code. We continue to reflect on our board effectiveness through an annual review whilst ensuring effective communication occurs between the Board of Trustee Directors and the Senior Leadership Board. The Board receives regular updates from different internal members of staff of the Institute at each board meeting with an opportunity for question-and-answer sessions. Trustee Directors are encouraged to spend time after Board meetings interacting with staff and visiting facilities, especially new infrastructure developments on campus. As Trustee Directors we recognise that we have a responsibility to engage with the employees and students who work at the Institute to ensure we understand any issues or concerns and are fully apprised of matters that directly affect them. We intend to expand the opportunities for interaction in the forthcoming year by attending all-staff briefings and arranging Trustee Director 'drop in' sessions.

As Trustee Directors, we also recognise our responsibility to ensure the future success of Pirbright. To assist in discharging these responsibilities, the Board has three sub-committees: the Finance and Audit Committee, the Risk and Assurance Committee and the Nominations and Governance Committee. In addition, the Trustee Directors have a Scientific Advisory Board, which comprises world-leading scientists from academia and funding agencies. An annual joint meeting between the Board of Trustee Directors and the Science Advisory Board provides the opportunity for strategic discussions about the Science Strategy and external factors impacting on its delivery and horizon scanning.

On behalf of the Board, I am grateful for the commitment and contribution that the Director, the Senior Leadership Board and indeed all the staff at The Pirbright Institute have made in the last year to ensure its continued success in the future.

PROFESSOR VINCENT EMERY

Chair of Board of Trustee Directors, The Pirbright Institute

REPORT BY THE DIRECTOR & CEO

In the financial year 2023-2024, The Pirbright Institute again achieved a strong performance. We continue to deliver very effectively against our scientific objectives and secure additional external funding from an increasingly broad range of funders.



WE ARE BECOMING MORE INVOLVED IN PROGRAMMES TO REDUCE THE IMPACT OF LIVESTOCK PRODUCTION ON CLIMATE CHANGE. This is not a change in the Institute's strategy – we are focusing on understanding whether it is possible to develop vaccines to control methane production in ruminants and the impact of controlling diseases and improving animal health on greenhouse gas (GHG) production. We will work in collaboration with international centres of expertise on livestock GHG production to deliver these programmes of work.

The increase in global energy costs could have been very challenging financially. However, support from our major strategic funder, BBSRC, helped to ensure financial stability. Also, our energy saving programme, which was started a number of years ago, resulted in very significant reductions in energy consumption on site this year. However, it is disappointing that the carbon footprint of the Institute has increased over the previous year due to the Institute now generating its own power, through our CHP, which effectively moves the carbon footprint from the supply chain into the Institute.

In late 2023, we were asked by the UK government to provide the laboratory diagnostic capacity to identify and control an incursion of bluetongue virus in Norfolk and Kent. The national reference laboratory led by Dr Carrie Batten responded quickly to this request from government and so played a major role in the removal of the temporary designated disease control zones. In addition, expert advice has been provided to government and livestock keepers. This once again emphasises the critical role Pirbright plays as a national disease control capability.

In parallel, our research scientists and reference laboratories have continued to support global disease control programmes by working with international agencies, commercial companies and governments.

We have made renewed efforts to ensure everyone in the Institute is treated fairly by increased awareness of equality, diversity and inclusion (EDI) and recruiting a dedicated EDI manager. It is pleasing that our efforts have been recognised externally by an Athena Swan Silver Award.

Pirbright works at the highest level of biological containment and is highly regulated. Consequently, rigorous control of our processes and facilities is critical. Importantly, there were no significant enforcements from our regulators this year. We adopt a principle of complete transparency with all of our regulators and external auditors to ensure we are always following best practice. Similarly, internally we actively encourage all staff to report any incidents, accidents or near-misses to ensure the safe operation of the site.

The Centre for Veterinary Vaccine Innovation and Manufacturing (CVIM) has been established on the Pirbright site for over a year now and currently has four vaccine development programmes. Also, we are in the advanced stages of designing a new dedicated building to produce material at good manufacturing practice standards. Importantly, we are increasing our interactions with commercial partners, which is a critical step to ensure new products are available to livestock keepers in low and middle income countries.

We are looking forward to continuing to reduce the impact of diseases on livestock globally, and most importantly, reduce the environmental impact of agriculture in the year ahead.

PROFESSOR BRYAN CHARLESTON MRCVS FRS

Director & CEO

The Pirbright Institute

ABOUT PIRBRIGHT

Pirbright is a world-leading centre of excellence in research and surveillance of virus diseases of farm animals and viruses that spread from animals to humans. The Institute receives strategic funding from BBSRC and works to enhance capability to contain, control and eliminate these economically and clinically important viral diseases through highly innovative fundamental and applied bioscience.

OUR PURPOSE

Pirbright's charitable objective is to conduct and promote scientific research on diseases of animals, including exotic diseases, and to develop appropriate methods for their control.

OUR MISSION

The Institute's mission is to be the world's leading innovative centre for preventing and controlling viral diseases of livestock.

OUR VISION

The vision of Pirbright is to apply scientific research to prevent and control viral diseases, protecting animal and human health and the economy. The Pirbright Institute Science Strategy can be found on the Institute's website: pirbright.ac.uk

OUR STAFF AND STUDENTS

Pirbright employs just under 400 staff, with its research supported by 44 students from a range of backgrounds, and prides itself on its diversity. The Institute is based on a campus site in Pirbright in Surrey.

OUR VALUES

The staff and students working at the Institute take **PRIDE** in everything we do, which is reflected in our values:

Passion – for the highest-quality standards, delivery and performance.

Reliability – in everything we do: leadership, learning, biosecurity, problem anticipation and containment of unexpected events.

Innovation – is the driving force behind our fundamental and applied science. Our work is positioned at the cutting edge of science to deliver solutions for global good.

Dignity and respect – we respect and trust all in our diverse community.

Excellence – we aim to deliver the best in all aspects of our work, including health, safety, biosafety, scientific research, customer service and protecting the environment.

OUR SCIENCE

Pirbright provides national and international capacity to predict, detect, understand and respond to emerging new viral diseases of livestock and endemic viruses that are circulating in and outside of the UK.

Our diagnostics, surveillance facilities and expertise enable us to act as a national capability, protecting the UK from livestock viral diseases that threaten our borders, allowing us to act decisively and swiftly in the event of an outbreak in order to control it as rapidly as possible. Our fundamental research falls under two science programmes, which study either hosts or viruses and their interactions.

INSTITUTE STRATEGIC PROGRAMMES

Pirbright's science is organised into two close-linked and highly integrated programmes, one on virus biology and the other on host responses. Together they deliver important new knowledge and innovative disease control measures.

PROGRAMME ONE: VIRUS LIFECYCLES AT MULTIPLE SCALES

Pirbright's research programme focusing on viruses is driven by the overarching question: "How do viruses replicate within the infected cell, induce species-specific disease, transmit between hosts and circulate around the globe?" The research is focused on three broad topics: biology of virus-infected cells; virus-host interactions controlling species-specific outcomes; understanding and predicting disease spread. These topics are led by Professor Nicolas Locker, Dr Helena Maier and Dr Naomi Forrester-Soto, respectively. Together, they drive scientific delivery of the programme across Pirbright.

Overall, this programme will:

- Generate new fundamental knowledge of the life cycles of high-consequence viruses, develop new approaches for engineering attenuated viruses as novel vaccines and investigate how co-infecting viruses compete and evolve.
- Investigate how virus-host interactions control species-specific pathology and understand how viruses overcome barriers to species jumping.
- Use 'omics, systems and imaging datasets to build in-silico models of the infected cell.
- Study how viruses transmit between hosts by both direct mechanisms and via insect vectors. Use appropriate models and genotype-to-phenotype studies to predict large-scale spread, zoonotic potential, impact of climate change and risk to the UK.
- Provide an international hub for veterinary, zoonotic and One Health studies of viral disease.

PROGRAMME TWO: HOST RESPONSES TO VIRAL INFECTION

Pirbright's host programme is driven by the overarching question: "What properties of the host determine the outcome of viral infection?" The programme focuses on three broad topics: a fundamental understanding of immune responses; differential outcomes of viral infections; enhanced protective responses in vertebrate hosts. Professor Simon Graham, Dr Wilhelm Gerner and Professor Elma Tchilian are respective Topic Leads for each of these areas, supporting scientific delivery, monitoring and review of this programme of research.

Overall, this programme aims to:

- Advance our understanding of complex immune responses using comparative systems approaches to better define the molecular and cellular basis of protection.
- Identify new vaccine targets and delivery methods that induce the most broadly protective responses.

- Enhance disease control measures for existing viruses and enable rapid responses to future threats.
- Help predict and risk assess potential viral threats to the UK.
- Actively contribute to the larger One Health agenda by promoting and using natural host species and viruses related to human pathogens.
- Enable and enhance bioscience research across the UK and internationally through collaboration and strategic research partnerships.

These strategic programmes officially started on 1 April 2023, following the application process to UKRI BBSRC for continued strategic investment through the Institute Assessment Exercise (IAE) 2022. The science builds on our previous strategic investments, and these strategic programmes underpin Pirbright's overall science strategy, which is further supported by significant leveraged funded.

DIAGNOSTIC AND SURVEILLANCE EXPERTISE

Pirbright has a long history of protecting the UK from disease and has been home to the World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) for over 60 years. We also operate the Non-Vesicular Reference Laboratory (NVRL) for a number of high-consequence diseases of growing importance, including African swine fever virus, bluetongue, peste des petits ruminants, rinderpest, African horse sickness, lumpy skin disease, sheep pox and goat pox. These laboratories provide an essential diagnostic and advice service to the UK Government Department for Environment, Food & Rural Affairs (Defra), United Nations Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (WOAH).

These laboratories receive samples from all over the world and are instrumental in providing countries with sophisticated data on strains of viruses causing disease and helping to select vaccines to aid control. Furthermore, our scientists have provided training to improve diagnostic capacity in Indonesia, Jordan, Kenya, Thailand, Philippines, Uganda and Kuwait. During 2023-2024, the Pirbright reference laboratories processed 64,860 samples. In late 2023 through to February 2024, the NVRL (with support from other departments) responded to a BTV-3 incursion, resulting in large-scale surveillance across two temporary control zones in Norfolk and Kent. Over 58,500 samples were tested by PCR.

The international reference laboratories are accredited to ISO/IEC 17025, a UKAS-accredited laboratory, number 4025. In 2023-24, this accreditation was renewed following a successful assessment by UKAS.

PIRBRIGHT SCIENCE HIGHLIGHTS 2023-2024

The scientific progress outlined in this report focuses on our research into viruses affecting livestock and zoonotic viruses, which have implications for animal and human health, as well as food and economic security worldwide. Our advancements in research, vaccine development and diagnostic tests contribute to global preparedness in combating viral outbreaks through prevention and control. For more information, please visit pirbright.co.uk to explore our latest findings.

PIRBRIGHT COLLABORATION UNCOVERS LICENSED DRUGS AS POTENTIAL TREATMENTS FOR POXVIRUS INFECTIONS, INCLUDING MPOX AND SMALLPOX

Researchers from the University of Cambridge, University of Oxford and The Pirbright Institute discover how poxviruses evade cellular defences and identify existing drugs that can inhibit them. Published in *Nature*, the study reveals how poxviruses exploit a cellular protein to overcome host defences, facilitating replication and transmission. Drugs targeting this protein impede poxvirus replication without promoting drug resistance. This approach shows promise against various poxviruses, including monkeypox and smallpox, with implications for both human and animal health. The collaboration underscores the importance of initiatives like the Monkeypox Consortium and highlights Pirbright's role in advancing epidemic understanding and public health measures globally. www.pirbright.ac.uk/news/2023/08



Pirbright collaboration uncovers licensed drugs as potential treatments for poxvirus infections, including mpox and smallpox. Monkeypox virus under the microscope. Credit: BlackJack3D

PROFESSOR BRYAN CHARLESTON ELECTED AS FELLOW OF ROYAL SOCIETY

Professor Bryan Charleston, Director and CEO of The Pirbright Institute, is elected as a Fellow of the Royal Society, recognising Professor Charleston's international renown for his expertise in host-pathogen interactions related to livestock viral diseases. His research focuses on preventive measures,

benefiting animal and human health, as well as global food security. His work using the natural host has advanced the development of new reagents and innovative methods to support disease control and improve food security and has made significant contributions to the broader field of comparative biology. The honour is an opportunity to make a significant impact in the bioscience field and enhance infectious disease control.

The Royal Society elects individuals who significantly contribute to natural knowledge, including mathematics, engineering science and medical science. Following a rigorous nomination and application process, around 80 Fellows and Foreign Members were elected to become Fellows of the Royal Society in 2023. www.pirbright.ac.uk/news/2023/05/professor-bryan-charleston-elected-fellow-royal-society

AVIAN DISEASE RESEARCH: PIRBRIGHT SCIENTISTS STRENGTHEN UK-CHINA COLLABORATION

A team from The Pirbright Institute visited China to strengthen ties in avian disease research. China's poultry industry, crucial for global food security, faces threats from various pathogens. Pirbright and a number of Chinese institutions established the Centre of Excellence for Research on Avian Diseases (CERAD) in 2015, facilitating collaborative research. Professors Venu Nair and Munir Iqbal, along with Dr Yao, visited several of the academic institutes in China and participated in scientific discussions and presentations showcasing recent advances in disease control. They inaugurated the China European Joint Laboratory, highlighting UK-China collaboration. CERAD expands with South China Agricultural University's inclusion, demonstrating a model for international cooperation in addressing global health challenges, particularly in veterinary medicine.

www.pirbright.ac.uk/news/2023/12/avian-disease-research-pirbright-scientists-strengthen-uk-china-collaboration



Pirbright scientists welcome the South China Agricultural University, Guangzhou, as a new member of CERAD in a ceremony at the College of Veterinary Medicine, Guangzhou

PIRBRIGHT AND VIDO EXPAND COLLABORATION TO ADVANCE VACCINE MANUFACTURING

The Pirbright Institute's Centre for Veterinary Vaccine Innovation and Manufacturing (CVIM) and the University of Saskatchewan's Vaccine and Infectious Disease Organization (VIDO) have signed a memorandum of understanding (MOU) to enhance collaboration and training in vaccine manufacturing for animal health. Supported by various funders, including the Bill & Melinda Gates Foundation, the collaboration aims to develop vaccines for emerging infectious diseases in livestock, particularly in low- and middle-income countries (LMICs). CVIM focuses on bridging research and product development, while VIDO brings expertise in vaccine development and containment facilities. The partnership aims to address global challenges in food security and combat zoonotic diseases.

www.pirbright.ac.uk/news/2023/10/pirbright-and-vido-expands-collaboration-advance-vaccine-manufacturing

PIRBRIGHT JOINS HUB TO TACKLE VECTOR-BORNE DISEASES

The Pirbright Institute collaborates on a £1.5m One Health Vector-Borne Diseases Hub led by Imperial College London, funded by Defra and BBSRC. It involves multiple research institutions to combat diseases spread by insects, ticks and mites, impacting human, animal and plant health. With climate change expanding vectors' range, diseases like Lyme disease and West Nile virus pose increasing threats. The Hub adopts a One Health approach, integrating data and expertise from diverse disciplines to predict and mitigate outbreaks. Its goals include sharing data, building networks and enhancing communication to address challenges in vector-borne disease control.

www.pirbright.ac.uk/news/2023/12/pirbright-joins-hub-tackle-vector-borne-diseases

PIRBRIGHT SHARES IN GLOBAL VACCINES FUND

A £6.3m funding initiative has provided support for five Global Vaccines Networks, including the International Veterinary Vaccinology Network (IVVN), which includes The Pirbright Institute. Supported by UKRI, IVVN, led by The Roslin Institute and The Pirbright Institute, aims to develop vaccines against animal diseases worldwide. With over 1,900 scientists from 93 countries, IVVN receives £1.2m from the Medical Research Council (MRC) over two years. The network focuses on combating livestock diseases in low and middle income countries, promoting collaboration, funding projects and training scientists, particularly women. These networks address infectious disease threats, enhancing global preparedness, with emphasis on antimicrobial resistance.

www.pirbright.ac.uk/news/2023/12/pirbright-shares-global-vaccines-fund

PIRBRIGHT STRENGTHENS ANIMAL DISEASE PARTNERSHIP WITH INDIA

The Pirbright Institute and India's National Institute of Animal Biotechnology (NIAB) have signed a MOU to establish a collaborative laboratory partnership focusing on animal diseases and zoonoses. The MOU, signed in Hyderabad, strengthens

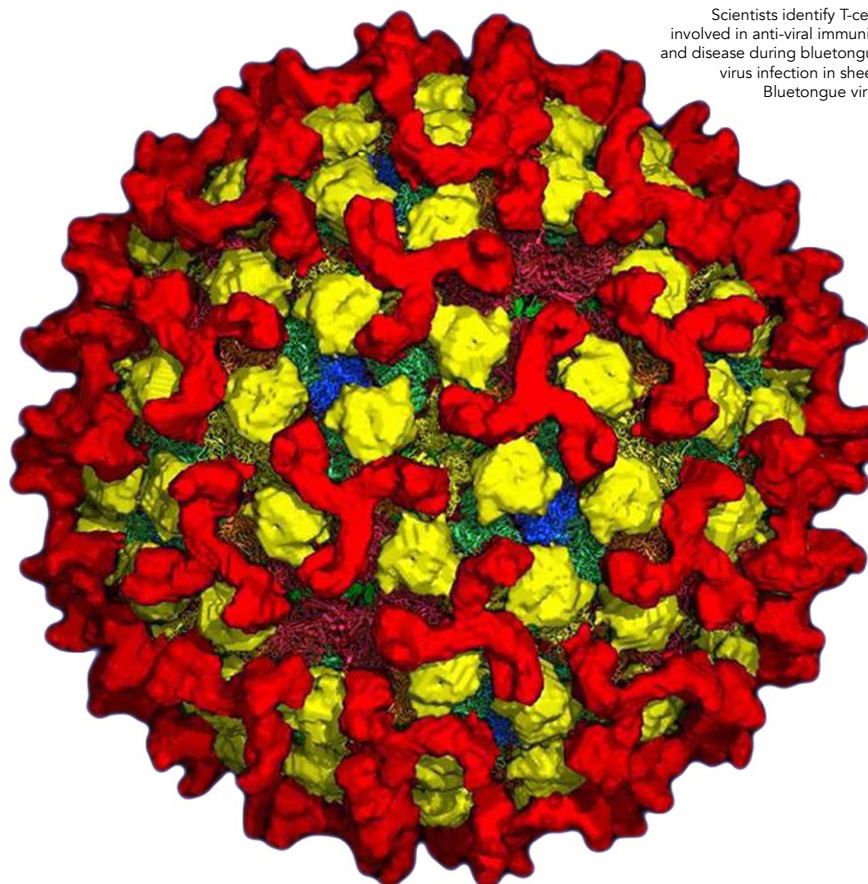
commitments in the 2030 India-UK Roadmap. Pirbright's Director, Professor Bryan Charleston, along with representatives from the UK's Animal and Plant Health Agency (APHA) and Foreign, Commonwealth & Development Office (FCDO), attended the signing. The partnership aims to enhance research and innovation in

veterinary vaccines, fostering food security and human health. This collaboration aligns with the UK-India Roadmap's goal of bolstering bilateral research and innovation efforts over the next decade.

www.pirbright.ac.uk/news/2024/02/pirbright-strengthens-animal-disease-partnership-india

SCIENTISTS IDENTIFY T-CELLS INVOLVED IN ANTI-VIRAL IMMUNITY AND DISEASE DURING BLUETONGUE VIRUS INFECTION IN SHEEP

A Pirbright Institute study reveals the crucial role of ‘helper’ T-cells in sheep’s immune response to bluetongue virus (BTV), transmitted by *Culicoides* midges. The research, funded by BBSRC and Defra, employed a sophisticated T-cell depletion model, mimicking natural infection. By infecting live hosts with midges, scientists observed T-cell subsets’ impact on disease progression, immune responses and virus transmission. Results showed CD8+ T-cells, associated with lower severity, and CD4+ T-cells, crucial for timely immune response. This novel approach sheds light on T-cells’ diverse functions, guiding future vaccine design. The study, published in *Frontiers in Immunology*, offers insights into combating BTV and inspires vector-borne disease research with representative infection models. www.pirbright.ac.uk/news/2024/02/scientists-identify-t-cells-involved-anti-viral-immunity-and-disease-during-bluetongue



Scientists identify T-cells involved in anti-viral immunity and disease during bluetongue virus infection in sheep
Bluetongue virus

AVIAN BRONCHITIS VACCINE REPLICATES IN CELL CULTURE

Researchers at The Pirbright Institute have developed novel vaccines for avian bronchitis that replicate in cell culture, offering 100 per cent protection against infectious bronchitis virus (IBV). Published in *PLOS One*, the study outlines a method using reverse genetics to modify the IBV spike gene, enabling replication in Vero cells, expediting vaccine production. Led by Dr Erica Bickerton and Dr Sarah Keep, this research addresses challenges in traditional vaccine generation, emphasising the importance of rapid response to emerging strains. This innovation not only aids the poultry industry but also potentially informs vaccine development for other coronaviruses, contributing to global food security. www.pirbright.ac.uk/news/2024/01/avian-bronchitis-vaccine-replicates-cell-culture



ANCIENT DNA SHOWS HOW A CHICKEN VIRUS EVOLVED TO BECOME MORE DEADLY

The Pirbright Institute collaborated with the University of Oxford and the Ludwig Maximilian University Munich to track the evolution of Marek’s disease virus (MDV). MDV, which costs the poultry industry \$1bn a year, was examined using ancient DNA, revealing insights into viral evolution. By comparing ancient and modern genomes, researchers identified genetic changes causing increased virulence. The study, published in *Science*, used DNA from archaeological chicken bones, revealing MDV’s presence 1,000 years prior to 1907’s discovery. It highlights the significance of historical biological material. The findings offer promise for controlling MDV and other viral infections, aiding vaccine development and immune response understanding. www.pirbright.ac.uk/news/2023/12/ancient-dna-shows-how-chicken-virus-evolved-become-more-deadly

PIRBRIGHT JOINS EUROPEAN AFRICAN SWINE FEVER PROJECT

The Pirbright Institute joins the EU-funded VAX4ASF project led by HIPRA to develop next-generation vaccines against African swine fever (ASF). With Horizon Europe's support, the four-year initiative aims to create a durable solution against ASF virus, crucial for animal welfare and global economic stability. ASF has caused severe losses globally, affecting pigs and wild boars. VAX4ASF brings together 17 partners from EU, US, and Kenya, including renowned scientists and innovative pharmaceutical companies. By innovating vaccination approaches, the project targets eradicating ASF, emphasising its impact on animal health, the economy and rural communities worldwide.

<https://www.pirbright.ac.uk/news/2024/02/pirbright-joins-european-african-swine-fever-project>



STUDY EXAMINES 'VIRUS AND HOST' FACTORS IN AFRICAN SWINE FEVER

The Pirbright Institute has collaborated with University College London in a BBSRC- and Wellcome-funded study on African swine fever virus (ASFV) replication in pig cells. UCL researchers, led by Professor Finn Werner, unveil insights into ASFV gene expression and replication mechanisms, publishing their findings in *Nature Communications*. Using cryo-electron microscopy, they elucidate the ASFV RNA polymerase's structure and unique features. Pirbright scientists, led by Dr Linda Dixon and Dr Chris Netherton, will explore factors affecting ASFV replication to understand the replication cycle and develop antiviral compounds. This collaboration builds on previous gene expression mapping achievements.

www.pirbright.ac.uk/news/2024/02/study-examines-virus-and-host-factors-african-swine-fever

PAVING THE WAY FOR RAPID DETECTION OF VECTOR-BORNE VIRUSES

Pirbright researchers and collaborators from the London School of Hygiene and Tropical Medicine (LSHTM) have secured an MRC grant to develop field-ready tests for detecting vector-borne viruses in mosquitoes and faeces. With 80 per cent of the world's population affected by vector-borne diseases, the project aims to address their escalating impact, focusing on areas with limited vaccines and treatments. Led by Professor Susana Campino, LSHTM and Dr Kevin Maringer, Pirbright, the team plan to develop a molecular xenomonitoring assay for easy deployment in resource-limited settings. Field trials in Tanzania and Puerto Rico will assess the test's effectiveness in detecting viruses in vectors and non-vectors post-blood meal, offering hope for simplified disease monitoring.

www.pirbright.ac.uk/news/2024/03/paving-way-rapid-detection-vector-borne-viruses

NEW COLLABORATION TO FIND VACCINE PROTECTION FOR THE 'KNOWN UNKNOWN'

The Pirbright Institute and UK Health Security Agency (UKHSA) collaborate to develop vaccines against lethal henipaviruses. Henipaviruses like Nipah and Hendra cause severe encephalitis and respiratory diseases in humans and animals. Funded by the MRC, the project aims to create pan-henipavirus vaccines offering cross-protection. Led by Dr Stephen Findlay-Wilson, it addresses challenges in conducting clinical trials due to low infection rates. Dr Dalan Bailey from Pirbright emphasises the importance of understanding cross-protection for pandemic preparedness. Professor Isabel Oliver of UKHSA sees the study as vital for global health protection and pandemic readiness.

www.pirbright.ac.uk/news/2024/03/new-collaboration-find-vaccine-protection-known-unknown

NEW SEASONAL CONTROL MEASURES FOR BLUETONGUE VIRUS

Defra announced a 'vector low' period, reducing bluetongue virus (BTV-3) transmission risk from midges. Dr Marion England from The Pirbright Institute highlighted decreased midge activity due to colder weather, making virus transmission unlikely. Consequently, Defra adjusted disease control measures, opting not to cull animals with older infections showing BTV-3 antibodies. Movement restrictions in Temporary Control Zones (TCZ) were eased with negative pre-movement test requirements and licensing. Surveillance continued, and Defra advised reporting any suspected cases to the Animal and Plant Health Agency (APHA). This proactive approach aimed to mitigate BTV-3 transmission risks while ensuring livestock welfare.

www.pirbright.ac.uk/news/2024/02/new-seasonal-control-measures-bluetongue-virus

FINANCIAL REVIEW OF THE YEAR

The financial year under review was the first year of the five-year settlement from BBSRC, following a detailed Institute Assessment Exercise undertaken in 2022-2023.

The settlement was £2.1m, 13.6 per cent higher than the previous funding round at £17.6m, and as with the previous review, will be flat funding for the five years of this funding round. Therefore, there is an expectation that savings and income from other sources will need to be generated to maintain the level of operation currently supported by the settlement and that operating surpluses generated in the early years of the award will be used to support anticipated deficits in the final years of the funding cycle.

Although BBSRC continued to support Pirbright to withstand the higher level of energy costs, we are not complacent about the impact these costs are having on the financial sustainability of Pirbright. We have instigated an energy reduction programme that has reduced gross energy usage on the site by around 20 per cent on an annualised basis, and around 12.5 per cent when allowing for new facilities that have come online since April 2023.

INCOME

Total income amounted to £44.7m (2023: £46.9m); this was principally due to core funding from BBSRC increasing by £1.2m and income from scientific grants increasing by £2.5m, which mitigated some of the reduction arising from a lower level of funding for the capital development of the site as the current phase reaches completion. Investment in tangible fixed assets in the year totalled £8.3m (2023: £12.1m). This was funded by grants from the Institute's principal sponsor, BBSRC, Defra and other grant-awarding bodies.

EXPENDITURE

Expenditure undertaken to support continuing activities in the year amounted to £54.7m (2023: £50.6m). Staff costs are the Institute's most significant expenditure accounting for £18.6m (34 per cent of expenditure) in the year (2023: £17.7m, 35 per cent of expenditure). The increase of £0.9m (5.1%) is in part attributable to the pay review during the year and in part due to the high number of staff positions

occupied, as compared to the prior year. Post Brexit and COVID-19, Pirbright carried a significant number of vacancies as staff members revaluated where they wanted to live and what they wanted to do, however during the year both our ability to both recruit and retain staff has significantly improved with vacancies falling back to historic levels.

Energy costs are also very significant to Pirbright, with the site requiring power equivalent to 5,000 homes to maintain containment of the facilities on site. Energy costs, net of funding from BBSRC of c.£2.3m, remained largely unchanged at c.£1.8m.

As the new buildings and facilities have come online over the past few years, the depreciation charge has steadily risen, increasing from £10.5m in 2022-23 to £11.3m this year, an increase of c.£0.8m.

Finally, repairs and maintenance costs rose by £3.0m in the year as a number of ageing capital assets have been refurbished. This includes the Building Automated Control System to comply with latest human factors best practice and replace the controllers that monitor this system, decommissioning costs of old facilities and refurbishment of the effluent treatment plant in ISO 11.

GRANT PROPOSALS

The Institute continues to achieve notable success with scientific grant applications. During the year, Pirbright researchers submitted grant proposals with a sponsor value of £29.8m (2023: £16.5m) and were awarded grants with a value of £22.6m (2023: £9.5m). The significant increase in the value of applications and awarded grants was in part due to one grant application and award of £8.2m.

CASH AND TERM DEPOSITS

Cash and term deposits at 31 March 2024 were £28.0m (2023 : £34.8m), a reduction of £6.8m in the year, as result of significant payments for the capital development on site from funds already received from BBSRC. Pirbright deposits its cash with UK-registered financial institutions in accordance with the

Institute's investment policy. Investment income from cash deposits in the year was £0.9m (2023: £0.3m), the increase in the year reflecting rising interest rates.

NET MOVEMENT IN RESERVES

Pirbright has three categories of reserves: restricted reserves, which represent monies previously provided by BBSRC to support development activity on site and business cases, together with the assets developed with previously awarded funds; designated reserves, which represent monies previously agreed by the Trustee Directors for specific projects; and general reserves. During the year, total reserves decreased from £341.6m to £331.6m, a decrease of £10.0m (2023: £3.6m). The Pirbright Institute recorded a net increase in general reserves of £2.2m (2023: £0.4m), a net increase in designated reserves of £0.3m (2023: £0.5m) and a net decrease in restricted reserves of £12.5m (2023: £13.5m).

The decrease in restricted reserves was specifically in the Fixed Asset Fund, as development of the Pirbright site continues under the Master Plan, with depreciation now being incurred on buildings coming online exceeding new funding, as the second phase of the Plan nears completion. The Fixed Asset Fund reserves fell by £11.2m (2023: £4.4m) as the depreciation of assets now in use outstripped new investment in assets on the site. During the year, the Biggs Avian Research Building was officially opened. This facility increases the Institute's capacity to undertake research into both endemic and exotic infectious diseases of poultry. Construction of the Brooksby Building continued. The Brooksby Building will be a self-contained, standalone, large animal experimental facility designated to accommodate in vivo studies involving high-containment pathogens of livestock, such as foot-and-mouth disease virus (FMDV), as well as pathogens that can spread from livestock to humans.

RESERVES POLICY

Unrestricted funds

As in previous years, it is the policy of the Trustee Directors to ensure the General Fund in the unrestricted reserves is maintained above £7.6m. This will enable the Institute to manage fluctuations in income and unforeseen cost pressures, as well as provide cover for the redundancy liabilities taken over from BBSRC, when the staff of the Institute were transferred to the Institute in January 2017 under a Transfer of Undertakings (Protection of Employment) exercise.

At 31st March 2024 unrestricted general reserves were £10.1m (2023: £7.8m).

Designated funds

Designated funds have been set aside by the Trustee Directors for specific purposes to support the purchase of science equipment, to provide additional scientific staff, to support the training and learning programme, which shares Pirbright's expertise, and to provide funding for various small-capital projects.

Restricted funds

The Institute has been undertaking a significant building programme within the Pirbright site for which funding has been received from BBSRC. The funding of this programme is via grants, which are held within the restricted funds; the total fund value is £314.6m (2023: £325.8m). This funding is solely and specifically granted for the purpose of the building programme, hence the inclusion within the restricted fund. This represents the value of the buildings that have already been constructed. Pirbright also has a number of smaller restricted funds, which are held to support the capital development programme, support the running costs associated with the Brooksby Building prior to practical completion and the revaluation of the investment property.

Full details of all reserves and movements in the year can be found at Note 15 to the Financial Statements.

FUNDRAISING ACTIVITIES

Section 162a of the Charities Act 2011 requires charities to make a statement regarding fundraising activities. Although the Institute does not undertake direct fundraising from the general public, with the legislation defining fundraising as "soliciting or otherwise procuring money or other property for charitable purposes," we have to disclose the value of such income in the year. We have received no such income during the current or previous financial year and have consequently received no complaints in respect of our fundraising activities.

PIRBRIGHT'S PERFORMANCE 2023-2024

PIRBRIGHT'S PRINCIPAL OBJECTIVES

- To continue a world-leading research programme publishing groundbreaking scientific research, winning research funding, recruiting and retaining the brightest and the best staff and students.
- To develop further the Pirbright long-term vision of scientific research, with impact in enhancing our collaborations with agencies to improve disease control in low- and middle-income countries.
- To continue to implement the fully funded development programme to provide additional animal research facilities for the study of high-consequence pathogens. These facilities will further enhance Pirbright as a unique national and international capability.
- To develop strong strategic collaborations with other global centres of excellence to support the Institute Strategic Programme grants.
- To diversify our funding through greater collaboration with international partners via various new funding opportunities.
- To maintain high-containment infrastructure, to manage the safety, security, environment and quality risks from our work with high-consequence pathogens, and to provide training and expertise to external partners in these areas.



PIRBRIGHT'S KEY PERFORMANCE INDICATORS (KPIs)

- Publications in relevant scientific journals, with a benchmark of one paper per postdoctoral scientist a year.
- Success rates for research grant proposals over the next five years: 35 per cent in terms of successful applications and 30 per cent in terms of value of the awards.
- Annual research income of at least £12.5m externally won funding each year over the next five years.
- Recruitment and the retention of high-quality staff and students; to achieve less than 15 per cent annual staff turnover a year.
- Compliance with all statutory requirements as a major hazard site, close cooperation with regulators and conformity to applicable standards such as ISO/IEC17025.

OUR PERFORMANCE AGAINST OUR KPIs

- We published 137 papers in a range of high-impact journals achieving an average of 1.1 publication per postdoctoral scientist in the year.
- We achieved 56 per cent successful grant applications and 75 per cent in terms of value of the awards against significant UK and international competition. The high value of awards received is as a consequence of one particularly high value grant; if this is excluded the value of the awards achieved would be 66 per cent, still significantly above the target KPI.
- The annual grant income for 2023-2024 was £17.6m, exceeding the £12.5m target by 41 per cent.
- At the end of March 2024, the rolling annual average voluntary staff turnover figure was 13.9 per cent, significantly below 22.6 per cent at the end of last year and below the 15 per cent target.
- Pirbright is subject to a HSE Major Hazard Intervention Plan comprising a minimum of three scheduled HSE inspections each year to monitor compliance with its licence under the Specified Animal Pathogens Order 2008 (SAPO) and with regulations under the Health & Safety at Work etc Act 1974. No legal enforcement notices were issued by HSE (or any other regulatory authority) against Pirbright in the year. One

enforcement letter was issued by HSE against Pirbright in relation to a planned inspection on containment and control in some of the high-containment laboratories. The letter required improvements to operational management of certain laboratory equipment. Please note: a letter sets out actions and deadlines but is a lower level of enforcement than a legal notice and does not appear on the public record, but is disclosable by HSE under FOI. Non-compliance with a letter would lead to a notice. We complied in full with the actions stipulated in the letter by the deadline given.

- Pirbright Reference Laboratories & Disinfectant Testing are accredited to ISO/IEC 17025 and thus subject to an annual surveillance audit by UKAS. Accreditation has been successfully maintained for 2024-2025 and the annual audit gave no improvement actions. No other enforcement action was taken against the Institute during the year by any other regulatory or audit body on any aspect of biorisk, animal scientific procedures regulation, health and safety, security, environment, quality or wider compliance. Nor were there any incidents reportable to any regulatory or audit body under any applicable legislation or standard.

DELIVERING THE BBSRC INSTITUTE STRATEGY

The BBSRC Institute Strategy, published in July 2021, sets out BBSRC's approach to supporting and working in partnership with the institutes it strategically funds.

The strategy outlines three themes that underpin the principles of its strategic investment:

- Capability
- Connectivity
- Culture

To support this, Pirbright has established a range of additional activities around these themes to help deliver the strategy.

CAPABILITY

Our capability has been enhanced with the recruitment this year of two senior Group Leaders, Professor Nicolas Locker and Dr Naomi Forrester-Soto, who are recognised experts in their field. In addition, the Institute's Fellowship programme has expanded, with five new Fellows appointed this year. These help further strengthen our critical mass, expanding our interdisciplinary teams to deliver science of national and international strategic importance. We also introduced the Pirbright Strategic Career Development Awards to support early career researchers towards independent working. At Pirbright we provide support across all stages of the scientific career path, helping to ensure that we maintain and continue to develop not only the scientific capabilities of Pirbright but of the UK research ecosystem.

This year, a Level 3 Leadership and Management Programme for emerging leaders has been delivered to staff working in different disciplines at Pirbright. This programme of up to 15 months helps support future leaders with the tools and skills to lead people and manage high-performing teams, as well as develop skills in project and operational management, decision making, finance, relationship building and communications.

CONNECTIVITY

Pirbright continues to act as central hub for collaboration, providing expertise in animal health, immunology, virology and related disciplines to many national and international consortia. The UKRI-funded Monkeypox Consortium is an example that underscores the importance of collaboration to push scientific boundaries and accelerate progress. Pirbright is also one of eight scientific organisations working together to help understand and develop ways to mitigate against avian influenza virus as it has emerged. The FluMap Consortium aims to develop tools to try and fill key knowledge gaps around the bird flu virus and the reasons for its circulation in wild bird populations, as well as factors that drive emergence in poultry.

On the international stage, this year has seen continued commitment to the Centre of Excellence for Research on Avian Diseases (CERAD) with partners in China, a highly productive collaboration established almost 10 years ago, that continues to improve our understanding and advance knowledge in the area of avian research, as well as contribute towards the training of

both the UK and Chinese bioscience workforce. Our relationship with the Indian National Institute of Animal Biotechnology (NIAB) has also been a key focus this year. This partnership aims to enhance research and innovation in veterinary vaccines, fostering food security and human health. This collaboration aligns with the UK-India Roadmap's goal of bolstering bilateral research and innovation efforts over the next decade.

There are many examples of how we collaborate to share knowledge, expertise and experience across all disciplines at Pirbright and the wider innovation community. This year we have partnered with a range of international organisations to share our expertise in how to manage and operate specialised research infrastructures, with a focus on high-containment engineering and risk management. This includes knowledge sharing with partners from Canada, Ireland and Chile. We continue to work with our strategic partners outlined within our Institute Strategic Programme Grants to advance scientific knowledge and increase critical mass. Plus, we work closely with the seven other BBSRC institutes across all our capabilities.

CULTURE

The Institute has recruited its first Equality, Diversity and Inclusion (EDI) Manager to support the delivery of our continual EDI. Considerable progress has been made with gender equality across many areas of Pirbright, which was recognised this year with an Athena Swan Silver Award, a five-year accreditation that highlights Pirbright's commitment to supporting women and marginalised groups in science. The EDI Manager works with our EDI Committee to support delivery of actions identified through both the Athena Swan action plan and the broader employee engagement plan. They provide support to our staff and student networks, including the Rainbow Network and Neurodivergent Support Group.

Our Early Careers Forum goes from strength to strength, seeing an increasing number of members and a range of peer-to-peer support, knowledge sharing and networking opportunities. A focus this year has been to ensure a diverse spread of members across all areas of the Institute and establishing more formalised feedback and communication channels with senior management.

This year has also seen the recruitment of two Roving Researchers at Pirbright. Our Roving Research staff are employed to support a range of projects and individuals to maintain research momentum and to minimise the impact of a leave of absence or time away from the laboratory, such as long-term sick leave (alternative support is provided specifically for parental leave) or caring responsibilities. Pirbright is piloting the Roving Researcher initiative for an initial period of three years, during which time we will review the success of the scheme.

STAKEHOLDER ENGAGEMENT

– SECTION 172 STATEMENT

The Trustee Directors consider that the decisions they have made during the financial year have satisfied the requirements of S172(1) of the Companies Act 2006 and they have acted in good faith to promote the success of the Institute, and in doing so, have taken into account the stakeholders and matters outlined in S172(1).

The Board of Trustee Directors has the ultimate responsibility for the Institute and delivery of our charitable objectives. Key decisions made by the Trustee Directors during the year included:

- Approval of the Operational Plan and Budget for 2023-2024, including the pay award and the first year of the five-year cycle of funding from BBSRC.
- Approval of Delegation of Authority from Trustee Directors to the Director of the Institute, Company Secretary and the Senior Leadership Board.
- Appointment of a new Trustee Director.

THE TABLE BELOW SETS OUT PIRBRIGHT’S SIGNIFICANT STAKEHOLDERS

	HOW WE ENGAGE
Employees	Employee engagement forms a central part of the Institute’s strategy. We employ a variety of ways to communicate with our staff and students in a dialogue so we can also gain feedback. Communication channels include a monthly e-newsletter, intranet, forums, staff briefings, surveys, digital screens, internal seminars, blogs and workshops. Further information about our employees can be found on page 24.
Students	Pirbright has a vibrant student community and we are committed to supporting, nurturing and offering additional learning and training opportunities to them. Find out more on page 24.
Funders	We engage with funders at all stages of the funding process and have regular dialogue and face-to-face meetings with our key investors. Please see page 27 for more information.
Research organisations and partners	Pirbright undertakes numerous collaborations with universities, research institutes and disease-control agencies around the world. More details are given on page 26.
Pharma	Partnerships with pharmaceutical companies are essential for the development of vaccines, diagnostics and medicines. Find out more on page 26.
Farmers	We engage with the farming community through specialist farming press, through farming organisations and bodies and media outlets, including BBC World Service and BBC Radio 4 <i>Farming Today</i> , as well as at agricultural events.
Regulators and government	As a major hazard site, Pirbright works closely with the Health & Safety Executive (HSE), counter-terrorism security authorities, the Home Office and other regulators. As a national capability for the prevention and control of exotic viral diseases of livestock, Pirbright works closely with Defra, BBSRC UKRI and others. As the World Reference Laboratory for certain pathogens and a regional Reference Laboratory for others, Pirbright works closely with the UN Food & Agriculture Organization (FAO) and World Organisation for Animal Health (WOAH). As an ISO/IEC 17025-accredited testing laboratory, Pirbright works with the UK Accreditation Service (UKAS). See page 20 for more details.
Public	We engage with the public through our outreach and public engagement programmes. Please see page 17 for more information.
Local community	Our neighbours are extremely important to us and we engage by supporting the local community in a number of ways, including sponsoring local events, volunteering in local conservation initiatives such as Fox Corner Conservation and engaging with the parish, borough and county councils over development on our campus. Our scientists also visit local schools and colleges – more information can be found on page 17.
Suppliers	One of the ways we engage with our suppliers is through Supplier Days held several times a year at Pirbright. We hold regular meetings with our suppliers both about purchasing matters and ethical matters, particularly those around modern slavery and human trafficking principles.

ENGAGING WITH THE PUBLIC

Researchers and operations staff at Pirbright are dedicated to public engagement, actively interacting with various audiences such as schools, students, farmers and the general public. In the 2023-2024 period, the communications team participated in 25 face-to-face public-engagement activities, inspiring young scientists at schools and career events and engaging with the public at local fairs, including a Pirbright Institute open-door event for friends and family members of staff and students.

PIRBRIGHT'S OPEN-DOOR EVENT

At the beginning of April 2023, The Pirbright Institute welcomed over 800 people on site for two days of discovery, interaction and celebration.

The Celebration Days provided a unique opportunity for staff, students and stakeholders to learn more about Pirbright's work and gave staff and students the opportunity to highlight their recent successes.

Teams and research groups from across the organisation presented interactive exhibits, hands-on experiences and competitions to inspire and educate people of all ages.

The 36 displays took visitors on a journey through virus construction and behaviour, used virtual reality to enable people to experience a walkthrough of high-containment facilities, and guests also had the chance to join 'Dr Zoo' in breaking the codes to escape a deadly outbreak. Most importantly, everyone got to learn more about the staff and students behind the Institute.

With Pirbright's mission of being a leader in preventing and controlling viral diseases in livestock, having the opportunity to raise awareness of the research undertaken at the Institute and sharing the innovation on how that happens is key.



A Disease Detective of the future at the Institute Celebration Day in April 2023

COMMUNITY ENGAGEMENT

The Pirbright Institute maintains longstanding partnerships with the Pirbright Parish Council, St Michael and All Angels Parochial Council and local resident groups. Over the past decade, we have attended and sponsored initiatives in the local community.

During 2023-2024, we sponsored and attended the Pirbright Village Summer Fair, promoting the Institute's world-class research and interacting with the local community. We sponsored the Village Christmas lights, with staff and students attending the grand 'switch on'.

Beyond parish and church council activities, the Institute engages with the community through environmental stewardship. Our involvement in maintaining the Fox Corner Community Wildlife Area not only provides staff recreational opportunities, but also fosters collaboration with local residents and the Surrey Wildlife Trust. In October 2023, the Institute contributed to a project for a replacement boardwalk and dipping platform at the Community Wildlife Area pond.

In 2024, the Institute expanded its community involvement by supporting Pirbright Primary School's new science lab project, further demonstrating the Institute's commitment to proactive engagement and open communication.

INSPIRING FUTURE SCIENTISTS

Throughout this year, Pirbright volunteers have attended more face-to-face career events, focusing on secondary and sixth-form students, helping us to inspire more students from a wider range of backgrounds and interests to consider scientific careers. During 2023-2024, 61 unique volunteers from our staff attended 24 external events, including fairs, lectures and workshops.



Volunteers from Pirbright at a careers event at Bishop David Brown School, November 2023

SUPPORTING OLD AND NEW VOLUNTEERS

The success of Pirbright's engagement programme relies on the much appreciated contribution of its dedicated volunteers. Training is crucial for supporting both staff and students, as well as attracting potential future volunteers.

This past year, the Institute has had approximately 35 science, technology, engineering and mathematics (STEM) ambassadors. We actively encourage participation in the STEM Learning Network, connecting schools with STEM ambassadors who volunteer their

expertise for talks and events. Additionally, we provide specialised training for PhD and placement students to enhance their understanding of engagement and equip them with the necessary communication skills to interact effectively with the public.

COLLABORATIONS AND NETWORKS

Pirbright works with many different external collaborators from academia, industry and non-profit organisations. In the 2023-2024 financial year, we entered into 54 new collaboration agreements with 59 organisations based in 13 countries.

Of the 59 organisations, 35 were academic, 12 commercial and 12 public bodies, non-governmental, or charities. These collaboration agreements reflect new research projects with external partners, including universities in the UK and abroad, multinational pharmaceutical companies and research institutes with an interest in animal health or zoonoses. Our research collaborations include projects related to emerging porcine influenza and coronaviruses, development of novel viral vectors for use as poultry vaccines, and ongoing research on developing an effective vaccine against African swine fever.

We have ongoing collaborations with new and existing commercial partners in a variety of projects. We are working with one UK-based startup to develop and evaluate herpesviral vectors for use to prevent porcine reproductive and respiratory syndrome (PRRS), and with another to develop and evaluate multiplexed diagnostic assays. We are in discussions with a European pharmaceutical company to develop new vaccines for infectious bronchitis virus, a coronavirus that affects poultry, and with an animal breeding company to explore genetic mutations that confer disease resistance in cattle and pigs. We are continuing to develop candidate vaccines to prevent African swine fever virus, a devastating disease of pigs threatening Europe, and we have continued with two projects with industrial partners to develop multivalent poultry vaccines using recombinant viral vectors.

We also entered into 46 new confidentiality agreements, including 29 with commercial partners, allowing us to have open conversations to discuss potential partnerships, and 85 agreements related to the transfer of material to and from Pirbright and organisations in 22 different countries.

We are continuing to develop the relationships with the Vaccine and Infectious Disease Organization (VIDO), part of the University of Saskatchewan. VIDO is Canada's national centre for pandemic research and performs research on a range of human veterinary diseases; it is building a Vaccine Development Centre, which will be capable of manufacturing vaccines up to containment level 3. A Pirbright delegation visited VIDO in March 2023, and this was followed up with a very successful visit from VIDO animal technicians to Pirbright in November 2023 to observe our processes and protocols for working with animals, specifically in relation to African swine fever.

Pirbright received funding from the BBSRC's International Institutional Awards to support the establishment and development of international partnerships and networks. This funding will be used to support a variety of partnering initiatives, such as establishing an international bluetongue virus (BTV) workshop to exchange knowledge on the BTV status, working with a collaborator to study the spread of animal diseases in livestock markets, and building capacity and

exchanging knowledge on biosafety and biocontainment practices with partners based in India.

We are involved in several different networks, often taking a leading role in establishing international communities to exchange knowledge, collaborate and share best practice.

Pirbright is a founding member of the UK-China Centre of Excellence for Research on Avian Diseases, alongside four Chinese academic organisations. Professor Venugopal Nair OBE leads Pirbright's involvement in this network. The Centre aims to support research into major avian diseases affecting both countries by providing support for collaborative research projects, and enabling joint applications for funding, people exchange, knowledge exchange and commercialisation efforts. In 2023-2024, we have expanded the network to include more Chinese members, all of whom have committed to providing funding to support networking activities.

The G2P-UK National Virology Consortium, a UKRI-funded national research project of which we are a member, continues to enable knowledge exchange to develop risk assessments of SARS CoV-2 variants. We are also collaborating with the University of Liverpool to support the economic modelling of animal diseases in partnership with the project team of Global Burden of Animal Diseases (GBADs). GBADs work to provide funders, consumers and policy makers with data and information on animal health systems to allow effective evaluation of animal health investments and guidance on the allocation of scarce resources.

Pirbright joined a consortium led by Imperial College London, and partnering with the London School of Hygiene & Tropical Medicine, the University of Liverpool, and the UK Centre for Hydrology & Ecology to establish the One Health Vector-borne Diseases Hub. This Hub is jointly funded by Defra and UKRI and will consider the impact of infections that span across human and animals to understand the role of the environment and global climate change. It is a multi-disciplinary collaboration aimed at responding to infectious disease threats.

Pirbright is also a member of the FluMap Consortium. This consortium joins eight of the UK's top research organisations together to understand and develop methods to mitigate the risk of influenza in birds. The network established the need to improve understanding of biosecurity risk points and the implementation of effective biosecurity practices on poultry farms. The project has been awarded follow-on funding which will enable further development of prevention and mitigation approaches.



Egg candling technique used to determine embryo viability for vaccine production.

RISK MANAGEMENT AT PIRBRIGHT AS A MAJOR HAZARD SITE

Risk management is critical to the safe reliable operation of Pirbright as a major hazard site.

Risk management is critical to the safe reliable operation of Pirbright as a major hazard site. It requires specialist expertise, ownership of risk by all staff, students and stakeholders, and development of Pirbright as a high-reliability organisation and a beacon of excellence.

Risk management at Pirbright has three broad objectives:

- To facilitate science excellence and capability, both in research and in diagnostic surveillance.
- To reinforce financial sustainability and high reliability.
- To ensure the work of the Institute cannot jeopardise the UK livestock population and agricultural economy, the health and safety of people, or the environment.

Risk management at Pirbright includes a risk & opportunities register, key and safety performance indicators (KPIs and SPIs), and operational planning linked to both risks and opportunities and to strategic objectives. The risk & opportunities register is regularly updated and reviewed for action by Senior Leadership Board (SLB) and Trustee Directors. The register includes operational risks (biorisk, health and safety, security, cyber, environment, quality, engineering), continuity risks, strategic risks (reputational, enterprise, financial, political), and opportunities. There is an internal audit and inspection programme for critical risks and areas. Pirbright actively maintains open and cooperative relationships with stakeholders, regulators and accreditation bodies. A portfolio of insurance protects Pirbright and its stakeholders. Policies include property damage and business interruption; employers, public, product and management liabilities; and professional indemnity.

BIORISK

Many of the animal viruses studied at Pirbright are high-consequence pathogens, ie, are not endemic to the UK and so could cause a disease outbreak if released. Authority to work with such pathogens is via a SAPO (Specified Animals Pathogens Order) Licence issued and enforced by the Health & Safety Executive (HSE).

Pirbright's SAPO Licence is at Containment Level 4 (the highest level) and the Institute is classified as a major hazard site. Each year there is an HSE intervention plan, and in 2023-2024, this comprised three visits by specialist inspectors scrutinising functional safety management in conformity with IEC 61511, containment and control in laboratories working with foot-and-mouth disease virus, and an annual performance review and scoring in conjunction with senior Pirbright and HSE leaders. There were also security inspections by specialist counter-terrorism police officers and audits by insurers. Biorisk management at Pirbright comprises containment engineering

and operational controls. Engineering infrastructure includes sealed facilities, negative pressure cascades, high-efficiency air filtration, effluent treatment plants, incinerators, autoclaves, fumigation chambers and automation and control systems. Operational arrangements include risk assessments, operating procedures, training and competency, waste management, transport procedures, emergency plans and exercises, audits and inspections, planned preventative maintenance (PPM), validation and testing. Pirbright has all these measures in place, and each element is examined by HSE every few years through its intervention plans. All high containment facilities at Pirbright are less than 15 years old.

QUALITY AND ORGANISATION

Diagnostic surveillance and disinfectant testing at Pirbright are in UK Accreditation Service (UKAS) accredited testing laboratories (no. 4025) to ISO/IEC 17025 quality standard, which is integral to their role as a UK Reference Laboratory for Defra and a UK national capability, and their global role as a WOA Reference Laboratory and FAO/WOAH World Reference Laboratory for specific viruses. Pirbright's management system ensures conformity with 17025 and underpins wider risk management across the Institute. The annual 17025 surveillance audit of the Reference Laboratories in April 2023 by UKAS gave an extremely positive outcome, with just two very minor findings.

In addition to its risk management system, assurance arrangements and regulatory oversight, Pirbright actively works to improve its risk control and resilience. In 2023-2024, this included BBSRC-funded capital projects for development of an integrated alarm management system software solution and extensively refurbished control room to address HSE-identified human factors issues, and replacement of obsolete controllers in air handling systems. In 2023-2024, there were also internal projects to implement functional safety and process safety management systems, to integrate human factors management into processes, to improve control of musculoskeletal risks, to further enhance technical and organisational cyber security, to develop a competency framework, to improve management of change processes, and to develop major hazard leadership training. Pirbright strives to adopt best practice, which includes coordinating the cross-sector UK Biorisk Strategic Leadership Group, active roles in the BSL4ZNet international consortium of high containment facilities and the EuFMD consortium of European FMDV facilities, and publication of peer-reviewed papers and symposia presentations on biorisk.

RISK MANAGEMENT

Key risks are summarised in the table below.

	CONTEXT	CONTROL / MITIGATION
BIOSAFETY (UNINTENTIONAL RELEASE OF, OR EXPOSURE TO, HIGH CONSEQUENCE PATHOGEN)	Pirbright is classified by the Health & Safety Executive (HSE) as a major hazard site, because release of the high-consequence viral pathogens of livestock animals that the Institute works with (such as foot-and-mouth disease virus) could cause a serious disease outbreak, leading to destruction of many animals, extensive national disruption and severe economic loss. Some of the pathogens are also zoonotic, which means they can infect humans and cause serious illness.	Physical, engineering, operational and management measures for biological containment in compliance with relevant UK legislation (Specified Animal Pathogens Order 2008, Control of Substances Hazardous to Health Regulations 2002, Genetically Modified Organisms (Contained Use) Regulations 2014), associated standards (including FAO/ EuFMD minimum standards for labs working with foot-and-mouth disease virus), and Approved Codes of Practice and guidance; and in alignment with ISO 9001, ISO 14001, ISO 35001, ISO 45001 and IEC 61511. Also, an annual HSE Major Hazard Intervention Plan, and staff cohort of competent biorisk advisers..
BIOSECURITY (DELIBERATE RELEASE OF, OR EXPOSURE TO, HIGH CONSEQUENCE PATHOGEN)		Physical, operational and management measures for security in conformity with requirements of the UK National Counter Terrorism Security Office, with oversight by regional counter terrorism security advisers, 24/7/365 guard force, background screening of new starts, and multiple layers of physical security.
QUALITY	As well as being a leading research institute, Pirbright provides diagnostic and surveillance Reference Laboratories for a range of pathogens for the UN Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (WOAH), and is funded by BBSRC UKRI and Defra as a UK national capability to provide diagnostic capacity to support the detection and control of national disease outbreaks. The quality of Pirbright's scientific output is therefore critical, and FAO, WOAH and Defra / UK Government require the Reference Laboratories to be accredited to the ISO/ IEC 17025 international quality standard.	Accreditation of the Reference Laboratories to ISO/IEC 17025 by the UK Accreditation Service (Pirbright is UKAS Accredited Testing Laboratory No 4025), development and implementation of a quality management system across the Institute, an internal audit programme, and alignment to ISO 9001 and other relevant ISO management standards in key operational areas in support of the Reference Laboratories.
ANIMAL WELFARE	Research with animals is an integral part of the research programmes at Pirbright and is carried out to extremely high UK standards of ethics and animal welfare, which are the most stringent in the world, addressing this critical reputational risk.	Physical, operational and management measures for animal welfare in compliance with UK legislation (Animal Scientific Procedures Act 1986) and associated Approved Codes of Practice and guidance, oversight by UK Home Office, application of 3Rs (Replace, Refine, Reduce) and ARRIVE guidance (Animal Research: Reporting <i>In Vivo</i> Experiments).

Continued overleaf

	CONTEXT	CONTROL / MITIGATION
CYBER SECURITY	Pirbright has to address the cyber, continuity, people and financial threats that organisations in all sectors must deal with. Potential consequences of these are amplified for Pirbright because of the possible effects on its biological and quality risks. • Cyber-attack could impact containment systems and inhibit science output, unless robust tested countermeasures are in place and kept current.	Comprehensive portfolio of cyber security countermeasures and management systems in conformity with requirements of UK National Cyber Security Centre 10-Steps and HSE OG86 (cyber security requirements for critical controls), with segregation of critical resources from networks and carrying out regular drills, training and exercises. Also processes to manage and monitor GDPR compliance.
CONTINUITY	• National power outages could impact containment systems and inhibit science output, unless maintained tested backups and plans to manage such situations are in place and subject to regular review and exercises.	Plans for incident and crisis management, business continuity plans in alignment with ISO 22301, backups and contingencies for critical services and supplies, contingency plans for Reference Laboratories for disease outbreaks, and all plans regularly tested by drills, training and exercises.
PEOPLE	• Recruitment and retention issues could lead to shortage of the essential specialist skills for safe and reliable operation of facilities and to adverse impacts on science capability, unless effective strategies are developed and implemented to mitigate such issues. • Insufficient funds for maintenance could lead to reduced reliability of containment systems or of science equipment, unless there is rigorous financial control and successful winning of competitive funding.	Allowances for responsibilities and for recruitment and retention, training and development, career pathways with merit awards and a career development policy and process, annual performance and personal development reviews, generous pension provision and life cover, and employee benefits platform and assistance programme.
FINANCIAL		Rigorous systems for financial planning, control and monitoring; ongoing risk management; processes and support to facilitate preparation, submission and management of competitive funding grants and capital funding bids; commercial business development programme, with Pirbright Innovations Ltd as a vehicle for commercial work; comprehensive portfolio of insurance; anti-fraud and anti-bribery policies; annual audit; and ongoing reportage to BBSRC as core funder, landlord and strategic partner.
ECONOMIC	Adverse effects on the UK and world economy from global and other events are a substantial threat to the funding landscape and to the operational cost base, particularly from high levels of inflation and the impact of rising energy costs.	Inflation is factored into business planning, including planned increases in income from competitive funding sources and appropriate commercial activities, and savings from improved procurement and BBSRC-funded 'spend-to-save' capital works, including projects to reduce energy consumption and costs.

A SUSTAINABLE FUTURE

The Institute is committed to environmental sustainability, biodiversity and reducing its carbon footprint. Pirbright is also conscious of its broader social and governance responsibilities.

The cutting-edge research undertaken at the Institute is made possible by a range of highly specialised facilities, both in high- and low-containment environments. However, these facilities require a significant amount of energy to operate and maintain our biosecurity. The amount of energy used onsite is comparable to some 5,000 homes, and with the significant increase in energy process in recent years, energy conservation and reduction are important to us. We are also very conscious of the greenhouse emissions that we are responsible for and take our responsibility to reduce our carbon footprint seriously.

Over the last year the Institute has started an energy reduction programme with these projects focused on reducing energy costs, reducing energy consumption, reducing our carbon emissions, and making the site more energy efficient. The most significant of these projects, from a financial viewpoint, was the installation of a Combined Heat and Power Plant (CHP), which became operational in summer 2022 and now provides around 75% of Pirbright's power needs. The CHP has significantly reduced the cost of energy used on site, but as the CHP burns gas to produce electricity, it has significantly increased the total amount of energy consumed. This is similar to the rest of the country, with the disparity between gas and electricity prices being a disincentive to adopt low carbon technologies, such as using heat pumps instead of gas boilers. However, to counter this we are committed more than ever to reduce our carbon footprint by reducing our energy consumption on site.

During 2023-2024 an accommodation review has been undertaken leading to the consolidation of the insectaries on site and the closure of older, less energy-efficient buildings.

The Pirbright Energy Policy and Action Plan drawn up last year has led to the implementation of heat and steam recovery from the CHP, energy setback on the most energy-hungry building, the Plowright Building, housing high containment, chiller water system optimisation and feasibility studies into energy production from solar arrays. These projects have all received funding from BBSRC during the year to progress these projects.

The amount of energy consumed by the Institute is directly related to the level of science activity on the site. The figures on the right reflect the Institute's best estimates of its environmental impact during the 2023-2024 financial year.

As mentioned above, Pirbright started running its own CHP in the summer of 2022. This generates electrical power for the site from gas. This is the reason for the significant increase in gas consumption in the year, mirrored by a significant reduction in electricity consumption.

The Institute continues to base its environmental objectives around the UKRI Environmental Sustainability Strategy, which drives towards a zero-carbon future by 2040. This ensures new building proposals will consider the carbon impacts of facilities throughout their life, from the building materials used to energy consumption and energy sources employed once operational.

The Institute's environment and energy team promote the continual improvement of energy and environment performance on the Pirbright site, monitor and review the energy and environment policy, report on and action results of inspections and audits and provide a forum for personnel to raise queries related to energy and environmental sustainability.

Pirbright's finances are also aligned to the green agenda and now operate with Barclays' Green Deposit Scheme. This allows deposits by the Institute to be earmarked against the banks' green bonds, which in turn are matched against a range of climate-related projects, including energy efficiency, renewable energy, green transport, sustainable food, agriculture and forestry, waste management and greenhouse gas emission reduction. In March 2023, the GBP market value of Green Bonds held by Barclays totalled over £1.9 billion, with a total CO₂ impact of almost 4.0 million tonnes. At 31 March 2024, the Institute had £9.7m deposited in this scheme.

Finally, we are cognisant of our broader responsibilities and during the year published our Modern Slavery & Human Trafficking Statement and have recently published an update on last year's plan and our new plan for 2024-2025. During the year 91% of all staff and students successfully completed training, an anonymous channel was set for staff and students to report concerns, whether these were on the Pirbright site or encountered through our work around the world, updated our collaboration agreements to ensure that we have the right to terminate contracts with partners who don't adhere to the principles adopted by the Institute and started working with our suppliers to ensure they also adopted UK legislation in this regard. The full plan and updates can be found at Modern Slavery & Human Trafficking Statement on our website.

GREENHOUSE GAS EMISSIONS	2023-2024	2022-2023
EMISSIONS TONNES CO₂e		
Scope 1: Gas	8,222,130	5,931,270
Scope 2: Electricity	724,980	1,167,820
Scope 3: Official business travel	6,470	3,600
Total emissions	8,953,580	7,102,690
Emissions per £ of grant received	0.24	0.21
ENERGY CONSUMPTION kWh		
Scope 1: Gas	43,827,272	31,492,412
Scope 2: Electricity	3,561,046	6,098,984
Scope 3: Official business travel	11,754	11,175
Total energy consumed	47,400,072	37,603,121
Consumption per £ of grant received	1.40	1.11
FINANCIAL INDICATORS		
Total energy cost £'000	4,390	3,679
Energy cost per £ of grant received	11.72p	10.89p
Cost of official business travel	5	6
Cost of official business travel per £ of grant received	0.0001p	0.0002p

OUR PEOPLE

Our scientists are also supported by highly skilled on-site specialists in health, safety, biosecurity, engineering and research services, as well as our support functions such as IT, Finance, HR and Security.

EMPLOYEE ENGAGEMENT

Last year, we launched our revised Pirbright Institute Research Culture Statement which demonstrates our passion for the work we do and provides a clear set of expectations to guide our thinking and planning. This statement also ensures our approach continually and consistently supports and directs the work we undertake that enables the Institute to operate as a top-performing organisation.

The Institute is committed to an open and inclusive culture, where difference is celebrated and the contributions of all are encouraged, valued and respected, and to this end we have embedded equality into every aspect of our work. This commitment is reflected in our continued desire to create and enable an environment where everyone feels welcome and can be themselves whilst at work. We are committed to nurturing and promoting equality, diversity, and inclusion (EDI) as a way of working and this has become the golden thread through all our processes and decision making.

Providing opportunities for individual recognition and reward is central to our Pirbright Research Culture. In addition to our employee reward package, we encourage our employees to apply for personal promotion. This scheme recognises an individual's work and commitment through a standard of delivery that is over and beyond their current role scope and responsibilities and is rewarded with a personal grade promotion. Another is to recognise the additional dedication and commitment of individuals not yet ready for promotion and allows a within-band salary increase. In 2023, 27 members of staff achieved success through these reward schemes. Successful employees were celebrated in person at all staff events and via the intranet.

In addition to individual recognition, we also acknowledge and recognise exemplary team effort. Teams are nominated by and voted for by their peers. The winners of these awards are celebrated at our Christmas event.

This year, the Institute achieved a Silver Athena Swan award recognising our ongoing commitment to gender equality. This award reflects the continued growth of equality, diversity and inclusion across the Institute that is at the heart of all we do.

As indicated above, EDI is the golden thread that binds the Institute together and is reflected across all activities and decision making. The EDI Committee successfully sought out approval via the Institute Development Grant (IDG) funding to employ a dedicated full time EDI Manager, and during the year our EDI manager reporting to the EDI Chair, was recruited to drive our employee engagement action plan and further embed EDI.

Our EDI Committee reports directly to the SLB and is empowered to make operational decisions. With representation from across the Institute, this committee meet regularly to manage and/or escalate as appropriate any topics or issues identified. As an example, this committee enabled the creation

of a Nursing Mothers room and are now exploring how additional equality charters can support our wider EDI ambitions. We have three staff network groups: the Rainbow network, Neurodiversity network and Carers network. These networks are developing, with a small and growing number of participants. The Institute provides meeting space and small incidental financial support. The groups meet regularly to share information, provide mutual support, highlight key external support mechanisms with signposting.

Representatives from the EDI Committee also work closely with HR and Health and Safety and Bio Safety (HSBS) in delivering a complimentary Wellbeing programme. Consisting of information and awareness, these sessions are conducted online and in person via training courses, workshops and webinars covering a wide range of physical, cultural and mental health-related topics.

HOW WE COMMUNICATE

Accurate and timely communication is key to us keeping our workforce informed and updated. There are several avenues available to facilitate both direct information sharing and two-way dialogues.

In addition to our various groups and committees, there are formal, regular information-sharing forums, such as a quarterly Director-led staff briefing, monthly Management Forum meetings, newsletters and ad hoc focus groups, etc. SLB conduct biweekly 'site walks', meet a member of SLB for coffee, and SLB drop-ins. HR also conduct regular drop-in sessions giving employees an opportunity to raise topics of their choice in a supported and informal environment. Our Communications team encourage and support individual blogs on a wide range of topics, and general information is posted on the intranet and site-wide screens. Additionally, knowledge-sharing talks led by our scientists and/or external visitors are scheduled on a monthly basis for a site-wide audience. Employees have various options available to raise a concern confidentially, via our active-bystander and whistle-blowing processes, or directly with HR or SLB should a need arise.

The Institute conducts biannual staff engagement surveys that are followed up with focus groups to further develop the feedback and enable employees to co-develop action plans with a view to continuous improvement. This year we have engaged a new provider with a platform that will enable 'real time' interaction with those completing the survey whilst maintaining the full confidentiality of the employee. This new platform will further enable the Institute to drive our Employee Engagement Action Plan.

This year the Institute enabled the creation of a Staff Representative Forum. This forum has representation from across the Institute, and is the conduit to gain employee feedback HR related topics, such as changes to HR policy etc.

TRAINING AND DEVELOPMENT

Employees are encouraged to discuss with their line manager the training opportunities available and courses that would enhance their career aspirations.

Through our dedicated Learning & Development (L&D) manager, we offer a comprehensive training programme that is available to all with an online booking process. All training options are advertised in the monthly HR newsletter, on the intranet and in all staff emails. Our training programme includes role-specific courses and opportunities for personal development and qualifications. We deliver career development options such as project management unconscious bias awareness. Additionally, L&D have delivered management training on leading, promoting and supporting EDI, managing teams and an emerging leaders programme for our upcoming leaders of tomorrow. We are now developing a 'Pillars of Development'-style approach which will provide further support and guidance to both the individual and the Line Manager for the most appropriate development opportunity, whether that is formal classroom style training, webinars, conferences or side by side experiential learning.

RETENTION AND RECRUITMENT

As a world-renowned research institute, we attract top talent from around the globe, with staff and students currently representing more than 40 different nationalities, contributing to the enrichment of our overall cultural diversity. To further enable this diversity, the Institute supports overseas candidates with visa costs and the global talent mobility scheme.

During the year, our end-to-end recruitment process was completely redeveloped. As a result, we have significantly reduced our time to offer to an average of 18 days. We have improved our stakeholder management for both the candidate and the hiring manager with a more focused, role-specific approach.

At the start of the year our staff turnover was on average 22 per cent. However, this has seen a definite and steady decline over recent months to an average of just under 14 per cent. The UK talent market remains particularly volatile with candidates staying actively engaged in multiple opportunities enabling them to move quickly as roles are offered. There are a number of different skill sets that also remain as both nationally and internationally scarce, roles such as data analysis, electrical engineering and HR continue to be recognised as 'hard to fill'.

We recruited to 98 vacancies through the year, this was a significant reduction from 149 vacancies in the previous year. 19 per cent of these vacancies were filled through our internal redeployment process, either as a result of grant funding ending for specific projects or for those employees looking for development opportunity and progression. Since the new recruitment process was launched in August 2023, there have been only 17 repeat campaigns for recruitment into the same post, this again a significant reduction from the prior year with 49 repeat campaigns being opened.

As at the end of the year, we are supporting 46 employees with their immigration needs across all Directorates.

SUMMARY OF PIRBRIGHT'S GENDER PAY GAP

The gender pay gap is defined as the difference between the mean or median earnings of male and female employees, expressed relative to male earnings. The mean pay gap is the difference between the average hourly earnings of men and women. The median pay gap is the difference between the midpoints of hourly earnings of men and women.

The Institute is pleased to have maintained a relatively equal gender balance in terms of employee numbers for the last five years. However, we recognise the Institute's mean hourly pay gap has increased, from 10.3 per cent in 2022 to 11.6 per cent in 2023, an increase of 1.3 per cent. The median hourly gap has also increased from 6.6 per cent in 2022 to 11.6 per cent in 2023. Whilst we have seen a steady decrease in our gender pay gap over the last five years, we recognise that there has been a slight increase in 2023.

When reporting data over a long period of time there is always the expectation that data will fluctuate, however our ongoing efforts to combat the gender pay gap can be seen in the reduction from 16 per cent in 2018 to 11.6 per cent in 2023.

Whilst we are confident that men and women are paid equally for carrying out equivalent roles across the Institute, we recognise the need to redress the gender balance across all bands of the workforce and a number of initiatives have been put in place to support this change.

We offer a range of flexible working arrangements and family-friendly policies, which enables us to attract and retain equal numbers of women and men. We are also able to report that both men and women have benefited from our enhanced flexible and family friendly policies, including shared parental leave.

The full report can be found on our website.

OUR STAFF AND STUDENT PROFILE

There continues to be an almost equal balance of male and female employees across the Institute, with approximately 49 per cent male versus 51 per cent female, although this does differ between directorates, specifically our Estate Management Services experience a gender balance challenge. Staff total headcount at the year-end was 379, with an additional 44 PhD students with a 64 per cent female 36 per cent male split ratio.

INNOVATIONS AT PIRBRIGHT

Commercial activity is an important element of the Institute's strategy to diversify funding streams and ensure a more financially sustainable organisation for the future.

The Pirbright Training team continues to develop and deliver training courses in three key areas of Pirbright's expertise: control of viral diseases of livestock, high containment engineering and biosafety practices. The team can develop training in different formats, including face-to-face, online instructor-led and self-directed eLearning, and all content is developed in a format to make learning as engaging as possible, including through the use of text, quizzes, highly effective graphic design, and interactive videos.

In the 2023-2024 financial year, Pirbright's eLearning courses related to foot-and-mouth disease, African swine fever, Marek's disease and the maintenance of HEPA filters and biological safety cabinets were purchased online. In addition, staff members from a small UK enterprise attended in-person training at Pirbright on biological safety cabinet maintenance.

Pirbright continues to offer in-person laboratory diagnostic techniques training for a variety of diseases. During the year, several individuals attended training in diagnosis of foot-and-mouth disease and lumpy skin disease. In addition, members of the Institute's World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) and the Non-Vesicular Reference Laboratory (NVRL), visited laboratories in Indonesia, Kuwait and the Philippines to provide bespoke training in the diagnosis and laboratory techniques of foot-and-mouth disease and African swine fever.

Pirbright generates impact and ensures effective use and exploitation of our research results by licensing technologies such as vaccine candidates to industrial partners, especially pharmaceutical companies.

Most often, licenses follow extensive funded collaborations with our industrial partners. These licences generate ongoing income for the Institute, often in the form of royalty payments based on commercial sales. Examples of licensed technologies include: a vaccine for the prevention of peste des petits ruminants (PPRV); antibodies that recognise veterinary antigens and are widely used in veterinary research; and a technology that may improve the yield of viruses grown in chicken eggs, thereby making vaccine production more cost-effective.

Other sources of commercial income include the provision of research reagents, such as material used in diagnostics developed by Pirbright researchers. As part of our reference laboratory capabilities, we also perform some commercial services, such as diagnostic kit evaluations, disinfectant testing, and some diagnostic testing. In addition, Pirbright experts also provide consultancy services on a variety of topics such as the control of animal diseases.

During the reporting year, Pirbright has been working on setting up the new Centre for Veterinary Vaccine Innovation and Manufacturing (CVIM). This initiative will support the development of vaccines to combat neglected zoonotic (diseases that can spread from animals to humans) and veterinary diseases. The new Centre will accelerate the development of vaccines from early-stage research to large scale manufacturing and deployment.

Whilst CVIM is part of Pirbright, it is scientifically independent, and its governance teams are chaired by independent members. In the 2023-2024 year, CVIM worked on four different vaccines development projects, particularly evaluating three different vaccine platform technologies for suitability in the animal sector, and one vaccine candidate to prevent a high-consequence disease of livestock. Most of this work is done in partnership with multinational and small biotechnology companies. This veterinary vaccine expertise was recognised in a UK Government White Paper titled "International development in a contested world: ending extreme poverty and tackling climate change."



From left to right: Peter Stoichceff, President of The University of Saskatchewan; Dr.Volker Gerdts, VIDO Director and CEO; Professor Bryan Charleston FRS, Director of The Pirbright Institute signing the MOU between CVIM and The University of Saskatchewan's (USask) Vaccine and Infectious Disease Organization (VIDO)

INVESTING IN OUR FUTURE

Continual enhancement of the facilities on the Pirbright site is imperative to maintain and support the world-class science and research undertaken. BBSRC continues to provide considerable capital funding to the Institute through the award of capital grants, including the Small Value Capital Grant Award as part of our core funding.

THE AWARDS RECEIVED DURING THE YEAR INCLUDED:

PROJECT: COMARK SYSTEMS REPLACEMENT
AUTHOR(S): ANTHONY CLARKE AND ANA CORRAL
VALUE: £487,190

FUNDER: BBSRC, CAPITAL FUNDING

This award provided support for a replacement environmental monitoring system, providing assurances regarding the integrity of our biological assets held within temperature-dependent and highly regulated facilities. A robust system, that ensures regulatory compliance, is essential to underpin the strategic science delivered within Pirbright's unique high biological containment facilities and thereby ensure Pirbright's role as a National Capability.



PROJECT: A MOLECULAR IMAGING SYSTEM FOR THE BBSRC NATIONAL VACCINOLOGY CENTRE: THE JENNER BUILDING

SCIENTIST: PROFESSOR MUNIR IQBAL

VALUE: £142,994

FUNDER: BBSRC CAPITAL FUNDING

This award provides support for continued capability for infrared molecular imaging at Pirbright. This is an essential capability, as our research community routinely utilise biomolecular imaging for qualitative and quantitative measurements of viral and host cell protein interactions employing a range of in vitro assays. Characterisation of molecular components of viruses and host cells that influence disease outcomes is essential for achieving our overall scientific objectives.



SMALL VALUE CAPITAL GRANT

A further 8 projects were supported by Pirbright Small Value Capital Grant, part of our strategic investment from the BBSRC. These science projects totalled £320,441, providing support for replacement of essential laboratory equipment underpinning our research activities, as well as equipment that allowed expansion of our capabilities. Underpinning equipment purchase included liquid nitrogen storage tanks, enhanced PCR capacity, replacement microscopy for use in microinjections to generate transgenic insects, as well as imaging capabilities to provide precise quantitative read-outs and measurements of a broad range of immune effector molecules for the evaluation immune cell functions. In addition, to maximise the benefits and range of biological samples collected from animal studies a haematology analyser for the monitoring of whole blood parameters of animals in Pirbright's high containment facilities has been acquired. We have also acquired an Oxford Nanopore Technology (ONT) PromethION 2 Solo to support long read sequencing at Pirbright, to further enhance our high containment genomics research. This compliments existing sequencing capabilities and provides an important added platform to support veterinary health research, supporting our ambitions to deliver 'omics-driven research.

GOVERNANCE AND MANAGEMENT

The Pirbright Institute is an independent company, limited by guarantee and a registered charity. It is governed by a Board of non-executive Trustee Directors who provide strategic input to the Senior Leadership Board at Pirbright. Science at the Institute is reviewed by an independent group of leading researchers who comprise the Science Advisory Board and whose role is to provide advice and guidance on science strategy and direction.

ORGANISATION AND GOVERNANCE

The Annual Report provides information for legal purposes on the charitable company, its activities and its main achievements. The financial statements have been prepared in accordance with the Charities Act 2011, the Companies Act 2006, the Memorandum and Articles of Association and Accounting and Reporting by Charities: Statement of the Recommended Practice applicable to charities preparing their accounts in accordance with Financial Reporting Standards applicable to the UK and Republic of Ireland (FRS102), effective 1 January 2019.

THE BOARD OF TRUSTEE DIRECTORS

The Trustee Directors serving on the Board during the year and since the year end were:

- Professor Vincent Emery – Chair
- Professor Mike Turner – Deputy Chair
- Ian Black (resigned 7 June 2023)
- Rona Chester
- Jon Coles
- Emma Griffin (resigned 31 March 2024)
- Alison Hardy
- Dr Paul Logan
- Dr Linda Magee OBE
- Professor Deenan Pillay
- Jane Tirard
- Tamsin Webster (appointed 12 October 2023)

Trustee Directors are appointed by the existing Trustee Directors for three years, when they are eligible for reappointment for a second term. In exceptional circumstances, Trustee Directors can be appointed for a further three years beyond that giving a maximum of nine years.

Prior to the recruitment of a new Trustee Director, a skills audit of all Trustee Directors is undertaken to determine the skills required of the incoming Trustee Director. The Trustee Directors then appoint a recruitment agency specialising in non-executive and Trustee Board Member appointments to undertake the recruitment on their behalf. This process is managed by the Nominations and Governance Committee, with interviews undertaken by members of this committee and the Chair of the Board of Trustee Directors.

TRUSTEE DIRECTORS PURPOSE

The purpose of the Board of Trustee Directors is to ensure that the Institute carries out its purpose for the public benefit in accordance with its memorandum, articles of association and governing law, and to ensure that they comply with their duties under Section 4 of the Charities Act 2011 to have due regard to the public benefit guidance by the Charity Commission.

The Trustees Directors are satisfied they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission. Based on this guidance, and as described in the Trustee Directors' Report, the Trustee Directors believe the activities of The Pirbright Institute to be charitable in nature.

The main focus of the Trustee Directors is on leadership, strategy, performance and assurance, with a focus on maintaining Pirbright's reputation, staff and infrastructure while protecting the Institute's sustainability.

Furthermore, the Trustee Directors must act in the Institute's best interests; they must ensure that the Institute's resources are managed responsibly; they must act with reasonable care and skill; they must ensure that the Institute complies with all statutory accounting and reporting requirements; and they must meet the oversight requirements expected of a major hazard site.

The Board of Trustee Directors has established three committees to support it in its work: the Finance and Audit Committee, the Risk and Assurance Committee and the Nomination and Governance Committee.

The Trustee Directors have also established a Scientific Advisory Board, comprised of independent leading scientists, to provide advice, guidance and recommendations regarding the scientific strategy and direction of the Institute. In addition, the Science Advisory Board provides assurance to the Trustee Directors on the quality of science and research, the relevance and importance of the scientific strategy, and advise on the Institute's positioning within the international scientific landscape.

TRAINING OF TRUSTEE DIRECTORS

The Institute continually reviews its practices for induction and ongoing Trustee Director training. All Trustee Directors joining Pirbright undergo an extensive training, which covers:

- Building an understanding of the nature of the Institute, its purposes, and the stakeholder landscapes in which it operates. In particular, this will cover the importance of leadership in a major hazard environment.
- Developing understanding of the role, including legal duties and ethical expectations.
- Building a link and relationship with the Institute and its employees, beyond that of the Senior Leadership Board.
- Developing an understanding of the Institute's main relationships and future opportunities.

Trustee Directors are encouraged to attend appropriate external training events where these will facilitate the undertaking of their role and understanding of their responsibilities.

The Trustee Directors have undertaken a review of how effective the Board is which was facilitated by Campbell Tickell, an organisation with a specialism in Board governance. A plan of actions arising from this review is currently being implemented, including a self-appraisal of adherence to the Charity Governance Code for England & Wales (as updated in 2020).

CONFLICTS OF INTERESTS

Trustee Directors and any co-opted members are required to declare any conflicts or potential conflicts of interests at Board of Trustee Directors and sub-committee meetings, and these are recorded in the minutes. Depending on the conflict, the Chair may require a Trustee Director or co-opted member to either leave the meeting, or not take part in a discussion or decision on a particular Issue. During the year, no Trustee Director declared a conflict of interest.

TRUSTEE DIRECTORS' INDEMNITY INSURANCE

The Institute maintains liability insurance for the Trustee Directors, with an annual aggregate cover limit of £10m for all claims against them in that capacity. The Trustee Directors have also been granted a qualifying third-party provision under section 233 of the Companies Act 2006. Neither the Institute's indemnity nor insurance provides cover in the event that a Trustee Director is proved to have acted fraudulently or dishonestly. The premium and related costs in respect of this policy were £36,279 (2023: £36,940).

COMPLAINTS

The Trustee Directors and the staff of the Institute are committed to providing a high-quality, responsive and transparent service to all the people and organisations with which we interact. However, the Trustee Directors are aware that sometimes Pirbright will not reach the high standards they have set themselves, so they have established a complaints procedure for external parties to raise a complaint against the Institute.

During the year one complaint was received (2023: None). Full details of the complaints procedure can be found on the Institute's website.

RELATED PARTIES

The Institute has a subsidiary undertaking, Pirbright Innovations Limited. The Trustee Directors consider that the activities of the subsidiary are not material to the financial position of the Pirbright Institute Group and have therefore elected not to produce consolidated financial statements.

Genomia Management Limited was formed on 16 April 2004 and is also a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund, the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with The Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Scotland's Rural College (SRUC). During 2023-2024, the Institute resigned its membership of this organisation, which has been accepted by Genomia Management Limited, and therefore the Trustee Directors no longer consider this company to be a related party.

GOVERNANCE STRUCTURE

THE INSTITUTE HAS FIVE MEMBERS

Chair of the
Trustee Board

Chair of the
Science Advisory Board

BBSRC
UKRI

National
Farmers' Union

Royal College of
Veterinary Surgeons

BOARD OF TRUSTEE DIRECTORS

Professor
Vince Emery
(Chair)

Professor
Mike Turner
(Deputy Chair)

Rona Chester

Jon Coles

Emma Griffin

Alison Hardy

Dr Paul Logan

Dr Linda Magee OBE

Professor
Deenan Pillay

Jane Tirard

Tamsin Webster

SENIOR LEADERSHIP BOARD

Professor Bryan Charleston MRCVS
FRS – Director and CEO

Professor John Hammond –
Director of Research

Helen Watts –
Director of Finance and
Company Secretary

Dr Andrew White –
Director of Risk and
Assurance

SCIENCE ADVISORY BOARD

Professor Geoffrey Smith – Chair

Professor Martin Beer

Professor Persephone Borrow

Professor Mary Cameron

Professor Gary Entrican

Professor Deirdre Hollingsworth

Professor Deenan Pillay

Professor Eleanor Riley CBE

Professor David Rowlands

Professor Helen Sang OBE

Dr Samuel Thevasagayam

FINANCE AND AUDIT COMMITTEE

Rona Chester – Chair

Jon Coles

Jane Tirard

NOMINATIONS AND GOVERNANCE COMMITTEE

Jon Coles – Chair

Alison Hardy

Dr Linda Magee OBE

Tamsin Webster

RISK AND ASSURANCE COMMITTEE

Dr Paul Logan – Chair

Emma Griffin

Professor Mike Turner

BOARD OF TRUSTEE DIRECTORS



PROFESSOR VINCE EMERY **CHAIR OF THE BOARD OF TRUSTEE DIRECTORS**

Professor Vince Emery is President of the University of Hertfordshire's branch campus in Egypt. He graduated with a first-class BSc in Biochemistry with Chemistry and PhD from the University of Southampton. He received his professorship at UCL in 2000. His research on infections has secured over £29 million in grants, has an H-index of 75 and his work has 20,000+ citations. Professor Emery is a Fellow of the Royal Society of Biology and the American Society of Transplantation.



PROFESSOR MIKE TURNER **DEPUTY CHAIR OF THE BOARD OF TRUSTEE DIRECTORS**

Professor Mike Turner is a consultant, currently working for the World Health Organization, Honorary Professor at the University of Glasgow and a member of council at the London School of Hygiene and Tropical Medicine. Formerly, Mike was Director of Science at Wellcome, Europe's largest biomedical research foundation and, before that, Professor of Parasitology at Glasgow.



RONA CHESTER
Rona is a fellow of the Institute of Chartered Accountants with over 30 years' experience in leading financial teams in both the public and private sector. More recently, Rona was the Chief

Operating Officer at Sport England, the lottery distributor, where additional responsibilities included grants management, commercial and IT, as well as contributing to the development of the organisation's strategy.



JON COLES

Jon was a senior partner at Brunswick Group LLP, a leading international communications consultancy, where he advised the Boards of Directors of global groups on strategic communications and corporate reputation. His particular focus was on clients in the pharmaceutical, biotechnology and agriculture industries.



EMMA GRIFFIN

Emma has over 25 years' professional experience across a multitude of sectors in cyber security, technology and regulatory compliance. She participates on several advisory boards to influence and drive cyber security development and solution innovation and regularly participates in industry and regulatory forums as an adviser and speaker. Emma is actively involved in promoting diversity and inclusion and seeks to encourage careers in science and technology to minority groups.



ALISON HARDY

Alison is a solicitor and partner with City law firm Ashurst LLP, where she leads the real estate dispute resolution practice. Alison is experienced in all aspects of commercial real estate. She is actively involved in diversity and inclusion and is the partner sponsor of Ashurst's social mobility and inclusion network, which

is working to remove barriers to entry into, and progression within, the legal profession.



DR PAUL LOGAN

Prior to his retirement in 2020, Paul was a senior civil servant in the Health and Safety Executive (HSE), which he had joined as a regulatory scientist. During his time in HSE, he chaired a number of industry/government committees. He was Director of the division in HSE with responsibility for regulation of major hazards industries, including chemical manufacturing, oil refineries, explosives manufacturing and storage, and high-containment laboratories.



DR LINDA MAGEE OBE

Linda is a life sciences sector specialist in the UK Government's Department for Business and Trade. She supports the UK sector team and international network to identify opportunities for the UK economy and businesses in life sciences and healthcare. Linda was previously Chief Operations Officer of NIHR Manchester Academic Health Science Centre (MAHSC) and Commercial Director of Greater Manchester Academic Health Science Network (GMAHSN). She also co-founded Manchester Biotech and set up Bionow while working for the Northwest Development Agency. Linda established the National Biomanufacturing Centre at Speke. She was awarded an OBE in 2009 for services to biotechnology.



PROFESSOR DEENAN PILLAY

Deenan is Emeritus Professor of Virology at University College London. He has been a clinical virologist for the last 30 years, working within the Public Health Laboratory Service, Health Protection Agency, NHS and academia. His main interest has been the use of antiviral therapy, and emergence of drug resistance, particularly regarding HIV. From 2013 to 2019, he was Director/CEO of the Wellcome Trust-funded Africa Health Research Institute. He is currently Non-Executive Director of an NHS Trust and until recently, chaired Independent SAGE, a scientific group focused on public engagement and discussion on COVID-19.



JANE TIRARD

Jane has over 30 years of experience of all aspects of strategic financial planning, financial management, financial accounting, systems and processes. As a result of her roles, she has a working knowledge of government departments, funding councils, academia and the pharmaceutical industry. Her last position was as the Director of Finance and Corporate Services at the Diamond Light Source, the UK's national synchrotron science facility.



TAMSIN WEBSTER

Tamsin has held a number of senior level roles in HR in SMEs and global corporates including BlackRock, UBS and Lloyds Banking Group. In her current role at Fulcrum Asset Management, she oversees the entire employee lifecycle, which includes recruitment, performance

management, talent development, remuneration and learning and development. Tamsin works closely with the Diversity Project who are driving change across the Asset Management industry on all aspects of diversity, equity and inclusion.

Tamsin is an experienced leadership coach and brings knowledge of leadership development, employee engagement, organisation design and governance to create the structure and capability needed to support business transformation, at all stages of growth or transition. Tamsin has built a strong understanding of working in regulatory environments, having worked in Financial Services and the Telecoms industry during times of significant change. Tamsin is a qualified project manager, has a degree in Psychology from the University of Kent, an MA in Coaching and a MSc in Viticulture and Oenology.

SENIOR LEADERSHIP BOARD

The Board of Trustee Directors considers that the Senior Leadership Board (SLB) is accountable for Institute strategy, risk mitigation and governance of day-to-day operational delivery. The SLB comprises the Institute Director and the Directorate heads; namely Director of Risk and Assurance, Director of Research and Director of Finance and Company Secretary. The remuneration and benefits of the SLB is based on the agreed and recognised salary banding for the Institute and is reviewed annually.



PROFESSOR BRYAN CHARLESTON MRCVS FRS

DIRECTOR AND CEO

Professor Charleston joined The Pirbright Institute (formally known as the Institute for Animal Health) in 1994 and focused on studies of the immune response to viral infections in cattle. His research group's efforts are focused on understanding the immune response to foot-and-mouth disease virus in cattle to develop novel vaccines.



PROFESSOR JOHN HAMMOND DIRECTOR OF RESEARCH

John contributes to all aspects of Institute senior management and focuses in particular on the science-operations interface and research culture at the Institute. He is also Head of Programme: Enhanced host responses for disease control and leads the Immunogenetics Group at the Institute.



HELEN WATTS FCA DIRECTOR OF FINANCE AND COMPANY SECRETARY

As the Institute's Director of Finance and Company Secretary, Helen's remit includes all aspects of the Institute's finances as well as managing the IT and procurement functions. She is also a member of the Development Programme Board, as well as being a member of a number of working groups overseeing many aspects of the Institute's operations.



DR ANDREW WHITE DIRECTOR OF RISK & ASSURANCE

Andy leads on all aspects of risk management including biosafety, health and safety, quality assurance, environment, crisis management and business continuity, biosecurity; and wider enterprise risks such as financial, informational, operational, reputational and strategic. Andy is a biochemist by training and holds a PhD in protein structure and chemistry.

SCIENCE ADVISORY BOARD

The Institute's Science Advisory Board (SAB) provides valuable strategic oversight, input and advice on the Institute's science strategy and scientific directions.



PROFESSOR GEOFFREY L. SMITH (CHAIR)

Professor Geoffrey L. Smith is Professor Emeritus and Research Group leader at the University of Oxford. His research studies the interactions of poxviruses with the host cell and immune system. As a postdoc in Bernard Moss's laboratory at NIAID, USA, together with Michael Mackett, he developed vaccinia virus (the smallpox vaccine) as an expression vector and established the principle of using genetically engineered viruses as live vaccines.



PROFESSOR DR MARTIN BEER

is Vice-President of the Friedrich-Loeffler-Institut (FLI) and head of the Institute of Diagnostic Virology, working with transboundary animal diseases, zoonosis and emerging diseases like avian influenza virus, Schmallenberg virus and pestiviruses.



PROFESSOR PERSEPHONE BORROW

is a viral immunologist whose research interests centre on understanding virus-immune system interactions and their roles in determining the balance between virus clearance versus viral persistence and associated pathogenesis.



PROFESSOR MARY CAMERON

is a Professor of Medical Entomology in the Faculty of Infectious and Tropical Diseases, London School of Hygiene & Tropical Medicine (LSHTM). Mary has over 30 years' experience in delivering international-level field and laboratory research focusing on the surveillance and control of a wide range of vector-borne diseases, particularly leishmaniasis.



PROFESSOR GARY ENTRICAN is an immunologist who has specialised in the development of vaccines and diagnostic tests for the control of infectious diseases of ruminant livestock. He has developed many immunological tools and technologies, including kits for in vitro differentiation of ruminant dendritic cells and cytokine ELISAs.



PROFESSOR DEIRDRE HOLLINGSWORTH

is a professor of infectious disease epidemiology at the Big Data Institute in the University of Oxford. She develops mathematical, statistical, and computational models which inform disease dynamics for a range of viruses, bacteria and helminths. She is an expert at translating these analyses to inform public health policy at national and international policy levels, including for the World Health Organization.



PROFESSOR DEENAN PILLAY

is Emeritus Professor of Virology at University College London and a clinical virologist with a focus on antiviral therapy, drug resistance and HIV. He is a Non-Executive Director of an NHS Trust and was the former Chair of Independent SAGE, which discusses COVID-19 with the public.



PROFESSOR ELEANOR RILEY CBE is Professor Emeritus of Immunology and Infectious Disease in the School of Biological Sciences at the University of Edinburgh. She was formerly Head of Department of Immunology and Infection at the London School of Hygiene and Tropical Medicine and Director of the BBSRC Roslin Institute.



DR SAMUEL THEVASAGAYAM leads the Livestock initiative within the Agriculture Development Program at the Bill & Melinda Gates Foundation where he oversees the implementation of the Foundation's strategy in animal health, animal production and livestock systems. Sam joined the Gates Foundation in 2012.



PROFESSOR DAVID ROWLANDS is an emeritus Professor of Molecular Virology at the University of Leeds. He worked at the Animal Virus Research Institute (now the Pirbright Institute) before transferring to industry, holding positions at Wellcome Biotech and the Wellcome Foundation; and finally moved into academia at the University of Leeds. He has a lifetime of experience studying both human and animal viruses.



PROFESSOR HELEN SANG OBE Professor Sang's main research focus at The Roslin Institute has been the development of technologies for genetic modification of the chicken, which are applied in basic biomedical research, biotechnology and investigating the potential for developing disease resistance in production chickens.

FINANCE AND AUDIT COMMITTEE

This committee provides assurance and advice to the Board in relation to the Institute's finances and other assets; business planning and corporate reporting; the Institute's strategic risks; and the statutory external audit and the programme of internal audits covering the enabling functions.

RONA CHESTER (CHAIR)

JON COLES

JANE TIRARD

NOMINATIONS AND GOVERNANCE COMMITTEE

This committee provides assurance to the Board in relation to all governance matters, with the aim of obtaining the highest possible standard of governance and compliance. The Institute has adopted the Charity Governance Code with this committee responsible for its implementation.

JON COLES (CHAIR)

ALISON HARDY

DR LINDA MAGEE OBE

TAMSIN WEBSTER

RISK AND ASSURANCE COMMITTEE

This committee provides assurance to the Board on the arrangements to meet legal duties and to manage risk within the Institute, working in consort with the Risk and Assurance Strategy and Plan, to oversee all risk management systems, controls and processes that may have an impact on the Institute's ability to meet its objectives.

DR PAUL LOGAN (CHAIR)

EMMA GRIFFIN

PROFESSOR MIKE TURNER

STATEMENT OF TRUSTEE DIRECTORS' RESPONSIBILITIES

The Trustees Directors, who are also Directors of the charitable company for the purposes of company law, are responsible for preparing the Trustees' Report, incorporating the Strategic Report in accordance with applicable law and regulations.

COMPANY LAW REQUIRES THE BOARD OF TRUSTEE DIRECTORS TO PREPARE FINANCIAL STATEMENTS FOR EACH FINANCIAL YEAR.

Under that law, the Board of Trustee Directors has elected to prepare the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable laws), including FRS102 (the Financial Reporting Standard applicable in the UK and Republic of Ireland). Under company law the Board of Trustee Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period. In preparing these financial statements, the Board of Trustee Directors is required to:

- select suitable accounting policies and then apply them consistently,
- observe the methods and principles in the Charities SORP (FRS102),
- make judgments and accounting estimates that are reasonable and prudent,
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements, and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The Board of Trustee Directors is responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions and disclose with

reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. It is also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Trustee Directors are satisfied that they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission and, based on this guidance, the Trustee Directors believe the activities of the Institute to be charitable in nature.

The Trustee Directors recognise that they must act in a way they consider, in good faith, would be most likely to promote the success of the Institute for the benefit of its members as a whole, and in doing so have regard, among other matters to:

- the likely consequences of any decision in the long term,
- the interests of the Institute's employees and students,
- the need to foster the Institute's relationships with key stakeholders,
- the impact of the Institute's operations on the community and the environment,
- the desirability of the Institute to maintain a reputation for high standards of business conduct, and
- the ability to act fairly as between members of the Institute.

The Trustee Directors recognise that they have a responsibility to engage with the employees and students who work at the Institute. To fulfil this responsibility staff are invited to each meeting of the Board of Trustee Directors to give a

presentation and answer questions on their area of expertise, Trustee Directors regularly undertake walk rounds of the new facilities on site, they attend official opening of new buildings and the Institute's celebration day and they undertake drop in sessions which staff are invited to attend ; all of these give the Trustee Directors the opportunity to meet staff and students and engage with them to better understand the Institute, the work it undertakes and any concerns that staff and students may have.

The Board of Trustee Directors confirms that:

- so far as each Trustee Director is aware, there is no relevant audit information of which the charitable company's auditor is unaware, and the Trustee Directors have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

The Report of the Trustee Directors incorporating the Directors' Report and the Strategic Report was approved and signed on behalf of the Board of Trustee Directors.

PROFESSOR VINCE EMERY

Chair of the Board of Trustee Directors

Date: 25 July 2024



INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE PIRBRIGHT INSTITUTE

OPINION ON THE FINANCIAL STATEMENTS

In our opinion, the financial statements:

- give a true and fair view of the state of the Charitable Company's affairs as at 31 March 2024 and of its incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of The Pirbright Institute ('the Charitable Company') for the year ended 31 March 2024 which comprise the statement of financial activities, the balance sheet, the cash flow statement, the principal accounting policies and notes to the financial statements. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remain independent of the Charitable Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

CONCLUSIONS RELATED TO GOING CONCERN

In auditing the financial statements, we have concluded that the Trustee Directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Charitable Company's ability to continue as a going concern for a period of at least 12 months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the Trustee Directors with respect to going concern are described in the relevant sections of this report.

OTHER INFORMATION

The Trustee Directors are responsible for the other information. The other information comprises the information included in the Annual Report and Accounts, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our

knowledge obtained in the course of the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

OTHER COMPANIES ACT 2006 REPORTING

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Trustee Directors' Report, which includes the Directors' Report and the Strategic Report prepared for the purposes of Company Law for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic Report and the Directors' Report, which are included in the Trustee Directors' Report, have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the Charitable Company and its environment obtained in the course of the audit, we have not identified material misstatement in the Strategic Report or the Trustee Directors' Report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or

- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

RESPONSIBILITIES OF TRUSTEE DIRECTORS

As explained more fully in the Trustee Directors' responsibilities statement, the Trustee Directors (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustee Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustee Directors are responsible for assessing the Charitable Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustee Directors either intend to liquidate the Charitable Company or to cease operations, or have no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

We have been appointed as auditor under the Companies Act 2006 and report in accordance with the Act and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's

report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Extent to which the audit was capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below. Based on:

- our understanding of the Charitable Company and the sector in which it operates;
- discussion with management and those charged with governance; and
- obtaining an understanding of the Charitable Company's policies and procedures regarding compliance with laws and regulations,

we considered the significant laws and regulations to be the applicable accounting framework, UK tax legislation and the Animals (Scientific Procedures) Act 1986.

The Charitable Company is also subject to laws and regulations where the consequence of non-compliance could have a material effect on the amount or disclosures in the financial statements, for example, through the imposition of fines or litigations. We identified such laws and regulations to be health and safety

legislation, data protection legislation and employment law.

Our procedures in respect of the above included:

- review of minutes of meeting of those charged with governance for any instances of non-compliance with laws and regulations;
- review of correspondence with regulatory and tax authorities for any instances of non-compliance with laws and regulations;
- review of financial statement disclosures and agreeing to supporting documentation; and
- review of legal expenditure accounts to understand the nature of expenditure incurred.

Fraud

We assessed the susceptibility of the financial statements to material misstatement, including fraud. Our risk assessment procedures included:

- enquiry with management and those charged with governance regarding any known or suspected instances of fraud;
- obtaining an understanding of the Charitable Company's policies and procedures relating to:
 - o detecting and responding to the risks of fraud; and
 - o internal controls established to mitigate risks related to fraud.
- review of minutes of meeting of those charged with governance for any known or suspected instances of fraud;
- discussion amongst the engagement team as to how and where fraud might occur in the financial statements; and
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud.

Based on our risk assessment, we considered the areas most susceptible to fraud to be posting of inappropriate journal entries and management bias in accounting estimates.

Our procedures in respect of the above included:

- testing a sample of journals which met a defined risk criteria, by agreeing to supporting documentation;
- assessing significant estimates made by management for bias, including:
 - o the assessment of the useful economic lives of fixed assets;
 - o the assessment of the risks and rewards of ownership of the leasehold land and buildings owned by third parties.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Our audit procedures were designed to respond to risks of material misstatement in the financial statements, recognising that the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery, misrepresentations or through collusion. There are inherent limitations in the audit procedures performed and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we are to become aware of it.

A further description of our responsibilities for the audit of the financial statements is located at the Financial Reporting Council's (FRC's) website at: <https://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

USE OF OUR REPORT

This report is made solely to the Charitable Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Charitable Company's members those matters we are required to state to them in an auditor's report and for no other purpose

To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Charitable Company and the Charitable Company's members as a body for our audit work, for this report or for the opinions we have formed.

Fiona Condron

FIONA CONDRON

(Senior Statutory Auditor)

For and on behalf of BDO LLP,

statutory auditor

Gatwick, UK

Date: 30 July 2024

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).



Ecology at the Institute: two large areas of wildflowers at Pirbright provide insects and pollinators with food and shelter © Edward Brydon

STATEMENT OF FINANCIAL ACTIVITIES

For the year ended 31 March 2024

	Note	Unrestricted Funds £'000	Restricted Funds £'000	2024 Total Funds £'000	2023 Total Funds £'000
Income from					
Core Strategic Grant	1	-	19,846	19,846	18,619
Charitable Activities					
- Grants	2	17,622	3,752	21,374	25,013
- Other Charitable Income	2	1,566	-	1,566	1,942
- Investment Income	3	1,883	-	1,883	1,288
Total Income		21,071	23,598	44,669	46,862
Expenditure on					
Cost of Raising Funds					
- Rental Income & Tenant Services	4	352	395	747	711
- Investment Management Costs	4	24	-	24	22
Charitable Expenditure					
- Grants for Scientific Research	4	34,733	16,512	51,245	47,239
- Science Rental Income & Tenant Services	4	1,053	1,316	2,369	2,158
- Other Charitable Activities	4	541	60	601	472
Total Expenditure		36,703	18,283	54,986	50,602
Net Gains on Investments	10	0	220	220	150
Net (expenditure)/Income before transfers		(15,632)	5,535	(10,097)	(3,590)
Transfers between Funds	15	18,197	(18,197)	-	-
Net Movement in Funds		2,565	(12,662)	(10,097)	(3,590)
Balance Brought Forward		9,676	331,972	341,648	345,238
Balance Carried Forward		12,241	319,310	331,551	341,648

All income and expenditure derives from continuing activities.
The accompanying notes on pages 46 to 56 form an integral part of these financial statements.

BALANCE SHEET

At 31 March 2024

Company number 00559784

	Note	£'000	2024 £'000	£'000	2023 £'000
Fixed Assets					
Tangible Fixed Assets	9	316,654		319,767	
Investment Property	10	2,370		2,150	
Investments	10	10		10	
			319,034		321,927
Current assets					
Stocks	11	452		187	
Debtors	12	4,831		4,936	
Term deposits over three months		5,382		15,121	
Cash at Bank & In hand		22,509		19,637	
		33,174		39,881	
Creditors: Amounts falling due within one year	13	(20,657)		(20,160)	
Net Current Assets			12,517		19,721
Total Assets less Current Liabilities			331,551		341,648
Net Assets			331,551		341,648
Financed by					
Unrestricted Reserves	15		12,241		9,676
Restricted Reserves					
- Fixed Asset Fund	15		314,370		325,844
- Investment Revaluation Reserve	15		2,370		2,150
- Other Restricted Reserves	15		2,570		3,978
Total Funds			331,551		341,648

Approved by the Board of Trustee Directors on 25 July 2024



Professor Vince Emery
Trustee Director



Rona Chester
Trustee Director

The accompanying notes on pages 46 to 56 form an integral part of these financial statements.

STATEMENT OF CASH FLOWS

For the year ended 31 March 2024

	Note	2023 £'000	2022 £'000
Net Cash provided by Operating Activities			
Net Movement in Funds		(10,097)	(3,590)
Interest & Rent Receivable		(1,883)	(1,288)
Deprecation		11,525	10,525
Increase in valuation of Investment Property		(220)	(150)
Decrease/(Increase) in Stocks		(265)	172
Decrease in Debtors		105	5,767
Increase/(Decrease) in Creditors		1,989	(11)
Total Net cash provided by Operating Activities		1,154	11,425
Cashflows from Investing Activities:			
Investment in Subsidiary		0	(10)
Interest & Rents Received		1,883	1,288
Decrease/(Increase) in Cash Deposits > 3 months		9,739	(10,105)
Purchase of Property, Plant & Equipment		(9,904)	(12,456)
Net Cash Use in Investing Activities		1,718	(21,283)
Change in Cash & Cash Equivalents in the year		2,872	(9,858)
Cash & Cash Equivalents at the Beginning of the Year		19,637	29,495
Cash & Cash Equivalents at the End of the Year		22,509	19,637
Cash & Cash Equivalents as above		22,509	19,637
Cash placed on Term Deposits > 3 months		5,382	15,121
Cash at Bank & In Hand		27,891	34,758
		As at 1 April 2023 £'000	As at 31 March 2024 £'000
Net Cash at bank			
Cash at Bank		19,637	22,509
Total		19,637	22,509

The accompanying notes on pages 46 to 56 form an integral part of these financial statements.

PRINCIPLE ACCOUNTING POLICIES

The financial statements have been prepared on the historical cost basis, except for the revaluation of certain properties and financial instruments that are measured at revalued amounts at the end of each reporting period, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Institute's financial statements.

BASIS OF ACCOUNTING

The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2019) - (Charities SORP (FRS 102), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

The Institute meets the definition of a public benefit entity under FRS102. Assets and liabilities are initially recognised at historical cost or transaction value unless otherwise stated in the relevant accounting policy note(s).

GOING CONCERN

The Trustee Directors have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC, £17.6m per annum. This award originally runs from 1 April 2023 to 31 March 2028.

This source of funding, the consistent performance of attracting income from other funding bodies and the development of an operational plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security. Having considered the risks in respect of future funding, financial forecasts for the period to November 2025 and the level of reserves, the

Trustee Directors have concluded that it remains appropriate to prepare the financial statements on a going concern basis and there are no material uncertainties which the Trustee Directors have identified.

GROUP FINANCIAL STATEMENTS

The Trustee Directors have considered whether the requirement to prepare consolidated financial statements by virtue of section 405(2) of the Companies Act 2006 is appropriate for the financial year. The Trustee Directors consider that the results of its subsidiary, Pirbright Innovations Limited, are not material for the purposes of providing a true and fair view of The Pirbright Institute group. Accordingly, these financial statements present information about the Institute as an individual entity and not its group.

INCOME

Income comprises unencumbered grants received from research councils, grant income from collaborative, commissioned, and competitively awarded research projects, income from miscellaneous charitable activities, commercial and residential rents from the letting of Institute controlled property, and interest earned on the temporary investment of surplus funds. Income is recognised when the Institute becomes legally entitled to the income and the amount can be quantified with reasonable accuracy.

For the grants related to collaborative, commissioned and competitively awarded research projects, income is recognised as the associated expenditure is incurred.

Some of the research grants are undertaken in collaboration with other research institutes. Where these arrangements have been entered into with Pirbright being the lead institute,

the collaboration agreement entered into is solely between the funding body and the Institute. However, in the judgement of the Trustee Directors, such arrangements are entered into so the Pirbright acts as an agent to the other organisations named in the funding application. As a result, funds paid to collaborators are netted off the income received. If this judgement were not applied, both income and expenditure would be £2.1m (2023: £1.6m) higher than that stated in these financial statements.

All core BBSRC grants are recognised as revenue in the year they are received. Grant income including research grants received in advance of conditions being met is deferred until those conditions are fully satisfied. Rental and interest income is recognised based on the period to which it relates.

Capital grants are recognised in the statement of financial activities when entitlement passes, and once the criteria of certainty and measurement are met.

EXPENDITURE

Costs of charitable activities comprises costs incurred directly or in support of scientific research whether carried out in the Institute's own facilities or in other laboratories. Raising funds represents the costs associated with trading and raising income including the Institute's rental activities and tenant services and investments.

All costs are allocated between the expenditure categories of the Statement of Financial Activities (SOFA) on a basis designed to reflect the use of the resource. Costs relating to a particular activity are allocated directly. Support costs, representing the staffing and associated costs of finance, personnel and general administration in supporting the operations of the Institute, are

apportioned on an appropriate basis (see Note 5 to the financial statements – analysis of support costs for further details).

RESTRICTED FUNDS

Income received by way of grants, sponsorship, donation, or legacy which is directed by the funder as to be applied for specific purposes is accounted for within restricted income.

Awards applied within the terms dictated by the awarding authority on the acquisition or improvement of tangible fixed assets are also accounted for within restricted income and funds. The balance of the restricted fixed asset fund is reduced by the depreciation charges over the expected useful life of the asset. This treatment has been applied to reflect the assets being on land owned by a third party, therefore at the end of the lease they will revert to that third party (see further explanation below regarding the ownership of land and buildings). In addition, as detailed in note 19, there is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent grant more than the financing requirements.

DESIGNATED FUNDS

Unrestricted designated funds comprise sums set aside by the Trustee Directors for specific purposes including the acquisition of scientific equipment, support of the Institute's Strategic Career Development Awards (SCDAs) which facilitate in-depth research and career progression, supporting early-career researchers in strategic projects, and support for the work required to occupy the new facility on site, the Brooksby Building.

UNRESTRICTED FUNDS

Income received which is not directed by the provider to be applied for specific purposes to an extent which exceeds the constraints of the Institute's constitution is accounted for within unrestricted general funds.

FIXED ASSETS

Fixed assets with a cost of £10,000 or more are capitalised and depreciated to their estimated residual values set out below. Assets with a cost of less than £10,000 are expensed in the year of purchase:

Land – 99 years being the length of the lease from BBSRC

Buildings – between 15 and 50 years

Plant and machinery – five years on a straight-line basis

Fixtures, fittings, tools and equipment – five years on a straight-line basis

No depreciation is provided on assets in the course of construction. Depreciation is charged from the date on which the asset becomes operational

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The North side lease was renewed in December 2020 for 25 years and the South site lease for a term of 99 years. The Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such, follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required Scientific programme, which, in the Trustee Directors view, is highly unlikely.

Individual freehold and leasehold properties at the Pirbright site were revalued to fair value upon transition to FRS 102 (1 April 2014) with the surplus on book value being transferred to the revaluation reserve. The fair value at the transition date was recognised as the deemed cost of the assets.

INVESTMENT PROPERTY

Investment property is included in the balance sheet at fair market value in accordance with FRS102 and, as such, no depreciation is charged in the year. Gains or losses arising from the revaluation are credited or charged respectively to the SOFA under net gains/(losses) on investments.

LEASED ASSETS

Rentals payable under operating leases are charged to the SOFA on a straight-line basis over the lease term.

Assets acquired under finance leases are capitalised as tangible fixed assets and depreciated over their useful lives. Finance charges and interest are taken to the SOFA in proportion to the remaining balance of capital repayments or net obligations outstanding.

Lease obligations on investment properties are treated as finance leases. The lease obligation is quantified at the point of the lease inception or the property becoming an investment property, whichever occurs late, based on the present value of the minimum lease payments, and is included in creditors. Any adjustments to the rent payable under such leases due to periodic rent reviews is considered to be contingent rent. Contingent rent is treated as expenditure as it becomes payable.

STOCK

Laboratory consumables are valued at the lower of cost and net realisable value.

TERM DEPOSITS OVER THREE MONTHS

Cash and terms deposits over three months comprise cash deposits held at the Institute's banks with a maturity of 3 months or more on the date of investment.

DEBTORS

Trade and other debtors are recognised at the settlement amount due after any trade discount offered. Prepayments are valued at the amount prepaid.

CREDITORS AND PROVISIONS

Creditors and provisions are recognised where the Institute has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably. Creditors and provisions are normally recognised at their settlement amount.

FINANCIAL INSTRUMENTS

The Institute only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value.

FOREIGN CURRENCY TRANSLATION

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at the rates of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of the transaction.

STAFF AND PENSION COSTS

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC and deployed back to the Institute.

Following the Transfer of Undertakings (Protection of Employment) exercise as of 1 January 2017, all BBSRC employees are now employed by Pirbright. The Institute therefore retains responsibility for paying employment costs in relation to all such employees, including basic pay and allowances, contractual payments, tax, national insurance, and pension contributions.

Employees engaged prior to April 2015 remain members of the Research Councils' Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer.

The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the Government Actuary's Department on a periodic basis. The cost of providing pension and related benefits is charged to the SOFA. Some payments are to a defined benefit scheme as explained above and in Note 8 but there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

TAXATION

The Pirbright Institute is a registered charity within the meaning of the UK Taxes Acts and is, therefore, eligible to claim exemptions to income tax and capital gains tax.

JUDGEMENTS IN APPLYING ACCOUNTING POLICIES AND KEY SOURCES OF ESTIMATION UNCERTAINTY

Preparation of the financial statements requires the Trustee Directors and senior management to make significant judgements and estimates. The items in the financial statements where these judgements and estimates have been made include depreciation, which has been charged in line with the accounting policy above. The amount of depreciation charged, and net book value of the assets is included in Note 9.

The Institute includes in its financial statements leasehold land and buildings owned by third parties because the Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. These assets are held at their deemed cost, being their fair value at the transition date of FRS 102. The judgements applied and the revaluation adjustments and net book value of the assets is included in Note 9.

NOTES TO THE TRUSTEE DIRECTORS' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2024

1. INCOME FROM CORE STRATEGIC GRANTS

2024
£'000

2023
£'000

BBSRC UKRI - Core Strategic Grant
Resource Contribution Grants

17,539
2,307
19,846

16,163
2,456
18,619

All income from core strategic grants in the current and prior year was restricted.

2. INCOME FROM CHARITABLE ACTIVITIES

2024
£'000

2023
£'000

Grant Income

BBSRC UKRI - Research Grants
BBSRC UKRI - Other Grants
Other Research Grants

3,189
3,752
14,433
21,374

3,340
9,011
12,662
25,013

Other Charitable Activities

1,566
22,940

1,942
26,955

Income from charitable activities included restricted income from grants of £3,752k (2023:£14,845k)

All other income from charitable activities in the current and prior year was unrestricted.

The analysis by region of funder is set out below:

2024
£'000

2023
£'000

United Kingdom
Europe
North America
Others

17,703
257
4,816
104
22,880

21,638
339
4,304
674
26,955

2. INCOME FROM CHARITABLE ACTIVITIES (continued)

	Unrestricted £'000	Restricted £'000	2024 Total £'000	
Current Year				
Analysis of Grants & Contracts Income				
BBSRC UKRI				
Competitive Project Grants - Research Grants	3,189	-	3,189	
Other Grants	-	3,752	3,752	
Total BBSRC UKRI	3,189	3,752	6,941	
Other				
DEFRA "Umbrella" Commissioned Projects	3,247	-	3,247	
DEFRA Surveillance	3,680	-	3,680	
Other Government Departments	210	-	210	
European Union	-	-	-	
Industry & Levy Boards	987	-	987	
Trusts, Foundations & Charities	529	-	529	
Other Research Income	5,780	-	5,780	
Total Other	14,433	-	14,433	
Total Income Grants & Contracts	17,622	3,752	21,374	
	Unrestricted £'000	Restricted £'000	2023 Total £'000	
Prior Year				
Analysis of Grants & Contracts Income				
BBSRC UKRI				
Competitive Project Grants - Research Grants	3,340	-	3,340	
Other Grants	-	9,011	9,011	
Total BBSRC UKRI	3,340	9,011	12,351	
Other				
DEFRA "Umbrella" Commissioned Projects	2,818	-	2,818	
DEFRA Surveillance	2,752	-	2,752	
Other Government Departments	214	-	214	
European Union	339	-	339	
Industry & Levy Boards	1,561	-	1,561	
Trusts, Foundations & Charities	674	-	674	
Other Research Income	3,470	834	4,304	
Total Other	11,828	834	12,662	
Total Income Grants & Contracts	15,168	9,845	25,013	
Other Income	Unrestricted £'000	Restricted £'000	2024 Total £'000	2023 Total £'000
Royalties	105	-	105	429
Diagnostic Testing	414	-	414	345
Supply of Reagents	157	-	157	325
Patent Reimbursement	119	-	119	254
Commercial Contract Research	99	-	99	141
Restaurant Revenue	105	-	105	88
Training & Lecture Fees	9	-	9	65
Other	558	-	558	295
Total Other Income	1,566	-	1,566	1,942

All other income in 2023 was unrestricted

3. INVESTMENT INCOME

2024
£'000

2023
£'000

Rental Income & Tenant Services	974	968
Bank Interest	909	320
	1,883	1,288

All Investment Income in the current and prior year was unrestricted.

4. ANALYSIS OF EXPENDITURE

Other
Direct Costs
Support Costs
2024
Total
£'000

Staff Costs
£'000

Current Year

Unrestricted Funds

Cost of Raising Funds

- Rental Income & Tenant Services	-	-	352	352
- Investment Management Costs	-	12	12	24

Charitable Expenditure

- Grants for Scientific Research	13,397	8,855	12,481	34,733
- Science Rental Income & Tenant Services	-	-	1,053	1,053
- Other Charitable Activities	-	305	236	541

Total Unrestricted Expenditure **13,397** **9,172** **14,134** **36,703**

Restricted Funds

Cost of Raising Funds

- Rental Income & Tenant Services	-	-	395	395
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Charitable Expenditure

- Grants for Scientific Research	-	-	16,512	16,512
- Science Rental Income & Tenant Services	-	-	1,316	1,316
- Other Charitable Activities	-	-	60	60

Total Restricted Expenditure **-** **-** **18,283** **18,283**

Total Expenditure **13,397** **9,172** **32,417** **54,986**

Included in allocated support costs are staff costs of £5,778k.

4. ANALYSIS OF EXPENDITURE (continued)

	Staff Costs	Other Direct Costs	Allocated Support Costs	2023 Total
	£'000	£'000	£'000	£'000
Prior Year				
Unrestricted Funds				
Cost of Raising Funds				
- Rental Income & Tenant Services	-	-	363	363
- Investment Management Costs	-	12	10	22
Charitable Expenditure				
- Grants for Scientific Research	12,848	8,283	13,489	34,620
- Science Rental Income & Tenant Services	-	-	1,093	1,093
- Other Charitable Activities	-	174	243	417
Total Unrestricted Expenditure	12,848	8,469	15,198	36,515
Restricted Funds				
Cost of Raising Funds				
- Rental Income & Tenant Services	-	-	348	348
Charitable Expenditure				
- Grants for Scientific Research	-	-	12,619	12,619
- Science Rental Income & Tenant Services	-	-	1,065	1,065
- Other Charitable Activities	-	-	55	55
Total Restricted Expenditure	-	-	14,087	14,087
Total Expenditure	12,848	8,469	29,285	50,602

Included in allocated support costs are staff costs of £5,404k.

5. ANALYSIS OF SUPPORT COSTS

	Rental Income & Tenant Services	Investment Management Costs	Grants for Scientific Research	Science Rental Income & Tenant Services	Other Charitable Activities	Total 2024	Basis of Allocation
	£'000	£'000	£'000	£'000	£'000	£'000	
Current year							
Unrestricted Funds							
Premises	189	-	8,117	942	71	9,319	% of floor area
Finance	33	12	727	56	66	894	time spent
Management	22	-	543	9	17	591	time spent
Human Resources	88	-	640	-	25	753	time spent
Information Technology	8	-	1,694	19	28	1,749	time spent
Procurement	9	-	692	26	27	754	time spent
Governance	3	-	68	1	2	74	time spent
	352	12	12,481	1,053	236	14,134	
Restricted Funds							
Depreciation	360	-	10,145	960	60	11,525	
Repairs & maintenance	35	-	6,367	356	-	6,758	
	395	-	16,512	1,316	60	18,283	
Total Support Costs	747	12	28,993	2,369	296	32,417	
	Rental Income & Tenant Services	Investment Management Costs	Grants for Scientific Research	Science Rental Income & Tenant Services	Other Charitable Activities	Total 2023	Basis of Allocation
	£'000	£'000	£'000	£'000	£'000	£'000	
Prior Year							
Unrestricted Funds							
Premises	196	-	8,451	981	74	9,702	% of floor area
Finance	27	10	596	46	54	733	time spent
Management	48	-	1,163	20	36	1,267	time spent
Human Resources	70	-	511	-	21	602	time spent
Information Technology	10	-	2,088	23	34	2,155	time spent
Procurement	7	-	553	21	21	602	time spent
Governance	5	-	127	2	3	137	time spent
	363	10	13,489	1,093	243	15,198	
Restricted Funds							
Depreciation	329	-	9,264	877	55	10,525	
Repairs & maintenance	19	-	3,355	188	-	3,562	
	348	-	12,619	1,065	55	14,087	
Total Support Costs	711	10	26,108	2,158	298	29,285	

6. NET (EXPENDITURE)/INCOME

	2024 £'000	2023 £'000
Net (Expenditure)/Income is stated after charging:		
- Auditors' remuneration		
- Audit Services	77	124
- Non-Audit Services (Taxation Advice)	29	29
- Depreciation	11,525	10,525
- Loss on Foreign Exchange Translations	(173)	64
- Hire of Plant & Machinery	2	39
- Rental of Land & Buildings	55	58

7. REMUNERATION OF THE TRUSTEE DIRECTORS

None (2023:None) of the Trustee Directors received any remuneration from the Pirbright Institute or its' subsidiary, Pirbright Innovations Limited, during the year. Eleven Trustee Directors (2023:Eight Trustee Directors) had travel and subsistence expenses of £3,763 (2023:£2,654) reimbursed in the year.

8. STAFF NUMBERS AND COSTS

The average number of people employed by the Institute during the year, analysed by category, was as follows:

	Number of Employees	
	2024	2023
Office, Management and Estate Support	134	119
Scientific	250	238
Total	384	357

The aggregate payroll costs of these people were as follows :

	2024	2023
	£'000	£'000
Wages & Salaries	14,481	13,754
Social Security Costs	1,691	1,485
Pension Costs	2,428	2,412
Total	18,600	17,651

	2024	2023
	£'000	£'000
Termination Payments		
- Redundancy	-	86
Total	-	86

At 31 March none (2023:None) of these payments were outstanding.

Some employees of the Institute are members of the Research Councils' Pension Schemes (RCPS), which are funded principally through employer and employee contributions. The pension schemes are defined benefit schemes and provide retirement and related benefits on final emoluments, redundancy, capability and ill health. The scheme is administered by the Research Councils' Joint Superannuation Services and the schemes' finances are administered by BBSRC UKRI.

It is an unfunded scheme, there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme. The Institute pays employers' contributions at a percentage of scheme members' pensionable pay and emoluments as assessed by the Government Actuary's Department (GAD) on a periodical basis. The rate for the year was 26 per cent, which was established following GAD's most recent assessment. The pension cost represents contributions payable by the Institute to the scheme and amount to £790,396 (2023: £908,295).

Since April 2015, all new staff are members of The Pirbright Company Pension, a defined contribution scheme administered by Aviva on behalf of the Institute. The Institute contributes 10 per cent of scheme members' pensionable pay and emoluments. The pension cost represent contributions payable by the Institute to the scheme and amount to £1,988,319 (2023:£1,741,530).

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute.

Following the Transfer of Undertakings (Protection of Employment) (TUPE) exercise as of 1 January 2017, all BBSRC employees are now employed by the Institute. The Institute therefore retains responsibility for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the RCPS). The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer. The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the GAD on a periodic basis.

The key management of the Institute comprise the Senior Leadership Board and the Trustee Directors. The total employee benefits (including wages and salaries, employer's national insurance and pension costs) of the key management personnel of the Institute were £612,867 (2023:£549,734).

The number of staff with emoluments greater than £60,000 (excluding pensions costs) was:

	Number of Employees	
	2024	2023
£60,000 - £69,999	16	16
£70,000 - £79,999	11	4
£80,000 - £89,999	3	4
£90,000 - £99,999	1	2
£100,000 - £109,999	3	1
£130,000 - £139,000	1	-
£140,000 - £149,999	-	1

The number of staff earning over £60,000 for whom retirement benefits are accruing under defined benefit schemes amounted to 12 (2023:12) and the amounts paid in the year were £218k (2023:£284k).

9. TANGIBLE FIXED ASSETS

	Land & Buildings £'000	Plant & Machinery £'000	Fixtures & Fittings £'000	Assets Under £'000	Total £'000
Cost/Revaluation					
At 1 April 2023	249,181	32,625	1,283	130,556	413,645
Additions		90	-	8,322	8,412
Transfers	9,986	2,090	-	(12,076)	-
At 31 March 2024	259,167	34,805	1,283	126,802	422,057
Depreciation					
At 1 April 2023	72,834	19,761	1,283	-	93,878
Charge for year					
- Historic	7,317	3,008	-	-	10,325
- Revaluation	1,200	-	-	-	1,200
At 31 March 2024	81,351	22,769	1,283	-	105,403
Net Book Value					
At 31 March 2024	177,816	12,036	-	126,802	316,654
At 31 March 2023	176,347	12,864	-	130,556	319,767

Land and buildings include land with a book value of £12,779k (2023:£13,005k).

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The North Side lease was renewed in December 2020 for 25years and the South Side lease for a term of 99 years. The Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required scientific programme, which, in the Trustee Directors view, is highly unlikely.

The Institute used the option in FRS102 to use fair value at the date of transition to FRS102,(1 April2014), as deemed cost on transition.

GVA Grimley Limited, Chartered Surveyors, and an independent valuer, provided these values through a professional valuation.

The Institute derives a rental income from some of the buildings. This is included in these financial statements, with the leases associated with those buildings classified as investment properties , as per note 10 of these statements.

10. INVESTMENTS & INVESTMENT PROPERTIES

Investment in Subsidiary Undertaking

The Pirbright Institute owns the entire share capital of Pirbright Innovations Limited.

During the year, the subsidiary continued to develop the UK Centre for Veterinary Vaccine Innovation and Manufacturing on the Pirbright site. The Trustee Directors consider that the activities of the subsidiary are not material to the financial position of The Pirbright Institute Group and have therefore elected not to produce consolidated financial statements

	2024 £'000	2023 £'000
The assets and liabilities of the subsidiary were:		
Current Assets		
- Debtors - VAT	8	23
- Debtors - Amounts owed by the Pirbright Institute	133	108
- Cash at Bank	89	35
- Creditors - Trade	(45)	(95)
- Creditors - Accruals	(167)	(61)
- Creditors - Amounts owed to the Pirbright Institute	(16)	(8)
Total Assets less Current Liabilities	2	2
Share Capital	2	2
Reserves	0	0
Total Funds	2	2

Investment in Associated Undertaking

10. INVESTMENTS & INVESTMENT PROPERTIES (Continued)

Investment in Properties	2024 £'000	2023 £'000
The value of Investment Properties were:		
At 1 April 2023	2,150	2,000
Change in valuation in the year	220	150
At 31 March 2024	2,370	2,150

Part of the site in Pirbright is sub let to a third party. In line with FRS102 this lease is therefore recognised as an investment property in these financial statements. The investment property was valued at 31 March 2024 by RICS Registered Valuers from Powis Hughes Ltd. The valuers are not employees or or offices of the Institute.

The valuation has been carried out in accordance with the RICS Valuation - Global Standards 2022 (which incorporate the International Valuation Standards) and FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland on the basis of Fair Value using an Income Approach.

11. STOCKS

	2024 £'000	2023 £'000
Laboratory Consumables	452	187

The Institute's stock consists of laboratory supplies for research purposes.

12. DEBTORS : AMOUNTS FALLING DUE WITHIN ONE YEAR

	2024 £'000	2023 £'000
Trade Debtors	729	901
Prepayments	2,129	1,660
Accrued Income	822	1,654
Other Debtors	1,151	721
	4,831	4,936

13. CREDITORS : AMOUNTS FALLING DUE WITHIN ONE YEAR

	2024 £'000	2023 £'000
Trade Creditors	1,867	2,487
Taxation & Social Security	-	46
Other Creditors	-	12
Accruals	4,217	5,435
Deferred Grant Income	14,573	12,180
	20,657	20,160

14. RECONCILIATION OF MOVEMENT IN ACCRUED & DEFERRED GRANT INCOME

	2024 £'000	2023 £'000
Accrued Income	822	1,654
Deferred Grant Income	(14,573)	(12,180)
	(13,751)	(10,526)
Net Deferred Grant income at the beginning of the year	(10,526)	(4,098)
Research Grant income received during the year	(20,847)	(21,596)
Research Grant income released to the SOFA during the year	17,622	15,168
Net Deferred Grant income at the end of the year	(13,751)	(10,526)

15. FUNDS

Unrestricted Designated Funds

Unrestricted designated funds comprise sums set aside for specific purposes including the acquisition and improvement of science equipment, the support up to three of our early career scientists via strategic career development awards, and funding support the occupation phase of the capital development programme on the Pirbright site. These funds total £2,248k (2023:£1,893k) comprising £8k (2023:£100k) to maintain scientific equipment capability, £613k (2023:Nil) for the career development awards and £1,627k (2023:£1,173k) to support the occupation costs associated with the development programme. The £620k brought forward from last year to support the Pirbright training programme is no longer required and has transferred to the strategic career development awards reserves

Restricted Funds

Restricted funds comprise grants received from funders specifically to be applied in the acquisition or improvement of tangible fixed assets or otherwise applied for such purpose as specified by the grants provided.

	Balance 1 April 2023 £'000	Net Income/ £'000	Transfer between Funds £'000	Balance 31 March 2024 £'000
Current Year				
Unrestricted Funds				
General	7,783	(15,534)	17,744	9,993
Designated	1,893	(98)	453	2,248
Restricted Funds				
Fixed Asset Fund	312,147	(11,474)	1,200	301,873
Fixed Asset Revaluation Fund	13,697	-	(1,200)	12,497
Total	325,844	(11,474)	-	314,370
Other Restricted Funds				
Fixed Asset Project Support Costs	731	(375)	-	356
DP2 Phase Occupation Costs	1,154	(56)	-	1,098
BBSRC UKRI Core Grant Funding	-	17,539	(17,539)	-
Brooksby Support Costs	1,414	(157)	(205)	1,052
BBSRC Supplementary Energy Grant	615	(162)	(453)	-
Investment Property Revaluation	2,150	220	-	2,370
Other	64	0	-	64
Total	341,648	(10,097)	-	331,551
Prior Year				
Unrestricted Funds				
General	7,504	(15,352)	15,263	731
Designated	2,493	(368)	250	1,154
Restricted Funds				
Fixed Asset Fund	317,191	13,394	(342)	1,414
Other Restricted Funds				
Fixed Asset Project Support Costs	539	(346)	538	731
DP2 Phase Occupation Costs	1,025	129	-	1,154
BBSRC UKRI Core Grant Funding	-	16,162	(16,162)	-
Brooksby Support Costs	1,573	(159)	-	1,414
BBSRC Supplementary Energy Grant	-	2,456	(1,841)	615
Investment Property Revaluation	2,000	150	-	2,150
Other	68	-4	-	64
Total	345,238	(3,590)	-	341,648

15. FUNDS (continued)

Fixed Asset Fund	2024 £'000	2023 £'000
Balance brought forward at 1 April 2022	330,243	317,191
Grants Received	9,845	24,904
Depreciation	(10,525)	(9,684)
Revenue Spend	(3,181)	(1,826)
Transfers	(538)	(342)
Balance carried forward at 31 March 2023	325,844	330,243

The Fixed Asset Fund represents funding received from BBSRC, for the past and future acquisition of tangible fixed assets. These assets are built on land that is not owned by The Pirbright Institute. The capital fund has been set up to assist in identifying those funds that are not free funds and it represents the net book value of tangible fixed assets held by the Institute and amounts received for capital but not yet spent.

The unexpended balance of unrestricted designated funds and restricted funds is invested temporarily and appears in the balance sheet under current assets.

Other Restricted Funds

Fixed Asset Project Support Cost grants have been received from BBSRC to provide funding towards support costs and overrun costs relating to the development programme capital projects.

The BBSRC core grant funding is received from BBSRC to ensure that the Institute's facilities are maintained at the necessary cutting-edge high containment level that is essential to provide a national capability.

	Unrestricted General Funds £'000	Restricted Funds BBSRC Core Funding £'000	BBSRC Energy Support £'000	BBSRC Brooksby Support £'000
Transfer between Funds				
Transfer of funds to General Reserves	18,197	17,539	453	205

The transfer of funds during the year are as follows:

In accordance with the original grant offer letter, core funding from BBSRC, is required to be shown as restricted income. The Institute subsequently received confirmation that the income could be applied for general purposes and therefore the transfer of income to unrestricted reserves has been made. Similarly, in accordance with the grant offer letter from BBSRC UKRI, the energy support grant can only be used for excess energy costs and therefore has been treated as restricted income. Of the total award of £2,307k, £1,854k was utilised during the financial year with the outstanding award of £453k being transferred, with approval from BBSRC, to designated reserves where it is included within the fund to support the occupation costs of development on site.

16. ANALYSIS OF NET ASSETS BETWEEN FUNDS

	Investments £'000	Fixed Assets £'000	Net Current Assets £'000	Total £'000
Current Year				
Unrestricted Funds	-	-	12,241	12,241
Restricted Funds				
Fixed Asset Capital Fund	-	301,873	-	301,873
Fixed Asset Revaluation Fund	-	12,497	-	12,497
Investment Property Revaluation Fund	2,370	-	-	2,370
Other Restricted Funds	10	2,284	276	2,570
	2,380	316,654	12,517	331,551
Prior Year				
Unrestricted Funds	-	-	9,676	9,676
Restricted Funds				
Fixed Asset Capital Fund	-	306,070	6,077	312,147
Fixed Asset Revaluation Fund	-	13,697	-	13,697
Investment Property Revaluation Fund	2,150	-	-	2,150
Other Restricted Funds	10	-	3,968	3,978
	2,160	319,767	19,721	341,648

17. FINANCIAL INSTRUMENTS

	2024	2023
	£'000	£'000
Financial assets measured at amortised cost	1,880	1,622
Financial liabilities measured at amortised cost	(1,867)	(2,545)
	13	(923)

Financial assets measured at amortised cost comprise trade debtor, amounts owed by related parties and other debtors.

Financial liabilities measured at amortised cost comprise trade creditors, taxation and social security creditors and other creditors.

18. COMMITMENTS

Capital commitments at the end of the financial year for which no provision has been made:	2024	2023
	£'000	£'000
Authorised but not contracted for	5,009	9,331
Operating lease commitments		
Land & Buildings		
- Within one year	55	58
- In two to five years	220	234
- In over five years	417	248
Plant & Machinery		
- Within one year	8	8

19. CONTINGENT LIABILITIES

There is a contingent liability to account to BBSRC for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent and capital grants in excess of the financing requirements. No such liabilities existed at either 31 March 2024 or 31 March 2023.

20. RELATED PARTY TRANSACTIONS

Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI).

BBSRC UKRI provides substantial funding to the Institute. The Institute is affiliated with BBSRC UKRI along with seven other institutes. Details of grants received from BBSRC UKRI are detailed in Notes 1 and 2. During the year, BBSRC UKRI charged the Institute £Nil (2023: £Nil) for other costs and Engineering and Physical Sciences Research Council UKRI charged the Institute £31k (2023: £42k) for other costs.

Pirbright Innovations Limited

Pirbright Innovations Limited, a wholly owned subsidiary, acts a special purpose vehicle for the Institute with regard to the project of constructing the UK Centre for Veterinary Vaccine Innovation and Manufacturing on the Pirbright Site. During the year, Pirbright Innovations Limited charged the Institute £538k (2023: £292k) for this project. Details of the assets and liabilities of Pirbright Innovations Limited are detailed in Note 10.

REFERENCE AND ADMINISTRATIVE DETAILS

Trustee Directors:

Professor Vincent Emery: Chair
Professor Mike Turner: Deputy Chair
Rona Chester
Jon Coles
Alison Hardy
Dr Paul Logan
Dr Linda Magee OBE
Professor Deenan Pillay
Jane Tirard
Tamsin Webster

Director of the Institute:

Professor Bryan Charleston MRCVS FRS

Company Secretary:

Helen Watts FCA

Registered office of The Pirbright Institute and Pirbright Innovations Limited:

Ash Road, Pirbright, Woking, Surrey GU24 0NF

Auditor:

BDO LLP, 2 City Place, Beehive Ring Road, Gatwick, West Sussex RH6 0PA

Bankers:

Barclays Bank PLC, Wytham Court, 11 West Way, Oxford OX2 0JB
Lloyds Bank PLC, 5 High Street, Swindon SN1 3EN

Solicitors:

Charles Russell Speechlys LLP, 1 London Square, Cross Lanes, Guildford GU1 1UN
Penningtons Manches LLP, 9400 Garsington Road, Oxford Business Park, Oxford OX4 2HN



Dr Marion England checking midge traps
used in bluetongue virus surveillance


THE Pirbright
INSTITUTE
PREVENTING AND CONTROLLING VIRAL DISEASES



Biotechnology and
Biological Sciences
Research Council



[the-pirbright-institute](https://www.pirbright.ac.uk)



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Accounts



ANNUAL REPORT AND ACCOUNTS FOR THE YEAR ENDED 31 MARCH 2023

CHARITABLE OBJECTIVES

THERE ARE THREE REASONS FOR CONTROLLING DISEASES OF ANIMALS:

- the direct impact of the disease on the health and welfare of the animals;
- the indirect impact on human health, welfare and prosperity due to reduced availability of food; and
- finally the spread of infections causing disease from animals to humans (zoonoses).

There is also the added possibility of infections transferring from humans to animals (reverse zoonoses). The World Health Organisation states that zoonoses comprise a large percentage of all newly identified infectious diseases as well as existing infectious diseases of humans.

OUR CHARITABLE OBJECTIVES ARE:

- to conduct and promote scientific research on diseases of animals, including exotic diseases, and to develop appropriate methods for their control, and on matters concerned with animal health, and ancillary thereto, to publish the results of such research; and
- to prepare, edit, print, publish, issue, acquire and circulate any literary works or matters treating of or bearing on the said research work, establish and maintain collections of material, literature and scientific data relating thereto, disseminate information obtained therefrom, and contribute towards the provision of a library or libraries designed to assist such work.



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Front cover: Chicks hatched in our Houghton Facility. A purpose-built animal facility dedicated to the incubation, hatching and rearing of Specific Pathogen Free (SPF) chickens under clean conditions. This type of facility ensures maintenance of disease free status in birds which are used directly in studies or indirectly to support our avian scientists research activities.

Left: Aerial view of The Pirbright Institute.

FOREWORD BY THE CHAIR OF THE BOARD OF TRUSTEE DIRECTORS

As Chair of the Board of Trustee Directors, it is my pleasure to present the Trustees' Report incorporating the Strategic Report for the year 1 April 2022 to 31 March 2023.



THE PIRBRIGHT INSTITUTE AIMS TO PROVIDE THE UK AND INTERNATIONAL COMMUNITY WITH THE CAPABILITY TO PREDICT, DETECT, UNDERSTAND AND RESPOND TO THE THREAT OF SERIOUS VIRAL DISEASES OF LIVESTOCK, AND THEIR SPREAD FROM ANIMALS TO HUMANS. Pirbright's contribution is a critical one both for the UK and globally. The excellent facilities available at Pirbright and the significant continuing investment made by the Biotechnology and Biological Sciences Research Council (BBSRC), part of UKRI, have further strengthened the Institute, allowing world-class science to thrive on the site. The Pirbright Institute has the scientific and support personnel, coupled with the high containment facilities to deliver world-class science to allow it to achieve its strategic aims.

The Pirbright Institute's scientific strategy is underpinned by a series of national and international strategic partnerships, including those with other UKRI-funded institutes. The Institute is also committed to playing a key role in nurturing the next generation of researchers, technical specialists and innovators, and is committed to offering apprenticeship opportunities to strengthen further its own national capability and to contribute to the broader impact that UK science makes nationally and globally.

In the year of the report, The Pirbright Institute has been very successful in securing its next five years of funding through the Institute Assessment Exercise 2022. This provides the core infrastructure support and funds for its flagship scientific programmes to enable the Institute to deliver its scientific strategy over the next five years and will further enhance its place as a national centre of excellence, producing innovative science with a global impact.

Pirbright is committed to acting in a responsible way by reducing its carbon footprint, becoming more efficient in all that it does and respecting the environment. The combined heat and power project has contributed substantially to enhanced energy efficiency on campus, and the Institute has its own Biodiversity Interest Group – staff members who give up their time to improve the wildlife environment on site.

Culturally, the Institute is committed to equality, diversity and inclusivity (ED&I) in all it does and has reenergised this area through a series of new initiatives and committee structures that embed ED&I in all aspects of the Institute, including working to close the gender pay gap and preparing the submission of its renewal application for an Athena SWAN Bronze Award.

As Trustee Directors, we are committed to improving the governance of the Institute and continuing to ensure that we are fully aligned with the Charity Governance Code. We have

continued to implement the action plan developed following our board effectiveness review, conducted in 2020. This has resulted in improved performance in a number of areas, including risk management and identifying opportunities, enhanced engagement with members of staff of Pirbright, with presentations from various internal stakeholders at each Trustee Board meeting, followed by a question-and-answer session, and further diversification of our Board membership. The Trustee Directors also recognise that they have a responsibility to engage with the employees and students who work at the Institute to ensure we understand their concerns and are fully apprised of matters that directly affect them.

The Trustee Directors also recognise our responsibility to ensure the future success of Pirbright. In order to assist in discharging these responsibilities, the Board has three sub-committees: the Finance and Audit Committee, the Risk and Assurance Committee and the Nominations and Governance Committee. In addition, the Trustee Directors has a Scientific Advisory Board, which comprises world-leading scientists from academia and funding agencies. An annual joint meeting between the Trustee Board and the Science Advisory Board provides the opportunity for strategic discussions about the Science Strategy and external factors impacting on its delivery. The joint meeting in 2022 included a specific focus session on ED&I within the Institute.

The ability of the Institute to identify new opportunities to contribute to the control of animal diseases is aptly demonstrated by the launch of the Centre for Veterinary Vaccine Innovation and Manufacturing (CVIM) on the Pirbright site, which has been supported through funds from the Foreign and Commonwealth Development Office, UKRI Biotechnology and Biological Sciences Research Council (BBSRC) and the Bill & Melinda Gates Foundation. Prior to the new building becoming available, research projects are already underway within Pirbright's current facilities to develop and test novel vaccines, thereby contributing to strengthening the UK's own emergency response capacity and capability and bringing about tangible health and economic benefits by focusing on diseases prevalent in low- and middle-income countries.

On behalf of the Board, I am grateful for the commitment and contribution that the Director and indeed all the staff at The Pirbright Institute have made in the last year to ensure its continued success.

PROFESSOR VINCENT EMERY

Chair of Board of Trustee Directors
The Pirbright Institute

REPORT BY THE DIRECTOR & CEO

In 2022-23, we emerged from the Covid pandemic. Some aspects of life started to return to normal, and on the whole, the Institute has been very successful, with a greater awareness of the contribution we can make to One Health.



FOR EXAMPLE, TAKING RESPONSIBILITY TO BRING TOGETHER A UK CONSORTIUM TO STUDY MONKEYPOX AND DEVELOP IMPROVED MEASURES TO DIAGNOSE AND CONTROL THE DISEASE. Importantly, after rigorous external review, we secured our core funding for the next five years, which was a major achievement. The success of our application was underpinned by our strong track record in delivering our science and operations so effectively over the previous five years.

Despite the internal stability, we have been facing major external challenges along with many others, the energy crisis and the cost-of-living crisis, driven in part by the war in Europe and political uncertainty in the UK. These external challenges have made balancing our own finances difficult, but through everyone's efforts and support from BBSRC, we have managed to keep a balanced budget.

I think we are all aware of the changing climate and the extreme weather we have been experiencing, maybe sooner than we were expecting. I also think many of us are asking how we can contribute to controlling global warming, both in our daily lives and through our work. I am sure many of you have heard the arguments about the impact of livestock, particularly of meat, eggs and milk production, on greenhouse gas (GHG) emissions, which contributes to global warming. These are complex issues without a simple solution – many people around the world, particularly in low- and middle-income countries, are dependent on livestock for food, draft power and capital investment. Understanding how the Institute can support global food security and reduce the impact of livestock on climate change were very important considerations in shaping our new strategy. Indeed, in our recent core funding application we defined the major role we play in improving livestock production by controlling disease to reduce GHG production.

Improving animal health monitoring and disease prevention is cited as one of the top four measures that will have the biggest impact contribution to reducing GHG emissions. The other significant measures identified included reducing emissions from agricultural vehicles, breeding selection for reduced GHG production and changes in rice cultivation practices.

During the year, we have made significant progress in delivering new facilities to ensure Pirbright remains at the forefront of research. The Biggs Building was officially opened in February 2023, providing facilities to improve global food security and poultry welfare, including the development of novel vaccines and furthering basic understanding of disease pathogenesis in poultry. Construction of the Brooksby Building continues to move forward, with completion during 2024, and

will provide a novel capability to perform work on animals infected with high-containment pathogens such as foot-and-mouth disease virus and African swine fever virus, as well as pathogens that can spread from livestock to humans, for example, Rift Valley fever virus.

We are implementing an energy saving programme to reduce power consumption on site. It is estimated the site currently uses the same amount of power as 3,500 houses, so there is always room for improvement. The high disease containment facilities are energy hungry, but opportunities have been identified that can significantly reduce this demand. Thinking more long term, increased use of renewable energy is certainly part of the next phase of our development plans.

The second Nurse review of UK scientific research was published in March 2023. This document will potentially have a significant impact on how UK science is managed. In this latest document the role of research institutes, such as Pirbright, are reviewed. Equally importantly, the role of Public Sector Research Establishments (PSRE) and their links to academia are reviewed. Pirbright, through its responsibilities as a national capability work closely with a number of PSREs. Therefore, the outcomes of the report may impact on Pirbright's future role in the UK research community.

Pirbright is in a strong position. We have a robust pipeline of externally funded research, which secures our financial forward plans, and we are controlling effectively the inherent risks of managing a high hazard site. Our success is built on the hard work of our dedicated and professional science and operations staff. Looking to the future, we are optimistic but not complacent.

PROFESSOR BRYAN CHARLESTON FRS

Director & CEO

The Pirbright Institute

ABOUT PIRBRIGHT

Pirbright is a world-leading centre of excellence in research and surveillance of virus diseases of farm animals and viruses that spread from animals to humans. The Institute receives strategic funding from the BBSRC and works to enhance capability to contain, control and eliminate these economically and medically important diseases through highly innovative fundamental and applied bioscience.

OUR PURPOSE

Pirbright's charitable objective is to conduct and promote scientific research on diseases of animals, including exotic diseases, and to develop appropriate methods for their control.

OUR MISSION

The Institute's mission is to be the world's leading innovative centre for preventing and controlling viral diseases of livestock.

OUR VISION

The vision of Pirbright is to apply scientific research to prevent and control viral diseases, protecting animal and human health and the economy.

The Pirbright Institute Science Strategy can be found on the Institute's website: pirbright.ac.uk

OUR STAFF AND STUDENTS

Pirbright employs around 400 staff, with its research supported by over 50 students from a range of backgrounds, and prides itself on its diversity. The Institute is based on a campus site in Pirbright in Surrey.

OUR VALUES

The staff and students working at the Institute take **PRIDE** in everything we do, which is reflected in our values:

Passion – for the highest-quality standards, delivery and performance.

Reliability – in everything we do: leadership, learning, biosecurity, problem anticipation and containment of unexpected events.

Innovation – is the driving force behind our fundamental and applied science. Our work is positioned at the cutting edge of science to deliver solutions for global good.

Dignity and respect – we respect and trust all in our diverse community.

Excellence – we aim to deliver the best in all aspects of our work, including health, safety, biosafety, scientific research, customer service and protecting the environment.

OUR SCIENCE

Pirbright provides national and international capacity to predict, detect, understand and respond to emerging new viral diseases of livestock and endemic viruses that are circulating in and outside of the UK.

Our diagnostics, surveillance facilities and expertise enable us to act as a national capability, protecting the UK from livestock viral diseases that threaten our borders, allowing us to act decisively and swiftly in the event of an outbreak in order to control it as rapidly as possible. Our fundamental research falls under two science programmes, which study either hosts or viruses and their interactions.

PROGRAMME ONE: UNDERSTANDING AND PREVENTING VIRAL DISEASES

Pirbright's research programme focusing on viruses is led by Dr Toby Tuthill and covers:

- How viruses evolve and their diversity.
- Viral structure and interactions with host proteins.
- Transmission and epidemiology, which encompasses spread of infection between individuals and populations, as well as predicting the scale of outbreaks.
- Designing and evaluating appropriate interventions to control outbreaks.
- The programme aims to understand at a molecular and cellular level the structure and systems used by viruses that allow them to infect, replicate and transmit. This knowledge will then be used to prevent and control viral diseases, especially highly infectious diseases that must be studied under high containment. Priority viruses we are studying include African swine fever virus, avian and swine influenza viruses, bluetongue virus, respiratory syncytial virus, coronaviruses including SARS-CoV-2 and infectious bronchitis virus, foot-and-mouth disease virus, infectious bursal disease virus, Marek's disease virus, porcine reproductive and respiratory syndrome virus, pox viruses and mosquito-borne arboviruses.

PROGRAMME TWO: ENHANCING HOST RESPONSES FOR DISEASE

Pirbright's host programme is led by Professor John Hammond and it focuses on four broad areas of research around livestock hosts and insect vectors:

- Disease pathogenesis
- Recognition and control of virus infections
- Viral persistence
- Viral transmission by insect vectors
- The goal of the research is to develop innovative methods for the control of viral diseases through an enhanced understanding of host biology and host-virus interactions. Tools and disciplines that enable better understanding of the host-virus relationship include immunology, genetics, bioinformatics, entomology and vaccinology.

2022-2023 was the final year of the programmes as outlined above. Renewal of these strategic programmes for a further five years of support (2023-2028) was a key activity for the Institute in 2022. Application to UKRI BBSRC for continued strategic investment was carried out through the Institute Assessment Exercise (IAE) 2022.

DIAGNOSTIC AND SURVEILLANCE EXPERTISE

Pirbright has a long history of protecting the UK from disease and has been home to the World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) for over 60 years. We also operate the Non-Vesicular Reference Laboratory for a number of high-consequence diseases of growing importance, including African swine fever virus, bluetongue, peste des petits ruminants, rinderpest, African horse sickness, lumpy skin disease, sheep pox and goat pox. These laboratories provide an essential diagnostic and advice service to the UK Government Department for Environment, Food & Rural Affairs (Defra), United Nations Food and Agriculture Organization (FAO), and the World Organisation for Animal Health (WOAH).

These laboratories receive samples from all over the world and are instrumental in providing countries with sophisticated data on strains of viruses causing disease and helping to select vaccines to aid control. During 2022-23, the Pirbright laboratories processed 16,631 samples.

The international reference laboratories are accredited to ISO/IEC 17025, an UKAS-accredited laboratory number 4025. In 2022-23, this accreditation was renewed following a successful assessment by UKAS.

PIRBRIGHT SCIENCE HIGHLIGHTS 2022/23

The scientific progress outlined in this report focuses on our research into viruses affecting livestock and zoonotic viruses, which have implications for animal and human health, as well as food and economic security worldwide. Our advancements in research, vaccine development and diagnostic tests contribute to global preparedness in combating viral outbreaks through prevention and control. For more information, please visit pirbright.co.uk to explore our latest findings.

PIG CORONAVIRUS RESEARCH SHEDS LIGHT ON COVID-19 IN HUMANS

A pig respiratory coronavirus (PRCV) model has been developed to understand how coronaviruses cause disease and understand the immune system's response. Pigs are ideal for modelling human disease as their size and immune systems are similar to humans, and they are naturally infected with PRCV. The research will help to understand what factors cause mild or severe disease and inform the development of control strategies for emerging livestock and human coronaviruses. The study found that viruses that replicated in the lungs caused more severe disease and all virus strains multiplied in the upper respiratory tract and nose, similar to SARS-CoV-2.

TAKING SCIENCE BEYOND THE LABORATORY IN NIGERIA

Researchers from Pirbright and the Royal Veterinary College (RVC) worked with scientists, farmers and policymakers in Nigeria to prevent and control sheepox and goatpox (SGP). These viral diseases spread quickly and can cause multiple necrotic skin lesions, weight loss, and decreased wool and cashmere production, with a mortality rate of up to 40 per cent. Researchers collected data on risk factors associated with the disease, including herd sizes, grazing areas, disease history and coping strategies. The team developed an SGP Cost and Vaccination Calculator, an online tool to help farmers estimate the cost-effectiveness of vaccinating their animals. Results showed vaccination was economically viable at herd and regional level.

NEW INSIGHTS INTO FOOT-AND-MOUTH DISEASE VIRUS AND IMMUNE SYSTEM INTERACTION

Pirbright scientists have made a breakthrough discovery regarding the foot-and-mouth disease virus (FMDV). They have found that the virus interacts with immune cells in lymphoid tissues, which enables it to persist in animals and poses a threat to vulnerable livestock. This research helps bridge the knowledge gap of how the immune system deals with FMDV in large animals, potentially providing insight into how to create vaccines that give long-lasting immunity. The current vaccines only provide short-term protection. Understanding the immune response to FMDV may lead to the development of longer-lasting vaccines that would benefit farmers whose livelihoods depend on their herds.

CELEBRATING STUDENT SUCCESS

The Institute held its Student Day in person for the first time since 2019, where PhD students shared their projects and progress. The event opened with a welcome from Institute Director, Professor Bryan Charleston, followed by talks from third-year PhD students, and included poster displays by second-year students. First-year students also attended to get a glimpse of the journey ahead. The event was well attended by researchers, PhD, Masters and placement students and concluded with an awards ceremony, celebrating the presentations, posters and contributions of the students.

A NEW APPROACH FOR CREATING VACCINES AGAINST INFECTIOUS BRONCHITIS VIRUS EXPLORED

A potential vaccine for infectious bronchitis virus (IBV) in chickens that could provide 100 per cent protection from disease with just one dose is being developed at Pirbright. Previous research conducted at the Institute identified important targets in the virus genome that could be investigated to create safer vaccines. The research aimed to explore these targets and understand the mechanisms of weakening a virus to create a vaccine, a process known as attenuation. Scientists discovered that attenuation of IBV was caused by changes located in non-structural proteins, and that two specific amino acids were responsible for this change. The study opens opportunities to create innovative vaccines that could be effective against many strains of IBV and potentially reveals ways to create vaccines for other viruses in the coronavirus family.

UK EXPERTS JOIN FORCES WITH PIRBRIGHT TO TACKLE AVIAN FLU

A new research consortium, supported by £1.5m funding from BBSRC and the Department for Environment, Food & Rural Affairs, is to tackle bird flu outbreaks. The consortium, which includes researchers from Pirbright, aims to develop strategies to control the spread of the virus, monitor current flu strains and understand how the disease spreads among bird populations. Researchers will develop models to predict the virus's spread and inform strategies to decrease risk of transmission to humans. Bird flu outbreaks have a significant impact on the UK poultry industry, and it is hoped this collaboration will find solutions to the issue.

NEW CONSORTIUM FORMED TO RESEARCH MPOX WITH PIRBRIGHT AS A LEADING PARTNER

The Pirbright Institute is a leading partner in a new mpox consortium made up of 25 researchers and scientists from 12 UK institutions. The group will focus on developing new diagnostic tests, identifying potential therapies, and studying vaccine effectiveness and the virus's spread. The consortium has received £2 million investment from BBSRC and the Medical Research Council. Researchers will work closely with experts at the Animal & Plant Health Agency, UK Health Security Agency and Defence Science and Technology Laboratory to study the mpox outbreak and inform the public health response in the UK and internationally.

PROFESSOR MELANIE WELHAM OFFICIALLY OPENS THE BIGGS AVIAN RESEARCH BUILDING

Professor Melanie Welham, Executive Chair, BBSRC, officially opened the Biggs Avian Research Building, part of a £350m investment from the BBSRC, part of UK Research and Innovation (UKRI) is making on the Pirbright site. The new facility will expand the Institute's research capacity into infectious diseases of poultry, with a focus on improving the health and welfare of birds, as well as protecting global food security. The building features a bespoke LED lighting system designed to give birds a natural dawn-to-dusk cycle to maximise their welfare. The facility is named after Professor Peter Biggs, a pioneer of herpesvirus research.

NEW DISCOVERIES MADE ON HOW CHICKENS COMBAT MAREK'S DISEASE

Differences in the immune response of chickens that are resistant to Marek's disease have been identified, which could pave the way for more effective vaccines against the disease. In a recent study, researchers found that T cells in resistant chickens produce more IL-2 and IL-4 in response to the virus than those that are susceptible to the disease, suggesting these cytokines play an important role in protecting poultry from Marek's disease. The study also revealed that T cells in resistant chickens produce more granzyme B and perforin, proteins associated with killing infected cells, which could explain resistance to the disease.



Professor Melanie Welham, Executive Chair, BBSRC officially opens the Biggs Avian Research Building, accompanied by Professor Bryan Charleston FRS.

NOVEL TECHNIQUES AND RESOURCES CREATED FOR EXPLORING DIFFERENT STRAINS OF INFECTIOUS BURSA DISEASE VIRUS

New lab techniques have been developed to determine the breadth of immune responses produced by vaccines against different variants of infectious bursal disease virus (IBDV). Researchers used the new 'reverse genetics' technique to engineer artificial IBDV strains that mimic IBDV variants from different countries, as it can be challenging to obtain them from different regions. A new study found that the European vaccine against IBDV produced strong responses against UK and European strains but weaker responses against some of the variants from other countries, indicating the need to develop a vaccine that protects against all the variants.

NEW UK CENTRE FOR VETERINARY VACCINE INNOVATION AND MANUFACTURING SET TO IMPROVE GLOBAL ANIMAL HEALTH

BBSRC and the Foreign, Commonwealth & Development Office (FCDO), along with the Bill & Melinda Gates Foundation, have launched a new Centre for Veterinary Vaccine Innovation and Manufacturing (CVIM) at The Pirbright Institute. CVIM will focus on developing animal vaccines to combat emerging and urgent infectious diseases. Livestock disease poses a real threat to global food security, international trade and human health, as some diseases have the potential to become pandemics. The £40m initiative aims to strengthen the UK's emergency response capacity, as well as support low- and middle-income countries by addressing diseases prevalent in those regions. The centre will work towards bridging the gap between research and commercial development of vaccines, as well as addressing niche markets. It will support manufacturing innovation to reduce costs, scale production and accelerate the development of animal and human vaccines. CVIM will also establish the utility of novel vaccine platform technologies for neglected livestock diseases and rapid response to emerging zoonotic diseases.

REPRODIVAC: DEVELOPING NEXT-GENERATION VACCINES TO PREVENT GLOBAL LIVESTOCK REPRODUCTIVE DISEASES OF WORLDWIDE IMPACT

The Pirbright Institute, in collaboration with 15 other partners across seven European countries, has secured funding from the UKRI Horizon Europe Guarantee Scheme to develop innovative vaccines and diagnostics for livestock reproductive diseases. The funding will focus on four of the most economically important infectious diseases affecting pigs, sheep and goats, including porcine reproductive and respiratory syndrome (PRRS). Pirbright will lead on PRRS activity to develop new vaccines and enhance current diagnostic tests. The Institute will use 'structural vaccinology' to develop a broadly protective PRRSV vaccine, which will isolate naturally occurring porcine antibodies capable of broadly neutralising PRRSV.

FINANCIAL REVIEW OF THE YEAR

The financial year under review was the last year of six years of flat funding from BBSRC and, as such, was particularly challenging when combined with high energy costs and inflation rising significantly during the year.

Also, the depreciation charge associated with the substantial capital projects on site over the last few years exceeded capital funding for development in the year, putting the financial performance in the year under further strain. Despite additional support from BBSRC to ease the pressure of excess energy costs, and continued stringent financial control, the impact of these pressures has resulted in a deficit of £3.6m being achieved in the year.

INCOME

Total income amounted to £46.9m (2022: £59.1m), this reduction arising from a lower level of funding for the capital development of the site as the current phase reaches completion. Investment in tangible fixed assets in the year totalled £12.1m (2022: £32.7m). This was funded by grants from the Institute's principal sponsor, BBSRC, Defra and other grant-awarding bodies.

EXPENDITURE

Expenditure undertaken to support continuing activities in the year amounted to £50.6m (2022: £46.5m).

Staff costs are the Institute's most significant expenditure accounting for £17.7m (35 per cent of expenditure) in the year (2022: £17.9m, 39 per cent of expenditure). The reduction in staff costs from 2022 results from high levels of vacancies during the year, with staff recruitment and staff retention continuing to be challenging in the post-Brexit, post-Covid era. As experienced by many other organisations in the UK, both Brexit and Covid have caused staff members to reevaluate where they want to live and what they want to do, with a number also leaving as a result of the opportunities afforded to them by the very competitive labour market in the UK.

Energy costs are also very significant to Pirbright, with the site requiring power equivalent to 3,500 homes to maintain containments of the facilities on site. Costs were maintained to the level seen in the previous financial year as a result of additional funding from BBSRC of £2.5m (2022: nil).

GRANT PROPOSALS

The Institute continues to achieve notable success with scientific grant applications. During the year, Pirbright researchers submitted grant proposals with a sponsor value of £16.5m (2022: £20.8m) and were awarded grants with a value of £9.5m (2022: £7.5m). This excludes the grants associated with the new UK Centre for Veterinary Vaccine Innovation and Manufacturing (CVIM) being set up on the Pirbright site. The awarded value of the grants totalled c.£44.4m in the year.

CASH AND TERM DEPOSITS

Cash and term deposits at 31 March 2023 were £34.8m (2022: £34.5m), a small increase of £0.2m in the year, with cash received in advance to support science balancing the funds used to support the capital development on site. Pirbright deposits its cash with UK-registered financial institutions in accordance with the Institute's investment policy. Investment income from cash deposits in the year was £0.3m (2022: £0.1m), an increase in the year reflecting the rising interest rates.

NET MOVEMENT IN RESERVES

Pirbright has three categories of reserves: restricted reserves, which represent monies previously provided by BBSRC to support development activity and business cases together with the assets developed with previously awarded funds; designated reserves, which represent monies previously agreed by the Trustee Directors for specific projects; and general reserves. During the year, total reserves decreased from £345.2m to £341.6m, a decrease of £3.6m (2022: £14.6m).

The Pirbright Institute recorded a net increase in general reserves of £0.4m (2022: £0.1m), a net decrease in designated reserves of £0.5m (2022: £0.1m) and a net decrease in restricted reserves of £3.5m (2022: £14.8m).

The decrease in restricted reserves was specifically in the Fixed Asset Fund as development of the Pirbright site continues under the Master Plan, with depreciation now being incurred on buildings coming online exceeding new funding as the second phase of the Plan nears completion. The Fixed Asset Fund reserves fell by £4.4m (2022: £13.0m). During the year, science commenced in the Biggs Avian Research Building. This facility will increase the Institute's capacity to undertake research into infectious diseases of poultry, in both endemic and exotic diseases. Construction of the Brooksby Building continued. The Brooksby Building will be a self-contained, stand-alone, large animal experimental facility designated to accommodate 'in vivo' studies involving 'high containment' pathogens of livestock, such as foot-and-mouth disease virus (FMDV), as well as pathogens that can spread from livestock to humans.

RESERVES POLICY

Unrestricted funds

It is the policy of the Trustee Directors to ensure the General Fund in the unrestricted reserves is maintained above £7.5m. This will enable the Institute to manage fluctuations in income and unforeseen cost pressures, as well as provide cover for the redundancy liabilities taken over from BBSRC when the staff of the Institute were transferred to the Institute in January 2017 under a transfer of undertakings (protection of employment) exercise.

At 31 March 2023 unrestricted general reserves were £7.8m (2022: £7.4m).

Designated funds

Designated funds have been set aside by the Trustee Directors for specific purposes to support the purchase of science equipment, to provide additional scientific staff, to support the training and learning programme, which shares Pirbright's expertise, and to provide funding for various small-capital projects.

Restricted funds

The Institute has been undertaking a significant building programme within the Pirbright site for which funding has been received from BBSRC UKRI. The funding of this programme is via grants, which are held within the restricted funds; the total fund value is £325.8m (2022: £330.2m). This funding is solely and specifically granted for the purpose of the building programme, hence the inclusion within the restricted fund. This represents the value of the buildings that have already been constructed.

Pirbright also has a number of smaller restricted funds, which are held to support the capital development programme, support the running costs associated with the Brooksby Building prior to practical completion and the revaluation of the investment property.

Full details of all reserves and movements in the year can be found at Note 15 to the Financial Statements.

FUNDRAISING ACTIVITIES

Section 162a of the Charities Act 2011 requires charities to make a statement regarding fundraising activities. Although the Institute does not undertake direct fundraising from the general public, with the legislation defining fundraising as "soliciting or otherwise procuring money or other property for charitable purposes", we have to disclose the value of such income in the year. We have received no such income during the current or previous financial year and have consequently received no complaints in respect of our fundraising activities.

PIRBRIGHT'S PERFORMANCE 2022/23

PIRBRIGHT'S PRINCIPAL OBJECTIVES

- To continue a world-leading research programme publishing groundbreaking scientific research, winning research funding and recruiting and retaining the brightest and the best staff and students.
- To develop further the Pirbright long-term vision of scientific research, with impact in enhancing our collaborations with agencies to improve disease control in low- and middle-income countries.
- To continue to implement the fully funded development programme to provide additional animal research facilities for the study of high consequence pathogens. These facilities will further enhance Pirbright as a unique National and International capability.
- To develop strong strategic collaborations with other global centres of excellence to support the Institute Strategic Programme grants.
- To diversify our funding through greater collaboration with international partners via various new funding opportunities.
- To maintain high containment infrastructure, to manage the safety, security, environment and quality risks from our work with high consequence pathogens, and to provide training and expertise to external partners in these areas.



PIRBRIGHT'S KEY PERFORMANCE INDICATORS (KPIs)

- Publications in relevant scientific journals, with a benchmark of one paper per postdoctoral scientist a year.
- Success rates for research grant proposals over the next five years: 35 per cent in terms of successful applications and 30 per cent in terms of value of the awards.
- Recruitment and the retention of high-quality staff and students: to achieve less than 15 per cent annual staff turnover within five years.
- Annual research income of at least £11 million externally won funding each year over the next five years.
- Compliance with all statutory requirements as a major hazard site, close cooperation with regulators and conformity to applicable standards such as ISO/IEC17025.

OUR PERFORMANCE AGAINST OUR KPIs

- We published 137 papers in a range of high-impact journals achieving an average of 1.0 publication per postdoctoral scientist in the year.
- We achieved 57 per cent successful grant applications and 56 per cent in terms of value of the awards against significant UK and international competition.
- At the end of March 2023, the rolling annual average voluntary staff turnover figure was 22.6 per cent, significantly higher than the 15 per cent target. However, this is in line with national voluntary staff turnover rates, which are raised due to high levels of employment and individuals reassessing their lifestyle following the COVID-19 pandemic.
- The annual grant income for 2022-23 was £15.2m, exceeding the £11m target by 38 per cent.
- Pirbright is subject to a HSE Major Hazard Intervention Plan comprising a minimum of three scheduled HSE inspections each year to monitor compliance with its licence under the Specified Animals Pathogen Order 2008 (SAPO) and with regulations under the Health & Safety at Work etc Act 1974.

No improvement notices were issued by HSE (or any other regulatory authority) against Pirbright in the year. One enforcement letter was issued by HSE against Pirbright in relation to the planned intervention inspection on electrical power systems (a letter sets out actions and deadlines but is a lower level of enforcement than a notice, and does not appear on the public record, but non-compliance would lead to a notice and is disclosable by FOI requests to HSE). We are in the process of complying with the actions stipulated in the letter.

- Pirbright Reference Laboratories & Disinfectant Testing are accredited to ISO/IEC 17025, and thus subject to an annual surveillance audit by UKAS. Accreditation has been successfully maintained for 2023-24, with just two minor improvement actions. No other enforcement action was taken against the Institute during the year by any other regulatory or audit body on any aspect of biorisk, animal scientific procedures regulation, health and safety, security, environment, quality or wider compliance.

DELIVERING THE BBSRC INSTITUTE STRATEGY

The BBSRC Institute Strategy, published in July 2021, sets out BBSRC's approach to supporting and working in partnership with the institutes it strategically funds.

The strategy outlines three themes, which underpin the principles of its strategic investment:

- Capability
- Connectivity
- Culture

To support this Pirbright has established a range of additional activities structured around these three themes to help deliver the strategy.

CAPABILITY

Following the BBSRC data intensive bioscience review, it has been widely recognised that big data is now both pervasive and essential to deepen our understanding of biological systems. To enhance our capability in the area of big data, three staff have been recruited, two at group leader equivalent (Head of Computational Biology and Head of Genomics) and one at senior postdoc equivalent (Bioinformatician). The role of these staff is to curate both existing and new datasets produced by our scientists, international reference laboratories and collaborators. Data cleansing, file format and structure management alongside combining different enabling transformative technologies are critical first steps to analysing datasets. This process allows us to build in silico biological systems and develop hypotheses as part of the iterative cycle of experimentation and modelling to describe complex biological systems. Furthermore, these expert staff are working closely with our strategic partners at the University of Surrey, specifically the newly established Institute for People-Centred Artificial Intelligence, to enhance our analytical capabilities and maximise the value of our data.

CONNECTIVITY

Establishing collaborative links with the Babraham Institute has been a key priority for Pirbright. It was recognised that there was increased scope to deepen the connections and the complementary expertise of researchers at both institutes. Collaborative studies in immunology during the SARS-CoV-2 pandemic highlighted benefits in joint research and activities between the two organisations, and a strategically important opportunity to improve further our understanding of complex biological processes was identified. This has been based on Babraham's expertise and knowledge of human and murine immunology, where there are well-developed and plentiful tools and resources, in contrast to livestock species. Knowledge from these better-characterised systems can be applied to models of interest and relevance to Pirbright science, in particular supporting our work to advance our analyses of immune

responses in pigs and other livestock species and in the cell biology of the host: virus interactions to improve both animal health and human health.

Seven projects, with a combination of 17 different principal and co-investigators across both institutes, were supported with pump-priming funds. Supported projects had high strategic relevance to both institutes and were required to demonstrate a clear route to further funding to sustain the collaboration(s).

CULTURE

The Institute's reinvigorated Equality, Diversity and Inclusion (EDI) Committee prioritised a number of activities to support continual improvement of a positive research institute culture. This includes supporting a range of networks, for example, the recently established Early Careers Forum (ECF). The ECF brings together early-career scientists and operational staff to network and discuss topics such as professional development and careers advice, and to share knowledge and experience. The forum facilitates enhanced communication and enables early-career staff to speak with 'one voice' when actively engaging with internal and external parties to discuss and improve early-career challenges.

This year, we have also worked with our EDI partner, ENEI (Employers Network for Equality & Inclusion), to roll out enhanced EDI training to all of our managers and supervisors. This training aimed to support our leaders to create working environments and cultures where every individual in all teams can feel safe, a sense of belonging and empowerment to achieve their full potential.

In addition, to recognise and value the contributions of all staff and students at Pirbright, a two-day celebration event took place at the end of March. The event provided an opportunity for staff and students to showcase their achievements and to highlight the diverse range of skills, experience and capabilities across Pirbright. The event was a real celebration of the Institute's success. It was also a fantastic opportunity for connection across the Pirbright community and provided a chance to further promote a positive work environment where everyone's role and contribution is acknowledged and appreciated.

STAKEHOLDER ENGAGEMENT – SECTION 172 STATEMENT

The Trustee Directors consider that the decisions they have made during the financial year have satisfied the requirements of S172(1) of the Companies Act 2006 and they have acted in good faith to promote the success of the Institute, and in doing so, have taken into account the stakeholders and matters outlined in S172(1).

The Board of Trustee Directors has the ultimate responsibility for the Institute and delivery of its charitable objectives.

Key decisions made by the Trustee Directors during the year included:

- Agreement of the scientific strategy that was fundamental to the Institute's submission for the next round of core funding from BBSRC. This strategy was formulated in consultation with the Institute's major funder, BBSRC, and was developed to align with the BBSRC Institute Strategy, more details of which can be

found on page 13. The Trustee Directors also provided input into all documentation submitted for this award and attended the interviews at which the strategy and the operational approach was questioned by an expert panel on behalf of BBSRC.

- Approval of the development of the UK Centre for Veterinary Vaccine Innovation and Manufacturing on the Pirbright site after consultation with the three funders of this project, BBSRC, the Bill & Melinda Gates Foundation and the Foreign, Commonwealth & Development Office.

THE TABLE BELOW SETS OUT PIRBRIGHT'S SIGNIFICANT STAKEHOLDERS.

	HOW WE ENGAGE
Employees	Employee engagement forms a central part of the Institute's strategy. We employ a variety of ways to communicate with our staff and students in a dialogue so we can also gain feedback. Communication channels include a monthly e-newsletter, intranet, forums, staff briefings, surveys, digital screens, internal seminars, blogs and workshops. Further information about our employees can be found on page 22.
Students	Pirbright has a vibrant student community, and we are committed to supporting, nurturing and offering additional learning and training opportunities to them. Find out more on page 23.
Funders	We engage with funders at all stages of the funding process and have regular dialogue and face-to-face meetings with our key investors. Please see page 25 for more information.
Research organisations & partners	Pirbright undertakes numerous collaborations with universities, research institutes and disease-control agencies around the world. More details are given on page 16.
Pharma	Partnerships with pharmaceutical companies are essential for the development of vaccines, diagnostics and medicines. Find out more on page 16.
Farmers	We engage with the farming community through specialist farming press, through farming organisations and bodies and media outlets, including BBC World Service and BBC Radio 4 Farming Today, as well as at agricultural events.
Regulators & government	As a major hazard site, Pirbright works closely with the Health & Safety Executive (HSE), counter-terrorism security authorities, the Home Office and other regulators. As a national capability for the prevention and control of exotic viral diseases of livestock, Pirbright works closely with Defra, BBSRC UKRI and others. As the World Reference Laboratory for certain pathogens and a regional Reference Laboratory for others, Pirbright works closely with the UN Food & Agriculture Organization (FAO) and World Organisation for Animal Health (WOAH). As an ISO/IEC 17025-accredited testing laboratory, Pirbright works with the UK Accreditation Service (UKAS). See page 18 for more details.
Public	We engage with the public through our outreach and public engagement programmes. Please see page 15 for more information.
Local community	Our neighbours are extremely important to us and we engage by supporting the local community in a number of ways, including sponsoring local events, volunteering in local conservation initiatives such as Fox Corner Conservation and engaging with the parish, borough and county councils over development on our campus. Our scientists also visit local schools and colleges – more information can be found on page 15.
Suppliers	One of the ways we engage with our suppliers is through Supplier Days held several times a year at Pirbright. However, due to the effects of the pandemic, this was not possible in 2022-23 but digital engagement continued throughout the year. The first in-person Supplier Day has been planned for summer 2023.

ENGAGING WITH THE PUBLIC

Researchers and operations staff at Pirbright are dedicated to public engagement, actively interacting with various audiences such as schools, students, farmers and the general public. In the 2022-23 period, the communications team participated in eight face-to-face public-engagement activities, inspiring young scientists at career events and engaging with the public at local fairs and the Royal Society Summer Science Exhibition.

ROYAL SOCIETY SUMMER SCIENCE EXHIBITION

The Pirbright Institute attended the prestigious Royal Society Summer Science Exhibition in July 2022. The Institute was one of only 16 exhibitors selected to attend. The five-day exhibition was open during the week for visiting school groups, and then doors were opened to the general public over the weekend. VIP guests and Fellows of the Royal Society were invited to explore the exhibits at mid-week evening black-tie Soirées.

We showcased our newest interactive exhibit Disease Detectives, which demonstrates the role of scientists in identifying and preventing emerging diseases. The exhibit highlights the spread of diseases, particularly those like Covid-19, and the factors contributing to their emergence. Users simulate playing a crucial role in detecting outbreaks, understanding their origins, predicting their spread and developing strategies to stop them, much like our researchers do every day. By collecting data and solving scientific clues, Disease Detectives are at the forefront of combating deadly diseases worldwide.

The Royal Society recorded 5,600 members of the public, in addition to 700 students, visiting across the five-day exhibition. Over 50 Pirbright staff and students volunteered to help make this event a success, sharing the work of the Institute and inspiring future generations of scientists.



Pirbright researchers demonstrating our 'Bug Busters' and 'Disease Detectives' interactive exhibits at The Royal Society Summer Science Exhibition 2022.



Escaping Dr Zoo's Travelling Science Lab!

SUPPORTING OLD AND NEW VOLUNTEERS

The success of Pirbright's engagement programme relies on the contribution of its dedicated volunteers. Training is crucial for supporting both staff and students, as well as attracting potential volunteers.

This past year, the Institute has had approximately 50 science, technology, engineering and mathematics (STEM) ambassadors. We actively encourage participation in the STEM Learning network, connecting schools with STEM ambassadors who volunteer their expertise for talks and events. Additionally, we provide specialised training for PhD and placement students to enhance their understanding of engagement and equip them with the necessary communication skills to interact effectively with the public.

INSPIRING FUTURE SCIENTISTS

Throughout this challenging year, Pirbright volunteers have continued to attend virtual careers events through online talks and mentoring, videos, blogs and virtual fairs, helping us to inspire more students from a wider range of backgrounds to consider scientific careers than was previously possible via face-to-face interactions. Towards the end of 2022, volunteers from our staff attended 11 external events, including fairs, lectures and workshops.



Inspiring the next generation of scientists and engineers using our virtual reality experiences.

COLLABORATIONS AND NETWORKS

Pirbright works with many different external collaborators from academia, industry and non-profit organisations. In the 2022-23 financial year, we entered into 32 new collaboration agreements with 41 organisations based in ten countries.

Of the 41 organisations, 23 were academic, 6 commercial and 12 public. These collaboration agreements reflect new research projects with external partners, including universities in the UK and abroad, multinational pharmaceutical companies and research institutes with an interest in animal health or zoonoses. Our research collaborations include projects related to rapid responses to avian flu and monkeypox, development of potential vaccines candidates in partnership with industry, and evaluating a solid-dose vaccine delivery system to enhance vaccine stability among others.

We have ongoing collaborations with existing commercial partners in a variety of projects. We are evaluating the potential of a Pirbright patented technology to improve the yield of viral vaccines in avian cells alongside partners in Vietnam, Egypt and South Africa. We are developing avian vaccines that could protect poultry against multiple diseases, including Marek's disease, Newcastle disease and infectious bursal disease. We are collaborating with pharmaceutical manufacturers to develop vaccines to protect against African swine fever, a devastating disease of pigs that is spreading globally. We collaborated with a European company to develop and test a now-patented antiviral treatment, effective against African swine fever, that may be essential in controlling an outbreak of the disease. Also, we are collaborating with a UK philanthropic organisation to develop and distribute point-of-care diagnostic and other assays to low- and middle-income countries, among others.

We also entered into 25 new confidentiality agreements, including 16 with commercial partners, allowing us to have open conversations to discuss potential partnerships, and 91 agreements related to the transfer of material to and from Pirbright and organisations in 25 different countries.

Pirbright is building a new relationship with the Vaccine and Infectious Disease Organization (VIDO), part of the University of Saskatchewan, Canada. VIDO is Canada's centre for pandemic research and performs research on a range of human veterinary diseases; it is building a Vaccine Development Centre, which will be capable of manufacturing vaccines up to containment level 3. We are collaborating with VIDO to develop an online training course on the principles and practice of working CL3 biosafety laboratories. This new partnership was supported with funds from a BBSRC International Partnering Fund, which included sharing expertise to develop training, hosting VIDO visitors at Pirbright, and a visit by several Pirbright employees to VIDO to exchange knowledge and share best practice. We will follow up on this promising initial networking by establishing new collaborative research projects and other joint activities, such as regular best practice seminars and joint conferences.

Utilising the BBSRC International Partnering Fund, Pirbright has reestablished links with the high containment laboratory in Backweston, Republic of Ireland. This involved visits to

Pirbright by the Biosafety Officer and Head of Virology Division to engage with our biosafety, engineering, facilities management, science and Reference Laboratory teams. Return visits by Pirbright's training team to perform a training gap analysis will lead to further training and exchanges of best practice between our organisations.

We are involved in several different networks, often taking a leading role in establishing international communities to exchange knowledge, collaborate and share best practice.

We, alongside nine other leading UK research institutions, are involved in the G2P-UK National Virology Consortium, a UKRI-funded national research project aimed at studying new mutations in SARS-CoV-2. This research will lead to knowledge about the transmissibility of the virus and the effectiveness of vaccines and treatments. The consortium will also work with COG-UK (Covid-19 Genomics UK Consortium) and the UK Health Security Agency.

Several of Pirbright's employees are members of the International Veterinary Vaccinology Network (IVVN), Professor Simon Graham is a network co-director and Professor Bryan Charleston is a member of the network management board. The IVVN aims to establish a network of UK and low- and middle-income countries-based researchers to form collaborations to address challenges in developing vaccines for livestock and zoonotic diseases. The Network, supported by the UKRI's MRC (Medical Research Council) and BBSRC (Biotechnology and Biological Sciences Research Council), and GCRF (Global Challenges Research Fund) funds laboratory exchange projects to facilitate the transfer of technologies and expertise between laboratories. Pirbright employees are currently involved in four such exchange projects with laboratories in Brazil, Uganda, Cameroon and the UK.

We are a member of the Biosafety Level 4 Zoonotic Laboratory Network (BSL4ZNet), a network of animal and public health organisations from five countries (UK, Canada, Australia, Germany and the USA) formed to respond to current and emerging high-consequence bio-threats. The Network, involving 15 organisations, holds regular conferences to share best practice, consider preparedness planning for future pandemics, and discuss training needs for staff in high-containment facilities, among other topics.

Pirbright is a founding member of the UK-China Centre of Excellence for Research on Avian Diseases, alongside four Chinese academic organisations. Professor Venugopal Nair OBE leads Pirbright's involvement in this network. The Centre aims to support research into major avian diseases affecting both countries by providing support for collaborative research projects, and enabling joint applications for funding, people exchange, knowledge exchange and commercialisation efforts.



RISK MANAGEMENT AT PIRBRIGHT AS A MAJOR HAZARD SITE

Risk management is critical to the safe reliable operation of Pirbright as a major hazard site.

Risk management is critical to the safe reliable operation of Pirbright as a major hazard site. It requires specialist expertise, ownership of risk by all staff, students and stakeholders, and development of Pirbright as a high-reliability organisation and a beacon of excellence.

Risk management at Pirbright has three broad objectives:

- To facilitate science excellence and capability, both in research and in diagnostic surveillance.
- To reinforce financial sustainability and high reliability.
- To ensure the work of the Institute cannot jeopardise the UK livestock population and agricultural economy, the health and safety of people, or the environment.

Risk management at Pirbright includes a risk & opportunities register, key and safety performance indicators (KPIs and SPIs), and operational planning linked to both risks and opportunities and to strategic objectives. The risk register is regularly updated and reviewed for action by Senior Leadership Board (SLB) and Trustee Directors. The risk register includes operational risks (biorisk, health and safety, security, cyber, environment, quality), continuity risks and strategic risks (reputational, enterprise, financial, political). There is an internal audit programme for critical risks and areas. Pirbright actively maintains open cooperative relationships with stakeholders, regulators and accreditation bodies. A portfolio of insurance protects Pirbright and stakeholders. Policies include property damage and business interruption; employers, public, product and management liabilities; and professional indemnity.

BIORISK

Many of the animal viruses studied at Pirbright are high-consequence pathogens, ie, are not endemic to the UK and so could cause a disease outbreak if released. Authority to work with such pathogens is via a SAPO (Specified Animals Pathogens Order) Licence issued and enforced by the Health & Safety Executive (HSE).

Pirbright's SAPO Licence is at containment level 4 (highest level) and the Institute is classified as a major hazard site. Each year there is an HSE intervention plan, and in 2022-23, this comprised three visits by specialist inspectors scrutinising electrical power systems across site, containment and control in the Reference Laboratories, and an annual performance review in conjunction with senior managers. There were also security inspections by specialist counter-terrorism police officers and audits by insurers. Biorisk management at Pirbright comprises containment engineering and operational controls. Engineering infrastructure includes sealed facilities, negative pressure cascades, high-efficiency air filtration, effluent treatment plants,

incinerators, autoclaves, fumigation chambers and automation and control systems. Operational arrangements include risk assessments, operating procedures, training and competency, waste management, transport procedures, emergency plans and exercises, audits and inspections, planned preventative maintenance (PPM), validation and testing. Pirbright has all these measures in place, and each element is examined by HSE every few years as part of its intervention plans. All high-containment facilities at Pirbright are less than 15 years old.

QUALITY AND ORGANISATION

Diagnostic surveillance and disinfectant testing at Pirbright are in UKAS-accredited testing laboratories (no. 4025) to ISO/IEC 17025-quality standard, which is integral to its role as a UK national capability and its global role as a WOA Reference Laboratory and FAO/WOAH World Reference Laboratory for specific viruses. Pirbright's management system ensures conformity with 17025 and increasingly underpins wider risk management across the Institute. The annual 17025 surveillance audit of the Reference Laboratories in April 2023 by the UK Accreditation Service gave an extremely positive outcome, with just two minor actions.

In addition to its risk management system and assurance arrangements and regulatory oversight, Pirbright actively works to improve its risk control and resilience. In 2022-23, this included BBSRC-funded capital projects for development of an integrated alarm management system to address control room human factors, replacement of obsolete controllers in air handling systems, and a new laboratory information management system (LIMS) to support diagnostic services. In 2022-23, there were also internal projects to develop a functional safety management system, to develop a human factors programme, to improve control of musculoskeletal risks, to enhance technical and organisational cyber security, to develop a competency framework, and to apply Failure Modes, Effects & Criticality Analysis in assetisation and PPM. Pirbright strives to adopt best practice, which includes coordinating the cross-sector UK Biorisk Strategic Leadership Group, active roles in the BSL4ZNet international consortium of high-containment facilities and the EuFMD consortium of European FMDV facilities, and publication of peer-reviewed papers and symposia presentations on biorisk.

RISK MANAGEMENT

Key risks are summarised in the table below.

	CONTEXT	CONTROL / MITIGATION
BIOSAFETY (UNINTENTIONAL RELEASE OF, OR EXPOSURE TO, HIGH CONSEQUENCE PATHOGEN)	Pirbright is classified by the Health & Safety Executive (HSE) as a major hazard site, because release of the high-consequence viral pathogens of livestock animals that the Institute works with (such as foot-and-mouth disease virus) could cause a serious disease outbreak, leading to destruction of many animals, extensive national disruption and severe economic loss. Some of the pathogens are also zoonotic, which means they can infect humans and cause serious illness.	Physical, engineering, operational and management measures for biological containment in compliance with relevant UK legislation (Specified Animal Pathogens Order 2008, Control of Substances Hazardous to Health Regulations 2002, Genetically Modified Organisms (Contained Use) Regulations 2014 and associated standards (including FAO/ EuFMD minimum standards for labs working with foot-and-mouth disease virus), Approved Codes of Practice and guidance, in alignment with ISO 9001, ISO 14001, ISO 35001 and ISO 45001. Also, an annual HSE Major Hazard Intervention Plan, and staff cohort of competent biorisk advisers.
BIOSECURITY (DELIBERATE RELEASE OF, OR EXPOSURE TO, HIGH CONSEQUENCE PATHOGEN)		Physical, operational and management measures for security in conformity with requirements of the UK National Counter Terrorism Security Office, with oversight by regional counter terrorism security advisers, 24/7/365 guard force, background screening of new starts, and multiple layers of physical security.
QUALITY	As well as being a leading research institute, Pirbright provides diagnostic and surveillance Reference Laboratories for a range of pathogens for the UN Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (WOAH) and is funded by BBSRC UKRI and Defra as a UK national capability to provide diagnostic capacity to support the detection and control of national disease outbreaks. Pirbright's scientific output quality is therefore critical, and FAO, WOAH and the UK Government require the Reference Laboratories to be accredited to the ISO/IEC 17025 international quality standard.	Accreditation of the Reference Laboratories to ISO/IEC 17025 by the UK Accreditation Service (Pirbright is UKAS Accredited Testing Laboratory No 4025), development and implementation of a quality management system across the Institute, an internal audit programme, and alignment to ISO 9001 and other relevant ISO management standards in key operational areas in support of the Reference Laboratories.
ANIMAL WELFARE	Research with animals is an integral part of the research programmes at Pirbright and is carried out to extremely high UK standards of ethics and animal welfare, which are the most stringent in the world, addressing this critical reputational risk.	Physical, operational and management measures for animal welfare in compliance with UK legislation (Animal Scientific Procedures Act 1986) and associated Approved Codes of Practice and guidance, oversight by UK Home Office, application of 3Rs (Replace, Refine, Reduce) and ARRIVE guidance (Animal Research: Reporting <i>In Vivo</i> Experiments).

Continued overleaf

	CONTEXT	CONTROL / MITIGATION
CYBER SECURITY	Pirbright has to address the cyber, continuity, people and financial threats that organisations in all sectors must deal with. Potential consequences of these are amplified for Pirbright because of the possible effects on its biological and quality risks.	Comprehensive portfolio of cyber-security countermeasures and management systems in conformity with requirements of UK National Cyber Security Centre 10-Steps and HSE OG86 (cyber security requirements for critical controls), with also segregation of critical resources from networks and drills, training and exercises.
CONTINUITY	Cyber-attack could impact containment systems and inhibit science output, unless robust tested countermeasures are in place and kept current. National power outages could impact containment systems and inhibit science output, unless maintained tested backups and plans to manage such situations are in place and subject to regular review and exercises.	Plans for incident and crisis management, business continuity plans in alignment with ISO 22301, backups and contingencies for critical services and supplies, contingency plans for Reference Laboratories for disease outbreaks, and all plans regularly tested.
PEOPLE	- Recruitment and retention issues could lead to shortage of the essential specialist skills for safe and reliable operation of facilities and to adverse impacts on science capability, unless effective strategies are developed and implemented to mitigate such issues. - Insufficient funds for maintenance could lead to reduced reliability of containment systems or of science equipment, unless there is rigorous financial control and successful winning of competitive funding.	Allowances for responsibilities and for recruitment and retention, training and development, career pathways with merit awards and a personal promotion scheme, annual performance and personal development reviews, generous pension provision and life cover, and employee benefits platform and assistance programme.
FINANCIAL		Rigorous systems for financial planning, control and monitoring, ongoing risk management, processes and support to facilitate preparation, submission and management of competitive funding grants and capital funding bids, commercial business development programme, Pirbright Innovations Ltd as a vehicle for commercial work, comprehensive portfolio of insurance, anti-fraud and anti-bribery policies, annual audit, and reportage to BBSRC as core funder, landlord and strategic partner.
ECONOMIC	Adverse effects on the UK and world economy from global and other events are a substantial threat to the funding landscape and to the operational cost base, particularly from high levels of inflation.	Inflation is factored into business planning, including planned increases in income from competitive funding sources and appropriate commercial activities, and savings from improved procurement and BBSRC-funded 'spend-to-save' capital works.

A SUSTAINABLE FUTURE

The Institute is committed to environmental sustainability, biodiversity and reducing its carbon footprint.

Pirbright is proud to have its own Biodiversity Interest Group – staff members who give up their time to improve the wildlife environment on site. The group meet on a regular basis and complete conservation activities from the creation of biodiversity habitats to monitoring reptile populations.

The cutting-edge research undertaken at The Pirbright Institute is made possible by a range of highly specialised facilities, both in high- and low-containment environments. However, these facilities require a significant amount of energy to operate and maintain our biosecurity. The recent escalation in energy costs has only heightened the need to do more in this area. Therefore, energy conservation and reduction are very important to us.

The Institute is currently undertaking a number of energy-saving projects that will make a positive contribution. These projects are focused on reducing energy consumption, reducing our carbon emissions and making the site more efficient. The most significant of these projects is the installation of a Combined Heat and Power Plant (CHP), which became operational in summer 2022 and now provides around 75 per cent of Pirbright's power needs. Also, an accommodation review has been undertaken to consolidate operations on site and shut a number of older, less energy-efficient buildings; these closures will occur in 2023.

The Pirbright Energy Policy and Action Plan has recently been developed with help from an external energy management consultancy. An energy manager has recently been employed to deliver the plan. In addition to implementing heat recovery from the CHP, the plan includes energy setback on the most energy-hungry building – the Plowright Building – housing high containment, lighting upgrades, chiller water system optimisation and feasibility studies into energy production from solar arrays.

Pirbright's finances are also aligned to the green agenda and now operate with Barclays' Green Deposit Scheme. This allows deposits by the Institute to be earmarked against the banks' green bonds, which in turn are matched against a range of climate-related projects, including energy efficiency, renewable energy, green transport, sustainable food, agriculture and forestry, waste management and greenhouse gas emission reduction. In March 2023, the GBP market value of Green Bonds held by Barclays totalled over £2.8 billion, with a total CO₂ impact of almost 4.9 million tonnes. At 31 March 2023, the Institute had £5.1m deposited in this scheme.

The Institute continues to base its environmental objectives around the UKRI Environmental Sustainability Strategy, which drives towards a zero-carbon future by 2040. This ensures new building proposals will carefully consider the carbon impacts of facilities throughout their whole life, from the building materials used to the energy consumption and energy sources employed once operational.

The Institute's environment and energy team promote the continual improvement of energy and environment performance on the Pirbright site, monitor and review the energy and environment policy, report on and action results of inspections and audits and provide a forum for personnel to raise queries related to energy and environmental sustainability.

The following figures reflect the Institute's best estimates of its environmental impact during the 2022-23 financial year. The amount of energy consumed by the Institute is directly related to the level of science activity on the site. As grant income is also a measure of science activity, the Institute

GREENHOUSE GAS EMISSIONS	2022-23	2021-22
EMISSIONS TONNES CO₂e		
Scope 1: Gas	5,931,270	4,606,500
Scope 2: Electricity	1,167,820	2,663,940
Scope 3: Official business travel	3,600	3,860
Total emissions	7,102,690	7,274,300
Emissions per £ of grant received	0.21	0.21
ENERGY CONSUMPTION kWh		
Scope 1: Gas	31,492,412	22,238,808
Scope 2: Electricity	6,098,984	12,546,226
Scope 3: Official business travel	11,725	11,175
Total energy consumed	37,603,121	34,796,209
Consumption per £ of grant received	1.11	1.02
FINANCIAL INDICATORS		
Total energy cost £'000	3,679	2,033
Energy cost per £ of grant received	10.89	5.94p
Cost of official business travel	6	8
Cost of official business travel per £ of grant received	0.0002p	0.0002p

As mentioned above, the Institute started running its own CHP in the summer of 2022. This generates electrical power for the site from gas. This is the reason for the significant increase in gas consumption in the year, mirrored by a significant reduction in electricity consumption. Despite this resulting in an increase in the amount of energy consumed, the overall greenhouse gas emissions fell due to gas being a more environmentally friendly energy source. The other significant energy projects undertaken in the year include the upgrade of lighting, saving c.65k kWh in the year and chilled water optimisations saving c.300k kWh during 2022-23.

As with all organisations in the UK, the Institute's energy costs increased in line with the rapid increase in wholesale energy prices following the invasion of Ukraine by Russia.

OUR PEOPLE

Our scientists are also supported by highly skilled on-site specialists in health, safety, biosecurity, engineering and research services, as well as our corporate functions such as IT, finance, HR and security.

EMPLOYEE ENGAGEMENT

In 2022, we launched our revised Pirbright Institute Research Culture Statement which demonstrates our passion for the work we do and provides a clear set of expectations to guide our thinking and planning. This statement also ensures our approach continually and consistently supports and directs the work we undertake that enables the Institute to operate as a top-performing organisation.

We are committed to a culture that is open and inclusive, where difference is celebrated and the contributions of all are encouraged, valued and respected. We have also committed to embed equality into every aspect of our work. This commitment is reflected in our desire to create and enable an environment where everyone feels welcome and can be themselves within the workplace. We are committed to fostering equality, diversity and inclusion (EDI) as a way of working and this has become the golden thread through all our processes and decision making.

Providing opportunities for individual recognition and reward is central to our Pirbright research culture. In addition to our employee reward package, in 2021 we introduced two new reward schemes. The first was Personal Promotion – this scheme recognises the work and commitment by individuals delivering over and beyond their current role scope and responsibilities by rewarding this with a personal grade promotion. The second is to recognise the additional dedication and commitment of individuals not yet ready for promotion and allows a within-band salary increase. In 2022, 28 members of staff achieved success through these reward schemes. Successful employees were celebrated in person and via the intranet.

In addition to individual recognition, we also acknowledge and recognise exemplary team effort. Teams are nominated by and voted for by their peers. The winners of these awards are celebrated at our Christmas event.

As indicated above, EDI is reflected across all activities and decision making. EDI is the golden thread that binds the Institute together. Reporting to the SLB, and empowered to make operational decisions, our EDI Committee, with representation from across the Institute, meet regularly to manage and/or escalate as appropriate any topics or issues identified. As an example, this committee was instrumental in finding a suitable location for and development of our multifunction room. They are now exploring how additional equality charters can support our wider EDI ambitions. The Committee sought out and has been granted funding to employ a dedicated EDI manager, reporting to the Chair, to drive our action plan and further embed EDI into all that we do. This post will initially be on a fixed-term basis, supported by the Institute Development Grant (IDG).

Representatives from the EDI Committee work closely with HR and Health and Safety and Bio Safety (HSBS) in delivering a comprehensive well-being programme. Consisting of information and awareness, these sessions are conducted online and in person via courses, workshops and webinars covering a wide range of physical, cultural and mental health related topics.

Additionally, supported by the EDI Committee, we have three staff network groups: the Rainbow network, Neurodiversity network and Carers network. These networks are developing, with a small and growing number of participants. The Institute provides meeting space and small incidental financial support. The groups meet regularly to share information, highlight key external support mechanisms with signposting and provide mutual support.

HOW WE COMMUNICATE

Accurate and timely communication is key to us keeping our workforce informed and updated. There are several avenues available to facilitate both direct information sharing and two-way dialogues.

In addition to the various groups and committees, there are formal regular information-sharing forums, such as a quarterly director-led staff briefing, monthly management forum meetings, newsletters and ad hoc focus groups, etc. SLB conduct biweekly 'site walks', meet a member of SLB for coffee, and SLB drop-ins. HR and Finance also conduct regular drop-in sessions. Personal-related blogs are encouraged, and general information is posted on the intranet and site-wide screens. To provide a platform for knowledge sharing, talks led by our scientists and/or external visitors are scheduled on a monthly basis for a site-wide audience.

The Institute conducts biannual staff engagement surveys that are followed up with focus groups to further develop the feedback and enable employees to co-develop action plans with a view to continuous improvement.

We have increased and enhanced our breakout areas across site with soft furnishing to encourage informal catch-ups and more relaxed one-to-one meetings.

Additionally, employees have various options available to raise a concern confidentially, via our active-bystander and whistleblowing processes, or directly with senior leaders or HR.

TRAINING AND DEVELOPMENT

Employees are encouraged to discuss with their line manager the training opportunities available and courses that would enhance career aspirations.

Our dedicated L&D manager has developed a comprehensive training programme that is available to all employees with an online booking process. Additionally, training options are advertised in the HR newsletter, on the intranet and in all staff emails. Our training programme includes role-specific courses and opportunities for personal qualifications. These range from personal licences for animal husbandry to driving a forklift truck. We also deliver career development opportunities such as project management or how to recognise unconscious bias, within teams or through recruitment. Additionally, L&D have delivered management training on leading, promoting and supporting EDI, managing teams and an emerging leaders programme for our upcoming leaders of tomorrow.

RETENTION AND RECRUITMENT

As a world-renowned research institute, we attract top talent from around the globe, with staff and students in 2022 representing 64 different nationalities, contributing to the enrichment of our overall cultural diversity. To further enable this diversity, the Institute supports overseas candidates with visa costs and the global talent mobility scheme.

In 2022, anonymisation was introduced through our recruitment platforms for the first CV sift, further driving diversity and inclusion and reducing any potential impact from unconscious bias.

Through 2022, our attrition was on average 22 per cent. This is much higher than we have historically experienced (10-15 per cent) and largely due to the effects of the much publicised global 'Great Resignation'. The UK talent market was particularly volatile, and candidate driven. Recruitment processes were shortened as organisations competed for the best talent, and candidates were actively engaged with multiple opportunities enabling them to move quickly as roles were offered. Some skill sets, such as data analysis, electrical engineering and quality proved to be 'hard-to-fill roles', taking an average of 25 weeks. Additionally, offered candidates were often counter-offered, which resulted in candidates withdrawing with little notice. We recruited 149 vacancies through 2022, (this was a reduction from 178 in 2021), with 197 separate campaigns. Thirty-five per cent of these vacancies were filled through our internal redeployment process as a result of grant funding ending for specific projects or for those employees looking for development opportunity and progression.

SUMMARY OF THE GENDER GAP

The gender pay gap is defined as the difference between the mean or median earnings of male and female employees, expressed relative to male earnings. The mean pay gap is the difference between the average hourly earnings of men and women. The median pay gap is the difference between the midpoints of hourly earnings of men and women.

The Institute's mean hourly pay gap has reduced slightly, from 10.6 per cent in 2021 to 10.3 per cent in 2022, a decrease of 0.3 per cent. However, the median hourly gap has increased slightly from 5.8 per cent in 2021 to 6.6 per cent in 2022.

The full report can be found on our website.

The Institute is pleased to have maintained a relatively equal gender balance in terms of employee numbers for the last five years. We offer a range of flexible working arrangements and family-friendly policies, which enables us to attract and retain equal numbers of women and men. We are also able to report that both men and women have benefited from our enhanced flexible and family-friendly policies, including shared parental leave.

The reduced mean (average) pay gap demonstrates the continuing effort across the Institute to ensure equity in all roles. We have reported that women receive higher pay than men in our lower quartile. However, there are 20 per cent more women in this quartile, and this represents a small increase from 57.6 per cent in 2021 to 59.8 per cent in 2022.

However, there does appear to be a discrepancy at the upper quartile. This is reflected by the higher percentage of men (62 per cent) within this quartile. This also reflects a slight reduction in women in this quartile from 39.8 per cent in 2021 to 38.5 per cent in 2022.

While we are confident that men and women are paid equally for carrying out equivalent roles across the Institute, we recognise the need to redress the gender balance particularly at the lower quartile with a mean gender pay gap in favour of females of -5.2 per cent (an increase from -3.3 per cent in 2021).

OUR STAFF AND STUDENT PROFILE

There continues to be an almost equal balance of male and female employees across the Institute, with approximately 49 per cent male versus 51 per cent female, although this does differ between directorates and capability, specifically our Estate Management Services experiencing a gender balance challenge. Staff total headcount at the year-end was 349 with an additional 55 students.

GENDER BREAKDOWN BY DIRECTORATE (EXCLUDING STUDENTS):

Directorate	Female	Male
Science	56%	44%
Capability	32%	68%
Corporate	47%	53%
Risk and Assurance	50%	50%

INNOVATIONS AT PIRBRIGHT

Commercial activity is an important element of the Institute's strategy to diversify funding streams and ensure a sustainable organisation for the future. Pirbright has established a commercial arm, Pirbright Innovations, to capture and manage operations that attract income on business activities and services.

Pirbright established a team in 2020 to support the development and delivery of training courses to external customers. This team was originally named SPiE (Sharing Pirbright's Expertise). However, in early 2023, it was rebranded to Pirbright Training. The aim of the team remains to share Pirbright's expertise, especially in three key areas: control of viral diseases of livestock, high containment engineering and biosafety practices. The team can develop training in different formats, including face-to-face, online instructor-led and self-directed eLearning, and all content is developed in a format to make learning as engaging as possible, including through the use of text, quizzes, highly effective graphic design, and interactive videos.

Pirbright currently has nine disease control and two engineering eLearning courses available for purchase. The University of Surrey has purchased all of the disease control courses for inclusion in its final year veterinary student curriculum. The Animal and Plant Health Agency (APHA) has purchased access to four courses for inclusion in its training programme on exotic diseases to APHA veterinarians; in addition, APHA has offered the module on avian influenza to UK veterinarians to support the avian influenza outbreak during 2022-23. The two engineering courses, which are also available as a face-to-face training course at Pirbright, have been delivered to several companies, including the maintenance company of the high-containment laboratory in Backweston, Republic of Ireland.

In a joint effort between the knowledge exchange and commercialisation team and Pirbright Training, we developed and launched a new eLearning course aimed at providing

academic researchers with knowledge of the vaccine development process after a candidate vaccine leaves the academic laboratory. Understanding the requirements of industrial partners to develop, evaluate and obtain regulatory approvals for a new vaccine will help researchers to plan their early work in such a way that it supports downstream development work, without the need to repeat any steps. The content includes text, graphics and video from internal and external experts. It has been launched internally only, but we will consider making it available externally, especially via some of our networks, like the international veterinary vaccinology network.

Pirbright restarted the provision of on-site training on laboratory diagnostic techniques for various viral diseases of livestock. In 2022-23, we delivered courses on diagnosing foot-and-mouth disease and lumpy skin disease at Pirbright, and several of our reference laboratory staff visited the Philippines as part of a World Organisation for Animal Health (WOAH) Twinning project. These face-to-face courses were cancelled during the COVID-19 pandemic, though Pirbright did move to online delivery during that time.

Pirbright has been working closely with the Vaccine and Infectious Diseases Organization (VIDO) of the University of Saskatchewan, Canada, to develop an introductory eLearning course on the principles and practices of CL3 laboratories. This training explains the principles behind biosafety and shows examples of how these principles are addressed by Pirbright and VIDO. It will be used by both Pirbright and VIDO as part of their ongoing training for high-containment facility users.



The BBSRC National Virology Centre: The Plowright Building and The BBSRC National Vaccinology Centre: The Jenner Building © Edward Brydon

INVESTING IN OUR FUTURE

Continual enhancement of the facilities on the Pirbright site is imperative to maintain and support the world-class science and research undertaken. BBSRC continues to provide considerable capital funding to the Institute through the award of capital grants, with much of the investment recently requested being for projects that support and enhance Big Data Science.

THE AWARDS RECEIVED DURING THE YEAR INCLUDED:

PROJECT: FULL SPECTRUM SPECTRAL FLOW CYTOMETER AND CONVENTIONAL FLOW CYTOMETER FOR THE SAPO CL4 LABORATORIES (BBSRC NATIONAL VIROLOGY CENTRE: THE PLOWRIGHT BUILDING)

SCIENTIST: DR KATY MOFFAT

VALUE: £573,322

FUNDER: BBSRC – INVESTMENT GATEWAY PANEL (CAPITAL FUNDING)

The flow cytometry core facility is a major resource for many scientists in the Plowright Building, providing access to two high-end flow cytometry analysers and a fluorescence-activated cell-sorting service. The flow cytometry facility supports the ISPGs: “Understanding and Preventing Viral Diseases” and “Enhanced Host Responses for Disease Control”, competitively funded UKRI projects, studentships and competitively funded external projects.

Both the current cytometers are over 12 years old and have exceeded their ten-year life expectancy. The purchase of new instruments has allowed continuity of the science programmes, reducing the risk of critical sample loss if an instrument became irreparable due to age-related failure. Secondly, during *in vivo* experiments we have seen an increase in the requirement for access to flow cytometers that exceeded previous capacity. Therefore, the new flow cytometers have provided capacity to support current and future projects, reduce pressure on existing flow cytometers and provide redundancy.

Finally, our research, using conventional flow cytometers, had been limited by the availability of fluorophore-antibody combinations. The addition of a spectral flow cytometer to the facility increases significantly our ability to detect more fluorophore combinations allowing for a greater in-depth characterisation of immune responses. This project was completed in the financial year.

PROJECT: CONTAINERISED DATA CENTRE (CDC) TO CONSOLIDATE AND INCREASE IT CAPACITY AND FACILITATE DATA DRIVEN BIOSCIENCE

PROJECT MANAGER: IT INFRASTRUCTURE TEAM

VALUE: £1,056,068

FUNDER: BBSRC – INVESTMENT GATEWAY PANEL (CAPITAL FUNDING)

Operating such a complex site as Pirbright creates significant and diverse demands on IT systems that must be extremely resilient. Over the last three years, we have invested in and implemented several major new systems and IT infrastructures that have dramatically increased the capability of our scientists and support staff to deliver science across a high-hazard site. All these upgrades have been necessary to support the demands of our BBSRC strategic science while remaining within regulatory compliance and in response to Pirbright embracing data-driven approaches to fundamental bioscience.

This largely proactive approach to the planned development of science and infrastructure on site has greatly increased the demand for space within our data centres that house our critical IT infrastructure. Our two data centres were close to capacity, making expansion and replacement with any parallel running risky or impossible, therefore compromising resilience.

Therefore, it had become of critical importance to provide greater IT network resilience across site, consolidate our infrastructure and provide space to expand storage both for our building automation and control systems (BACS), which manage our buildings, and provide increased analytical capability. After considering several options, the most beneficial solution based on cost, immediate capacity, future capability, project complexity and potential site development in the future was to purchase a new Containerised Data Centre.

This project was started in the financial year and will be completed in the summer of 2023.

PROJECT: INCREASING AND ENHANCING SEQUENCING CAPACITY TO BETTER SUPPORT DATA RICH AND DATA INTENSIVE BIOLOGY

SCIENTIST: DR GRAHAM FREIMANIS

VALUE: £492,474

FUNDER: BBSRC – INVESTMENT GATEWAY PANEL (CAPITAL FUNDING)

This investment aims to strengthen the unique high-throughput sequencing

capabilities in SAPO4 containment within the BBSRC National Virology Centre: The Plowright Building. The procurement of a high-throughput sequencer – a NextSeq-2000 (Illumina) – and a low volume robotic liquid handler – a Mosquito HV (SPTlabtech) – will both complement existing equipment, but also add scalability, flexibility and standardisation to both library

preparation and sequencing capabilities. This will benefit currently funded BBSRC UKRI Institute Strategic Programme Grants (ISPGs), providing enhanced support for read intensive protocols, including bulk RNA-Seq, single-cell transcriptomics and spatial technologies.

This project was completed in the financial year.

GOVERNANCE AND MANAGEMENT

The Pirbright Institute is an independent company, limited by guarantee and a registered charity. It is governed by a Board of non-executive Trustee Directors who provide strategic input to the Senior Leadership Board at Pirbright. Science at the Institute is reviewed by an independent group of leading researchers who comprise the Science Advisory Board and whose role is to provide advice and guidance on science strategy and direction.

ORGANISATION AND GOVERNANCE

The Annual Report provides information for legal purposes on the charity, its business activities and its main achievements. The financial statements have been prepared in accordance with the Charities Act 2011, the Companies Act 2006, the Memorandum and Articles of Association and Accounting and Reporting by Charities: Statement of the Recommended Practice applicable to charities preparing their accounts in accordance with Financial Reporting Standards applicable to the UK and Republic of Ireland (FRS102), effective 1 January 2015.

THE BOARD OF TRUSTEE DIRECTORS

The Trustee Directors of the Board of Trustee Directors serving during the year and since the year end were:

- Professor Vince Emery - Chair
- Ian Bateman (resigned 18 November 2022)
- Ian Black (resigned 7 June 2023)
- Rona Chester
- Jon Coles
- Emma Griffin
- Alison Hardy
- Dr Paul Logan
- Dr Linda Magee OBE (appointed 30 January 2023)
- Professor Deenan Pillay (appointed 16 November 2022)
- Jane Tirard
- Professor Mike Turner (appointed 17 November 2022)

Trustee Directors are appointed by the existing Trustee Directors for three years, when they are eligible for reappointment for a second term. In exceptional circumstances, Trustee Directors can be appointed for a further three years beyond that giving a maximum of nine years.

Prior to the recruitment of a new Trustee Director, a skills audit of all Trustee Directors is undertaken to determine the skills required of the incoming Trustee Director. The Trustee Directors then appoint a recruitment agency specialising in non-executive and Trustee Board Member appointments to undertake the recruitment on their behalf. This process is managed by the Nominations and Governance Committee, with interviews undertaken by members of this committee and the Chair of the Board of Trustee Directors.

TRUSTEE DIRECTORS PURPOSE

The purpose of the Trustee Board is to ensure that the Institute carries out its purpose for the public benefit in accordance with its memorandum, articles of association and governing law, and to ensure that they comply with their duties under Section 4 of the Charities Act 2011 to have due regard to the public benefit guidance by the Charity Commission.

The Trustees Directors are satisfied they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charities Commission. Based on this guidance, and as described in the Trustee Directors' Report, the Trustee Directors believe the activities of The Pirbright Institute to be charitable in nature.

The main focus of the Trustee Directors is on leadership, strategy, performance and assurance, with a focus on maintaining Pirbright's reputation, staff and infrastructure while protecting the Institute's sustainability.

Furthermore, the Trustee Directors must act in the Institute's best interests; they must ensure that the Institute's resources are managed responsibly; they must act with reasonable care and skill; they must ensure that the Institute complies with all statutory accounting and reporting requirements; and they must meet the oversight requirements expected of a major hazard site.

The Trustee Board has established three committees to support it in its work: the Finance and Audit Committee, the Risk and Assurance Committee and the Nomination and Governance Committee.

The Trustee Directors have also established a Scientific Advisory Board, comprised of independent leading scientists, to provide advice, guidance and recommendations regarding the scientific strategy and direction of the Institute. In addition, the Science Advisory Board provides assurance to the Trustee Directors on the quality of science and research, the relevance and importance of the scientific strategy, and advise on the Institute's positioning within the international scientific landscape.

TRAINING OF TRUSTEES

The Institute continually reviews its practices for induction and ongoing Trustee Director training. All Trustee Directors joining Pirbright undergo an extensive training, which covers:

- Building an understanding of the nature of the Institute, its purposes, and the stakeholders in which it operates. In particular, this will cover the importance of leadership in a major hazard environment.
- Developing understanding of the role, including legal duties and ethical expectations.
- Building a link and relationship with the Institute and its employees, beyond that of the SLB.
- Developing an understanding of the Institute's main relationships and future opportunities.

Trustee Directors are encouraged to attend appropriate external training events where these will facilitate the undertaking of their role and understanding of their responsibilities.

The Trustee Directors have recently undertaken a review of how effective the Board is which was facilitated by Campbell Tickell, an organisation with a specialism in Board governance. A plan of actions arising from this review is currently being implemented, including a self-appraisal of adherence to the Charity Governance Code for England & Wales (as updated in 2020).

CONFLICTS OF INTERESTS

Trustee Directors and any co-opted members are required to declare any conflicts or potential conflicts of interests at Trustee Board and committee meetings, and these are recorded in the minutes. Depending on the conflict, the Chair may require a Trustee Director or co-opted member to either leave the meeting, or not take part in a discussion or decision on a particular Issue. During the year, no Trustee Director declared a conflict of interest.

TRUSTEES' INDEMNITY INSURANCE

The Institute maintains liability insurance for the Trustee Directors, with an annual aggregate cover limit of £10m for all claims against them in that capacity. The Trustee Directors have also been granted a qualifying third-party provision under section 233 of the Companies Act 2006. Neither the Institute's indemnity nor insurance provides cover in the event that a Trustee Director is proved to have acted fraudulently or dishonestly. The premium and related costs in respect of this policy were £36,940 (2022: £37,676).

COMPLAINTS

The Trustee Directors and the staff of the Institute are committed to providing a high-quality, responsive and transparent service to all the people and organisations with which we interact. However, the Trustee Directors are aware that sometimes Pirbright will not reach the high standards they have set themselves, so they have established a complaints procedure for external parties to raise a complaint against the Institute.

During the year no complaints were received (2022: None). Full details of the complaints procedure can be found on the Institute's website.

RELATED PARTIES

The Institute's subsidiary undertaking, Pirbright Innovations Limited, having been dormant for a number of years, was reactivated during the year. The subsidiary is being used as a special-purpose vehicle with regard to the project to construct the UK Centre for Veterinary Vaccine Innovation and Manufacturing on the Pirbright site. The Trustee Directors consider that the activities of the subsidiary are not material to the financial position of the Pirbright Institute Group and have therefore elected not to produce consolidated financial statements.

Genomia Management Limited was formed on 16 April 2004 and is also a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund, the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with The Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Scotland's Rural College (SRUC).

GOVERNANCE STRUCTURE

THE INSTITUTE HAS FIVE MEMBERS

Chair of the
Trustee Board

Chair of the
Science Advisory Board

BBSRC
UKRI

National
Farmers' Union

Royal College of
Veterinary Surgeons

BOARD OF TRUSTEE DIRECTORS

Professor
Vince Emery
(Chair)

Rona Chester
(Deputy Chair)

Jon Coles

Emma Griffin

Alison Hardy

Dr Paul Logan

Dr Linda Magee

Professor
Deenan Pillay

Jane Tirard

Professor
Mike Turner

SENIOR LEADERSHIP BOARD

Professor Bryan Charleston –
Director and CEO

Professor John Hammond –
Director of Research

Helen Watts –
Director of Finance and
Company Secretary

Dr Andrew White –
Director of Risk and
Assurance

SCIENCE ADVISORY BOARD

Professor Geoffrey Smith – Chair

Professor Jeffery Almond

Professor Martin Beer

Professor Persephone Borrow

Professor Mary Cameron

Professor Gary Entrican

Professor Paul Kellam

Professor Deenan Pillay

Professor Eleanor Riley

Professor David Rowlands

Professor Helen Sang

Dr Samuel Thevasagayam

FINANCE AND AUDIT COMMITTEE

Rona Chester – Chair

Jon Coles

Jane Tirard

NOMINATIONS AND GOVERNANCE COMMITTEE

Alison Hardy – Interim Chair

Jon Coles

Linda Magee

RISK AND ASSURANCE COMMITTEE

Paul Logan – Chair

Emma Griffin

Mike Turner

BOARD OF TRUSTEE DIRECTORS



CHAIR OF THE BOARD OF TRUSTEE DIRECTORS

PROFESSOR VINCE EMERY

Professor Emery is President of the University of Hertfordshire's branch campus hosted by Global Academic Foundation in Egypt and is also Emeritus Professor of Translational Virology at the University of Surrey and a Visiting Professor at the University of Hertfordshire, UK. His research in virology, spanning some 35 years, aims to provide an interdisciplinary approach to understanding viral infections in immunocompromised hosts.



DEPUTY CHAIR OF THE BOARD OF TRUSTEE DIRECTORS

RONA CHESTER

Rona is a fellow of the Institute of Chartered Accountants with over 30 years' experience in leading financial teams in both the public and private sector. More recently, Rona was the Chief Operating Officer at Sport England, the lottery distributor, where additional responsibilities included grants management, commercial and IT, as well as contributing to the development of the organisation's strategy.



JON COLES

Jon was a senior partner at Brunswick Group LLP, a leading international communications consultancy, where he advised the Boards of Directors of global groups on strategic communications and corporate reputation. His particular focus was on clients in the pharmaceutical, biotechnology and agriculture industries.



EMMA GRIFFIN

Emma has over 25 years' professional experience across a multitude of sectors in cyber security, technology and regulatory compliance. She participates on several advisory boards to influence and drive cyber security development and solution innovation and regularly participates in industry and regulatory forums as an adviser and speaker. Emma is actively involved in promoting diversity and inclusion and seeks to encourage careers in science and technology to minority groups.



ALISON HARDY

Alison is a solicitor and partner with City law firm Ashurst LLP, where she leads the real estate dispute resolution practice. Alison is experienced in all aspects of commercial real estate. She is actively involved in diversity and inclusion and is the partner sponsor of Ashurst's social mobility and inclusion network, which is working to remove barriers to entry into and progression within the legal profession.



DR PAUL LOGAN

Prior to his retirement in 2020, Paul was a senior civil servant in the Health and Safety Executive (HSE), which he had joined as a regulatory scientist. During his time in HSE, he chaired a number of industry/government committees. He was Director of the division in HSE with responsibility for regulation of major hazards industries, including chemical manufacturing, oil refineries, explosives manufacture and storage, and high-containment laboratories.



DR LINDA MAGGE OBE

Linda is a life sciences sector specialist in the UK Government's Department for Business and Trade. She supports the UK sector team and international network to identify opportunities for the UK economy and businesses in life sciences and healthcare. Linda was previously Chief Operations Officer of NIHR Manchester Academic Health Science Centre (MAHSC) and Commercial Director of Greater Manchester Academic Health Science Network (GMAHSN). She also co-founded Manchester Biotech and set up Bionow while working for the Northwest Development Agency. Linda established the National Biomanufacturing Centre at Speke. She was awarded an OBE in 2009 for services to biotechnology.



PROFESSOR DEENAN PILLAY

Deenan is Emeritus Professor of Virology at University College London. He has been a clinical virologist for the last 30 years, working within the Public Health Laboratory Service, Health Protection Agency, NHS and academia. His main interest has been the use of antiviral therapy, and emergence of drug resistance, particularly regarding HIV. From 2013-2019, he was Director/CEO of the Wellcome Trust-funded Africa Health Research Institute. He is currently Non-Executive Director of an NHS Trust, and until recently, chaired Independent SAGE, a scientific group focused on public engagement and discussion on Covid-19.



JANE TIRARD

Jane has over 30 years of experience of all aspects of strategic financial planning, financial management, financial accounting, systems and processes. As a result of her roles, she has a working knowledge of government departments, funding councils, academia and the pharmaceutical industry. Her last position was as the Director of Finance and Corporate Services at the Diamond Light Source, the UK's national synchrotron science facility.



PROFESSOR MIKE TURNER

Mike is a WHO consultant for neglected tropical diseases, Honorary Professor at the University of Glasgow and former Director of Science at Wellcome. He led portfolios for funding responses to emerging viral diseases, with a focus on Africa, India and SE Asia. Previously, he was a Professor of Parasitology at the University of Glasgow, researching trypanosome parasites, malaria genomics and schistosomes.

SENIOR LEADERSHIP BOARD

The Board of Trustee Directors consider that the Senior Leadership Board (SLB) is accountable for Institute strategy, risk mitigation and governance of day-to-day operational delivery. The SLB comprises the Institute Director and the Directorate heads; namely Director of Risk and Assurance, Director of Research and Director of Finance and Company Secretary. The remuneration and benefits of the SLB is based on the agreed and recognised salary banding for the Institute and is reviewed annually.



PROFESSOR BRYAN CHARLESTON FRS – DIRECTOR AND CEO

Professor Charleston joined The Pirbright Institute (formally known as the Institute for Animal Health) in 1994 and focused on studies of the immune response to viral infections in cattle. His research group's efforts are focused on understanding the immune response to foot-and-mouth disease virus in cattle to develop novel vaccines.



PROFESSOR JOHN HAMMOND – DIRECTOR OF RESEARCH

John contributes to all aspects of Institute senior management and focuses in particular on the science-operations interface and research culture at the Institute. He is also Head of Programme: Enhanced host responses for disease control and leads the Immunogenetics Group at the Institute.



HELEN WATTS – DIRECTOR OF FINANCE AND COMPANY SECRETARY FCA

As the Institute's Director of Finance and Company Secretary, Helen's remit includes all aspects of the Institute's finances as well as managing the IT and procurement functions. She is also a member of the Development Programme Board, as well as being a member of a number of working groups overseeing many aspects of the Institute's operations.



DR ANDREW WHITE – DIRECTOR OF RISK & ASSURANCE

Andrew leads on all aspects of risk management including biosafety, health and safety, quality assurance, environment, crisis management and business continuity, biosecurity, and wider enterprise risks such as financial, informational, operational, reputational and strategic. Andy is a biochemist by training and holds a PhD in protein structure and chemistry.

SCIENCE ADVISORY BOARD

The Institute's Science Advisory Board (SAB) provides valuable strategic oversight, input and advice on the Institute's science strategy and scientific directions.



PROFESSOR GEOFFREY L SMITH – CHAIR

Professor Geoffrey L. Smith is Professor of Pathology at the University of Cambridge. His research studies the interactions of poxviruses with the host cell and immune system. Together with Michael Mackett, he developed vaccinia virus (the smallpox vaccine) as an expression vector and established the principal of using genetically engineered viruses as live vaccines.



PROFESSOR JEFFREY ALMOND is an Oxford Martin Visiting Fellow with the Oxford Martin Programme on Vaccines and was former Vice-President and Head of Discovery Research and External R&D at Sanofi Pasteur and Visiting Fellow at the William School of Pathology, University of Oxford.



PROFESSOR DR MARTIN BEER is head of the Institute of Diagnostic Virology at the FLI, working with transboundary animal diseases, zoonosis and emerging diseases like avian influenza virus, Schmallenberg virus and pestiviruses.



PROFESSOR PERSEPHONE BORROW is a viral immunologist whose research interests centre on understanding virus-immune system interactions and their roles in determining the balance between virus clearance versus viral persistence and associated pathogenesis.



PROFESSOR MARY CAMERON is a Professor of Medical Entomology in the Faculty of Infectious and Tropical Diseases, London School of Hygiene & Tropical Medicine (LSHTM). Mary has over 30 years' experience in delivering international-level field and laboratory research focusing on the surveillance and control of a wide range of vector-borne diseases, particularly leishmaniasis.



PROFESSOR GARY ENTRICAN is an immunologist who has specialised in the development of vaccines and diagnostic tests for the control of infectious diseases of ruminant livestock. He has developed many immunological tools and technologies, including kits for in vitro differentiation of ruminant dendritic cells and cytokine ELISAs.



PROFESSOR PAUL KELLAM is a Professor of Virus Genomics at Imperial College London and Vice President of infectious diseases & vaccines at Kymab Ltd, UK. His research has identified how HIV develops resistance to antiviral drugs and has identified the first influenza disease severity gene in people hospitalised with influenza virus. His laboratory contributed to the international Ebola virus genome analysis.



PROFESSOR DEENAN PILLAY is Emeritus Professor of Virology at University College London and a clinical virologist with a focus on antiviral therapy, drug resistance and HIV. He is a Non-Executive Director of an NHS Trust and was the former Chair of Independent SAGE, which discusses Covid-19 with the public.



PROFESSOR ELEANOR M RILEY'S

research focuses on mechanisms of immunity to malaria in humans and in animal models, how the immune response can contribute to disease, how immunity affects the distribution and transmission of the parasite and how malaria infection affects resistance to other infections. In addition, Eleanor has a longstanding interest in the biology of natural killer (NK) cells and their role in resistance to infection.



PROFESSOR DAVID ROWLANDS is an emeritus Professor of Molecular Virology at the University of Leeds. He worked at the Animal Virus Research Institute (now The Pirbright Institute), before transferring to industry, holding positions at Wellcome Biotech and the Wellcome Foundation and finally moved into academia at the University of Leeds. He has a lifetime of experience studying both human and animal viruses.



PROFESSOR HELEN SANG'S main research focus at The Roslin Institute has been the development of technologies for genetic modification of the chicken, which are applied in basic biomedical research, biotechnology and investigating the potential for developing disease resistance in production chickens.



DR SAMUEL THEVASAGAYAM leads the Livestock initiative within the Agriculture Development Program at the Bill & Melinda Gates Foundation where he oversees the implementation of foundation's strategy in animal health, animal production and livestock systems. Sam joined the Gates Foundation in 2012.

FINANCE AND AUDIT COMMITTEE

The committee provides assurance and advice to the Board in relation to the Institute's finances and other assets; business planning and corporate reporting; the Institute's strategic risks; and the statutory external audit and the programme of internal audits covering the corporate functions.

RONA CHESTER – CHAIR

JON COLES

JANE TIRARD

NOMINATIONS AND GOVERNANCE COMMITTEE

This committee provides assurance to the Board in relation to all governance matters, with the aim of obtaining the highest possible standard of governance and compliance. The Institute has adopted the Charity Governance Code with this committee responsible for its implementation.

ALISON HARDY – INTERIM CHAIR

JON COLES

LINDA MAGEE

RISK AND ASSURANCE COMMITTEE

This committee provides assurance to the Board on the arrangements to meet legal duties and to manage risk within the Institute, working in consort with the Risk and Assurance Strategy and Plan, to oversee all risk management systems, controls and processes that may have an impact on the Institute's ability to meet its objective.

PAUL LOGAN – CHAIR

EMMA GRIFFIN

MIKE TURNER

STATEMENT OF TRUSTEE DIRECTORS' RESPONSIBILITIES

The Trustees Directors, who are also Directors of the charitable company for the purposes of company law, are responsible for preparing the Trustees' Report, incorporating the Strategic Report in accordance with applicable law and regulations.

COMPANY LAW REQUIRES THE BOARD OF TRUSTEE DIRECTORS TO PREPARE FINANCIAL STATEMENTS FOR EACH FINANCIAL YEAR.

Under that law the Board of Trustee Directors has elected to prepare the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable laws), including FRS102 (the Financial Reporting Standard applicable in the UK and Republic of Ireland). Under company law the Board of Trustee Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period.

In preparing these financial statements, the Board of Trustee Directors is required to:

- select suitable accounting policies and then apply them consistently,
- observe the methods and principles in the Charities SORP (FRS102),
- make judgments and accounting estimates that are reasonable and prudent,
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements, and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The Board of Trustee Directors is responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. It is also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Trustee Directors are satisfied that they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission and, based on this guidance, the Trustees believe the activities of the Institute to be charitable in nature.

The Trustee Directors recognise that they must act in a way they consider, on good faith, would be most likely to promote the success of the Institute for the benefit of its members as a whole, and in doing so have regard, among other matters to:

- the likely consequences of any decision in the long term,
- the interests of the Institute's employees and students,
- the need to foster the Institute's relationships with key stakeholders,
- the impact of the institute's operations on the community and the environment,
- the desirability of the Institute to maintain a reputation for high standards of business conduct, and
- the ability to act fairly as between members of the Institute.

The Trustee Directors recognise that they have a responsibility to engage with the employees and students who work at the Institute. To fulfil this responsibility staff are invited to each meeting of the Board of Trustee Directors to give a presentation and answer questions on their area of expertise, Trustee Directors regularly undertake walk rounds of the new facilities on site, they attend official opening of new buildings and the Institute's celebration day; all of these give the Trustee Directors the opportunity to meet staff and students and engage with them to better understand the Institute, the work it undertakes and any concerns that staff and students may have.

The Board of Trustee Directors confirms that:

- so far as each Trustee Director is aware, there is no relevant audit information of which the charitable company's auditor is unaware, and
- the Trustee Directors have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

The Report of the Trustee Directors incorporating the Directors' Report and the Strategic Report was approved and signed on behalf of the Trustee Board.

PROFESSOR VINCE EMERY

Chair of the Board of Trustee Directors
Date: 20 July 2023



INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE PIRBRIGHT INSTITUTE

OPINION ON THE FINANCIAL STATEMENTS

In our opinion, the financial statements:

- give a true and fair view of the state of the Charitable Company's affairs as at 31 March 2023 and of its incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of The Pirbright Institute ("the Charitable Company") for the year ended 31 March 2023 which comprise the statement of financial activities, the balance sheet, the cash flow statement, the principal accounting policies and notes to the financial statements. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland* (United Kingdom Generally Accepted Accounting Practice).

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remain independent of the Charitable Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

CONCLUSIONS RELATED TO GOING CONCERN

In auditing the financial statements, we have concluded that the Trustees' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Charitable Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the Trustees with respect to going concern are described in the relevant sections of this report.

OTHER INFORMATION

The Trustees are responsible for the other information. The other information comprises the information included in the Annual Report and Accounts, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

OTHER COMPANIES ACT 2006 REPORTING

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Trustees' Report, which includes the Directors' Report and the Strategic report prepared for the purposes of Company Law, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic report and the Directors' Report, which are included in the Trustees' Report, have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the Charitable Company and its environment obtained in the course of the audit, we have not identified material misstatement in the Strategic report or the Trustees' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

RESPONSIBILITIES OF TRUSTEES

As explained more fully in the Trustees' responsibilities statement, the Trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustees determine is necessary to enable the preparation of financial statements that are free from

material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustees are responsible for assessing the Charitable Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the Charitable Company or to cease operations, or have no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

We have been appointed as auditor under the Companies Act 2006 and report in accordance with the Act and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Extent to which the audit was capable of detecting irregularities, including fraud.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below:

Based on our understanding of the Charitable Company and the sector in

which it operates, we identified that the principal risks of non-compliance with laws and regulations related to its registration with the Charity Commission for England and Wales and the Animals (Scientific Procedures) Act 1986 (ASPA) – under licence from the Home Office. We considered the extent to which non-compliance might have a material effect on the Financial Statements or the charity's continued operation. We also considered those laws and regulations that have a direct impact on the financial statements such as relevant companies acts and charities acts in the UK.

We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls) and determined that the principal risks were related to posting inappropriate journal entries to manipulate financial results and management bias in accounting estimates.

The audit procedures to address the risks identified included:

- Challenging assumptions made by management in their significant accounting estimates in particular in relation to the assumptions related to the estimated useful economic life of tangible fixed assets and assessment of the risks and rewards of ownership of the leasehold land and buildings owned by third parties;
- Testing journals including those which potentially impact remuneration and other performance targets and evaluating whether there was evidence of bias by management or Those Charged with Governance that represented a risk of material misstatement due to fraud;
- Reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with the Home Office, HMRC and the Charities Commission for England and Wales.

Our audit procedures were designed to respond to risks of material misstatement in the financial statements, recognising that the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery, misrepresentations or through collusion. There are inherent limitations in the audit procedures performed and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we are to become aware of it.

A further description of our responsibilities for the audit of the financial statements is located at the Financial Reporting Council's ("FRC's") website at: <https://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

USE OF OUR REPORT

This report is made solely to the Charitable Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Charitable Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Charitable Company and the Charitable Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

DocuSigned by:

Fiona Condron

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FIONA CONDRON

(Senior Statutory Auditor)
For and on behalf of BDO LLP,
statutory auditor, Gatwick, UK
Date: **15 August 2023**

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

STATEMENT OF FINANCIAL ACTIVITIES

For the year ended 31 March 2023

	Note	Unrestricted Funds £'000	Restricted Funds £'000	2023 Total Funds £'000	2022 Total Funds £'000
Income from					
Core Strategic Grant	1	-	18,619	18,619	15,513
Charitable Activities					
- Grants	2	15,168	9,845	25,013	41,185
- Other Charitable Income	2	1,942	-	1,942	1,453
- Investment Income	3	1,288	-	1,288	959
Total Income		18,398	28,464	46,862	59,110
Expenditure on					
Cost of Raising Funds					
- Rental Income & Tenant Services	4	363	348	711	625
- Investment Management Costs	4	22	-	22	19
Charitable Expenditure					
- Grants for Scientific Research	4	34,620	12,619	47,239	43,501
- Science Rental Income & Tenant Services	4	1,093	1,065	2,158	1,923
- Other Charitable Activities	4	417	55	472	450
Total Expenditure		36,515	14,087	50,602	46,518
Net Gains on Investments	10	-	150	150	2,000
Net (expenditure)/Income before transfers		(18,117)	14,527	(3,590)	14,592
Transfers between Funds	15	18,003	(18,003)	-	-
Net Movement in Funds		(114)	(3,476)	(3,590)	14,592
Balance Brought Forward		9,790	335,448	345,238	330,646
Balance Carried Forward		9,676	331,972	341,648	345,238

All income and expenditure derives from continuing activities.
The accompanying notes on pages 42 to 52 form an integral part of these financial statements.

BALANCE SHEET

At 31 March 2023

Company number 00559784

	Note	£'000	2023 £'000	£'000	2022 £'000
Fixed Assets					
Tangible Fixed Assets	9	319,767		318,228	
Investment Property	10	2,150		2,000	
Investments	10	10		-	
			321,927		320,228
Current assets					
Stocks	11	187		359	
Debtors	12	4,936		10,703	
Term deposits over three months		15,121		5,016	
Cash at Bank & In hand		19,637		29,495	
		39,881		45,573	
Creditors: Amounts falling due within one year	13	(20,160)		(20,563)	
Net Current Assets			19,721		25,010
Total Assets less Current Liabilities			341,648		345,238
Net Assets			341,648		345,238
Financed by					
Unrestricted Reserves	15		9,676		9,790
Restricted Reserves					
- Fixed Asset Fund	15		325,844		330,243
- Investment Revaluation Reserve	15		2,150		2,000
- Other Restricted Reserves	15		3,978		3,205
Total Funds			341,648		345,238

Approved by the Board of Trustee Directors on 20th July 2023



Professor Vince Emery
Trustee Director



Rona Chester
Trustee Director

The accompanying notes on pages 42 to 52 form an integral part of these financial statements.

STATEMENT OF CASH FLOWS

For the year ended 31 March 2023

	Note	2023 £'000	2022 £'000
Net Cash provided by Operating Activities			
Net Movement in Funds		(3,590)	14,592
Interest & Rent Receivable		(1,288)	(959)
Deprecation		10,525	9,684
(Increase) in valuation of Investment Property		(150)	(2,000)
Decrease/(Increase) in Stocks		172	(95)
Decrease in Debtors		5,767	2,694
(Decrease)/Increase in Creditors		(11)	1,255
Total Net cash provided by Operating Activities		11,425	25,171
Cashflows from Investing Activities:			
Investment in Subsidiary		(10)	-
Interest & Rents Received		1,288	959
(Increase)/Decrease in Cash Deposits > 3 months		(10,105)	18,178
Purchase of Property, Plant & Equipment		(12,456)	(34,050)
Net Cash Use in Investing Activities		(21,283)	(14,913)
Change in Cash & Cash Equivalents in the year		(9,858)	10,258
Cash & Cash Equivalents at the Beginning of the Year		29,495	19,237
Cash & Cash Equivalents at the End of the Year		19,637	29,495
Cash & Cash Equivalents as above		19,637	29,495
Cash placed on Term Deposits > 3 months		15,121	5,016
Cash at Bank & In Hand		34,758	34,511
		As at 1 April 2023 £'000	As at 31 March 2023 £'000
Net Cash at bank			
Cash at Bank		29,495	19,637
Total		29,495	19,637

The accompanying notes on pages 42 to 52 form an integral part of these financial state-

PRINCIPLE ACCOUNTING POLICIES

The financial statements have been prepared on the historical cost basis, except for the revaluation of certain properties and financial instruments that are measured at revalued amounts at the end of each reporting period, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Institute's financial statements.

BASIS OF ACCOUNTING

The financial statements have been prepared in accordance with Accounting and Reporting by Charities:

- Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2019) - (Charities SORP (FRS 102), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.
- The Institute meets the definition of a public benefit entity under FRS102. Assets and liabilities are initially recognised at historical cost or transaction value unless otherwise stated in the relevant accounting policy note(s).

GOING CONCERN

The Trustee Directors have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC UKRI, £17.6m per annum. This award originally runs from 1 April 2023 to 31 March 2028.

This source of funding, the consistent performance of attracting income from other funding bodies and the development of a business plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security. Having considered the risks in respect of future funding, financial forecasts for the period to November 2024 and the level of reserves, the

Trustee Directors have concluded that it remains appropriate to prepare the financial statements on a going concern basis and there are no material uncertainties which the Trustee Directors have identified.

GROUP FINANCIAL STATEMENTS

The Trustee Directors have considered whether the requirement to prepare consolidated financial statements by virtue of section 405(2) of the Companies Act 2006 is appropriate for the financial year, as its previous dormant subsidiary undertaking, Pirbright Innovations Limited, was reactivated during the year. The Trustee Directors consider that the results of its' subsidiary are not material for the purposes of providing a true and fair view of The Pirbright Institute group. Accordingly, these financial statements present information about the Institute as an individual entity and not its group.

INCOME

Income comprises unencumbered grants received from research councils, grant income from collaborative, commissioned, and competitively awarded research projects, income from miscellaneous charitable activities, commercial and residential rents from the letting of Institute controlled property, and interest earned on the temporary investment of surplus funds.

Income is recognised when the Institute becomes legally entitled to the income and the amount can be quantified with reasonable accuracy.

For the grants related to collaborative, commissioned and competitively awarded research projects, income is recognised as the associated expenditure is incurred.

Some of the research grants are undertaken in collaboration with other research institutes. Where these

arrangements have been entered into with Pirbright being the lead institute, the collaboration agreement entered into is solely between the funding body and the Institute. However, in the judgement of the Trustee Directors, such arrangements are entered into so the Pirbright acts as an agent to the other organisations named in the funding application. As a result, funds paid to collaborators are netted off the income received. If this judgement were not applied, both income and expenditure would be £1.6m (2022: £1.6m) higher than that stated in these financial statements.

All core BBSRC UKRI grants are recognised as revenue in the year they are received. Grant income including research grants received in advance of conditions being met is deferred until those conditions are fully satisfied. Rental and interest income is recognised based on the period to which it relates.

Capital grants are recognised in the statement of financial activities when entitlement passes, and once the criteria of certainty and measurement are met.

EXPENDITURE

Costs of charitable activities comprises costs incurred directly or in support of scientific research whether carried out in the Institute's own facilities or in other laboratories. Raising funds represents the costs associated with trading and raising income including the Institute's rental activities and tenant services and investments.

All costs are allocated between the expenditure categories of the Statement of Financial Activities (SOFA) on a basis designed to reflect the use of the resource. Costs relating to a particular activity are allocated directly. Support costs, representing the staffing and associated costs of finance, personnel

and general administration in supporting the operations of the Institute, are apportioned on an appropriate basis (see note 5 to the financial statements – Analysis of support costs for further details).

RESTRICTED FUNDS

Income received by way of grants, sponsorship, donation, or legacy which is directed by the funder as to be applied for specific purposes is accounted for within restricted income.

Awards applied within the terms dictated by the awarding authority on the acquisition or improvement of tangible fixed assets are also accounted for within restricted income and funds. The balance of the restricted fixed asset fund is reduced by the depreciation charges over the expected useful life of the asset. This treatment has been applied to reflect the assets being on land owned by a third party, therefore at the end of the lease they will revert to that third party (see further explanation below regarding the ownership of land and buildings). In addition, as detailed in note 19, there is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent grant more than the financing requirements.

DESIGNATED FUNDS

Unrestricted designated funds comprise sums set aside by the Trustee Directors for specific purposes including the acquisition of scientific equipment, support of the staff cost to provide new group leader posts and provide new scientists for containment level 3 laboratories on site, funding for sharing Pirbright's expertise through development of training programmes related to disease control, biosafety and containment engineering, and support for the work required to occupy the new facility on site, the Brooksby Building.

UNRESTRICTED FUNDS

Income received which is not directed by the provider to be applied for specific purposes to an extent which exceeds the constraints of the Institute's constitution is accounted for within unrestricted general funds.

FIXED ASSETS

Fixed assets with a cost of £10,000 or more are capitalised and depreciated to their estimated residual values set out below. Assets with a cost of less than £10,000 are expensed in the year of purchase.

- Land – 99 years being the length of the lease from BBSRC UKRI
- Buildings – on a component basis, between 15 and 50 years
- Plant and machinery – 5 years on a straight-line basis
- Fixtures, fittings, tools and equipment – 5 years on a straight-line basis
- No depreciation is provided on assets in the course of construction
- Depreciation is charged from the date on which the asset becomes operational

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The North site lease was renewed in December 2020 for 25 years and the South site lease for a term of 99 years. The Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such, follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the Trustee Directors view is highly unlikely.

Individual freehold and leasehold properties at the Pirbright site were revalued to fair value upon transition to FRS 102 (1 April 2014) with the surplus on book value being transferred to the revaluation reserve. The fair value at the transition date was recognised as the deemed cost of the assets.

INVESTMENT PROPERTY

Investment property is included in the balance sheet at fair market value in accordance with FRS102 and, as such, no depreciation is charged in the year. Gains or losses arising from the revaluation are credited or charged respectively to the SOFA under net gains/(losses) on investments.

LEASED ASSETS

Rentals payable under operating leases are charged to the SOFA on a straight-line basis over the lease term.

Assets acquired under finance leases are capitalised as tangible fixed assets and depreciated over their useful lives. Finance charges and interest are taken to the SOFA in proportion to the remaining balance of capital repayments or net obligations outstanding.

Lease obligations on investment properties are treated as finance leases. The lease obligation is quantified at the point of the lease inception or the property becoming an investment property, whichever occurs later, based on the present value of the minimum lease payments, and is included in creditors.

Any adjustments to the rent payable under such leases due to periodic rent reviews is considered to be contingent rent. Contingent rent is treated as expenditure as it becomes payable.

STOCK

Laboratory consumables are valued at the lower of cost and net realisable value.

TERM DEPOSITS OVER THREE MONTHS

Cash and term deposits over three months comprise cash deposits held at the Institute's banks with a maturity of 3 months or more on the date of investment.

DEBTORS

Trade and other debtors are recognised at the settlement amount due after any trade discount offered. Prepayments are valued at the amount prepaid.

CREDITORS AND PROVISIONS

Creditors and provisions are recognised where the Institute has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably.

Creditors and provisions are normally recognised at their settlement amount.

FINANCIAL INSTRUMENTS

The Institute only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value.

FOREIGN CURRENCY TRANSLATION

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at the rates of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of the transaction.

STAFF AND PENSION COSTS

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute.

Following the Transfer of Undertakings (Protection of Employment) exercise as of 1 January 2017, all BBSRC UKRI employees are now employed by Pirbright. The Institute therefore retains responsibility for paying employment costs in relation to all such employees, including basic pay and allowances, contractual payments, tax, national insurance, and pension contributions. Employees engaged prior to April 2015 remain members of the Research Councils' Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer.

The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the Government Actuary's Department on a periodic basis. The cost of providing pension and related benefits is charged to the SOFA. Some payments are to a defined benefit scheme as explained above and in Note 8 but there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

TAXATION

The Pirbright Institute is a registered charity within the meaning of the UK Taxes Acts and is, therefore, eligible to claim exemptions to income tax and capital gains tax.

JUDGEMENTS IN APPLYING ACCOUNTING POLICIES AND KEY SOURCES OF ESTIMATION UNCERTAINTY

Preparation of the financial statements requires the Trustee directors and senior management to make significant judgements and estimates. The items in the financial statements where these judgements and estimates have been made include:

- Depreciation, which has been charged in line with the accounting policy above.
- The amount of depreciation charged and net book value of the assets is included in Note 9.
- The Institute includes in its financial statements leasehold land and buildings owned by third parties because the Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. These assets are held at their deemed cost, being their fair value at the transition date of FRS 102. The judgements applied and the revaluation adjustments and net book value of the assets is included in Note 9.

NOTES TO THE TRUSTEE DIRECTORS' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2023

1. INCOME FROM CORE STRATEGIC GRANTS

2023
£'000

2022
£'000

BBSRC UKRI - Core Strategic Grant
Resource Contribution Grants

16,163
2,456

15,513
-

18,619

15,513

All income from core strategic grants in the current and prior year was restricted.

2. INCOME FROM CHARITABLE ACTIVITIES

2023
£'000

2022
£'000

Grant Income

BBSRC UKRI - Research Grants
BBSRC UKRI - Other Grants
Other Research Grants

3,340
9,011
12,662

3,522
25,375
12,288

25,013

41,185

Other Charitable Activities

1,942

1,453

26,955

42,638

Income from charitable activities included restricted income from grants of £14,845k (2022:£24,904k)

All other income from charitable activities in the current and prior year was unrestricted.

The analysis by region of funder is set out below:

2023
£'000

2022
£'000

United Kingdom
Europe
North America
Others

21,638
339
4,304
674

37,909
569
2,944
1,216

26,955

42,638

2. INCOME FROM CHARITABLE ACTIVITIES (continued)

	Unrestricted £'000	Restricted £'000	2023 Total £'000	
Current Year				
Analysis of Grants & Contracts Income				
BBSRC UKRI				
Competitive Project Grants - Research Grants	3,340	-	3,340	
Other Grants	-	9,011	9,011	
Total BBSRC UKRI	3,340	9,011	12,351	
Other				
DEFRA "Umbrella" Commissioned Projects	2,818	-	2,818	
DEFRA Surveillance	2,752	-	2,752	
Other Government Departments	214	-	214	
European Union	339	-	339	
Industry & Levy Boards	1,561	-	1,561	
Trusts, Foundations & Charities	674	-	674	
Other Research Income	3,470	834	4,304	
Total Other	11,828	834	12,662	
Total Income Grants & Contracts	15,168	9,845	25,013	
	Unrestricted £'000	Restricted £'000	2022 Total £'000	
Prior Year				
Analysis of Grants & Contracts Income				
BBSRC UKRI				
Competitive Project Grants - Research Grants	3,522	-	3,522	
Other Grants	471	24,904	25,375	
Total BBSRC UKRI	3,993	24,904	28,897	
Other				
DEFRA "Umbrella" Commissioned Projects	2,395	-	2,395	
DEFRA Surveillance	3,043	-	3,043	
Other Government Departments	665	-	665	
European Union	569	-	569	
Industry & Levy Boards	1,572	-	1,572	
Trusts, Foundations & Charities	906	-	906	
Other Research Income	3,138	-	3,138	
Total Other	12,288	-	12,288	
Total Income Grants & Contracts	16,281	24,904	41,185	
Other Income	Unrestricted £'000	Restricted £'000	2023 Total £'000	2022 Total £'000
Royalties	429	-	429	373
Diagnostic Testing	345	-	345	317
Supply of Reagents	325	-	325	247
Patent Reimbursement	254	-	254	66
Commercial Contract Research	141	-	141	1
Restaurant Revenue	88	-	88	80
Training & Lecture Fees	65	-	65	-
Other	295	-	295	369
Total Other Income	1,942	-	1,942	1,453

All other income in 2022 was unrestricted

3. INVESTMENT INCOME

2023
£'000

2022
£'000

Rental Income & Tenant Services	968	930
Bank Interest	320	29
	1,288	959

All Investment Income in the current and prior year was unrestricted.

4. ANALYSIS OF EXPENDITURE

Other
Direct Costs

Allocated
Support Costs

2023
Total
£'000

Staff Costs
£'000

£'000

Current Year

Unrestricted Funds

Cost of Raising Funds

- Rental Income & Tenant Services	-	-	363	363
- Investment Management Costs	-	12	10	22

Charitable Expenditure

- Grants for Scientific Research	12,848	8,283	13,489	34,620
- Science Rental Income & Tenant Services	-	-	1,093	1,093
- Other Charitable Activities	-	174	243	417

Total Unrestricted Expenditure **12,848** **8,469** **15,198** **36,515**

Restricted Funds

Cost of Raising Funds

- Rental Income & Tenant Services	-	-	348	348
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Charitable Expenditure

- Grants for Scientific Research	-	-	12,619	12,619
- Science Rental Income & Tenant Services	-	-	1,065	1,065
- Other Charitable Activities	-	-	55	55

Total Restricted Expenditure **-** **-** **14,087** **14,087**

Total Expenditure **12,848** **8,469** **29,285** **50,602**

Included in allocated support costs are staff costs of £5,404k.

4. ANALYSIS OF EXPENDITURE (continued)

	Staff Costs	Other Direct Costs	Allocated Support Costs	2022 Total
	£'000	£'000	£'000	£'000
Prior Year				
Unrestricted Funds				
Cost of Raising Funds				
- Rental Income & Tenant Services	-	-	309	309
- Investment Management Costs	-	10	9	19
Charitable Expenditure				
- Grants for Scientific Research	13,131	7,521	12,045	32,697
- Science Rental Income & Tenant Services	-	-	988	988
- Other Charitable Activities	-	188	212	400
Total Unrestricted Expenditure	13,131	7,719	13,563	34,413
Restricted Funds				
Cost of Raising Funds				
- Rental Income & Tenant Services	-	-	316	316
Charitable Expenditure				
- Grants for Scientific Research	-	-	10,804	10,804
- Science Rental Income & Tenant Services	-	-	935	935
- Other Charitable Activities	-	-	50	50
Total Restricted Expenditure	-	-	12,105	12,105
Total Expenditure	13,131	7,719	25,668	46,518

Included in allocated support costs are staff costs of £4,978k.

5. ANALYSIS OF SUPPORT COSTS

	Rental Income & Tenant Services	Investment Management Costs	Grants for Scientific Research	Science Rental Income & Tenant Services	Other Charitable Activities	Total 2023	Basis of Allocation
	£'000	£'000	£'000	£'000	£'000	£'000	
Current year							
Unrestricted Funds							
Premises	196	-	8,451	981	74	9,702	% of floor area
Finance	27	10	596	46	54	733	time spent
Management	48	-	1,163	20	36	1,267	time spent
Human Resources	70	-	511	-	21	602	time spent
Information Technology	10	-	2,088	23	34	2,155	time spent
Procurement	7	-	553	21	21	602	time spent
Governance	5	-	127	2	3	137	time spent
	363	10	13,489	1,093	243	15,198	
Restricted Funds							
Depreciation	329	-	9,264	877	55	10,525	
Repairs & maintenance	19	-	3,355	188	-	3,562	
	348	-	12,619	1,065	55	14,087	
Total Support Costs	711	10	26,108	2,158	298	29,285	

	Rental Income & Tenant Services	Investment Management Costs	Grants for Scientific Research	Science Rental Income & Tenant Services	Other Charitable Activities	Total 2022	Basis of Allocation
	£'000	£'000	£'000	£'000	£'000	£'000	
Prior Year							
Unrestricted Funds							
Premises	178	-	7,650	888	67	8,783	% of floor area
Finance	25	9	567	44	50	695	time spent
Management	32	-	773	13	23	841	time spent
Human Resources	54	-	398	-	16	468	time spent
Information Technology	10	-	2,097	23	35	2,165	time spent
Procurement	6	-	473	18	18	515	time spent
Governance	4	-	87	2	3	96	time spent
	309	9	12,045	988	212	13,563	
Restricted Funds							
Depreciation	303	-	8,526	807	50	9,686	
Repairs & maintenance	13	-	2,278	128	-	2,419	
	316	-	10,804	935	50	12,105	
Total Support Costs	625	9	22,849	1,923	262	25,668	

6. NET (EXPENDITURE)/INCOME

	2023 £'000	2022 £'000
Net income is stated after charging:		
Auditors' remuneration		
- Audit Services	124	56
- Non-Audit Services (Taxation Advice)	29	21
Depreciation	10,525	9,684
Loss on Foreign Exchange	64	27
Translations	39	22
Hire of Plant & Machinery		
Rental of Land & Buildings	58	55

7. REMUNERATION OF THE TRUSTEE DIRECTORS

None (2022:None) of the Trustee Directors received any remuneration from the Pirbright Institute or its' subsidiary, Pirbright Innovations Limited, during the year. Eight Trustee Directors (2022:Eleven Trustee Directors) had travel and subsistence expenses of £2,654 (2022:£1,744) reimbursed in the year.

8. STAFF NUMBERS AND COSTS

The average number of people employed by the Institute during the year, analysed by category, was as follows:

	Number of Employees	
	2023	2022
Office, Management and Estate Support	119	121
Scientific	238	240
Total	357	361

The aggregate payroll costs of these people were as follows :

	2023 £'000		2022 £'000	
Wages & Salaries	13,754		13,967	
Social Security Costs	1,485		1,432	
Pension Costs	2,412		2,549	
Total	17,651		17,948	

	2023 £'000		2022 £'000	
Termination Payments				
- Redundancy	86		148	
Total	86		148	

At 31 March none (2022:£60k) of these payments were outstanding.

Some employees of the Institute are members of the Research Councils' Pension Schemes (RCPS), which are funded principally through employer and employee contributions. The pension schemes are defined benefit schemes and provide retirement and related benefits on final emoluments, redundancy, capability and ill health. The scheme is administered by the Research Councils' Joint Superannuation Services and the schemes' finances are administered by BBSRC UKRI.

It is an unfunded scheme, there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme. The Institute pays employers' contributions at a percentage of scheme members' pensionable pay and emoluments as assessed by the Government Actuary's Department (GAD) on a periodical basis. The rate for the year was 26.0%, which was established following GAD's most recent assessment.

The pension cost represents contributions payable by the Institute to the scheme and amount to £908,295 (2022: £890,200).

Since April 2015, all new staff are members of The Pirbright Company Pension, a defined contribution scheme administered by Aviva on behalf of the Institute.

The Institute contributes 10% of scheme members' pensionable pay and emoluments. The pension cost represent contributions payable by the Institute to the scheme and amount to £1,741,530 (2022:£1,658,814).

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute.

Following the Transfer of Undertakings (Protection of Employment) (TUPE) exercise as of 1 January 2017, all BBSRC employees are now employed by the Institute.

The Institute therefore retains responsibility for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the RCPS). The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer. The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the GAD on a periodic basis.

The key management of the Institute comprise the Senior Leadership Board and the Trustee Directors.

The total employee benefits (including wages and salaries, employer's national insurance and pension costs) of the key management personnel of the Institute were £549,734 (2022:£613,449).

	Number of Employees	
	2023	2022
£60,000 - £69,999	16	13
£70,000 - £79,999	4	6
£80,000 - £89,999	4	3
£90,000 - £99,999	2	4
£100,000 - £109,999	1	-
£110,000 - £119,999	-	1
£140,000 - £149,999	1	1

The number of staff earning over £60,000 for whom retirement benefits are accruing under defined benefit schemes amounted to 12 (2022:14) and the amounts paid in the year were £284k (2022:£257k).

9. TANGIBLE FIXED ASSETS

	Land & Buildings £'000	Plant & Machinery £'000	Fixtures & Fittings £'000	Assets Under £'000	Total £'000
Cost/Revaluation					
At 1 April 2022	249,181	21,011	1,283	130,106	401,581
Additions	-	3,492	-	8,572	12,064
Transfers	-	8,122	-	(8,122)	-
At 31 March 2023	249,181	32,625	1,283	130,556	413,645
Depreciation					
At 1 April 2022	63,776	18,294	1,283	-	83,353
Charge for year					
- Historic	8,108	1,467	-	-	9,575
- Revaluation	950	-	-	-	950
At 31 March 2023	72,834	19,761	1,283	-	93,878
Net Book Value					
At 31 March 2023	176,347	12,864	-	130,556	319,767
At 31 March 2022	185,405	2,717	-	130,106	318,228

Land and buildings include land with a book value of £13,005k (2022:£13,603k).

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The North Side lease was renewed in December 2020 for 25years and the South Side lease for a term of 99 years. The Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required scientific programme, which, in the Trustee Directors view, is highly unlikely.

The Institute used the option in FRS102 to use fair value at the date of transition to FRS102,(1 April2014), as deemed cost on transition. GVA Grimley Limited, Chartered Surveyors, and an independent valuer, provided these values through a professional valuation.

The Institute derives a rental income from some of the buildings. This is included in these financial statements, with the leases associated with those buildings classified as investment properties , as per note 10 of these statements.

10. INVESTMENTS & INVESTMENT PROPERTIES

Investment in Subsidiary Undertaking

Pirbright Innovations Limited was dormant in the prior year. During the year the Institute increased its investment in Pirbright Innovations Limited to £10,000 (2022: Nil). The Pirbright Institute owns the entire share capital of Pirbright Innovations Limited.

During the year the subsidiary has been reactivated and currently is being used a special purpose vehicle company for the project of constructing the UK Centre for Veterinary Vaccine Innovation and Manufacturing on the Pirbright Site. The Trustee Directors consider that the activities of the of the subsidiary are not material to the financial position of the Pirbright Institute Group and have therefore elected not to produce consolidated financial statements.

	2023 £'000	2022 £'000
The assets and liabilities of the subsidiary were:		
Current Assets		
- Debtors - VAT	23	-
- Debtors - Amounts owed by the Pirbright Institute	108	-
- Cash at Bank	35	-
- Creditors - Trade	(95)	-
- Creditors - Accruals	(61)	-
- Creditors - Amounts owed to the Pirbright Institute	(8)	(8)
Total Assets less Current Liabilities	2	(8)
Share Capital	2	-
Reserves	0	(8)
Total Funds	2	(8)

Investment in Associated Undertaking

Genomia Management Limited was formed on 16 April 2004 and is a company limited by guarantee. The company was established by way of grants from the Department of Innovation - Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund, the objective of which is to assist in the development of research output from the members into commercially realisable opportunities.

The Institute has equal membership in this company with Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Nutrition and Health and Scotland's Rural College. The company's turnover for the year ended 31 March 2023 was £Nil (2022:£28,580) and its net assets as at 31 March 2023 were £105,158 (2022: £141,122).

10. INVESTMENTS & INVESTMENT PROPERTIES (Continued)

Investment in Properties	2023 £'000	2022 £'000
The value of Investment Properties were:		
At 1 April 2022	2,000	-
Change in valuation in the year	150	2,000
At 31 March 2023	2,150	2,000

Part of the site in Pirbright is sub let to a third party. In line with FRS102 this lease is therefore recognised as an investment property in these financial statements. The investment property was valued at 31 March 2023 by RICS Registered Valuers from Powis Hughes Ltd. The valuers are not employees or or offices of the Institute.

The valuation has been carried out in accordance with the RICS Valuation - Global Standards 2022 (which incorporate the International Valuation Standards) and FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland on the basis of Fair Value using an Income Approach.

11. STOCKS

	2023 £'000	2022 £'000
Laboratory Consumables	187	359

The Institute's stock consists of laboratory supplies for research purposes.

12. DEBTORS : AMOUNTS FALLING DUE WITHIN ONE YEAR

	2023 £'000	2022 £'000
Trade Debtors	901	1,848
Prepayments	1,660	1,663
Accrued Income	1,654	6,996
Other Debtors	721	196
	4,936	10,703

13. CREDITORS : AMOUNTS FALLING DUE WITHIN ONE YEAR

	2023 £'000	2022 £'000
Trade Creditors	2,487	3,547
Taxation & Social Security	46	156
Other Creditors	12	-
Accruals	5,078	5,276
Deferred Grant Income	12,180	11,094
Short-term Compensated Absences	357	490
	20,160	20,563

14. RECONCILIATION OF MOVEMENT IN ACCRUED & DEFERRED GRANT INCOME

	2023 £'000	2022 £'000
Accrued Income	1,654	6,996
Deferred Grant Income	(12,180)	(11,094)
	(10,526)	(4,098)
Net Deferred Grant income at the beginning of the year	(4,098)	(6,964)
Research Grant income received during the year	(21,664)	(13,415)
Research Grant income released to the SOFA during the year	15,168	16,281
Net Deferred Grant income at the end of the year	(10,594)	(4,098)

15. FUNDS

Unrestricted Designated Funds

Unrestricted designated funds comprise sums set aside for specific purposes including the acquisition and improvement of tangible fixed assets, the training of scientific staff and setting up of the Pirbright training programme to sell the Institute's expertise to third party organisations.

This includes £1,173k for occupation costs relating to capital projects (2022: £1,173k), £100k to maintain scientific equipment capacity and capability (2022: £100k), £435k for group leaders and scientists (2022: £319k) and £185k for the Pirbright training programme (2022: £783k).

Restricted Funds

Restricted funds comprise grants received from funders specifically to be applied in the acquisition or improvement of tangible fixed assets or otherwise applied for such purpose as specified by the grants provided.

	Balance 1 April 2022 £'000	Net Income/ £'000	Transfer between Funds £'000	Balance 31 March 2023 £'000
Current Year				
Unrestricted Funds				
General	7,415	(17,635)	18,003	7,783
Designated	2,375	(482)	-	1,893
Restricted Funds				
Fixed Asset Fund	314,945	(3,861)	1,063	312,147
Fixed Asset Revaluation Fund	15,298	-	(1,601)	13,697
Total	330,243	(3,861)	(538)	325,844
Other Restricted Funds				
Fixed Asset Project Support Costs	539	(346)	538	731
DP2 Phase Occupation Costs	1,025	129	0	1,154
BBSRC UKRI Core Grant Funding	-	16,162	(16,162)	-
Brooksby Support Costs	1,573	(159)	-	1,414
BBSRC Supplementary Energy Grant	-	2,456	(1,841)	615
Investment Property Revaluation	2,000	150	-	2,150
Other	68	(4)	-	64
Total	345,238	(3,590)	-	341,648

	Balance 1 April 2021 £'000	Net Income/ £'000	Transfer between Funds £'000	Balance 31 March 2022 £'000
Prior Year				
Unrestricted Funds				
General	7,504	(15,352)	15,263	7,415
Designated	2,493	(368)	250	2,375
Restricted Funds				
Fixed Asset Fund	317,191	13,394	(342)	330,243
Other Restricted Funds				
Fixed Asset Project Support Costs	593	(396)	342	539
DP2 Phase Occupation Costs	1,224	(199)	-	1,025
BBSRC UKRI Core Grant Funding	-	15,513	(15,513)	-
Brooksby Support Costs	1,573	-	-	1,573
Investment Property Revaluation	-	2,000	-	2,000
Other	68	-	-	68
Total	330,646	14,592	-	345,238

15. FUNDS (continued)

Fixed Asset Fund	2023 £'000	2022 £'000
Balance brought forward at 1 April 2022	330,243	317,191
Grants Received	9,845	24,904
Depreciation	(10,525)	(9,684)
Revenue Spend	(3,181)	(1,826)
Transfers	(538)	(342)
Balance carried forward at 31 March 2023	325,844	330,243

The Fixed Asset Fund represents funding received from BBSRC UKRI, for the past and future acquisition of tangible fixed assets. These assets are built on land that is not owned by The Pirbright Institute. The capital fund has been set up to assist in identifying those funds that are not free funds and it represents the net book value of tangible fixed assets held by the Institute and amounts received for capital but not yet spent.

The unexpended balance of unrestricted designated funds and restricted funds is invested temporary and appears in the balance sheet under current assets.

Other Restricted Funds

Fixed Asset Project Support Cost grants have been received from BBSRC UKRI to provide funding towards support costs and overrun costs relating to the development programme capital projects.

The Capital Rebuild Grant, Additional Construction Support has on approval from BBSRC UKRI has been transferred to development phase 2 occupation fund. As part of the ongoing development, project funds from these reserves have been transferred to the Fixed Asset Fund.

The BBSRC UKRI core grant funding is received from BBSRC UKRI to ensure that the Institute's facilities are maintained at the necessary cutting-edge high containment level that is essential to provide a national capability.

	Unrestricted General Funds £'000	Restricted Funds BBSRC Core Funding £'000	BBSRC Energy Support £'000
Transfer between Funds			
Transfer of funds to General Reserves	18,003	16,162	1,841

The transfer of funds during the year are as follows:

In accordance with the original grant offer letter, core funding from BBSRC UKRI, is required to be shown as restricted income. The Institute subsequently received confirmation that the income could be applied for general purposes and therefore the transfer of income to unrestricted reserves has been made.

Similarly, in accordance with the grant offer letter from BBSRC UKRI, the energy support grant can only be used for excess energy costs and therefore has been treated as restricted income. Of the total award of £2,456k, £1,841k was utilised during the financial year with the outstanding award of £615k being carried forward in Restricted Reserves to be utilised to cover excess energy costs incurred by the Institute during 2023/24.

16. ANALYSIS OF NET ASSETS BETWEEN FUNDS

	Investments £'000	Fixed Assets £'000	Net Current Assets £'000	Total £'000
Current Year				
Unrestricted Funds	-	-	9,676	9,676
Restricted Funds				
Fixed Asset Capital Fund	-	306,070	6,077	312,147
Fixed Asset Revaluation Fund	-	13,697	-	13,697
Investment Property Revaluation Fund	2,150	-	-	2,150
Other Restricted Funds	10	-	3,968	3,978
	2,160	319,767	19,721	341,648
Prior Year				
Unrestricted Funds	-	-	9,790	9,790
Restricted Funds				
Fixed Asset Capital Fund	-	302,945	12,015	314,960
Fixed Asset Revaluation Fund	-	15,283	-	15,283
Investment Property Revaluation Fund	2,000	-	-	2,000
Other Restricted Funds	-	-	3,205	3,205
	2,000	318,228	25,010	345,238

17. FINANCIAL INSTRUMENTS

	2023	2022
	£'000	£'000
Financial assets measured at amortised cost	1,622	2,044
Financial liabilities measured at amortised cost	(2,545)	(3,703)
	(923)	(1,659)

Financial assets measured at amortised cost comprise trade debtor, amounts owed by related parties and other debtors.

Financial liabilities measured at amortised cost comprise trade creditors, taxation and social security creditors and other creditors.

18. COMMITMENTS

Capital commitments at the end of the financial year for which no provision has been made:

	2023	2022
	£'000	£'000
Authorised but not contracted for	9,331	6,113
Operating lease commitments		
Land & Buildings		
- Within one year	58	52
- In two to five years	234	218
- In over five years	248	250
Plant & Machinery		
- Within one year	8	8
- In two to five years	-	8

19. CONTINGENT LIABILITIES

There is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent and capital grants in excess of the financing requirements. No such liabilities existed at either 31 March 2023 or 31 March 2022.

20. RELATED PARTY TRANSACTIONS

Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI).

BBSRC UKRI provides substantial funding to the Institute. The Institute is affiliated with BBSRC UKRI along with seven other institutes. Details of grants received from BBSRC UKRI are detailed in Notes 1 and 2. During the year, BBSRC UKRI charged the Institute £0 (2022: £0) for other costs and Engineering and Physical Sciences Research Council UKRI charged the Institute £42,234k (2022: £42,134k) for other costs.

Pirbright Innovations Limited

Pirbright Innovations Limited, a wholly owned subsidiary, acts a special purpose vehicle for the Institute with regard to the project of constructing the UK Centre for Veterinary Vaccine Innovation and Manufacturing on the Pirbright Site. During the year, Pirbright Innovations Limited charged the Institute £291,884 (2022: £0) for this project. Details of the assets and liabilities of Pirbright Innovations Limited are detailed in Note 10.

REFERENCE AND ADMINISTRATIVE DETAILS

Trustee Directors:

Professor Vince Emery: Chair

Rona Chester: Deputy Chair

Jon Coles

Emma Griffin

Alison Hardy

Dr Paul Logan

Dr Linda Magee OBE

Professor Deenan Pillay

Jane Tirard

Professor Mike Turner

Director of the Institute:

Professor Bryan Charleston MRCVS

Company Secretary:

Helen Watts FCA

Registered office of The Pirbright Institute and Pirbright Innovations Limited:

Ash Road, Pirbright, Woking, Surrey GU24 0NF

Auditor:

BDO LLP, 2 City Place, Beehive Ring Road, Gatwick, West Sussex RH6 0PA

Bankers:

Barclays Bank PLC, Wytham Court, 11 West Way, Oxford OX2 0JB

Lloyds Bank PLC, 5 High Street, Swindon SN1 3EN

Solicitors:

Charles Russell LLP, 1 London Square, Cross Lanes, Guildford GU1 1UN

Penningtons Manches LLP, 9400 Garsington Road, Oxford Business Park, Oxford OX4 2HN



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Accounts

ANNUAL REPORT AND ACCOUNTS FOR THE YEAR ENDED 31 MARCH 2022

REGISTERED CHARITY NUMBER: 228824 / REGISTERED COMPANY NUMBER: 00559784





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Cover image:
 Confocal image of a
 Madin-Darby bovine
 kidney (MDBK) cell
 infected with a
 genetically modified
 lumpy skin disease virus
 (LSDV) strain (green spots).
 © The Pirbright Institute

Inside front image:
 Liquid nitrogen store
 in the BBSRC National
 Vaccinology Centre:
 The Jenner Building.
 © James Brittain

FOREWORD BY THE CHAIR OF TRUSTEES



As the recently appointed Chair of the Trustee Board it is my pleasure to present the Trustees' Report incorporating the strategic report for the year 1 April 2021 to 31 March 2022.

The science strategy of The Pirbright Institute aims to provide UK and international community with the capability to predict, detect, understand and respond to the threat of serious viral diseases of livestock, and their spread from animals to humans.

As we emerge from the COVID-19 pandemic, Pirbright's position is a critical one for the UK and globally. The excellent facilities available at Pirbright, and the significant continuing investment made by the Biotechnology and Biological Sciences Research Council (BBSRC) part of UK Research and Innovation (UKRI) has further strengthened an Institute that has the scientific and support personnel, coupled with the high containment facilities, to deliver world class science to allow it to achieve its strategic aims.

The Pirbright Institute's strategy is underpinned by a series of national and international strategic partnerships including those with other UKRI funded institutes. The Institute is also committed to playing a key role in nurturing the next generation of researchers, technical specialists and innovators to further strengthen its own national capability and to contribute to the broader impact that UK science makes nationally and globally.

The past year has seen Pirbright make significant progress in delivering its new facilities to ensure it stays at the cutting-edge of research. These include completing The Biggs Building which will help improved global food security and poultry welfare through understanding disease pathogenesis and generating new and more effective poultry vaccines. The Brooksby Building has advanced significantly during the year and will be operational in 2023. It will be a self-contained experimental facility involving high containment pathogens such as foot-and-mouth disease virus and African swine fever virus as well as pathogens that can spread from livestock to humans, for example, avian influenza virus. Pirbright is committed to reducing its carbon footprint, for example, the new combined heat and power project will increase energy efficiency on campus from Summer 2022. Also, there is a strong commitment to equality, diversity and inclusion.

One particular milestone during the last year was the announcement at the G7 summit in Carbis Bay, Cornwall of the creation of a Veterinary Vaccine Manufacturing and Innovation Centre (Vet-VMIC) on the Pirbright site, supported in principle by the Foreign and Commonwealth Development Office (FCDO), BBSRC UKRI and the Bill and Melinda Gates Foundation (BMGF). The Vet-VMIC will contribute to the manufacturing capability of veterinary vaccines and take research projects into early-stage production and evaluation – an area where Pirbright is uniquely placed – and so contributes to the UK government's five-point plan for preventing future pandemics.

In the current year, Pirbright has also been preparing its submission for the Institute Assessment Exercise 2022 which will provide the next five years of strategic funding from BBSRC UKRI. This funding will provide the core support to enable the Institute to deliver its scientific strategy and will further enhance its place as a national centre of excellence producing innovative impactful science. This will help to protect the UK food supply and economic security, and ultimately improve the health and wellbeing of animals and people.

During the year, the Board has undertaken a review of its effectiveness and is considering its findings to continue to enhance its performance. On behalf of the Board, I am grateful for the commitment and contribution that the Director and all the staff at Pirbright have made in the last year to ensure the Institute's continued success and would like to acknowledge the major contribution that the previous Chair of the Trustee Board (the late Professor John Stephenson) made to Pirbright over many years of service as a Trustee Director.

Professor Vincent Emery
Chair of Trustee Board
The Pirbright Institute

REPORT OF THE DIRECTOR & CEO



The previous year has seen the world emerge from the coronavirus pandemic and although not fully resolved, we were all returning to normality until the conflict in Eastern Europe started. Despite these challenges we have started to refocus our attention on our established research programmes to control viral diseases of livestock that impact on people's lives around the world.

Climate change and global warming, quite rightly, remain a major concern. Greenhouse gas production by livestock production and agricultural practices have attracted significant attention, which must be balanced by the important role of livestock production for global food security. Pirbright's research has and will continue to provide new tools to improve animal health and increase the efficiency of livestock production and so reducing the overall carbon footprint. Our programmes to develop affordable vaccines, improved diagnostic tests and models of disease spread help governments, international disease control agencies and livestock keepers reduce the burden of disease.

The coronavirus pandemic has shown how rapidly effective vaccines can be developed and deployed in many parts of the world. However there are many more challenges to overcome to make vaccines for more complex viruses such as African swine fever virus and deploying vaccines when logistics are challenging. Therefore, Pirbright's role remains to understand high consequence diseases of livestock, to find affordable solutions to reduce losses, improve productivity and ensure food supplies are secure throughout the world.

Professor Bryan Charleston
Director and CEO
The Pirbright Institute

**"PIRBRIGHT'S
RESEARCH HAS AND
WILL CONTINUE
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ANIMAL HEALTH
AND INCREASE
THE EFFICIENCY
OF LIVESTOCK
PRODUCTION AND
SO REDUCING THE
OVERALL CARBON
FOOTPRINT."**

PIRBRIGHT'S PERFORMANCE FOR 2021/22

PIRBRIGHT'S PRINCIPAL OBJECTIVES

- To continue a world leading research programme by publishing ground-breaking scientific research, winning research funding, and recruiting and retaining the brightest and the best staff and students
- To develop further the Pirbright long term vision of scientific research, with particular impact in enhancing our collaborations with agencies to improve disease control in low and middle income countries
- To continue to implement the fully funded development programme to provide additional animal research facilities for the study of high consequence pathogens. These facilities will further enhance Pirbright as a unique National and International capability
- To develop strong strategic collaborations with other global centres of excellence to support the Institute Strategic Programme grants
- To diversify our funding through greater collaboration with international partners via various new funding opportunities
- To maintain high containment infrastructure, to manage the safety, security, environment and quality risks from our work with high consequence pathogens, and to provide training and expertise to external partners in these areas.

PIRBRIGHT'S KEY PERFORMANCE INDICATORS (KPIs)

- Publications in relevant scientific journals; with a benchmark of one paper per post doctoral scientist a year
- Success rates for research grant proposals over the next five years; 35 percent in terms of successful applications and 30 percent in terms of value of the awards
- Recruitment and the retention of high-quality staff and students; to achieve less than 15 percent annual staff turnover within five years
- Annual research income of at least £11 million externally won funding each year over the next five years
- Compliance with all statutory requirements as a Major Hazard site, close cooperation with regulators, and conformity to applicable standards such as ISO/IEC 17025.

OUR PERFORMANCE AGAINST OUR KPIs

- We published 149 papers in a range of high impact journals achieving an average of 1.01 publications per post-doctoral scientists in the year
- We achieved 50 percent successful grant applications and 46 percent in terms of value of the awards against significant UK and international competition
- At the end of March 2022, the rolling annual average voluntary staff turnover figure was 22.7 percent, significantly higher than the 15 percent target
- The annual grant income for 2021/22 was £16.1m, exceeding the £11m target by 46 percent
- Pirbright is subject to a HSE Major Hazard Intervention Plan comprising of a minimum of three scheduled HSE inspections each year to monitor compliance with its licence under the Specified Animals Pathogen Order (SAPO) 2008 and with regulations under the Health & Safety at Work etc Act 1974. No enforcement action notices were issued, or enforcement action taken by HSE against Pirbright in 2021/22, and we complied with all HSE recommendations. Pirbright reference laboratories are accredited to ISO/IEC 17025 and are subject to annual surveillance visits by UKAS. Accreditation was maintained in 2021/22 with no improvement actions raised during the surveillance visit. No other enforcement was applied for Pirbright in 2021/22 by any regulatory or audit body on any aspect of biorisk, animal scientific procedures regulation, health & safety, security, environment, quality or wider compliance.

PIRBRIGHT HIGHLIGHTS IN 2021/22

Pirbright has continued to advance its research and diagnostics in viral diseases of global importance including COVID-19, African swine fever, foot-and-mouth disease and avian influenza.



PIRBRIGHT MIDGES STAR AT LONDON ZOO

Scientists at Pirbright have worked with the Zoological Society of London (ZSL) London Zoo to showcase the importance of *Culicoides* biting midges within the Zoo's revamped 'Tiny Giants' exhibit.

The exhibit shines a spotlight on the planet's smallest animals, where visitors will find more than 160 species of marine, freshwater and terrestrial invertebrates, including a species called *Culicoides nubeculosus*, midges which are native to the UK and do not spread any known diseases. They are supplied from Pirbright's unique *Culicoides* midge colonies.

AWARD WINNING COVID-19 RESPONSE

Pirbright won the Higher Education Business Continuity Network (HEBCon) COVID-19 Pandemic Response (CPR) award.

This award recognises the hard work and quick response of the Institute to the coronavirus outbreak. Over the last two years the Institute continued to operate and deliver its critical research and Reference Laboratory services, providing testing and surveillance capabilities to UK government, World Organisation for Animal Health (WOAH) and the Food and Agriculture Organization of the United Nations (FAO). Pirbright also contributed to and supported the UK national diagnostic testing response through donating diagnostic equipment as well as providing staff volunteers and diagnostic training.

PIRBRIGHT AWARD FOR ANIMAL RESEARCH INTERNAL COMMUNICATION

The Institute has received an Openness Award for Internal Engagement activity at the eighth annual Understanding Animal Research (UAR) Openness Awards. The award recognises Pirbright's exemplary approach to internal engagement practices, and its joined-up approach to research to ensure clarity and transparency around our research with animals.

The Openness Awards mark the efforts of UK research facilities to be open and transparent about their use of animals in research. Receiving this award is recognition of Pirbright's culture of staff development and engagement as well its commitment to the Concordat on Openness on Animal Research.



GREEN LIGHT FOR VACCINE CENTRE AT PIRBRIGHT

Controlling zoonotic diseases is a key element of the UK Government's 5-Point Plan for preventing future pandemics. Part of this plan is to establish a UK Veterinary Vaccine Manufacturing and Innovation Centre (Vet-VMIC) at Pirbright with the aim of stopping new animal-borne diseases before they put people at risk. The new centre will draw on our world leading expertise to accelerate the delivery of vaccines for livestock diseases.

NEW CORONAVIRUS NETWORK

The UK International Coronavirus Network (UK-ICN) is a new global network of researchers from both animal and human coronavirus communities.

The COVID-19 pandemic has shown what a huge impact a zoonotic disease can have globally. With the current death toll from the COVID-19 pandemic at over 4.7 million people, the UK-ICN will provide a much needed One Health approach to advancing knowledge and gaining a deeper understanding of coronaviruses that infect both animals and humans.



WHY FOOT-AND-MOUTH DISEASE VIRUS PERSISTS

A major new study, which featured on the cover of the journal *Science*, undertaken by scientists at Pirbright, Oregon State University, Onderstepoort Veterinary Institute and SANParks, Veterinary Wildlife Services, Kruger National Park explored the mechanisms at play that enable the persistence of highly infectious pathogens in their host populations, a major problem in endemic disease ecology.



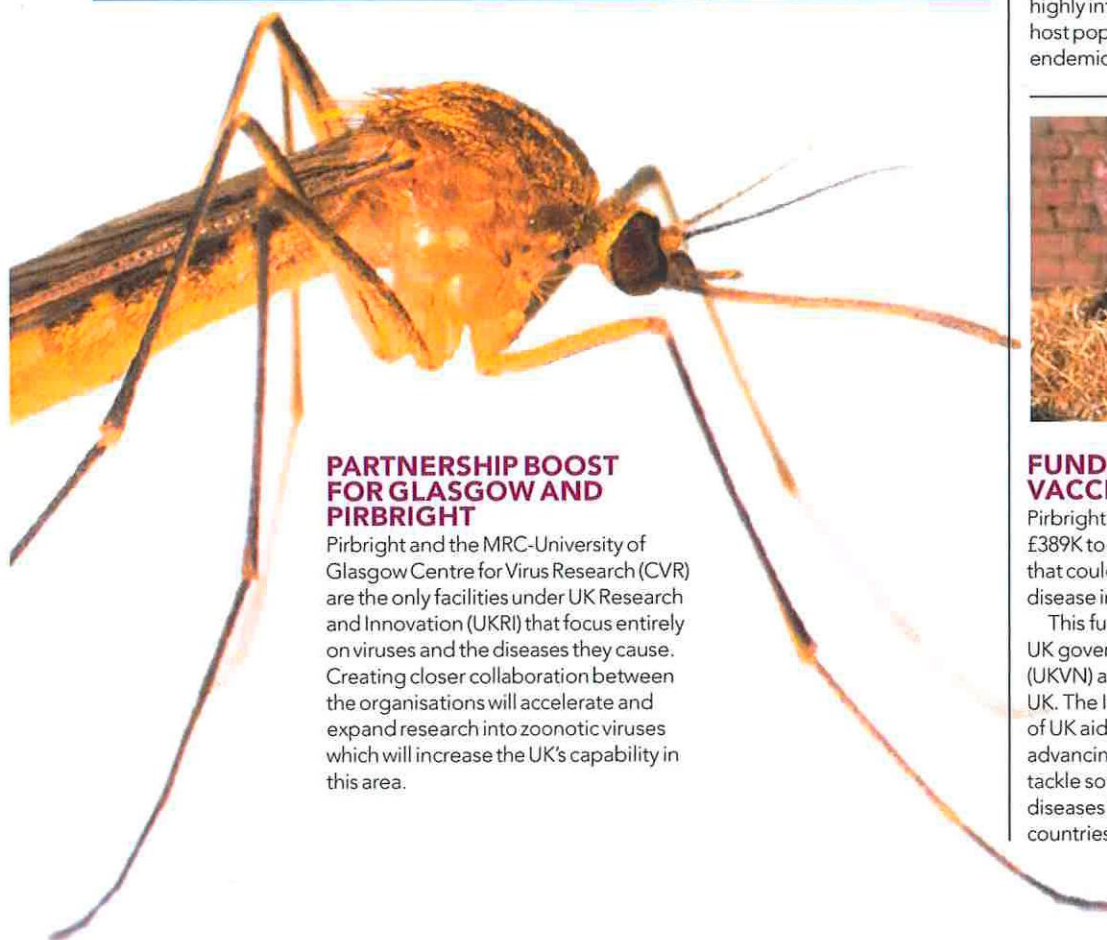
FUNDING FOR NIPAH VACCINE

Pirbright researchers have been awarded £389K to develop a Nipah virus vaccine that could protect pigs and prevent disease in humans.

This funding was provided by the UK government's UK Vaccine Network (UKVN) and will be delivered by Innovate UK. The Institute's award is part of £10 m of UK aid funding going to 22 projects advancing research into vaccines to tackle some of the world's deadliest diseases in low- and middle-income countries.

PARTNERSHIP BOOST FOR GLASGOW AND PIRBRIGHT

Pirbright and the MRC-University of Glasgow Centre for Virus Research (CVR) are the only facilities under UK Research and Innovation (UKRI) that focus entirely on viruses and the diseases they cause. Creating closer collaboration between the organisations will accelerate and expand research into zoonotic viruses which will increase the UK's capability in this area.





ABOUT PIRBRIGHT

OUR PURPOSE

Pirbright's mission is to prevent and control viral diseases of livestock and viruses that can spread from animals to people, known as zoonoses. 2021 has continued to highlight the importance of research into diseases of high consequence, with further global spread of African swine fever virus (ASFV) impacting on food security. As well as having scientific expertise in these viruses, the Institute studies over 33 livestock and zoonotic diseases.

OUR STAFF AND STUDENTS

The Institute employs more than 360 staff and its research is supported by over 50 students from a range of backgrounds and prides itself on its diversity. We are located on a campus in Pirbright, Surrey which over the past ten years has received, and continues to receive, considerable investment from Government through BBSRC UKRI in strategic site development. Scientists work in state-of-the-art laboratories including specialised high-containment laboratories and animal facilities.

OUR SCIENCE

Pirbright provides the UK and countries around the world with the capacity to predict, detect, understand and respond to emerging new viral diseases of livestock and endemic viruses that are circulating in and outside of the UK.

Our diagnostics and surveillance facilities and expertise enable us to act as a National Capability, protecting the UK from livestock viral diseases that threaten our borders, allowing us to act decisively and swiftly in the event of an outbreak in order to control it as rapidly as possible.

Our fundamental research falls under two science programmes which study either hosts or viruses and their interactions. Both programmes are funded by BBSRC UKRI over a five-year period. In addition to this the Institute receives funding for further research programmes from BBSRC UKRI and other organisations including Defra, the Wellcome Trust, Bill & Melinda Gates Foundation, and commercial partners.

There are 28 research groups which fall under the two programmes who work extremely closely together, particularly in virus host interaction research.

PROGRAMME ONE: UNDERSTANDING AND PREVENTING VIRAL DISEASES

Pirbright's research programme focusing on viruses is led by Dr Toby Tuthill and covers:

- How viruses evolve and their diversity
- Viral structure and interactions with host proteins
- Transmission and epidemiology which encompasses spread of infection between individuals, populations as well as predicting the scale of outbreaks
- Designing and evaluating appropriate interventions to control outbreaks.
- The programme aims to understand at a molecular and cellular level the

structure and systems used by viruses that allow them to infect, replicate and transmit. This knowledge will then be used to prevent and control viral diseases, especially highly infectious diseases that must be studied under high containment. Priority viruses we are studying include: African swine fever virus, avian and swine influenza viruses, bluetongue virus, respiratory syncytial virus, coronaviruses including SARS-CoV-2 and infectious bronchitis virus, foot-and-mouth disease virus, infectious bursal disease virus, Marek's disease virus, porcine reproductive and respiratory syndrome virus, pox viruses and mosquito-borne arboviruses.

PROGRAMME TWO: ENHANCING HOST RESPONSES FOR DISEASE CONTROL

Pirbright's host programme is led by Professor John Hammond and it focuses on four broad areas of research around livestock hosts and insect vectors:

- Disease pathogenesis
- Recognition and control of virus infections

- Viral persistence
- Viral transmission by insect vectors
- The goal of the research is to develop innovative methods for the control of viral diseases through an enhanced understanding of host biology and host-virus interactions. Tools and disciplines that enable better understanding of the host-virus relationship include immunology, genetics, bioinformatics, entomology and vaccinology.

DIAGNOSTIC AND SURVEILLANCE EXPERTISE

Pirbright has a long history of protecting the UK from disease and has been home to the World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) for over 60 years. We also operate the Non-Vesicular Reference Laboratory for a number of high consequence diseases of growing importance including African swine fever virus, bluetongue, peste-de-petits ruminants, rinderpest, African horse sickness, lumpy skin disease, sheep pox and goat pox. These Reference Laboratories provide an essential diagnostic and advice service to the UK Government (Defra), United Nations Food and

Agriculture Organisation (FAO), and the World Organisation for Animal Health (WOAH).

These laboratories receive samples from all over the world and are instrumental in providing countries with sophisticated data on strains of viruses causing disease and helping to select vaccines to aid control. During 2021/22 the laboratories processed 16,923 samples.

The international reference laboratories are accredited to ISO/IEC 17025, an UKAS accredited laboratory number 4025. In 2022 this accreditation was renewed following a successful assessment by UKAS.

SECTION 172 STATEMENT : STAKEHOLDER ENGAGEMENT

The Trustee Directors consider that the decisions they have made during the financial year have satisfied the requirements of S172(1) of the Companies Act 2006 and they have acted in good faith to promote the success of the Institute and, in doing so, have taken into account the stakeholders and matters outlined in S172(1).

The Trustee Board has the ultimate responsibility for the Institute and delivery of its charitable objectives.

The table below sets out Pirbright's significant stakeholders.

OUR VALUES

We take PRIDE in everything we do which is reflected in our values:

Passion—for the highest quality standards, delivery and performance.

Reliability—in everything we do; leadership, learning, biosafety, problem anticipation and containment of unexpected events.

Innovation—is the driving force behind our fundamental and applied science. Our work is positioned at the cutting-edge of science to deliver solutions for global good.

Dignity and respect—we respect and trust in our diverse community.

Excellence—we aim to deliver the best in all aspects of our work, including scientific research, health, safety, biosafety, stakeholder support and protecting the environment.

We take PRIDE in being a world-class centre of excellence in scientific research, attracting experts in their field from around the world. This combined with our drive for professional excellence and rigorous academic, biosafety and ethical standards allows the Institute to have a measurable impact on health and wellbeing and economic and food security globally.

	HOW WE ENGAGE
FUNDERS	We engage with funders at all stages of the funding process and have regular dialogue and face-to-face meetings with our key investors. Please see page 20-21 for more information.
PUBLIC	We engage with the public through our Outreach and Public Engagement programmes. These were severely affected in 2021, due to the COVID-19 pandemic, but events have resumed in first quarter 2022. Please see page 18 for more information.
RESEARCH ORGANISATIONS AND PARTNERS	Pirbright undertakes numerous collaborations with universities, research institutes and disease control agencies around the world. More details are given on page 28.
PHARMA	Partnerships with pharmaceutical companies are essential for the development of vaccines, diagnostics and medicines. Find out more on page 25.
FARMERS	We engage with the farming community through specialist farming press, through farming organisations and bodies and media outlets including BBC World Service and BBC Radio 4 Farming Today as well as at agricultural events.
EMPLOYEES	Employee Engagement forms a central part of the Institute's strategy. We employ a variety of ways to communicate with our staff and students in a dialogue so we can also gain feedback. Communication channels include a monthly e-newsletter, intranet, forums, staff briefings, surveys, digital screens, internal seminars, blogs and workshops. Further information about our employees can be found from page 30.
SUPPLIERS	One of the ways we engage with our suppliers is through an Annual Supplier Day held at Pirbright. However, due to the pandemic this was not possible but digital engagement continued throughout the year.
LOCAL COMMUNITY	Our neighbours are extremely important to us and we engage by supporting the local community in a number of ways including sponsoring local events, volunteering in local conservation initiatives including Fox Corner Conservation and engaging with the Parish, Borough and County Councils over development on our campus. Our scientists also visit local schools and colleges – more information can be found on page 18.
REGULATORS AND GOVERNMENTS	As a Major Hazard site, Pirbright works closely with the Health & Safety Executive (HSE), counter-terrorism security authorities, Home Office and other regulators. As a National Capability for the prevention and control of exotic viral diseases of livestock, Pirbright works closely with Defra, BBSRC UKRI and others. As the World Reference Laboratory for certain pathogens and a regional Reference Laboratory for others, Pirbright works closely with the UN Food & Agriculture Organisation (FAO) and World Organisation for Animal Health (WOAH). As an ISO/IEC 17025 accredited testing laboratory, Pirbright works with the UK Accreditation Service (UKAS). See page 15 for more details.
STUDENTS	Pirbright has a vibrant student community, and we are committed to supporting, nurturing and offering additional learning and training opportunities to them. Find out more on page 33.

SCIENTIFIC PROGRESS

Our research into viruses of livestock and zoonotic viruses (animal viruses that can infect and cause disease in people) that affect people has a global impact on animal and human health and food and economic security. It is advances in research, vaccine development and new diagnostic tests that help to ensure the world is better prepared to combat outbreaks of viral disease through prevention and control as well as fundamental understanding of the mechanisms used by existing and emerging viruses to infect hosts and spread. More details on latest findings can be found on our website.



INSECT ROLE IN LUMPY SKIN DISEASE SPREAD REVEALED

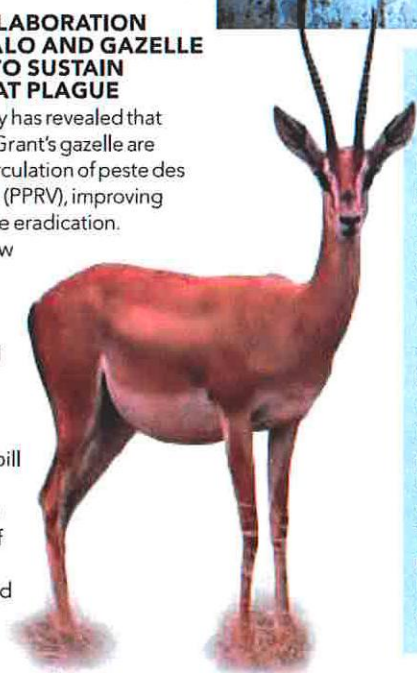
Scientists at Pirbright have measured the risk of different insect species transmitting lumpy skin disease virus (LSDV) for the first time.

Pirbright's research shows that insects are unlikely to acquire the virus if they bite infected cattle that are not displaying clinical signs, meaning these animals pose a limited risk of transmitting disease. This information fills a critical knowledge gap and changed the design of control programmes aimed at managing LSD outbreaks.

PIRBRIGHT COLLABORATION REVEALS BUFFALO AND GAZELLE ARE UNLIKELY TO SUSTAIN SPREAD OF GOAT PLAGUE

A collaborative study has revealed that African buffalo and Grant's gazelle are unlikely to sustain circulation of peste des petits ruminant virus (PPRV), improving prospects for disease eradication.

To understand how frequently they had been infected researchers from Pirbright conducted the first large-scale randomised survey of its kind. Findings revealed sporadic spill over from infected sheep and goats is a more likely source of disease rather than circulation within wild populations.



STUDY SHOWS HOW PIGS FIGHT FLU

Pirbright scientists investigated the pig's immune response to flu and have identified specific cells which are important for fighting infection and for long term protection against influenza infection.

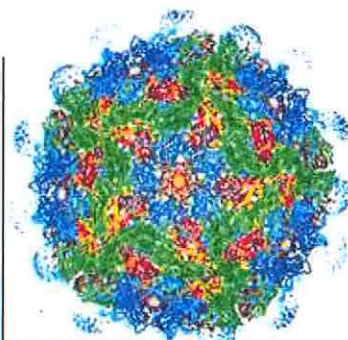
It is hoped the findings will shed more light on human response to flu and help the development of new vaccines.

Pigs are natural hosts for influenza and like humans, they can be infected by circulating strains and become unwell. Influenza viruses that infect pigs and humans are different, but some may have the potential to spread between both species, making them important zoonotic viruses.



KEY MUTATIONS IN ALPHA VARIANT ENABLE SARS-COV-2 MUTATIONS AID INFECTIVITY

Pirbright scientists worked with collaborators to unravel the role that a key mutation plays in SARS-CoV-2 infectivity. One of the key mutations seen in the 'Alpha variant' of SARS-CoV-2 – the deletion of two amino acids, H69/V70 – enables the virus to overcome chinks in its armour as it evolves. This was because virus particles carrying the deletion had a greater number of mature spike proteins on their surface. This allows the virus to then replicate efficiently even when it has other mutations that might otherwise hinder the virus.



MOLECULAR MAGNETS USED TO DISCOVER FMD VIRUS SEGMENTS THAT COULD IMPROVE VACCINE EFFECTIVENESS

Recent research has revealed new parts of the foot-and-mouth disease virus (FMDV) that stimulate an immune response, could be used to inform the design of improved vaccines. Pirbright researchers also discovered that specific immune cells were present in cattle samples four years after the animals had been vaccinated, indicating for the first time that they play a role in long term vaccine protection.



PIRBRIGHT'S NEW BIRD FLU VACCINE PROVIDES RAPID PROTECTION

An improved poultry influenza vaccine has been developed by Pirbright researchers. The vaccine triggers a rapid immune response which protects chickens against signs of disease and reduces the level of virus that they could pass on, a key element to halting the spread of bird flu through flocks. The vaccine would also be easier and less costly to produce than the traditional flu vaccines made in chicken eggs.

See Working with Industry - page 24



NEW BIRD FLU VIRUSES HAVE POTENTIAL TO INFECT PEOPLE

In collaboration with the Animal and Plant Health Agency (APHA), researchers at Pirbright discovered that the H9N9 strain of influenza was able to multiply significantly better in poultry cells, indicating the potential to cause more severe disease. They also discovered that it had a higher replication rate in human cells and could bind to these cells better than H9N2. The H9N9 strain can also infect and transmit between ferrets highlighting the potential to cause disease in humans.



GENE EDITING TOOL PREVENTS MOSQUITO SPREADING DISEASE

A new gene editing tool has been successfully applied to the southern house mosquito by researchers at the Institute. This paves the way for genetic control methods that could prevent the mosquito from spreading human and animal diseases.



CLUES ABOUT CORONAVIRUS REPLICATION UNCOVERED

More clues about coronavirus replication in humans and animals have been uncovered by researchers at Pirbright. This research fills an important knowledge gap that could help to control disease caused by a range of coronaviruses in the future.

NEW WAYS TO CREATE SAFE VACCINES TO PROTECT POULTRY FROM INFECTIOUS BRONCHITIS VIRUS

Researchers from Pirbright working to improve vaccines for infectious bronchitis virus (IBV) have identified targets in the virus's genetic code that could make vaccines safer.

Better vaccines would have a huge impact on improving health and welfare of poultry and protect food security.

IBV is a type of coronavirus that causes a highly contagious disease in poultry, it does not cause disease in humans. The virus causes respiratory symptoms and affects the reproductive tracts of birds which reduces meat and egg production.



RISK FACTORS THAT DRIVE FMD OUTBREAKS IN ASIA IDENTIFIED

An international project led by scientists in the World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) at Pirbright has tracked the evolution of FMD virus (FMDV) over nearly 20 years to reveal how different factors affect its spread across countries of Western and Southern Asia.

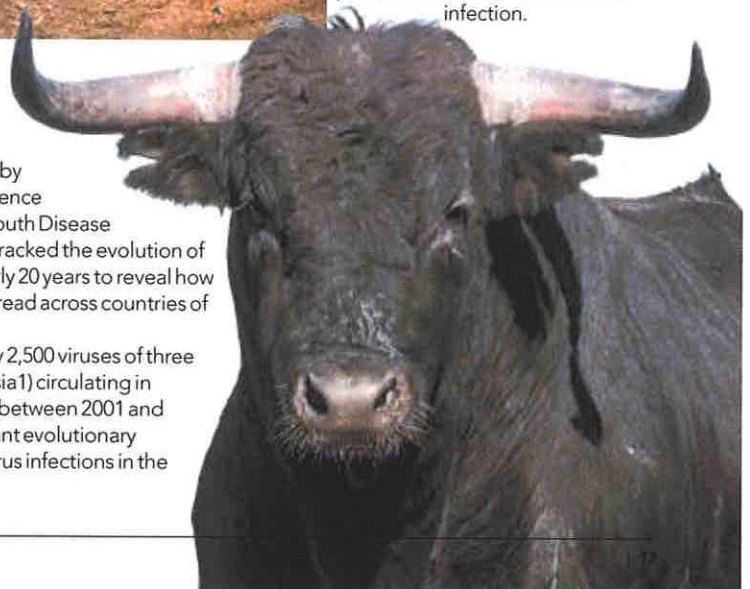
Researchers analysed nearly 2,500 viruses of three FMD serotypes (O, A and Asia1) circulating in Western and Southern Asia between 2001 and 2018, documenting important evolutionary events driving patterns of virus infections in the region.



USING PIGS AS A MODEL FOR ANALYSING CORONAVIRUSES

The SARS-CoV-2 pandemic and previous localised SARS and MERS outbreaks have indicated the importance of respiratory coronavirus diseases and several animal models have been developed to study SARS-CoV-2. Pigs have the advantage that they are natural hosts for porcine respiratory coronaviruses (PRCV). They have been shown to be an excellent model for studying influenza viruses, and more similar to humans in their immune responses than mice and ferrets.

Recent studies have shown that disease induced by four PRCV strains differs in severity and that the lung pathology shows similarities to human SARS-CoV-2. Research indicated that ex vivo organ cultures can be used to analyse factors determining virus entry and replication, as well as the nature of the humoral immune response. The porcine model will be a powerful tool for analysing coronavirus induced respiratory disease pathogenesis and identifying key mechanisms that determine the outcome of infection.



A SUSTAINABLE INSTITUTE

The Institute is committed to environmental sustainability and is undertaking a number of energy-saving projects that will make a positive contribution. These will be completed over the next couple of years and will reduce energy consumption, help reduce our carbon emissions and make us more efficient. The most significant of these projects is the installation of a Combined Heat and Power Plant (CHP) which will provide around 75% of Pirbright's power needs on campus. Construction on the CHP has begun, and it is anticipated the CHP will be fully operational in Summer 2022.

Pirbright's finances are also aligned to the green agenda and now operate with Barclays' Green Deposit Scheme. This allows deposits by the Institute to be earmarked against the banks' green bonds, which in turn are matched against a range of climate-related projects including energy efficiency, renewable energy, green transport, sustainable food, agriculture and forestry, waste management and greenhouse gas emission reduction. In June 2021 the GBP market value of Green Bonds held by Barclays totalled over £1.6 billion, with a total CO₂ impact of almost 1.4 million tonnes.

The Institute continues to base its environmental objectives around the UKRI Environmental Sustainability Strategy which drives towards a zero-carbon future by 2040. This ensures new building proposals will carefully consider the carbon impacts of facilities throughout their whole life, from the building materials used to the energy consumption and energy sources employed once operational.

The Institute's Environment and Energy Team promote the continual improvement of energy and environment performance on the Pirbright site, monitor and review the Energy and Environment policy, report on and action results of inspections and audits and provide a forum for personnel to raise queries related to energy and environmental sustainability.

The following figures reflect the Institute's best estimates of its environmental impact during the 2021-2022 financial year.

The amount of energy consumed by the Institute is directly related to the amount of science activity on the site. As grant income is also a measure of science activity, the Institute considers that the appropriate intensity measure for energy consumption is emissions per £ of grant income received.



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GREENHOUSE GAS EMISSIONS	2021/22	2020/21
EMISSIONS TONNES CO₂e		
Scope 1: Gas	4,606,500	913,500
Scope 2: Electricity	2,663,940	2,792,600
Scope 3: Official business travel	3,860	1,700
Total emissions	7,274,300	3,707,800
Emissions per £ of grant received	0.21	0.11
ENERGY CONSUMPTION - kWh		
Scope 1: Gas	22,238,808	3,937,196
Scope 2: Electricity	12,546,226	11,978,211
Scope 3: Official business travel	11,175	6,998
Total energy consumption	34,796,209	15,922,405
Consumption per £ of grant received	1.02	0.48
FINANCIAL INDICATORS		
Total Energy cost - £'000	2,033	2,232
Energy cost per £ of grant received	5.94p	6.68p
Cost of official business travel - £'000	8	8
Cost of official business travel per £ of grant received	0.0002p	0.0003p

During the 2020/21 financial year COVID-19 restrictions required our staff to work from home, wherever possible, which significantly reduced Pirbright's energy consumption. Numbers have risen in 2021/22 as the Pirbright site has returned to full operation as pandemic restrictions have been removed.

RISK MANAGEMENT AT PIRBRIGHT: AS A MAJOR HAZARD SITE

Risk management is critical to the safe and reliable operation of Pirbright. This requires specialist expertise and ownership by all staff, students and stakeholders of Pirbright's development as a High Reliability Organisation and its continuation as a centre of excellence.

Risk management at Pirbright has three broad objectives:

- to facilitate science excellence and capability, both in research and in diagnostic surveillance
- to reinforce financial sustainability and high reliability
- to ensure the work of the Institute cannot jeopardise the UK livestock population and agricultural economy, the health and safety of people, or the environment.

Risk management at Pirbright includes a Risk & Opportunities Register, Key and Safety Performance Indicators (KPIs and SPIs), and operational planning linked to risks and opportunities and to strategic objectives. Risks and opportunities are regularly updated and reviewed for action by Senior Leadership Board (SLB) and Trustee Directors. The Register covers operational risks (biorisk, security, cyber/IT, health and safety, environment, quality), continuity risks, and strategic risks (reputational, enterprise, financial, political). There is an internal audit programme covering critical risks and areas. Pirbright actively maintains excellent, open and cooperative relationships with stakeholders, regulators and accreditation bodies. A comprehensive portfolio of insurance protects Pirbright and its stakeholders. Policies in place include: Property damage & business interruption; employers, public, product and management liabilities; professional indemnity; and security and cyber incident response.

BIORISK

Many of the animal viruses studied at Pirbright are high consequence pathogens, ie, they are not circulating in the UK and so could cause a disease outbreak if released. The authority to work with such pathogens is via a SAPO (Specified Animals Pathogens Order) licence issued and enforced by the Health & Safety Executive (HSE). Pirbright's



SAPO licence is at Containment Level 4 (the highest level) and the Institute is classified as a Major Hazard Site. Each year there is a HSE intervention plan, and in 2021/22 this comprised four visits by specialist HSE inspectors scrutinising functional safety assessment of the design and commissioning of the new Brooksby High Containment Large Animal Facility, waste management, containment and control in ISO11 (the currently operating High Containment Large Animal Facility), and an annual performance review. There were also security inspections by specialist counter-terrorism police officers.

Biorisk management at Pirbright comprises containment engineering and operational controls. The engineering infrastructure includes sealed facilities, constant negative air pressure cascades, high efficiency HEPA air filtration, effluent treatment plants, incinerators, autoclaves, fumigation chambers and automation and control systems. The operational arrangements include risk assessments, defined controls and operating procedures, training and competency, waste management, transport procedures, emergency plans and exercises, audit programmes, and planned preventative maintenance, validation and testing. Pirbright has all these measures in place, and each element is examined by HSE every few years as part of their intervention plans. All high containment facilities at Pirbright are less than 15 years old.

Plumbing facilities providing clear view of blockages in high containment laboratories in the BBSRC National Virology Centre: The Plowright Building.

© David Schwalm

QUALITY AND ORGANISATION

Diagnostics surveillance and disinfectant testing at Pirbright are a UKAS accredited testing laboratories (No. 4025) to ISO/IEC 17025 quality standard, which is integral to its role as a UK National Capability and its global role as an WOA Reference Laboratory and FAO/WOAH World Reference Laboratory for specific viruses. Pirbright's Management System ensures conformity with 17025 and increasingly underpins wider risk management across the Institute. The annual 17025 surveillance audit of the Reference Laboratories in 2021/22 by the UK Accreditation Service gave an extremely positive outcome with no improvement actions.

In addition to its risk management system, and the assurance arrangements and regulatory oversight, Pirbright actively works to improve its risk control and resilience. In 2021/22, this included BBSRC-funded capital projects for upgrades of the IT infrastructure of the high containment automation and control systems, for replacement of controllers and dampers in high containment air handling systems and security access controllers, and for a new Laboratory Information Management System (LIMS) to support diagnostic services. In 2021/22, there were also operational projects to develop a functional safety management system, to establish a human factors task analysis programme, to improve prevention of musculoskeletal injuries, to further enhance technical and organisation cyber security, to develop a competency framework, and to improve asset lifecycle and obsolescence management.

Pirbright strives to adopt best practice in risk management, this includes coordinating the cross-sector UK BioSafety Strategic Leadership Group, its active roles in the BSL4ZNet international consortium of high containment facilities and the EuFMD consortium of European FMDV facilities, and its publication of peer-reviewed papers and symposia presentations on biorisk management.

RISK MANAGEMENT

Key risks are summarised in the table:

RISK	CONTEXT	CONTROL / MITIGATION
BIOSAFETY (UNINTENTIONAL RELEASE OF, OR EXPOSURE TO, HIGH CONSEQUENCE PATHOGEN)	Pirbright is classified by the Health & Safety Executive (HSE) as a Major Hazard Site, because release of the high consequence viral pathogens of livestock animals that the Institute works with (such as foot-and-mouth disease virus) could cause a serious disease outbreak, leading to destruction of many animals, extensive national disruption and severe economic loss. Some of the pathogens are also zoonotic, which means they can infect humans and cause serious illness.	Physical, engineering, operational and management measures for biological containment in compliance with relevant UK legislation (Specified Animal Pathogens Order 2008, Control of Substances Hazardous to Health Regulations 2002, Genetically Modified Organisms (Contained Use) Regulations 2014) and associated Approved Codes of Practice and guidance, in alignment with ISO 9001, ISO 14001, ISO 35001 and ISO 45001. Also, an annual HSE Major Hazard Intervention Plan, and staff cohort of competent Biorisk Advisers.
BIOSECURITY (DELIBERATE RELEASE OF, OR EXPOSURE TO, HIGH CONSEQUENCE PATHOGEN)		Physical, operational and management measures for security in conformity with requirements of the UK National Counter Terrorism Security Office, with oversight by regional Counter Terrorism Security Advisers, a 24/7/365 guard force, background screening of new starters, and multiple layers of physical security.
QUALITY	As well as being a leading research institute, Pirbright provides diagnostic and surveillance Reference Laboratories for a range of pathogens for the UN Food & Agriculture Organisation (FAO) and the World Organisation for Animal Health (WOAH) and is funded by BBSRC UKRI and Defra as a UK National Capability to provide diagnostic capacity to support the control of national disease outbreaks. Pirbright's scientific output quality is therefore critical, and FAO, WOAH and the UK Government require the Reference Laboratories to be accredited to the ISO/IEC 17025 international quality standard.	Accreditation of the Reference Laboratories to ISO/IEC 17025 by the UK Accreditation Service (Pirbright is UKAS Accredited Testing Laboratory No 4025), development and implementation of a quality management system across the Institute, an internal audit programme, and alignment to ISO 9001 and other relevant ISO management standards in key operational areas for better support of the Reference Laboratories.
ANIMAL WELFARE	Research with animals is an integral part of the research programmes at Pirbright and is carried out to extremely high UK standards of ethics and animal welfare, which are the most stringent in the world, addressing this critical reputational risk.	Physical, operational and management measures for animal welfare in compliance with relevant UK legislation (Animal Scientific Procedures Act 1986) and associated Approved Codes of Practice and guidance, oversight by UK Home Office, application of 3Rs (Replace, Refine, Reduce) and ARRIVE guidance (Animal Research: Reporting <i>In Vivo</i> Experiments).
CYBERSECURITY		Comprehensive portfolio of technical countermeasures and management systems for cybersecurity in conformity with requirements of the UK National Cyber Security Centre and HSE OG86 cybersecurity requirements for safety critical control systems, with also segregation of critical resources from networks, training, drills & exercises, and alignment with Cyber Essentials Plus.
CONTINUITY	Pirbright also faces the cybersecurity, continuity, people and financial risks that all organisations must manage. The potential consequences of these are amplified because of possible effects on biological and quality risk, e.g. - a power failure could cause biological containment engineering controls to stop operating, - difficulty with recruitment & retention could lead to shortage of the essential specialist skills for safe and reliable operation of facilities, - insufficient budget for planned preventative maintenance could lead to reduced reliability of biological containment engineering systems or scientific equipment.	Incident and crisis management plans, business continuity planning in alignment with ISO 22301, backups and contingencies for critical services and supplies, and contingency plans for the Reference Laboratories for disease outbreaks, with all plans regularly tested by drills & exercises.
PEOPLE		Recruitment & retention and responsibility allowances, training & development programmes, career pathways with in-band merit awards and a personal promotion scheme, annual performance and personal development reviews, generous pension provision and life cover, and employee benefits platform and assistance programme.
FINANCIAL		Rigorous systems for financial planning, control and monitoring, ongoing risk management, processes and support to facilitate preparation, submission and management of competitive funding grants and capital funding bids, commercial business development programme, Pirbright Innovations Ltd as a private vehicle for commercial work, comprehensive portfolio of insurance policies, anti-fraud and anti-bribery policies, annual audit, and reportage to BBSRC as core funder, landlord and strategic partner.
ECONOMIC	Adverse effects on the UK and global economy from global events are a substantial threat to the funding landscape and to the operational cost base, particularly from the rising level of inflation.	Inflation is factored into business planning, including planned increases in income from competitive funding sources and appropriate commercial activities, and savings from improved procurement and BBSRC-funded 'spend-to-save' capital works.



Foot-and-mouth
disease virus
environmental
sampling in a
household in
northern Nigeria.
© Georgina Limon-Vega

ENGAGING WITH THE PUBLIC

Researchers at Pirbright are committed to engaging with the public on all aspects of their research, generating valuable face-to-face interactions with a wide range of audiences, including schools, students, farmers, and the public.

The COVID-19 pandemic severely restricted the Institute's annual programme of live events. Despite this, during 2021/22 we have taken part in 27 online and face-to-face public engagement activities, from hosting classroom talks via Zoom to inspiring next generations of scientists at school and college career events throughout Surrey and engaging with the public at a local village fairs and a science festival.

FESTIVAL OF TOMORROW

In February 2022 in partnership with UK Research and Innovation (UKRI), the Communications Team and volunteers from across the Institute showcased Pirbright's world leading research at the Festival of Tomorrow in Swindon.

The two-day event celebrated the wonders of science and technology and aimed to share knowledge and research that could shape our future.

Over 1,000 visitors to the Pirbright stand were able to explore the different ways scientists can detect, understand, prevent, and respond to disease and how this all links to the Institute's research using our interactives such as Bug Busters LEGO challenge and Viral Survival containment puzzle.

SAILING THE SCIENCE SEAS AT THE VILLAGE FAIR

In September 2021, Institute volunteers entertained and educated at Pirbright's first in-person public engagement event since the start of the pandemic.

Volunteers from the Institute spent a fun-filled day engaging with the local community at the All at Sea Pirbright Village Fair. For the Institute, this annual event is an ideal opportunity for us to be visible in the local community, letting people know what we do and connecting with them in a positive way.

Having been cancelled in 2020, record numbers of the general public attended, with



Inspiring the next generation of scientists
Top left: Young detectives cracking genetic codes at the Festival of Tomorrow, Swindon.
Bottom left: Engaging with local residents at the Pirbright Village Fair.
Above: Farnborough College TEA Fair, promoting apprentice and training opportunities at the Institute.

over 250 people visiting our prominent stand to investigate our interactive activities.

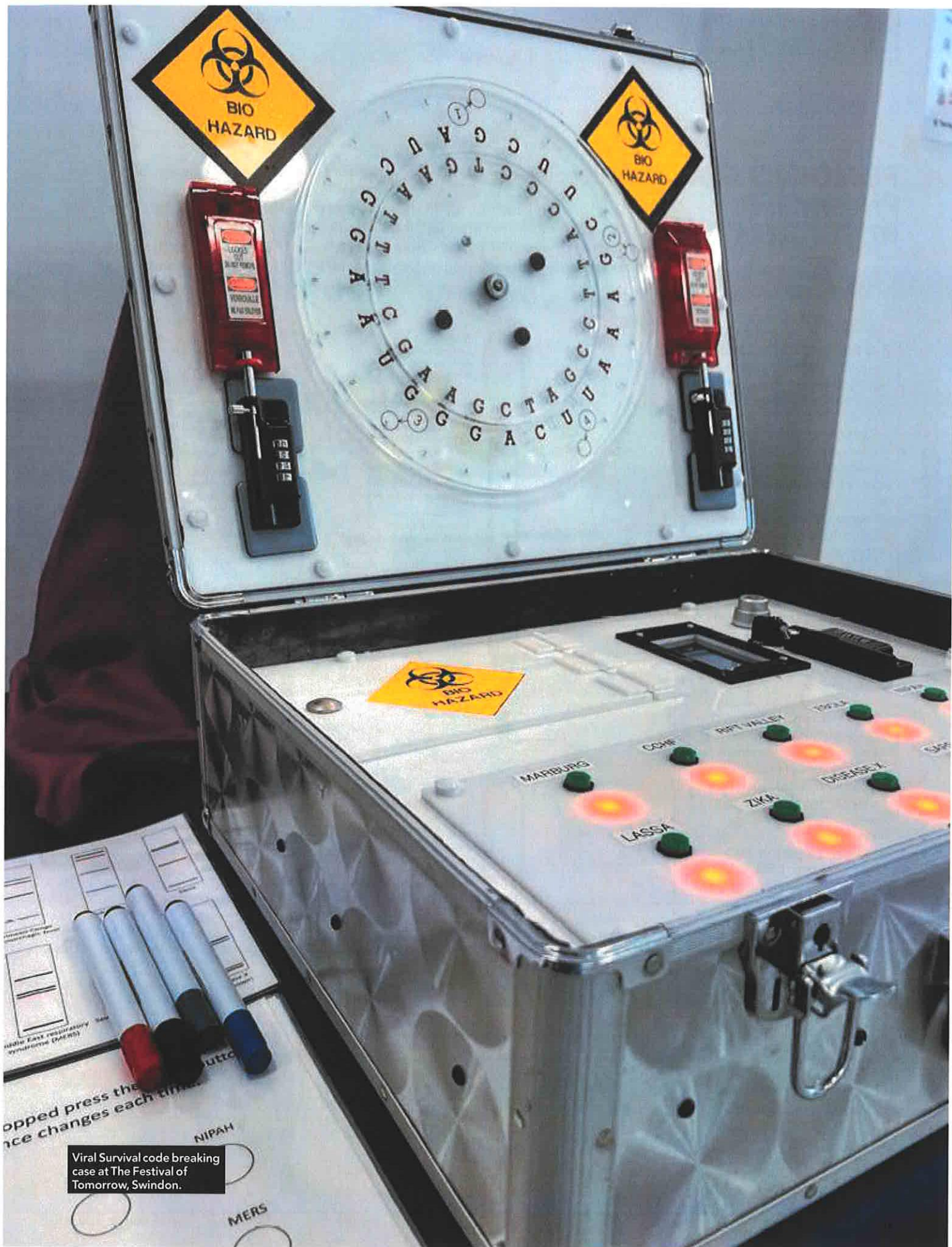
INSPIRING FUTURE SCIENTISTS

Throughout this challenging year Pirbright volunteers have continued to attend virtual careers events through online talks and mentoring, videos, blogs and virtual fairs, helping us to inspire more students from a wider range of backgrounds to consider scientific careers than was previously possible via face-to-face interactions. Towards the end of 2021 in-person careers events were happening with volunteers attending 11 fairs, lectures and workshops.

SUPPORTING OLD AND NEW VOLUNTEERS

Pirbright's engagement programme could not exist without our superb volunteers,

training is essential for supporting both experienced staff and students as well as encouraging prospective volunteers. We actively encourage participation in the Science, Technology, Engineering and Maths (STEM) Learning network which connects schools with STEM Ambassadors - experts from a range of disciplines that volunteer their time to help with talks and events. Ambassador training is now available online for Pirbright staff and students and this year we have new volunteers who will add valuable knowledge and skills to our pool of over 70 STEM Ambassadors. We also provided specialised training for both PhD and placement students to help them understand the importance of engagement and equip them with confidence and tools to effectively communicate with the public.



Viral Survival code breaking case at The Festival of Tomorrow, Swindon.

FUNDING FOR PIRBRIGHT RESEARCH

Pirbright can only progress its research to prevent and control viral diseases of livestock with financial support from BBSRC UKRI for its two strategic science programmes and additional grant income from UKRI and a variety of other funders. The Institute Strategic Programme Grants were extended by BBSRC UKRI to 2023. In 2021/22 we were awarded an additional £7,520,000 from UKRI (including BBSRC, MRC, and Innovate UK) and other funding bodies including Defra and the Bill & Melinda Gates Foundation.

BIG DATA APPROACHES

The BBSRC UKRI data intensive bioscience review recognised that big data is now both pervasive and essential to deepen our understanding of biological systems. The Institute recognises that it needs to build on and strengthen its approach to big data science and in particular Artificial Intelligence (AI) approaches to analysis. We are developing data management and integration pipelines that will allow us to build in silico biological systems and develop hypotheses as part of the iterative cycle of experimentation and modelling to understand complex biological systems. By linking with established external collaborators with big data and AI expertise, we can significantly expand our capability to analyse the biological systems we study. We have been working with the University of Surrey, and the newly established Surrey Institute for People-Centred Artificial Intelligence to develop this area and support the Institute's science strategy. This strategic partnership will be highly synergistic and specific projects to initially take forward have been identified, with work commencing in earnest. These activities will be underpinned at Pirbright by support from the Institute Development Grant (IDG).



Scientists:
Dr Graham Freimanis,
Dr Erica Bickerton,
Prof Pippa Hawes

Project: Investigating Host and Viral Factors for Improved Design of Future Live Attenuated Vaccines for infectious bronchitis virus (IBV)

Value: £554,798 (£668,367)*

Funder: BBSRC UKRI (Response mode funding)

This collaborative project between Pirbright and the University of Glasgow, focuses on development of better control strategies for infectious bronchitis virus (IBV), one of the most economically important infectious diseases affecting poultry globally. The project aims to gain major insights into virus biology and host responses aiding the development of better vaccines and control strategies for IBV.



Scientists: Prof Munir Iqbal,
Dr Erica Bickerton

Project: Protecting poultry from avian influenza, Newcastle disease, infectious bronchitis, and Gumboro disease with a single dose of a multivalent vaccine

Value: £448,938

Funder: BBSRC UKRI (Super follow-on fund)

Global poultry production incurs heavy losses due to infection of animals with a multitude of viral pathogens. This project aims to develop a single-dose multivalent vaccine offering faster, stronger and more durable immunity against six major viral pathogens. The availability of such effective, inexpensive, easy to produce, and safe vaccines to farmers will bring a significant change in poultry disease management systems.



Scientist: Dr Elma Tchilian

Project: Mucosal and cell targeting of mRNA for protein expression

Value: £344,491

Funder: Subaward from Emory University, USA. The Bill & Melinda Gates Foundation primary award to Emory (value unknown)

Pigs are immunologically, physiologically and anatomically more similar to humans than small animals and provide an excellent model to study immunity to influenza. The pig provides a powerful model for understanding how best to apply monoclonal antibodies (mAbs) as therapeutics. This project will provide an in-depth understanding of whether mRNA delivered mAbs to the respiratory tract can protect against infection and severe disease caused by influenza virus.



Scientists: Dr Dalan Bailey,
Dr Antonello Di Nardo

Project: Viral entry at the human-animal interface; dissecting the pan-tropic nature of zoonotic viruses

Value: £345,076 (£393,707)*

Funder: BBSRC UKRI (Response mode funding)

This project will be used to improve pandemic preparedness, helping to identify and understand the factors that drive zoonosis. Focusing on host-range and viral entry, this information could ultimately be used to rationally design new drugs and vaccines, to prevent future disease in humans and animals.

* Numbers in brackets represent total funding for project to all collaborators.

INSTITUTE DEVELOPMENT GRANT

To smooth the transition to the new cycle of core funding, due to commence in April 2023 (following the outcome of the Institute Assessment Exercise, [IAE]), the Institute has received an Institute Development Grant (IDG) from BBSRC, which will be used to support scientific development towards the next IAE. The IDG will be used to develop strategies and approaches to implement recommendations from BBSRC's Institute Strategy.



Scientist: Dr Trevor Sweeney, Sir Henry Dale Fellow
Project: Probing the molecular basis of translation-replication switching in pathogenic RNA viruses
Value: £626,065
Funders: Wellcome Trust and the Royal Society (Sir Henry Dale Fellowship)
 Dr Trevor Sweeney has recently joined the Institute and has been successful in renewing his Sir Henry Dale Fellowship (Wellcome Trust/Royal Society). Using multidisciplinary approaches including molecular and cellular biology techniques, Dr Sweeney will study how viral genome usage is regulated during infection. Understanding how viruses replicate in the cell will identify processes that can be rapidly targeted to help contain new outbreaks.



Scientists: Prof Simon Graham, Dr Dalan Bailey, Dr Rebecca McLean
Project: A live attenuated pseudorabies virus vectored Nipah vaccine for enhanced protection in pigs
Value: £389,089
Funder: Innovate UK (through DHSC UK Vaccines Network)
 This award builds on previous work and aims to develop a Nipah virus vaccine for enhanced protection in pigs, reducing the risk of viral transmission to humans. A highly successful pseudorabies virus vaccine, that is routinely used to vaccinate pigs in Southeast Asia, will be genetically engineered to express protective Nipah virus antigens. This dual-purpose vaccine could offer an economically viable approach to mass immunisation of pigs against Nipah virus.



Scientists: Dr Simon Gubbins, Dr Andrew Shaw, Dr Georgina Limon-Vega, Dr Claire Colenutt, Dr Anna Ludi
Project: Optimising environmental surveillance for FAST diseases
Value: £33,645
Funder: FAO
 This study aims to further inform the use of environmental surveillance for foot-and-mouth disease (FMD) and other transboundary diseases. (FAST = foot and mouth and similar transboundary animal diseases). The project will address a number of knowledge gaps and will be used to advise on appropriate sampling strategies, use of diagnostics platforms for testing samples, and will determine the feasibility of using environmental sampling for the detection of a range of transboundary diseases.



Scientists: Prof Simon Graham, Prof John Hammond
Project: REPRODIVAC – next generation vaccines and diagnostics to prevent livestock reproductive diseases of worldwide importance
Value: €1,178,161 (€6,036,598)*
Funder: EU Horizon Europe
 REPRODIVAC will develop new and improved vaccines and diagnostic tools required to better control endemic and zoonotic reproductive pathogens of livestock: porcine reproductive and respiratory syndrome, Q fever, ovine enzootic abortion, and porcine brucellosis. The consortium spans academia and industry with a wide range of complementary expertise allowing these important reproductive disorders to be addressed with an interdisciplinary approach.



Scientist: Dr Georgina Limon-Vega
Project: Cost-benefit analysis for establishing a foot-and-mouth disease free zone in Mongolia
Value: £24,131
Funder: FAO
 Dr Georgina Limon-Vega, holds a joint appointment with the Royal Veterinary College, has received funding to perform a cost-benefit analysis of establishing a foot-and-mouth (FMD) free zone in Western Mongolia and subsequently formulate recommendations for policy makers based on the outcomes. The project also includes a training component building on previous FAO and WOA veterinary epidemiology training programmes in Mongolia. This grant follows on from an Impact Accelerator Award support.



Scientist: Prof Bryan Charleston
Project: UKRI cross-council synergy in understanding vector-borne and zoonotic viral disease
Value: £250,000 (£500,000)*
Funder: BBSRC UKRI
 The long-term strategic partnership with the MRC-University of Glasgow Centre for Virus Research (CVR), has been strengthened with dedicated joint funding from BBSRC. This partnership of veterinary and medical viral disease research will initially concentrate on vector-borne viral disease, zoonoses and virus cross-species jumping. This creates excellent opportunities for greater collaboration in One Health studies.



Scientist: Prof Bryan Charleston
Project: Veterinary Vaccine Manufacturing and Innovation Centre: establishment phase
Value: £1,075,919
Funder: Bill & Melinda Gates Foundation
 In order to accelerate the development and production of vaccines for neglected and emerging diseases of livestock, including zoonotic diseases that represent a threat to public health, a partnership between BBSRC UKRI, the Foreign Commonwealth and Development Office (FCDO), and the Bill & Melinda Gates Foundation has been formed to support the establishment of a Veterinary Vaccine Manufacturing and Innovation Centre (Vet-VMIC). Significant initial investment has been provided by the Bill & Melinda Gates Foundation. This first phase will establish a pilot manufacturing facility at Pirbright with a core team of specialised staff and project support to build the product pipeline and secure long-term funding for Vet-VMIC.

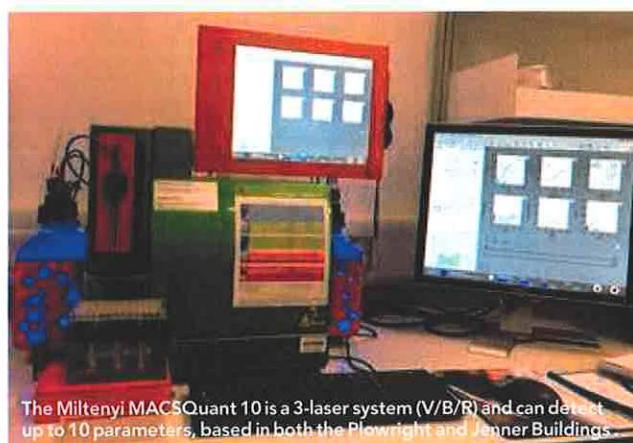
NATIONAL CAPABILITY

Pirbright facilities provide a 'National Capability' and are unique within the UK with a complement of scientific expertise and physical resources that are not replicated elsewhere within the higher education or commercial animal health sectors. Under the National Capability scheme we are able to offer research and development, facilities and services, and materials and reagents.

FLOW CYTOMETRY

The flow cytometry and cell sorting facility is one example of the unique elements comprising our National Capability at Pirbright. The facility specialises in sample preparation, acquisition, sorting and analysis of blood samples or cells from farm animals, providing researchers with state-of-the-art instrumentation and cell sorting capability mirrored between low and high containment.

Two full-time core staff with extensive technical experience in managing and maintaining large, multi-user equipment provide access to this facility. They offer expert advice on panel and experiment design, sample preparation, training for independent use of the flow cytometers and data analysis to support both the Institute's science, and a large number of collaborative research programmes. This removes barriers and promotes broad access to this integral part of our National Capability.



The Miltenyi MACSQuant 10 is a 3-laser system (V/B/R) and can detect up to 10 parameters, based in both the Plowright and Jenner Buildings.



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CONTAINMENT FACILITIES

Pirbright has a unique capability for vector-borne and zoonotic virus research comprising facilities for *in vitro* and *in vivo* work at low and high (SAPO4 and CL3) containment. Virus-host interactions, immune responses and pathogenesis can be studied in avian, mammalian and arthropod hosts, providing new understanding of arboviruses that threaten livestock and humans, and viruses that can spread from animals to humans.

This combination of state-of-the-art national capabilities facilitates and enhances the strategic partnership with the MRC-University of Glasgow Centre for Virus Research.

The provision of low containment experimental animal facilities is key to Pirbright's scientific success. This capability has recently been enhanced by the provisions of facilities at the University of Reading. This includes the University of Reading now housing our unique line of genetically characterised in-bred Babraham pigs. All of the necessary compliance requirements are now in place to allow studies with GM vaccines at the Reading site, enabling a greater range of Pirbright science to be undertaken there.



Above: Laboratory facilities in The BBSRC National Vaccinology Centre: The Jenner Building.

Left: Installation of new animal facilities at the University of Reading specifically to house our unique line of genetically characterised Babraham pigs.

INVESTING INTO THE FUTURE

Investment from BBSRC Capital funding is imperative to advancing research at Pirbright. Recent bids have led to the Institute installing a full spectrum spectral flow cytometer, one of only ten in the UK. It has also allowed us to increase the number and speed of our connections to the academic network JANET so we can use cloud-based solutions as appropriate and share data more efficiently with collaborators.

SCIENTIST: PROF JOHN HAMMOND

PROJECT: REPLACEMENT HIGH PERFORMANCE COMPUTING CLUSTER TO INCREASE CAPABILITY AND DATA SHARING

VALUE: £945,120

FUNDER: BBSRC – INVESTMENT GATEWAY PANEL (CAPITAL FUNDING)

The capability to process, analyse and provide access to big data is now a fundamental part of world class bioscience research. At Pirbright, a high-performance computing cluster (HPC) underpins all our big data generation, analysis and sharing. We have secured funding for a new HPC, which will be more powerful than our current capability, with a tailored design to specifically address the current and future needs of Pirbright science, bringing an enormous range of benefits.

This capability will help to enhance current and drive future strategic partnerships with other world leading organisations. It also supports our high-throughput sequencing within containment, a key element of our National Capability.

SCIENTIST: DR KATY MOFFAT

PROJECT: FULL SPECTRUM SPECTRAL FLOW CYTOMETER WITH HIGH-THROUGHPUT SAMPLE ACQUISITION CAPABILITIES FOR THE CL2 LABORATORIES (BBSRC NATIONAL VACCINOLOGY CENTRE: THE JENNER BUILDING)

VALUE: £631,200

FUNDER: BBSRC – INVESTMENT GATEWAY PANEL (CAPITAL FUNDING)

This funding supported the purchase of a spectral flow cytometer and a dedicated data storage system, for the BBSRC National Vaccinology Centre. Flow cytometry is a powerful multiparameter technology that is used by many groups at the Institute to underpin a vast array of research programmes and projects. This means we are able to enhance our ability to analyse immune cell subsets in response to infection



The BD biosciences FACS AriaU3 is a conventional fixed 'flow-cell' sorter based in the Jenner Building.

and vaccination. This ensures that Pirbright remains at the cutting-edge of technology to maximise the benefit of animal experiments with high-resolution techniques.

SCIENTISTS: PROF SIMON GRAHAM AND DR KATY MOFFAT

PROJECT: REPLACEMENT FLUORESCENCE ACTIVATED CELL SORTER FOR THE JENNER LABORATORY (BBSRC NATIONAL VACCINOLOGY CENTRE: THE JENNER BUILDING)

VALUE: £434,436

FUNDER: BBSRC – ALERT

Fluorescence-activated cell sorting (FACS) is a powerful technology that enables the measurement of characteristics of single cells and then separates these cells based on their characteristics. This technology is critical for us to better understand how animals respond to virus infections, and therefore to design and develop viral vaccines to prevent disease. This project ensures continuity of the FACS capability in the BBSRC National Vaccinology Centre: the Jenner Building for the next 10-12 years.

SCIENTIST: PROFESSOR MUNIR IQBAL

PROJECT: CAPABILITY FOR IN VITRO MOLECULAR INTERACTION ANALYSIS FOR THE BBSRC NATIONAL VACCINOLOGY CENTRE: THE JENNER BUILDING

VALUE: £286,337

FUNDER: BBSRC – INVESTMENT GATEWAY PANEL (CAPITAL FUNDING)

This funding allowed the Institute to replace

and upgrade its capability for bio-layer interferometry (BLI), a powerful technology to investigate virus-host interactions at the molecular level. Understanding biomolecular interactions is essential to underpin the scientific objectives of strategically funded science and other research programmes.

SCIENTIST: PROF PIPPA HAWES

PROJECT: REPLACEMENT ULTRAMICROTOME FOR BBSRC NATIONAL VIROLOGY CENTRE: THE PLOWRIGHT BUILDING

VALUE: £101,985

FUNDER: BBSRC – INVESTMENT GATEWAY PANEL (CAPITAL FUNDING)

Bioimaging is a core funded facility providing advanced microscopy capability for the Institute. This investment will ensure continuity of electron microscopy sample preparation capability in the BBSRC National Virology Centre: The Plowright Building. An ultramicrotome is essential to prepare the thin sections of biological tissue needed for imaging in the transmission electron microscopes (TEM), in our high containment laboratories. This combination of equipment will also lead to further investigation and more advanced analysis through our strategic partnership with the electron Bio-Imaging Centre (eBIC) at Diamond Light Source.

PIRBRIGHT INNOVATIONS

Commercial activity is an important element of the Institute's strategy to diversify funding streams and ensure a sustainable organisation for the future. Pirbright has recently established a commercial arm, Pirbright Innovations, to capture and manage operations that attract income on business activities and services, led by a new Head of Business Development.



SPiRE

Sharing Pirbright's Expertise

SHARING PIRBRIGHT'S EXPERTISE

The SPiRE team has continued to develop new training courses related to disease control, biosafety and containment engineering. This project was launched early in 2020 and has

been unable to provide face-to-face training due to COVID-19 related travel restrictions. It is anticipated that in-person training in Pirbright's facilities will commence again in 2022. In the meantime, the team has been hard at work developing courses to deliver via eLearning. These courses can be purchased directly from Pirbright, and some courses have been offered via external partners' online platforms, like the European Commission for the Control of Foot-and-Mouth Disease (EuFMD).

DEVELOPING A KNOWLEDGE EXCHANGE CULTURE

We continue to develop the skills of our employees. Following the successful offering of a six-week course in developing innovation and entrepreneurial skills in early 2021, 30 students, postdoctoral researchers and group leaders have completed a six week training course aimed at equipping researchers with the skills required to engage effectively with industry.

We also hosted an online seminar on engaging with policy makers. The session was attended by BBSRC representatives, and researchers from Pirbright and other BBSRC Institutes. It included presentations from experts currently working at the Food Standard Agency, Defra, the European Commission, UK Parliamentary Office for Science and Technology (POST) and Pan-American Health Organisation (PAHO), followed by an active Q&A session.

Josh Sealy was accepted to the iCURE Lean Launch Programme, a collaboration between BBSRC and Innovate UK. The programme aims to help participants use lean start-up methodology to perform online market discovery as it applies to a business idea. Josh is supported in this programme by a member of the Institute's technology transfer team (Lizelle Gouverneur), a senior scientific advisor (Professor Simon Graham) and a business advisor (Professor Jeff Almond, Chair of Pirbright's Science Advisory Board).



WORKING WITH INDUSTRY

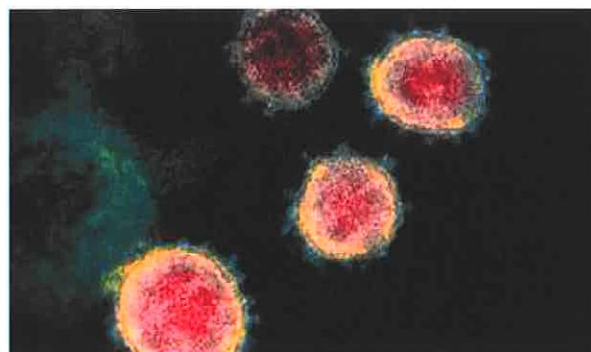
Pirbright's Viral Oncogenesis group is working with several companies from different parts of the world to develop currently used vaccine strains of avian herpesviruses (such as CVI988, SB-1 and herpes virus of turkeys). These recombinant viral vaccine vectors can be used to express protective antigens from other avian pathogens using different techniques including CRISPR-Cas-9-based gene editing tools. These vaccines, in different stages of development or efficacy trials with the commercial partners, can be targeted to protect against globally widespread or locally circulating strains of avian viruses, and have the potential to induce simultaneous protection against more than one disease with a single dose (multivalent).

Pirbright researchers have been collaborating with The Vaccine Group (TVG), a spin out company from the University of Plymouth, to show that a strong T-cell response is stimulated by TVG's candidate SARS-CoV-2 vaccine.

We're engaged with a project aimed at improving the growth of viruses in cell lines which could improve vaccine manufacturing efficiency. This work is funded by the International Development Research Centre (IDRC). We are collaborating with vaccine manufacturers in South Africa, Egypt and Vietnam to evaluate our modified cell lines.

We have continued involvement with the development of the virus-like particles vaccine for foot-and-mouth disease virus (FMDV) in collaboration with MSD Animal Health.

Pirbright continues to work with two multinational animal pharmaceutical companies to develop new African swine fever (ASF) vaccines. The technologies being developed are live attenuated and subunit vaccines.



COLLABORATIONS AND NETWORKS



ANIMAL HEALTH NETWORK

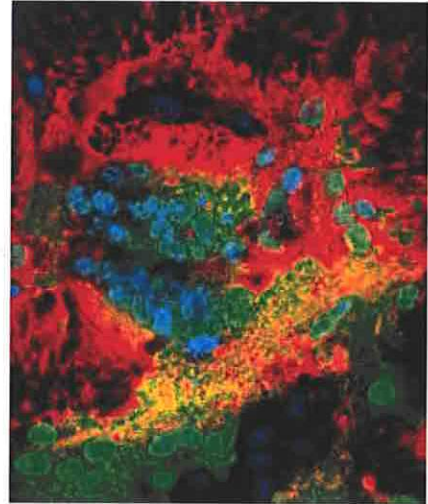
Pirbright has joined forces with the University of Surrey, APHA, the Veterinary Medicines Directorate and Sparsholt College to form the Animal Health Network with the aim of bringing together academia and industry to drive innovation in animal health. Surrey and Hampshire has also been named a High Potential Opportunity by the Department for International Trade, in a bid to drive inward investment.

PARTNERSHIP WITH BABRAHAM

Over the past decade we have developed tools, reagents, and novel techniques to interrogate the immune response to virus infections in the Babraham in-bred line of pigs. The pig is physiologically closely related to humans and provides major advantages over small animal models when studying immune responses to viral disease, or vaccination. We have numerous examples to show that the responses in pigs correlate with immune responses in humans to the same pathogen or vaccines. Collaboration with the immunologists at Babraham Institute will further advance our analyses of immune responses in pigs to improve animal health and human health. Over the past year there have been increasing collaborations between the two institutes, and these will be further enhanced by underpinning support provided through the Institute Development Grant.

PIRBRIGHT'S PATENTS

During 2021/22, the Institute had 15 patents granted in various countries. These patents covered two inventions related to potential coronavirus vaccine technologies, a technology that could be useful in increasing production of vaccines against viruses, and a multivalent avian vaccine.



Pirbright scientists contributed to the development of a new invention, related to a potential vaccine candidate for porcine reproductive and respiratory syndrome (PRRS). This work was done in collaboration with a UK-based spinout company, who has filed a priority patent application.

Three of Pirbright's patent families entered national applications; a significant milestone in the life of a patent. These patents involved potential vaccine candidates for African swine fever virus, and a vaccine for peste-de-petit ruminant virus (PPRV).

PIRBRIGHT'S LICENCES

Pirbright granted two licences to companies in the Middle East and South Asia to evaluate two peste de petits ruminants (PPR) vaccines. Unlike existing PPR vaccines, the Pirbright candidates can differentiate infected from vaccinated animals (DIVA), which will make these vaccines invaluable in the eventual eradication of the disease. A third company has expressed an interest in obtaining a similar licence.

A company based in the Middle East has been granted a licence to evaluate herpesvirus vectored vaccine candidates against the avian influenza H5 and H9 strains. The company is studying the efficacy of these candidates in poultry. This work was initially supported by a BBSRC Zoonoses and Emerging Livestock Systems (ZELS) grant.



EARLY CAREER RESEARCHER AWARDS

IMPACT ACCELERATOR AWARD

The Impact Accelerator Awards (IAA) are awards aimed at supporting knowledge exchange and the acceleration of the Institute's BBSRC funded research. The Institute uses IAA funding to support small research projects to: increase our connections with external partners, transfer knowledge to stakeholders, establish proof-of-concept innovative ideas, and support business engagement. The Institute has been awarded £400k from BBSRC IAA funding between 2018 and 2022.

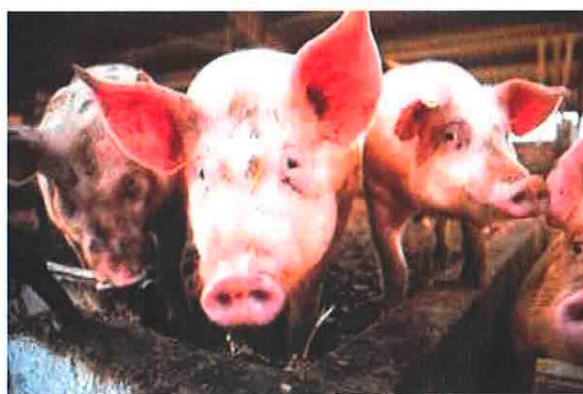
Projects funded through the IAA have gone on to leverage in-kind support and funding from other sources and provided data to enable the successful application for larger grant funding. This relatively modest seed funding has also led to the development of new collaborative relationships, influenced policies that positively affected communities, and developed new reagents, diagnostic assays, and experimental models. Early career researchers are encouraged to apply for funding, thus developing their careers, and providing the Institute the benefit of innovative ideas from the next generation.

POULTRY DIAGNOSTIC TESTS

Using IAA funding we supported a visit from a Chinese collaborator to develop and provide proof-of-concept data for a technology useful in disease diagnosis. This collaboration led to two patent applications for diagnostic assays to detect avian leukosis virus and reticuloendotheliosis, and if successfully validated will be commercialised. We also aim to further use the technology for other avian diseases, potentially developing a sensitive rapid multiplexed diagnostic assay.

HIGH PRECISION PIG GENOME

IAA funding allowed us to generate a genome assembly and transcriptome atlas of the male Babraham pig, which is a highly inbred pig line used for research and managed by Pirbright and housed at the University of Reading. The genome is one of the most contiguous



mammalian genomes assembled to date. We are in early discussions to have the Babraham genome (and transcriptome) hosted on and annotated within Ensembl as an alternative to the established pig reference genome.

PIG DISEASE MODELS

A project funded by the current IAA led to the establishment of a powerful model to study the effect of influenza virus pre-exposure on vaccine efficacy and has allowed us to successfully apply for follow on funding from MRC and VetBioNet.

FLEXIBLE TALENT MOBILITY ACCOUNT (FTMA)

The FTMA, part of the National Productivity Investment Fund, was awarded to Pirbright by BBSRC to support the career development of students and early career researchers by allowing individuals to spend time at other organisations and in other sectors, such as in industry. These placements allow for the exchange of knowledge and perspective between sectors.

Pirbright was awarded a total of £255k between November 2018 and March 2022 which was allocated to 17 projects through internal competitive calls. These projects ranged from placements in intellectual property consultancy firms, to academic researchers spending time working and learning in industrial laboratories to international researchers coming to Pirbright to work with and learn from our own scientists.

This funding supported the career development of our students and employees; researchers gained knowledge about the issues that concern industry and sectors surrounding academic research, and in some cases the placements contributed to career changes for individuals.

INTELLECTUAL PROPERTY OPPORTUNITIES

Andreas Alber, a postdoctoral researcher at Pirbright secured the opportunity to undertake training and to spend time at IP Pragmatics, an intellectual property and technology

management consultancy firm, where he gained an understanding of intellectual property and the tools used to manage these outputs of research. Andreas is currently working in the KEC team, at the interface between academia and industry. Rupert Osborn, CEO of IP Pragmatics commented "the FTMA programme has been very valuable in helping us access talented people to support our business and at the same time we are pleased to be able to help provide additional training to individuals who can then apply this to support knowledge exchange alongside their academic research."

DEVELOPING SKILLS

Dagmara Bialy was immersed in a placement at a UK poultry producer. She developed skills in quality accreditation and project management. Since the placement she has taken on a new senior postdoctoral position at Pirbright, managing the Institute's CL3 facilities. A representative from the company has stated: "This project was enormously beneficial for both the industrial partner and the Innovation Fellow undertaking the project. Skills were successfully transferred from the researcher that provided new techniques and methods for the commercial partner. Equally, Dagmara acquired experience of R&D and additional commercial experience. The FTMA demonstrates the added value of a close interaction between industrial R&D and academia."



Pirbright scientist
working in containment
level 3 laboratories in
sealed cabinets.

© Edward Brydon

GLOBAL IMPACT

Pirbright's reputation for scientific excellence continues to extend across the globe enabling us to have positive outcomes in animal health and food and economic security for millions of people who rely on their livestock to survive. In 2021/22 we began 48 new projects (including studentships) in different countries. Over half of these projects were working with partners in Belgium, Germany, Ghana, Nigeria, Philippines, South Africa, South Korea, UK and the USA. We also continued to collaborate with 155 partners on 218 ongoing projects in 53 countries during the year. Several of our students worked across 66 projects globally.





INVESTING IN OUR PEOPLE

Pirbright is a vibrant and diverse community of talented individuals who are united in their aim to eliminate viral diseases of livestock through fundamental science research, vaccine development and diagnostics and surveillance. Our aim is to attract and support a world-class, diverse workforce.

The Institute has a wide research portfolio and dedicated researchers, who are responding to the changing global need for increased research into zoonotic viruses and diseases. Our scientists are supported by on-site specialists in health, safety, biosecurity, engineering and research services, as well as our corporate functions, and have access to world-leading research facilities on-site.

We are passionate about ensuring that the Institute is a top performing organisation, and we continue to attract top talent from around the world, with staff and students in 2021 representing 35 different nationalities, enriching our cultural diversity.

RECRUITING, DEVELOPING AND REWARDING OUR STAFF

Mirroring the UK picture, we have experienced high levels of staff turnover during the last year, and combined with new grant successes, and restructures, we managed 178 vacancies during the year, some of which provided new opportunities for career progression for our staff.

The impact of BREXIT and new immigration rules, as well as ongoing interruption from COVID-19 on international movement, has been an additional challenge to recruitment. We are providing financial support to overseas candidates to help manage the cost of coming to the UK and some of our staff have successfully applied for the Global Talent Mobility scheme.

We ran another successful Personal Promotion scheme in 2021 resulting in 12 promotions – seven male and six female, which included seven postdoctoral scientists.

Four apprentices successfully completed their engineering Level 3 schemes and all secured

new roles and promotions into core engineering positions, demonstrating the real value of our apprenticeship scheme as part of succession planning.

Exceptionally the organisation awarded two pay awards in 2021, one in July and one in November. This was in recognition of the unprecedented challenges during the year, the outstanding performance of staff and acknowledgement of the rising cost of living.

We introduced a new reward scheme for merit progression, within current grade, with all grades eligible to apply for a percentage increase in salary.

PROMOTING A CULTURE OF INCLUSIVITY AND WELLBEING

We are committed to creating a culture where everyone can bring their whole self to work and their uniqueness is truly valued. Our Equality, Diversity & Inclusivity (ED&I) Committee delivered a range of initiatives during the year, raising awareness of topics such as hidden disabilities and racial tolerance and celebrating PRIDE month in June 2021, as well as working on the following projects:

- Work is progressing on our Athena SWAN silver application – submission November 2022
- New LGBTQ+ network set up
- New Carers' support group set up
- Contributing to the consultation on the UKRI draft Equality & Diversity draft strategy

The Institute is aware of its statutory duty to support the employment of disabled persons, where possible, both in the recruitment and retention of employees who become disabled whilst in its employment, as well as generally through training and career development.

GENDER PAY GAP 2021

The gender pay gap is defined as the difference between the mean or median earnings of male and female employees, expressed relative to male earnings. The mean pay gap is the difference between the average hourly earnings of men and women. The median pay gap is the difference between the midpoints of hourly earnings of men and women.

We are pleased to report that the Institute mean pay gap has reduced from 16.6 percent in April 2020 to 10.6 percent in 2021 and the median gap from 6.7 percent to 5.8 percent. These figures are provided based on the hourly rate of pay as of 5 April 2021.

The full report can be found on the Institute's website.

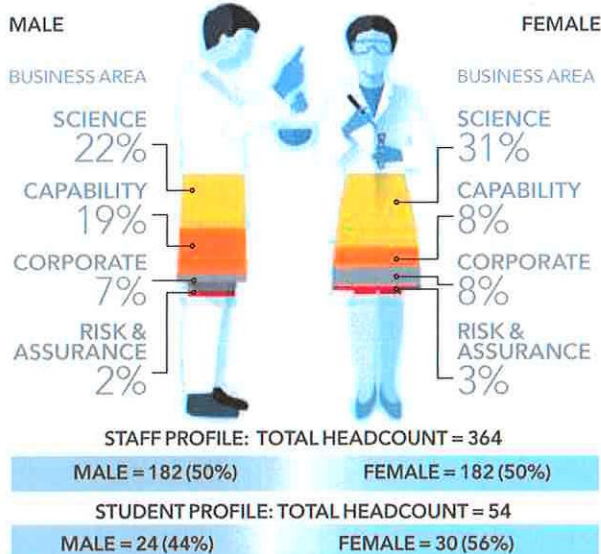
MEAN AND MEDIAN HOURLY PAY COMPARISON (£)

The Institute has maintained more or less an equal gender balance in terms of staff numbers for the last four years. We offer a range of flexible working arrangements which helps attract and retain high numbers of female applicants and are pleased that both males and females have benefitted from enhanced family friendly policies, including shared parental leave. Whilst we are confident that men and women are paid equally for carrying out equivalent roles across the Institute, the main reason for the overall mean gender pay gap is the unequal distribution of men and women across seniority levels at the Institute.

However, with regards to the proportion of men and women within each pay quartile, we are pleased to report that the percentages of females in the upper quartile have increased since last year from 32.58 percent to 39.78 percent and the gender imbalance in the lower quartile where there are more females than males has also improved with an increase in the number of males from 37.78 percent to 42.39 percent.

OUR STAFF AND STUDENT PROFILE

There is an equal split of males and female employees in the organisation. The table below shows in which areas of the organisation our employees work, by gender.



TOP TALENT

Recruitment of top talent and investment in our staff and students is a priority at Pirbright. World-class researchers and specialist support staff enable the Institute to deliver its cutting-edge research, diagnostics and surveillance.



DR TREVOR SWEENEY, SIR HENRY DALE FELLOW GROUP LEADER: VIRAL GENE EXPRESSION

Dr Trevor Sweeney, a Wellcome Trust Sir Henry Dale Fellow, joined the Institute as a Group

Leader in October 2021 and will lead the new Flavivirus Viral Gene Expression group. Trevor set up his group in the Division of Virology at the University of Cambridge in 2014. His research focuses on the role of RNA structure in controlling different stages of viral replication and virus-host interactions with most recent work demonstrating new details of flavivirus replication.



DR TAMARA JABBAR HEAD OF EDUCATION

As the Head of Education, Tamara will be responsible for the strategic development and management of the Institute's undergraduate and

postgraduate student programmes.

Having attained her own PhD from Pirbright and worked at the Institute as both a researcher and a member of the Training team developing external courses for researchers, Tamara is perfectly placed to take on the role of Head of Education.



LIZELLE GOUVERNEUR HEAD OF BUSINESS DEVELOPMENT

Lizelle joined the Institute in 2013 in the Knowledge Exchange and Commercialisation (KEC)

team. The KEC team works closely with research groups, reference laboratories and other operational teams to manage the Institute's intellectual property portfolio and support engagement with external partners, especially industry. Lizelle will take on the SPiRE (Sharing Pirbright's Expertise) programme and is looking forward to supporting the establishment of Pirbright Innovations, the Institute's wholly-owned trading subsidiary, and enabling the full exploitation of our research for social and economic benefit.



CALLUM THOMAS INSECTARY MANAGER

In 2019 Callum completed his MSc in Evolution, Ecology and Systematics at Ludwig-Maximilian University of

Munich, submitting his thesis on the phylogenetics of *Wolbachia* present in *Chorthippus* grasshoppers under the supervision of Dr Ricardo Pereira. In November 2019 he began working as part of the Arthropod Genetics Group at Pirbright focusing on the control of mosquito vectors of arboviruses using genetic modification.

Since December 2021 Callum has been acting as Insectary Manager responsible for coordination of works undertaken in the two insectary facilities at Pirbright: The Philip Mellor Insectary (PMI) and the insectary facility IS4L.



DR LYNDA MOORE RETIRES FROM PIRBRIGHT

After ten years with the Institute, Dr Lynda Moore took early retirement and left Pirbright at the end of March 2022. As the

Head of Academic Affairs and Training Lynda was responsible for the student community at Pirbright, she also managed learning and development and developed the external training programme known as SPiRE (Sharing Pirbright's Expertise). We wish Lynda a happy and healthy early retirement.

PERSONAL PROMOTIONS

Pirbright's Personal Promotion scheme provides our staff with an opportunity to move to a higher grade based on consistently excellent performance and personal contribution to the Institute. Our Personal Promotion Scheme had a high number of applications this year and 12 people were successfully promoted through this process – with a 50/50 split in gender. We continue to support the apprenticeship scheme at Pirbright and were pleased that several completed their training and were successful in securing positions at the Institute, for example, in Engineering and HR roles.



AN APPRECIATION OF THE FORMER CHAIR OF THE TRUSTEE BOARD

Professor John Stephenson who died in March 2022, served as a Pirbright Trustee for five years before becoming the Chair of the Trustee Board in April 2019. As Chair, John oversaw the most recent developments at the Institute including the construction of the new Brooksby building whilst maintain a proactive and collegial approach to everything he did as Chair. John had a distinguished research career, with a long-standing interest in the interaction between virus infection and the immune system. In 1999 he joined the Department of Health as Chief Research Officer responsible for managing programmes on Creutzfeldt-Jakob disease (CJD), vaccines, pandemic influenza and counter terrorism. In 2007 he was appointed Director of Research and Development for the Health Protection Agency. Professor Stephenson held honorary professorships at the London School of Hygiene and Tropical Medicine and at the University of Liverpool. John's commitment and enthusiasm about everything the Pirbright Institute does to stay at the forefront of research into viral diseases of livestock characterised his period as Chair. John will be remembered fondly by the Board and members of the Institute alike.

CELEBRATING SUCCESS AT PIRBRIGHT

PROMOTING WOMEN SCIENTISTS IN THE FIGHT AGAINST COVID-19

To highlight the essential role women are playing in progressing crucial COVID-19 research, the Permanent Mission of Greece to the UN, the Permanent Mission of Lebanon, with the support of the Permanent Mission of the UK and UN Women, staged an online event called 'The Hypatia Debate: Women Scientists in the fight against COVID-19'.

Three prominent scientists were invited as panellists to explore the unique role of women researchers in tackling the pandemic. Dr Eleni Vatzia, a postdoctoral scientist in Pirbright's Mucosal Immunology group, was selected to join Professor Dame Sally Davies (UK Special Envoy on Antimicrobial Resistance) and Dr Hana El Sahly (Associate Professor of molecular virology, Baylor College of Medicine in Houston) on the panel.

Dr Vatzia's research includes the immune responses to influenza infection and vaccination using the same ChAdOx viral vector platform used in the Oxford AstraZeneca COVID-19 vaccine in collaboration with Professor Dame Sarah Gilbert's team.

TWO PIRBRIGHT SCIENTISTS WIN MICROBIOLOGY SOCIETY PRIZES

Dr Kerry Newbrook and Nazia Thakur were awarded the Journal of General Virology - Most Promising Science prize for their poster presentations at the 2021 Microbiology Society Annual Conference. Their achievements are testament to the incredibly important research that our scientists conduct to reduce the impact of diseases that affect animals and humans.

Dr Kerry Newbrook Poster title: Virus damage or host response? Elucidating mechanisms of pathogenesis in bluetongue virus-infected sheep.

Nazia Thakur Poster title: SARS-CoV-2 Spike has broad tropism for mammalian ACE2 proteins yet exhibits a distinct pattern of receptor usage when

The Institute, its scientists and staff received a variety of prestigious awards last year, recognising Pirbright's scientific and operational commitment to excellence.

compared to other beta-coronavirus spike proteins.



MULTIPLE AWARDS GIVEN TO STUDENT FOR COVID-19 WORK IN ROMANIA AND UK

Stefan Dascalu's (DPhil Candidate

at the University of Oxford and a member of Pirbright's Avian Influenza Virus group) doctoral research project is focused on the immune response to avian influenza infections in poultry, however, over the past 18 months he has devoted much of his spare time to public health activities in the effort to combat the COVID-19 pandemic, particularly in his home country of Romania. It is this work which has seen him honoured with an Interdisciplinary Bioscience Doctoral Training Programme (DTP) Impact Award.

In November 2021 Stefan was awarded a Social Impact Award for his incredible efforts, which was closely followed in March 2022 with the Romanian Patriarchate's Order of the Holy Brâncoveanu Martyrs for his collaborative work between state authorities and religious institutions during the COVID-19 public health crisis.

DR KEVIN MARINGER TO CHAIR MICROBIOLOGY SOCIETY'S MEMBERS PANEL PROMOTING DIVERSITY AND INCLUSION IN SCIENCE

Pirbright's Dr Kevin Maringer, group leader of the Flavivirus Transmission and Pathogenesis group, will co-chair a new Members Panel formed by The Microbiology Society to promote equality and diversity in the microbiology community.

The panel is made up of members from across the globe, and includes Black, Asian, and other ethnic minorities, members who identify as LGBTQ+, and members who have disabilities or

long-term conditions. It also includes members from lower socioeconomic backgrounds or who are the first of their family to attend university, and other underrepresented groups whose personal experiences have impacted their careers in microbiology. The Panel will ensure that equality, diversity, and inclusion matters are considered at the highest level of the Society's governance.

PLACEMENT STUDENTS END YEAR ON A HIGH!

During 2020, eleven undergraduate students from universities across the UK (Surrey, Birmingham, Manchester, Cardiff, Nottingham, Bath and York) joined Pirbright to undertake a 12 month placement with us as part of their degree.

In July 2021, these placement students gathered in the Centre for Collaborative Learning (CCL) to present their work and achievements during their year with us. Despite a difficult year due to COVID-19 restrictions, their achievements shone through in their virtual presentations and in their response to questions from the audience.

Congratulations to Alice Jones, Paige Lewington, Asha Khunti, Matthew Edwards, Alice Harvey, Aimee Fisher, Joseph Bowman, Daisy Grainger, Chris Kent, Vito Margaritondo, and Tara Davis.



DEVELOPING THE NEXT GENERATION OF SCIENTISTS

STUDENTSHIPS

Pirbright has a diverse and energetic student community, which is comprised of more than 60 PhD students, MSc research project students, BSc year-in-industry students and undergraduate veterinary students. We offer our students so much more than basic benchwork research skills – our transferable skills training courses are combined with a Careers Day and the opportunities to attend placements off-site with other universities and organisations, providing them a wealth of possible choices following graduation.

Student training courses continued to run throughout the year, with both trainers and students having to adapt to a virtual learning environment. Courses included presentation skills, developing professional researcher networks, imposter syndrome, secrets of successful CVs and interview skills, writing a paper with impact and viva workshops.

STUDENT PLACEMENTS

The placement student scheme at Pirbright has been enhanced in recent years – originally this was a scheme for just two students per year from the University of Surrey, but it has now grown to 13 students from August 2021 to July 2022, with 11 students remaining for an extension to their placement from April 2021 (started August 2020) to August 2021 period. A further 15 students will be joining us in August 2022.

We advertise our placements to around 20 universities directly (where we know they have suitable degree courses with a placement / year-in industry option) and on our website. Placements represent a valuable work experience for the students, and they are often involved in writing papers on the research work conducted. Placements are also valued by our Group Leaders as a hard-working, valuable academic resource.

RECRUITMENT

Brexit has had an impact on PhD studentships this year (from January 2021, so affecting the October 2021 cohort intake). Before Brexit, only UK and some European students were eligible for PhD studentship funding, but the changes now mean that international students can also apply, provided they can pay the difference between home and international university tuition fees. As such it is likely that we will receive a higher number of applications per studentship, opening up opportunities to a wider pool of international candidates.

APPRENTICESHIPS

Pirbright runs an extremely successful apprenticeship scheme covering a wide range of career areas within the Institute including engineering, Finance, HR, Learning and Development, IT and health & safety and biosafety. Our apprenticeship scheme in 2021/22 included:

- One HR apprentice completed and passed their HR Support Level 3 qualification, whilst in post

- One Laboratory Technician apprentice completed and passed their Laboratory Technician Level 3 qualification.
- Two new apprentices started in March 2022, one in HR and the second working as a science technician.
- Four EMS apprentices completed their Level 3 Installation / Maintenance Electrician and Electrical Maintenance qualifications.
- Apprenticeship Week campaign 'Build the Future' in February 2022 supported by the Communications Team, with a career fair at Farnborough College, Ask Me Anything sessions on Twitter with current apprentices.

SHARING INDUSTRY EXPERTISE

Secondments and training between Pirbright and commercial partners provide an excellent opportunity for early career post-doctoral scientists to develop industry skills and explore different job roles. Pirbright researchers were paired with a variety of companies in different industries, such as an intellectual property and technology management, the poultry industry and biotechnology.



GOVERNANCE AND MANAGEMENT

The Pirbright Institute is an independent company, limited by guarantee and a registered charity. It is governed by a Board of non-executive Trustee Directors who provide strategic input to the Senior Leadership Board at Pirbright. Science at the Institute is reviewed by an independent group of leading researchers who comprise the Science Advisory Board and whose role is to provide advice and guidance on science strategy and direction.

ORGANISATION AND GOVERNANCE

The Annual Report provides information for legal purposes of the charity, its business activities and its main achievements. The financial statements have been prepared in accordance with the Charities Act 2011, the Companies Act 2006, the Memorandum and Articles of Association and Accounting and Reporting by Charities: Statement of the Recommended Practice applicable to charities preparing their accounts in accordance with Financial Reporting Standards applicable to the UK and Republic of Ireland (FRS102), effective 1 January 2015.

THE BOARD OF TRUSTEES AND ITS INTERESTS

The Directors of the Trustee Board during the year were:

- Professor John Stephenson (died - February 2022)
- Professor Vince Emery – Chair
- Roger Louth (resigned - December 31, 2021)
- Ian Bateman
- Ian Black
- Rona Chester
- Jon Coles
- Emma Griffin (appointed April 1, 2021)
- Alison Hardy
- Dr Paul Logan
- Jane Tirard

Trustee Directors are appointed by the existing Trustee Directors for a period of up to three years, when they are eligible for re-appointment for a second term.

The purpose of the Trustee Board is to ensure that the Institute carries out its purpose for the public benefit in accordance with its memorandum, articles of association and governing law. The main focus of the Trustee Directors is on leadership, strategy, performance, and assurance with focus on maintaining Pirbright's reputation, staff and infrastructure whilst protecting the Institute's sustainability.

Furthermore, the Trustee Directors must act in the Institute's best interests; they must ensure that the Institute's resources are managed responsibly; they must act with reasonable care and skill; they must ensure that the Institute complies with all statutory

accounting and reporting requirements; and they must meet the oversight requirements expected of a major hazard site.

The Trustee Board has established three committees to support it in its work: the Finance and Audit Committee, the Risk and Assurance Committee and the Nomination and Governance Committee and work closely with the Institute Director and senior management of the Institute to achieve its aims.

Trustee Directors and co-opted members are required to declare any conflicts or potential conflicts of Interests at Trustee Board and committee meetings, and these are recorded in the minutes. During the year, no Trustee Director declared a conflict of interest. Depending on the conflict, the Chair may require a Trustee Director or co-opted member to either leave the meeting, or not take part in a discussion or decision on a particular Issue.

The Trustee Board has also established a Scientific Advisory Board, comprised of independent leading scientists, to provide advice, guidance, and recommendations regarding the scientific strategy and direction of the Institute. In addition, the Science Advisory Board provides assurance to the Trustee Board on the quality of science and research, the relevance and importance of the strategy, and advise on the Institute's positioning within the international scientific landscape.

TRUSTEES' INDEMNITY INSURANCE

The Institute maintains liability insurance for its Trustee Board, with an annual aggregate cover limit for all claims against them in that capacity. The Trustees have also been granted a qualifying third-party provision under section 233 of Companies Act 2006. Neither the Institute's indemnity nor insurance provides cover in the event that a Trustee Director is proved to have acted fraudulently or dishonestly. The premium and related costs in respect of this policy were £20,432 (2021: £20,432). The Trustees are satisfied they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charities

Commission. Based on this guidance, and as described in the Trustees' Report, the Trustees believe the activities of The Pirbright Institute to be charitable in nature.

TRAINING OF TRUSTEES

The Institute continually reviews its practices for induction and ongoing Trustee training. Trustees are encouraged to attend appropriate external training events where these will facilitate the undertaking of their role.

SENIOR LEADERSHIP BOARD

The Trustee Board consider that the Senior Leadership Board (SLB) is accountable for Institute strategy, risk mitigation and governance of day-to-day operational delivery. The SLB comprising the Institute Director and the Directorate heads; namely Director of Risk and Assurance, Director of Finance and Company Secretary and an interim member with responsibility for science and operations interface.

The remuneration and benefits of the SLB is based on the agreed and recognised salary banding for the Institute and reviewed annually.

RELATED PARTIES

The Institute's subsidiary undertaking, Pirbright Innovations Limited, last traded in 2003 and is currently dormant. Genomia Management Limited was formed on 16 April 2004 and is also a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with The Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Scotland's Rural College (SRUC).

THE INSTITUTE HAS FIVE MEMBERS:

Chair of the
Trustee Board

Chair of the
Science Advisory
Board

BBSRC
UKRI

National
Farmers' Union

Royal College
of Veterinary
Surgeons

TRUSTEE BOARD

Professor Vince
Emery (Chair)

Ian Bateman
(Deputy Chair)

Ian Black

Rona Chester

Jon Coles

Emma Griffin

Alison Hardy

Dr Paul Logan

Jane Tirard

SENIOR LEADERSHIP BOARD (SLB)

Professor Bryan Charleston
– Director and CEO

Professor John Hammond
– Interim member to SLB
with responsibility for
Science and Operations
interface

Helen Watts
– Director of Finance and
Company Secretary

Dr Andrew White –
Director of Risk and
Assurance

SCIENCE ADVISORY BOARD (SAB)

Professor Jeffrey Almond – Chair

Professor Dr Martin Beer

Professor Persephone Borrow

Professor Mary Cameron

Professor Gary Entrican

Professor Deirdre Hollingsworth

Professor Stephen Inglis CBE

Professor Paul Kellam

Dr Paul Logan

Professor Thomas Mettenleiter

Professor John Pickett

Professor David Rowlands

Professor Eleanor M. Riley

Professor Helen Sang

Professor Geoffrey L. Smith

Dr Samuel Thevasagayam

FINANCE AND AUDIT COMMITTEE

Rona Chester – Chair

Jon Coles

Jane Tirard

NOMINATIONS AND GOVERNANCE COMMITTEE

Ian Black – Chair

Jon Coles

Alison Hardy

RISK AND ASSURANCE COMMITTEE

Ian Bateman – Chair

Emma Griffin

Dr Paul Logan

SENIOR LEADERSHIP BOARD

The Trustee Board consider that the Senior Leadership Board (SLB) is accountable for Institute strategy, risk mitigation and governance of day-to-day operational delivery. The SLB comprises of the Institute Director and the Directorate heads; namely Director of Risk and Assurance, Interim member for Science and Operations interface and Director of Finance and Company Secretary. The remuneration and benefits of the SLB is based on the agreed and recognised salary banding for the Institute and is reviewed annually.



PROFESSOR BRYAN CHARLESTON – DIRECTOR AND CEO

Professor Charleston joined The Pirbright Institute (formally known as the Institute for Animal Health) in 1994 and focused on studies of the immune response to viral infections in cattle. His research group's efforts are focused on understanding the immune response to foot-and-mouth disease virus in cattle to develop novel vaccines.



PROFESSOR JOHN HAMMOND – INTERIM MEMBER TO SLB WITH RESPONSIBILITY FOR SCIENCE AND OPERATIONS INTERFACE

John leads the Immunogenetics Group at the Institute studying the mechanisms and consequences of genetic variation on the mammalian immune system. He is also Head of Programme: Enhanced host responses for disease control.



HELEN WATTS – DIRECTOR OF FINANCE AND COMPANY SECRETARY

As the Institute's Director of Finance and Company Secretary Helen's remit includes all aspects of the Institute's finances as well as managing the IT and procurement functions. She is also a member of the Development Programme Board, as well as being a member of a number of working groups overseeing many aspects of the Institute's operations.



DR ANDREW WHITE – DIRECTOR OF RISK & ASSURANCE

Andrew leads on all aspects of risk management including biosafety, Health & Safety, quality assurance, environment, crisis management & business continuity, biosecurity, and wider enterprise risks such as financial, informational, operational, reputational and strategic. Andy is a biochemist by training and holds a PhD in protein structure and chemistry.

TRUSTEE BOARD



CHAIR OF THE TRUSTEE BOARD - PROFESSOR VINCE EMERY

Professor Emery is President of the University of Hertfordshire's branch campus hosted by Global Academic Foundation in Egypt and is also Emeritus Professor of Translational Virology at the University of Surrey and a Visiting Professor at the University of Hertfordshire, UK. His research in virology, spanning some 34 years, aims to provide an interdisciplinary approach to understanding viral infections in immunocompromised hosts.



DEPUTY CHAIR OF THE TRUSTEE BOARD - IAN BATEMAN

Ian is an Executive Director and Board Member with significant strategic leadership experience in healthcare organisations in both public and private sectors. He has a strong background in corporate leadership of quality, regulatory affairs, corporate governance, assurance, risk and health and safety.



IAN BLACK

Ian worked as a senior executive in a range of global organisations with a business sector focus on Engineering, Technology and Fast-Moving Consumer Goods. This included various roles covering Strategy, HR, IT, Quality and Marketing Services worldwide.



RONA CHESTER

Rona is a fellow of the Institute of Chartered Accountants with over 30 years' experience in leading financial teams in both the public and private sector. More recently Rona was the Chief Operating Officer at Sport England, the lottery distributor, where additional responsibilities included grants management, Commercial and IT, as well as contributing to the development of the organisation's strategy.



JON COLES

Jon was a senior Partner at Brunswick Group LLP, a leading international communications consultancy, where he advised the Boards of Directors of global groups on strategic communications and corporate reputation. His particular focus was on clients in the pharmaceutical, biotechnology and agriculture industries.



EMMA GRIFFIN

Emma has over 25 years professional experience across a multitude of sectors in cyber security, technology, and regulatory compliance. She participates on several advisory boards to influence and drive cyber security development and solution innovation and regularly participates in industry and regulatory forums as an advisor and speaker. Emma is actively involved in promoting diversity and inclusion and seeks to encourage careers in science and technology to minority groups.



ALISON HARDY

Alison is a solicitor and partner with City law firm Ashurst LLP where she leads the real estate dispute resolution practice. Alison is experienced in all aspects of commercial real estate. She is actively involved in diversity and inclusion and is the partner sponsor of Ashurst's Social Mobility and Inclusion network, which is working to remove barriers to entry into and progression within the legal profession.



DR PAUL LOGAN

Prior to his retirement in 2020, Paul was a Senior Civil Servant in the Health and Safety Executive (HSE) which he had joined as a regulatory scientist. During his time in HSE he chaired a number of industry/government committees. He was Director of the division in HSE with responsibility for regulation of major hazards industries, including chemical manufacturing, oil refineries, explosives manufacture and storage, and high containment laboratories.



JANE TIRARD

Jane has over 30 years of experience of all aspects of strategic financial planning, financial management, financial accounting, systems and processes. As a result of her roles, she has a working knowledge of government departments, funding councils, academia and the pharmaceutical industry. Her last position was as the Director of Finance and Corporate Services at the Diamond Light Source, the UK's national synchrotron science facility.

SCIENCE ADVISORY BOARD

The Institute's Science Advisory Board (SAB) provides valuable strategic oversight, input and advice on the Institute's science strategy and scientific directions.



Professor Jeffrey Almond – Chair

Professor Jeffrey Almond is an Oxford Martin Visiting Fellow with the Oxford Martin Programme on Vaccines and was former Vice-President and Head of Discovery Research and External R&D at Sanofi Pasteur and Visiting Fellow at the William School of Pathology, University of Oxford.



Professor Dr Martin Beer is head of the Institute of Diagnostic Virology at the FLI, working with transboundary animal diseases, zoonosis and emerging diseases like avian influenza virus, Schmallenberg virus and pestiviruses.



Professor Persephone Borrow is a viral immunologist whose research interests centre on understanding virus-immune system interactions and their roles in determining the balance between virus clearance versus viral persistence and associated pathogenesis.



Professor Mary Cameron is a Professor of Medical Entomology in the Faculty of Infectious and Tropical Diseases, London School of Hygiene & Tropical Medicine (LSHTM). Mary has over 30 years' experience in delivering international level field and laboratory research focusing on the surveillance and control of a wide range of vector-borne diseases, particularly leishmaniasis.



Professor Gary Entrican is an immunologist who has specialised in the development of vaccines and diagnostic tests for the control of infectious diseases of ruminant livestock. He has developed many immunological tools and technologies, including kits for in vitro differentiation of ruminant dendritic cells and cytokine ELISAs.



Professor Deirdre Hollingsworth is an infectious disease epidemiologist who uses mathematical models and statistical analyses to study the evolution and transmission dynamics of infectious diseases with the aim of informing the design of more effective control interventions. She leads the

NTD Modelling Consortium, an international network of neglected tropical disease modellers.



Professor Paul Kellam is a Professor of Virus Genomics at Imperial College London and Vice President of infectious diseases & vaccines at Kymab Ltd, UK. His research has identified how HIV develops resistance to antiviral drugs and has identified the first influenza disease severity gene in people hospitalised with influenza virus. His laboratory contributed to the international Ebola virus genome analysis.



Dr Paul Logan Prior to his retirement in 2020, Paul was a Senior Civil Servant in the Health and Safety Executive (HSE) which he had joined as a regulatory scientist. He subsequently trained as a specialist inspector with responsibility for inspection of high containment laboratories.



Professor David Rowlands is an emeritus Professor of Molecular Virology at the University of Leeds. He worked at the Animal Virus Research Institute (now The Pirbright Institute), before transferring to industry, holding positions at Wellcome Biotech and the Wellcome Foundation and finally moved into academia at the University of Leeds. He has a lifetime of experience studying both human and animal viruses.



Eleanor M. Riley, BSc, BVSc, PhD, FRSB, FMedSci Eleanor's research focusses on mechanisms of immunity to malaria in humans and in animal models, how the immune response can contribute to disease, how immunity affects the distribution and transmission of the parasite and how malaria infection affects resistance to other infections. In addition, Eleanor has a longstanding interest in the biology of natural killer (NK) cells and their role in resistance to infection.



Professor Helen Sang's main research focus at The Roslin Institute has been the development of technologies for genetic modification of the chicken, which are applied in basic biomedical research, biotechnology and investigating the potential for developing disease resistance in production chickens.



Professor Geoffrey L. Smith is Professor of Pathology at the University of Cambridge. His research studies the interactions of poxviruses with the host cell and immune system. Together with Michael Mackett, he developed vaccinia virus (the smallpox vaccine) as an expression vector and established the principal of using genetically engineered viruses as live vaccines.



Dr Samuel Thevasagayam leads the Livestock initiative within the Agriculture Development Program at the Bill & Melinda Gates Foundation where he oversees the implementation of foundation's strategy in animal health, animal production and livestock systems. Sam joined the Gates Foundation in 2012.

FINANCE AND AUDIT COMMITTEE

FAC provide assurance and advice to the Board in relation to the Institute's finances and other assets; business planning and corporate reporting; the Institute's strategic risks; and the statutory external audit and the programme of internal audits covering the corporate functions.

Rona Chester - Chair

Jon Coles

Jane Tirard

NOMINATIONS AND GOVERNANCE COMMITTEE

To provide assurance to the Board in relation to all governance matters, with the aim of obtaining the highest possible standard of governance and compliance. The Institute has adopted the Charity Governance Code with this committee responsible for its implementation.

Ian Black - Chair

Jon Coles

Alison Hardy

RISK AND ASSURANCE COMMITTEE

To provide assurance to the Board on the arrangements to meet legal duties and to manage risk within the Institute, working in consort with the Risk and Assurance Strategy and Plan, to oversee all risk management systems, controls and processes that may have an impact on the Institute's ability to meet its objective.

Ian Bateman - Chair

Emma Griffin

Dr Paul Logan

INCOME

Total income amounted to £59.1m (2021: £80.7m), this reduction arising from a lower level of funding for the capital development of the site as the current phase reaches completion. Investment in tangible fixed assets in the year totalled £32.7m (2021: £36.7m). This was substantially funded by grants from the Institute's principal sponsor, Biotechnology and Biological Sciences Research Council, part of UK Research and Innovation (BBSRC UKRI), Defra and other grant awarding bodies.

EXPENDITURE

Recurrent expenditure for the year amounted to £46.5m (2021: £48.0m). Staff costs accounted for £17.9m (39%) (2021: £18.1m: 37% of expenditure). The slight reduction in staff costs from 2021 relates to high levels of vacancies during the year, net of the pay award.

CASH AND TERM DEPOSITS

Cash and terms deposits at 31 March 2022 were £34.5m (2021: £42.4m), a fall of £7.9m in the year as funds are used to support the capital development on site. Pirbright deposits its cash with UK registered financial institutions in accordance with the Institute's investment policy. Investment income from cash deposits in the year was less than £0.1m (2021: £0.1m).

GRANT PROPOSALS

During the year, Pirbright researchers submitted grant proposals with a sponsor value of £20.8m (2021: £20.1m) and were awarded grants with a value of £7.5m (2021: £9.5m).

GOING CONCERN

The Trustees have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC UKRI, £15m per annum; this award runs from 5 April 2017 to 31 March 2022. The Institute was advised by BBSRC UKRI that the grant period will be extended for a sixth year to 31 March 2023. This source of confirmed funding, the consistent performance of attracting income from other funding bodies and the development of a business plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security. Having considered the risks in respect of future funding, financial forecasts for the period to November 2023 and the level of reserves, the Trustees have not identified

any material uncertainties relating to going concern and therefore have concluded that it remains appropriate to prepare the financial statements on a going concern basis.

NET MOVEMENT IN RESERVES

The Pirbright Institute recorded a net decrease in unrestricted reserves of £0.2m. (2021: £1.9m increase) There was a £0.1m decrease in the designated reserve with the general reserve decreasing by £0.1m. Due to the phasing of the Pirbright Development Programme, the restricted reserves increased by £15.0m. (2021: £30.8m). Capital expenditure in the year was £32.7m (2020: £36.7m). There has been an ongoing major development of the Pirbright site which will result in a new SAPO4 facility and additional state of the art science equipment.

RESERVES POLICY

Unrestricted funds

It is the policy of the Trustees to ensure the General Fund in the Unrestricted Reserves reaches £4.5m by the end of the current business plan cycle being 2022/23 to enable the Institute to manage fluctuations in income and unforeseen cost pressures. At 31 March 2022 unrestricted general funds were £7.4m (2021: £7.5m) ahead of the target as set by the Trustees. It is anticipated that over the coming years it will be possible for the Institute to undertake further development of science activity to enhance the overall sustainability and improvement of activity. The redevelopment of the site will also provide the world class facilities required to ensure the Institute is best placed to succeed in future grant submissions.

Designated funds

The use of the unrestricted designated fund as set out in note 15 comprises sums set aside for specific purposes as decided by the Trustees to support ongoing non-operational activity and the continued development of the Pirbright site in support of the construction programme.

Restricted funds

The Institute has been undertaking a significant building programme within the Pirbright site for which funding has been received from BBSRC UKRI. The funding of this programme is via grants which are held within the restricted funds and comes to a total of £317.2m. This funding is solely and specifically granted for the purpose of the building programme hence the inclusion within the restricted fund and mostly this represents the value of the buildings which have been constructed.

FUNDRAISING ACTIVITIES

Section 162a of the Charities Act 2011 requires charities to make a statement regarding fundraising activities. Although we do not undertake direct fundraising from the general public, with the legislation defining fundraising as "soliciting or otherwise procuring money or other property for charitable purposes", we have to disclose the value of such income in the year. We have received no such income during the current or previous financial year and have therefore received no complaints in respect of our fundraising activities.

STATEMENT OF TRUSTEES' RESPONSIBILITIES

The Trustees, who are also Directors of the charitable company for the purposes of company law, are responsible for preparing the Trustees' Report incorporating the Strategic Report in accordance with applicable law and regulations.

Company law requires the Trustee Board to prepare financial statements for each financial year. Under that law the Trustee Board has elected to prepare the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable laws), including FRS102 (the Financial Reporting Standard applicable in the UK and Republic of Ireland). Under company law the Trustee Board must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period.

In preparing these financial statements, the Trustee Board is required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP (FRS102);
- make judgments and accounting estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The Trustee Board is responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. It is also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Institute maintains liability insurance for its Trustees for all claims against them in that capacity. The insurance does not provide cover in the event that a Trustee Director is proved to have acted fraudulently or dishonestly.

The Trustees are satisfied that they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission. Based on this guidance the Trustees believe the activities of the Institute to be charitable in nature.

The Trustee Board confirms that:

- so far as each Trustee Director is aware, there is no relevant audit information of which the charitable company's auditor is unaware;
- and the Trustees have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

The Report of the Trustees incorporating the Directors' Report and the Strategic Report was approved and signed on behalf of the Trustee Board.



Professor Vince Emery
Chair of the Trustee Board
Date: 16 November 2022

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE PIRBRIGHT INSTITUTE

(LIMITED BY GUARANTEE)

In our opinion, the financial statements:

- give a true and fair view of the state of the Charitable Company's affairs as at 31 March 2022 and of its incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of The Pirbright Institute ("the Charitable Company") for the year ended 31 March 2022 which comprise the principal accounting policies, the statement of financial activities, the balance sheet, the cash flow statement and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the Charitable Company in accordance with the ethical requirements relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

CONCLUSIONS RELATED TO GOING CONCERN

In auditing the financial statements, we have concluded that the Trustees' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Charitable Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the Trustees with respect to going concern are described in the relevant sections of this report.

OTHER INFORMATION

The Trustees are responsible for the other information. The other information comprises the information included in the Annual Report and Accounts, other than the financial statements and our auditor's report thereon. The other information comprises the Trustees Report. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

OTHER COMPANIES ACT 2006 REPORTING

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Trustees' Report, which includes the Directors' Report and the Strategic report prepared for the purposes of Company Law, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic report and the Directors' Report, which are included in the Trustees' report, have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the Charitable Company and its environment obtained in the course of the audit, we have not identified material misstatement in the Strategic report or the Trustees' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.



RESPONSIBILITIES OF TRUSTEES

As explained more fully in the Trustees' responsibilities statement, the Trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustees determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustees are responsible for assessing the Charitable Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the Charitable Company or to cease operations, or have no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

We have been appointed as auditor under the Companies Act 2006 and report in accordance with the Act and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Extent to which the audit was capable of detecting irregularities, including fraud.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below:

Based on our understanding of the Charitable Company and the sector in which it operates, we identified that the principal risks of non-compliance with laws and regulations related to its registration with the Charity Commission for England and Wales and the Animals (Scientific Procedures) Act 1986 (ASPA) – under licence from the Home Office. We considered the extent to which non-compliance might have a material effect on the Financial Statements or the charity's continued operation. We also considered those laws and regulations that have a direct impact on the financial statements such as relevant companies acts and charities acts in the UK.

We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to posting inappropriate journal entries to manipulate financial results and management bias in accounting estimates.

The audit procedures to address the risks identified included:

- Challenging assumptions made by management in their significant accounting estimates in particular in relation to the assumptions related to the estimated useful economic life of tangible fixed assets and assessment of the risks and rewards of ownership of the leasehold land and buildings owned by third parties;
- Testing journals including those which potentially impact remuneration and other performance targets and evaluating whether there was evidence of bias by management or Those Charged with Governance that represented a risk of material misstatement due to fraud;
- Reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with the Home Office, HMRC and the Charities Commission for England and Wales.

Our audit procedures were designed to respond to risks of material misstatement in the financial statements, recognising that the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery, misrepresentations or through collusion. There are inherent limitations in the audit procedures performed and the further removed non-compliance

with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we are to become aware of it.

A further description of our responsibilities for the audit of the financial statements is located at the Financial Reporting Council's ("FRC's") website at: <https://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

USE OF OUR REPORT

This report is made solely to the Charitable Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Charitable Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Charitable Company and the Charitable Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

DocuSigned by:

Fiona Condron

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Fiona Condron (Senior Statutory Auditor)
For and on behalf of BDO LLP, Statutory Auditor

Date: 21 November 2022

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

STATEMENT OF FINANCIAL ACTIVITIES

For the year ended 31 March 2022

	Note	Unrestricted Funds £'000	Restricted Funds £'000	2022 Total Funds £'000	2021 Total Funds £'000
Income from					
Core strategic grant	1	-	15,513	15,513	18,928
<i>Charitable activities</i>					
Grants and contracts		16,281	24,904	41,185	58,190
Other charitable income		1,453	-	1,452	2,609
Investment income	3	959	-	959	956
Total income		18,693	40,417	59,110	80,683
Expenditure on					
<i>Raising funds</i>					
Rental properties and tenant services		309	315	624	636
Investment management costs		19	-	19	18
<i>Charitable activities</i>					
Scientific research		32,701	11,187	43,888	44,850
Rental properties and tenant services		984	602	1,586	2,025
Other charitable activities		400	-	400	471
Total expenditure	4	34,413	12,105	46,518	48,000
Net (gains) on Investments		-	2,000	2,000	-
Net (expenditure)/income before transfers		(15,720)	30,312	14,592	32,683
Transfers between funds	15	15,513	(15,513)	-	-
Net movement in funds		(207)	14,799	14,592	32,683
Balances brought forward		9,997	320,649	330,646	297,683
Balances carried forward	16	9,790	335,448	345,238	330,646

All income and expenditure derive from continuing activities. The accompanying notes on pages 48 to 61 form an integral part of these financial statements.

BALANCE SHEET

At 31 March 2022. Company Number 00559784

	Note	£'000	2022 £'000	2021 £'000
Fixed assets				
Tangible fixed assets	9	318,228		295,172
Investment property	10	2,000		-
			320,228	295,172
Current assets				
Stocks	11	359		264
Debtors	12	10,703		13,397
Term deposits over three months		5,016		23,194
Cash at bank and in hand		29,495		19,237
		45,573		56,092
Creditors: amounts falling due within one year	13	(20,563)		(20,618)
Net current assets			25,010	35,474
Total assets less current liabilities			345,238	330,646
Net assets			345,238	330,646
Financed by				
Unrestricted funds	16		9,790	9,997
Restricted funds				
Fixed asset fund	15		330,243	317,191
Investment revaluation reserve			2,000	-
Other restricted reserves	16		3,205	3,458
Total funds			345,238	330,646

Approved by the Board of Trustee Directors on 16 November 2022 and signed on their behalf on 16 November 2022.

The accompanying notes on pages 48 to 61 form an integral part of these financial statements.

Professor Vince Emery
Trustee Director

Rona Chester
Trustee Director



STATEMENT OF CASH FLOWS

For the year ended 31 March 2022

	£'000	2022 £'000	£'000	2021 £'000
<i>Net cash provided by operating activities</i>				
Net movement in funds	14,592		32,683	
Interest and rent receivable	(959)		(956)	
Depreciation charged	9,684		9,469	
Increase in valuation of Investment Property	(2,000)		-	
(Increase)/decrease in stocks	(95)		42	
Decrease/(increase) in debtors	2,694		(6,693)	
Increase in creditors	1,255		1,288	
Net cash provided by operating activities		25,171		35,833
<i>Cash flows from investing activities:</i>				
Interest and rents received	959		956	
Decrease/(Increase) in cash deposits > 3 months	18,178		(2,025)	
Purchase of property, plant and equipment	(34,050)		(35,056)	
Net cash used in investment activities		(14,913)		(36,125)
Change in cash and cash equivalents in the reporting period		10,258		(292)
Cash and cash equivalents at the beginning of the reporting period		19,237		19,529
Cash and cash equivalents at the end of the reporting period		29,495		19,237
Cash and cash equivalents as above		29,495		19,237
Cash placed on term deposits longer than 3 months		5,016		23,194
Cash at bank and in hand		34,511		42,431
Net cash at Bank		As at 1 April 2021 £'000	Cashflow £'000	As at 31 March 2022 £'000
Cash at Bank		19,237	10,258	29,495
Total		19,237	10,258	29,495

The accompanying notes on pages 48 to 61 form an integral part of these financial statements.

PRINCIPAL ACCOUNTING POLICIES

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Institute's financial statements.

BASIS OF ACCOUNTING

The financial statements have been prepared in accordance with Accounting and Reporting by Charities:

- Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2019)-(Charities SORP (FRS 102), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.
- The Institute meets the definition of a public benefit entity under FRS102. Assets and liabilities are initially recognised at historical cost or transaction value unless otherwise stated in the relevant accounting policy note(s).

GOING CONCERN

The Trustee Directors have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC UKRI, £15m per annum. This award originally ran from 5 April 2017 to March 2022. The Institute was then advised by BBSRC UKRI that the grant period will be extended for a sixth year to March 2023.

This source of confirmed funding, the consistent performance of attracting income from other funding bodies and the development of a business plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security. Having considered the risks in respect of future funding, financial forecasts for the period to November 2023 and the level of reserves, the Trustee Directors have concluded that it remains appropriate to prepare the financial statements on a going concern basis and there are no material uncertainties which the Trustee Directors have identified.

GROUP FINANCIAL STATEMENTS

The Institute is exempt from the requirement to prepare consolidated financial statements by virtue of section 405(2) of the Companies Act 2006 as the result of its dormant subsidiary undertaking, Pirbright Innovations Limited, is not material for the purposes of providing a true and fair view.

Accordingly, these financial statements present information about the Institute as an individual entity and not its group.

INCOME

Income comprises unencumbered grants received from research councils; grant income from collaborative, commissioned and competitively awarded research projects; income from miscellaneous charitable activities; commercial and residential rents from the letting of Institute controlled property; and interest earned on the temporary investment of surplus funds. Income is recognised when the Institute becomes legally entitled to the income and the amount can be quantified with reasonable accuracy.

For the grants related to collaborative, commissioned and competitively awarded research projects, income is recognised as the associated expenditure is incurred.

All core BBSRC UKRI grants are recognised as revenue in the year they are received. Grant income including research grants received in advance of conditions being met is deferred until those conditions are fully satisfied. Rental and interest income is recognised based on the period to which it relates.

Capital grants are recognised in the statement of financial activities when entitlement passes, and once the criteria of certainty and measurement are met.

EXPENDITURE

Costs of charitable activities comprises costs incurred directly or in support of scientific research whether carried out in the Institute's own facilities or in other laboratories. Raising funds represents the costs associated with trading and raising income including the Institute's rental activities and tenant services and investments.

All costs are allocated between the expenditure categories of the Statement of Financial Activities on a basis designed to reflect the use of the resource. Costs relating to a particular activity are allocated directly. Support costs, representing the staffing and associated costs of finance, personnel and general administration in supporting the operations of the Institute, are apportioned on an appropriate basis (see note 5).

RESTRICTED FUNDS

Income received by way of grants, sponsorship, donation or legacy which is directed by the provider as to be applied for specific purposes is accounted for within restricted income.

Awards applied within the terms dictated by the awarding authority on the acquisition or improvement of tangible fixed assets are also accounted for within restricted non endowment funds in full. The balance of the restricted fixed asset fund is reduced by the depreciation charges over the expected useful life of the asset. This treatment has been applied to reflect the assets being on land owned by a third party, therefore at the end of the lease they will revert to that third party (see further explanation below regarding the ownership of land and buildings). In addition, as detailed in note 19, there is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent grant in excess of the financing requirements.

DESIGNATED FUNDS

Unrestricted designated funds comprise sums set aside by the Trustee Directors for specific purposes including the acquisition and improvement of tangible fixed assets, the presentation of scientific conferences, and contributions towards capital to be replaced using the fully economic costing policy adopted by the Institute.

UNRESTRICTED FUNDS

Income received which is not directed by the provider to be applied for specific purposes to an extent which exceeds the constraints of the Institute's constitution is accounted for within unrestricted general funds.

FIXED ASSETS

Fixed assets with a cost of £10,000 or more are capitalised and depreciated to their estimated residual values set out below. Plant and machinery and fixtures and fittings with a cost of less than £10,000 are expensed in the year of purchase.

- Land – 99 years being the length of the lease from BBSRC UKRI
- Buildings – on a component basis, between 15 and 50 years
- Plant and machinery – 5 years on a straight line basis
- Fixtures, fittings, tools and equipment – 5 years on a straight line basis
- No depreciation is provided on assets in the course of construction
- Depreciation is charged from the date on which the asset becomes operational

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. Both leases have recently been renewed. The North side lease was renewed in December 2020 for 25 years and the South site lease for a term of 99 years. The Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the

Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the Trustee Directors view is highly unlikely.

Individual freehold and leasehold properties at the Pirbright site were revalued to fair value upon transition to FRS 102 (1 April 2014) with the surplus on book value being transferred to the revaluation reserve, except that a deficit which is in excess of any previously recognised surplus over depreciated cost relating to the same property, or the reversal of such a deficit, is charged (or credited) to the Statement of Financial Activities. The fair value at the transition date was recognised as the deemed cost of the assets.

INVESTMENT PROPERTY

Investment property is included in the balance sheet at fair market value in accordance with FRS102 and, as such, no depreciation is charged in the year. Gains or losses arising from the revaluation are credited or charged respectively to the Statement of Financial Activities under net gains/(losses) on investments.

LEASED ASSETS

Rentals payable under operating leases are charged to the Statement of Financial Activities on a straight line basis over the lease term.

Assets acquired under finance leases are capitalised as tangible fixed assets and depreciated over their useful lives. Finance charges and interest are taken to the income and expenditure account in proportion to the remaining balance of capital repayments or net obligations outstanding.

Lease obligations on investment properties are treated as finance leases. The lease obligation is quantified at the point of the lease inception or the property becoming an investment property, whichever occurs later, based on the present value of the minimum lease payments, and is included in creditors.

Any adjustments to the rent payable under such leases due to periodic rent reviews is considered to be contingent rent. Contingent rent is treated as expenditure as it becomes payable.

STOCK

Laboratory consumables are valued at the lower of cost and net realisable value.

DEBTORS

Trade and other debtors are recognised at the settlement amount due after any trade discount offered. Prepayments are valued at the amount prepaid.

CREDITORS AND PROVISIONS

Creditors and provisions are recognised where the Institute has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably.

Creditors and provisions are normally recognised at their settlement amount.

FINANCIAL INSTRUMENTS

The Institute only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value.

FOREIGN CURRENCY TRANSLATION

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at the rates of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of the transaction.

STAFF AND PENSION COSTS

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute.

Following the Transfer of Undertakings (Protection of Employment) exercise as of 1 January 2017, all BBSRC UKRI employees are now covered under the Institute's position as a separate legal entity. The Institute therefore retains responsibility for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the Research Councils' Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer.

The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the Government Actuary's Department on a periodic basis. The cost of providing pension and related benefits is charged to the statement of financial activities. Some payments are to a defined benefit scheme as explained above and in Note 8 but there are no separately identifiable assets and the actuarial cost to the Institute is not known.

Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

TAXATION

The Pirbright Institute is a registered charity within the meaning of the UK Taxes Acts and is, therefore, eligible to claim exemptions to income tax and capital gains tax.

JUDGEMENTS IN APPLYING ACCOUNTING POLICIES AND KEY SOURCES OF ESTIMATION UNCERTAINTY

Preparation of the financial statements requires management to make significant judgements and estimates. The items in the financial statements where these judgements and estimates have been made include:

- Depreciation, which has been charged in line with the accounting policy above.
- The amount of depreciation charged and net book value of the assets is included in Note 9.
- The Institute includes in its financial statements leasehold land and buildings owned by third parties because the Trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. These assets are held at their deemed cost, being their fair value at the transition date of FRS 102.

The judgements applied and the revaluation adjustments and net book value of the assets is included in Note 9.

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2022

1 INCOME FROM DONATIONS

	2022 £'000	2021 £'000
BBSRC UKRI – core strategic grant	15,513	15,449
Resource contribution grants	–	3,479
	15,513	18,928

All income from donations in the current and prior year was restricted.

2 INCOME FROM CHARITABLE ACTIVITIES

	2022 £'000	2021 £'000
<i>Grant income</i>		
BBSRC UKRI – research grants	3,522	2,960
BBSRC UKRI – other grants	25,375	43,885
Other research grants	12,288	11,345
	41,185	58,190
Other charitable activities	1,453	2,609
	42,638	60,799

Income from charitable activities includes restricted income from grants of £24,904K (2021: £43,687K)

All other income from charitable activities in the current and prior year was unrestricted.

The analysis by region of funder is set out below:

	2022 £'000	2021 £'000
United Kingdom	37,909	55,636
Europe	569	1,106
North America	2,944	2,573
Others	1,216	1,484
	42,638	60,799

INCOME FROM CHARITABLE ACTIVITIES (CONT)

	Unrestricted £'000	Restricted £'000	2022 Total £'000
Current year			
<i>Analysis of grant income</i>			
BBSRC UKRI			
Competitive Project Grant – research grants	3,522	–	3,522
Other grants	471	24,904	25,375
Total BBSRC UKRI	3,993	24,904	28,897
Defra “Umbrella” commission projects	2,395	–	2,395
Defra Surveillance	3,043	–	3,043
Other government departments, public sector	665	–	665
European Union	569	–	569
Industry, levy boards	1,572	–	1,572
Trusts, foundations, charities	906	–	906
Other research grant income	3,138	–	3,138
Total income – grants including research	16,281	24,904	41,185
	Unrestricted £'000	Restricted £'000	2021 Total £'000
Prior year			
<i>Analysis of grant income</i>			
BBSRC UKRI			
Competitive Project Grant – research grants	2,960	–	2,960
Other grants	198	43,687	43,885
Total BBSRC UKRI	3,158	43,687	46,845
Defra “Umbrella” commission projects	2,250	–	2,250
Defra Surveillance	2,697	–	2,697
Other government departments, public sector	540	–	540
European Union	1,106	–	1,106
Industry, levy boards	1,176	–	1,176
Trusts, foundations, charities	1,003	–	1,003
Other research grant income	2,573	–	2,573
Total income – grants including research	14,503	43,687	58,190

INCOME FROM CHARITABLE ACTIVITIES (CONT)

Ancillary trades and activities

Other charitable income consists of trades and activities which are ancillary to the charitable activities of the Institute:

	Unrestricted £'000	Restricted £'000	2022 Total £'000	2021 Total £'000
Royalties	373	-	373	388
Diagnostic testing	317	-	317	183
Supply of reagents	247	-	247	277
Other	516	-	516	1,761
	1,453	-	1,453	2,609

All Ancillary trades and activities income in 2021 was unrestricted

3 INVESTMENT INCOME

	2022 £'000	2021 £'000
Rental income and tenant services	930	849
Bank interest	29	107
	959	956

All investment income in the current and prior year was unrestricted.

4 ANALYSIS OF EXPENDITURE

	Staff costs £'000	Other direct costs £'000	Allocated support costs £'000	2022 Total £'000
Current year				
Unrestricted funds				
<i>Costs of raising funds</i>				
Rental income and tenant services	-	-	309	309
Investment management costs	-	10	9	19
<i>Charitable expenditure</i>				
Grants for scientific research	13,131	7,521	12,045	32,697
Rental income and tenant services	-	-	988	988
Other charitable activities	-	188	212	400
Total unrestricted expenditure	13,131	7,719	13,563	34,413
Restricted funds				
Cost of raising funds	-	-	316	316
Charitable expenditure	-	-	11,789	11,789
Total restricted expenditure	-	-	12,105	12,105
Total expenditure	13,131	7,719	25,668	46,518
Total expenditure – 2021	13,620	6,251	28,129	48,000

Included in allocated support costs are staff costs of £4,978K (2021: £5,034K)

	Staff costs £'000	Other direct costs £'000	Allocated support costs £'000	2021 Total £'000
Prior year				
Unrestricted funds				
<i>Costs of raising funds</i>				
Rental income and tenant services	-	-	312	312
Investment management costs	-	9	9	18
<i>Charitable expenditure</i>				
Grants for scientific research	13,620	6,043	11,976	31,639
Rental income and tenant services	-	(7)	970	963
Other charitable activities	-	206	216	422
Total unrestricted expenditure	13,620	6,251	13,483	33,354
Restricted funds				
Cost of raising funds	-	-	324	324
Charitable expenditure	-	-	14,322	14,322
Total unrestricted expenditure	-	-	14,646	14,646
Total expenditure	13,620	6,251	28,129	48,000

5 ANALYSIS OF SUPPORT COSTS

	Rental income and tenant services £'000	Investment management costs £'000	Grants and contracts for scientific research £'000	Science rental income and tenant services £'000	Staff restaurant £'000	Other charitable activities £'000	Total 2022 £'000	Basis of allocation
Current year								
Unrestricted								
Premises	178	-	7,650	888	67	-	8,763	% of floor area
Financial costs	25	9	567	44	25	25	695	time spent
Management	32	-	773	13	15	8	841	time spent
Human resources	54	-	398	-	16	-	468	time spent
Information technology	10	-	2,097	23	12	23	2,165	time spent
Procurement	6	-	473	18	12	6	515	time spent
Governance	4	-	87	2	2	1	96	time spent
	309	9	12,045	988	149	63	13,563	
Restricted								
Depreciation	303	-	8,526	807	50	-	9,686	
Repairs / compliance	13	-	2,278	128	-	-	2,419	
	316	-	10,804	935	50	-	12,105	
Total support costs	625	9	22,849	1,923	199	63	25,668	
Prior year								
Unrestricted								
Premises	174	-	7,473	867	65	-	8,579	% of floor area
Financial costs	27	9	593	46	27	26	728	time spent
Management	39	-	953	17	19	10	1,038	time spent
Human resources	54	-	391	-	16	-	461	time spent
Information technology	10	-	2,059	23	11	23	2,126	time spent
Purchasing and procurement	5	-	424	16	11	5	461	time spent
Governance	3	-	83	1	2	1	90	time spent
	312	9	11,976	970	151	65	13,483	
Restricted								
Depreciation	296	-	8,335	789	49	-	9,469	
Repairs / compliance	28	-	4,876	273	-	-	5,177	
	324	-	13,211	1,062	49	-	14,646	
	636	9	25,187	2,032	200	65	28,129	

6 NET (EXPENDITURE)/INCOME

	2022 £'000	2021 £'000
Net (expenditure)/Income is stated after charging:		
Auditor's remuneration		
- audit services	56	48
- non-audit services (taxation advice)	21	12
Depreciation	9,684	9,469
Loss on foreign exchange translations	27	189
Hire of plant and machinery	22	17
Rental of land and buildings	55	52

7 REMUNERATION OF THE MEMBERS OF THE TRUSTEE BOARD

None (2021: none) of the members of the Trustee Board received any remuneration from the Institute during the year. Eleven members (2021: eleven members) of the Trustee Board had travel expenses of £1,744 (2021:£907) reimbursed during the year.

8 STAFF NUMBERS AND COSTS

The average number of persons employed by the Institute (including members of the Governing Council) during the year, analysed by category, was as follows:

	Number of employees	
	2022	2021
Office, management and estate support	121	126
Scientific	240	247
	361	373

The aggregate payroll costs of these persons were as follows:

	2022 £'000	2021 £'000
Wages and salaries	13,967	14,103
Social security costs	1,432	1,418
Other pension costs	2,549	2,613
	17,948	18,134

	2022 £'000	2021 £'000
Termination payments:		
Redundancy	148	168
	148	168

At 31 March 2022 £60K (2021 £66K) of these payments were outstanding

Some employees of the Institute are members of the Research Councils' Pension Schemes, which are funded principally through employer and employee contributions.

The pension schemes are analogous to the Principal Civil Service Pension Scheme (PCSPS), except that while the schemes that are defined benefit schemes and provide retirement and related benefits on final emoluments, redundancy and capability ill health are administered and funded by the council, the pension schemes are administered by the Research Councils' Joint Superannuation Services and the schemes' finances are administered by BBSRC UKRI. It is an unfunded scheme, and there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

The Institute pays employers' contributions at a percentage of scheme members'

pensionable pay and emoluments assessed by the Government Actuary's Department (GAD) on a periodical basis. The rate for the year was 26.0%, which was established following GAD's most recent assessment. The pension costs represent contributions payable by the Institute to the scheme and amount to £890,200 (2021: £1,011,524).

Since April 2015, all new staff are members of The Pirbright Company Pension, a defined contribution scheme administered by Aviva on behalf of the Institute. The Institute contributes 10% of scheme members' pensionable pay and emoluments. The pension costs represent contributions payable by the Institute to the scheme and amount to £1,658,814 (2021: £1,516,186).

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute. Following the Transfer of Undertakings (Protection of Employment) (TUPE) exercise as of 1 January 2017, all BBSRC employees are now employed by the Institute. The Institute therefore retains responsibility

for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the Research Councils' Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer. The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the GAD on a periodic basis.

The key management personnel of the Institute comprise the Senior Leadership Board and the Trustee Directors (Note 7). The total employee benefits (including wages and salaries, employer's national insurance and pension costs) of the key management personnel of the Institute were £613,449 (2021: £558,121).

The number of staff with emoluments greater than £60,000, (excluding pension costs), was:

	2022 Number	2021 Number
£60,000 – £69,999	13	13
£70,000 – £79,999	6	6
£80,000 – £89,999	3	4
£90,000 – £99,999	4	4
£110,000 – £119,999	1	1
£140,000 – £149,999	1	1

The number of staff earning over £60,000 for whom retirement benefits are accruing under defined benefit schemes amounted to 14 (2021: 13) and the amounts paid in the year were £257K (2021: £273K)

9 TANGIBLE FIXED ASSETS

	Land and buildings £'000	Plant and machinery £'000	Fixtures etc £'000	Assets under construction £'000	Total £'000
Cost/revaluation					
At 1 April 2021	248,792	19,480	1,283	99,286	368,841
Additions	389	1,454	–	30,897	32,740
Transfers	–	77	–	(77)	–
At 31 March 2022	249,181	21,011	1,283	130,106	401,581
Depreciation					
At 1 April 2021	55,266	17,120	1,283	–	73,669
Charge for year historic	8,494	1,174	–	–	9,668
Charge for year revaluation	16	–	–	–	16
Disposals	–	–	–	–	–
At 31 March 2022	63,776	18,294	1,283	–	83,353
Net book value at 31 March 2022	185,405	2,717	–	130,106	318,228
Net book value at 31 March 2021	193,526	2,360	–	99,286	295,172

Land and buildings include land with a book value of £13,603K.

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The North side leases was renewed in December 2020 for 25 years and the South side lease for a term of 99 years. The Trustee Directors consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the Trustee Directors view is highly unlikely. The Institute derives a rental income from some of the buildings included in its financial statements which has reclassified as investment properties, as per note 10.

The Institute used the option in FRS102 to use fair value at the date of transition to FRS102, (1 April 2014), as deemed cost on transition. GVA Grimley Limited, Chartered Surveyors, and an independent valuer derived these values from a professional valuation.

10 INVESTMENTS AND INVESTMENT PROPERTIES

Investment in subsidiary undertaking

Pirbright Innovations Limited was dormant during the current and previous year. The Institute owns the entire share capital of 100 ordinary shares of £1 each.

The assets and liabilities of the subsidiary were:

	2022 £'000	2021 £'000
Current assets		
Creditors: amounts falling due within one year	(8)	(8)
Net liabilities	(8)	(8)
Aggregate share capital and reserves	(8)	(8)

The Institute has provided for the deficit shown by the subsidiary undertaking by writing off the amount owed to it by Pirbright Innovations Limited.

Investment in associated undertaking

Genomia Management Limited was formed on 16 April 2004 and is a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Scotland's Rural College (SRUC). The company's turnover for the year ended 31 March 2022 was £29,580 (2021: £93,722) and its net assets as at 31 March 2022 were £141,122 (2021: £161,678).

Investment in properties

The value of the investment properties were:

	2022 £'000	2021 £'000
At 1 April 2021	-	-
Revaluation in the year	2,000	-
At 31 March 2022	2,000	-

Part of the site in Pirbright is sublet to a third party. During the year the lease with the third party was renegotiated resulting in a new lease to 22 March 2025 being signed. In line with FRS102, the signing of this lease has resulted in the recognition of an investment property in these financial statements. The investment property was valued at 31 March 2022 by RICS Registered Valuers from Powis Hughes Ltd. The valuers are not employees or officers of the Institute. Part of the Head Leasehold interest subject to the Boehringer Ingelheim leases at The Pirbright Institute, Ash Road, Pirbright, Surrey, GU24 0NF was valued as at 31 March 2022 by Powis Hughes Ltd acting as external valuer on the special assumptions that The Pirbright Institute is allowed to retain the rental but not the reversionary value of the land. The valuation has been carried out in accordance with the RICS Valuation – Global Standards 2022 (which incorporate the International Valuation Standards) and FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland on the basis of Fair Value using an Income Approach.

11 STOCKS

	2022 £'000	2021 £'000
Laboratory consumables	359	264

The Institute's stock consists of laboratory supplies for research purposes.

12 DEBTORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2022 £'000	2021 £'000
Trade debtors	1,848	2,181
Prepayments	1,663	1,539
Accrued income	6,996	2,321
Other debtors	196	7,356
	10,703	13,397

13 CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2022 £'000	2021 £'000
Trade creditors	3,547	2,484
Taxation and social security	156	550
Other creditors	-	154
Accruals	5,276	7,655
Deferred income	11,094	9,285
Short-term compensated absences	490	490
	20,563	20,618

14 RECONCILIATION OF MOVEMENT IN ACCRUED AND DEFERRED GRANT INCOME

	2022 £'000	2021 £'000
Accrued income	6,996	2,321
Deferred income	(11,094)	(9,285)
	(4,098)	(6,964)
Net deferred research grant income at the beginning of the year	(6,964)	(7,440)
Research grant income received during the year	(13,415)	(14,027)
Research grant money released to SOFA during the year	16,281	14,503
	(4,098)	(6,964)

15 FUNDS

	Balance 1 April 2021 £'000	Net income/ expenditure £'000	Transfer between funds £'000	Balance 31 March 2022 £'000
Current year:				
<i>Unrestricted funds:</i>				
General	7,504	(15,352)	15,263	7,415
Designated	2,493	(368)	(250)	2,375
<i>Restricted funds:</i>				
Fixed Asset Fund	317,191	13,394	(342)	330,243
<i>Other restricted funds:</i>				
Fixed Asset Project Support Costs	593	(396)	342	539
DP2 phase 2 occupation	1,224	(199)	-	1,025
BBSRC UKRI core grant funding	-	15,513	(15,513)	-
Brooksby support costs	1,573	-	-	1,573
Investment property revaluation	-	2,000	-	2,000
Other	68	-	-	68
	330,646	14,592	-	345,238

Unrestricted designated funds

Unrestricted designated funds comprise sums set aside for specific purposes including the acquisition and improvement of tangible fixed assets, the presentation of scientific conferences, and contributions towards capital to be replaced using the fully economic costing policy adopted by the Institute. This includes £1,173k for occupation costs relating to capital projects (2021: £1,661k), £100k to maintain scientific equipment capacity and capability (2021: £41k), £319k for group leaders and scientists (2021: £352k) and £783k for other projects (2021: £396k)

	Balance 1 April 2020 £'000	Net income/ expenditure £'000	Transfer between funds £'000	Balance 31 March 2021 £'000
Prior year:				
<i>Unrestricted funds:</i>				
General	5,102	(14,953)	17,355	7,504
Designated	3,026	(333)	(200)	2,493
<i>Restricted funds:</i>				
Fixed Asset Fund	284,798	29,400	2,993	317,191
<i>Other restricted funds:</i>				
Fixed Asset Project Support Costs	3,343	-	(2,750)	593
DP2 phase 2 occupation	1,620	(359)	(37)	1,224
IS4L Interim Insectary	6	-	(6)	-
BBSRC UKRI core grant funding	-	18,928	(18,928)	-
Brooksby support costs	-	-	1,573	1,573
Other	68	-	-	68
	297,963	32,683	-	330,646

FUNDS (CONTINUED)

Restricted funds

Restricted funds comprise grants received from funders specifically to be applied in the acquisition or improvement of tangible fixed assets or otherwise applied for such purposes as specified by the grants provided.

	2022 £'000	2021 £'000
Fixed Asset Fund		
Balance brought forward	317,191	284,798
Grants received	24,904	43,687
Depreciation/impairment (Note 6)	(9,684)	(9,469)
Revenue spend	(1,826)	(4,818)
Transfers	(342)	2,993
Balance carried forward	330,243	317,191

The Fixed Asset Fund represents funding received, principally from BBSRC UKRI, for the past and future acquisition of tangible fixed assets. These assets are built on land that is not owned by The Pirbright Institute. The capital fund has been set up to assist in identifying those funds that are not free funds and it represents the net book value of tangible fixed assets held by the Institute and amounts received for capital but not yet spent.

The unexpended balance of unrestricted designated funds and restricted funds is invested temporary and appears in the balance sheet under current assets.

Other restricted funds

Fixed Asset Project Support Cost grants have been received from BBSRC UKRI to provide funding towards support costs and overrun costs relating to the DP capital projects.

The Capital Rebuild Grant, Additional Construction Support has on approval from BBSRC UKRI been transferred to development phase 2 occupation fund. As part of the ongoing development, project funds from these reserves have been transferred to the Fixed Asset Fund.

The BBSRC UKRI core grant funding is received from BBSRC UKRI to ensure that the Institute's facilities are maintained at the necessary cutting-edge high containment level that is essential to provide a national capability.

Transfers between funds

	Unrestricted general funds £'000	Unrestricted designated funds £'000	Restricted funds £'000
Transfer of funds to general reserves	15,263	250	15,513

The transfers during the year are as follows:

In accordance with the original grant offer letter, core funding from BBSRC UKRI is required to be shown as restricted income. The Institute subsequently received confirmation that the income could be applied for general purposes and therefore the transfer of income to unrestricted funds has been made.

£250k has been transferred to designated reserves to support grant extensions arising from delays caused by Covid19 lockdowns. £342k has been transferred from the Fixed Asset Project Support cost restricted fund to the restricted fixed asset fund in respect of expenditure incurred and subsequently capitalised as construction in progress.

16 ANALYSIS OF NET ASSETS BETWEEN FUNDS

	Investments £'000	Fixed assets £'000	Net current assets £'000	Total £'000
Current year				
Unrestricted funds	-	-	9,790	9,790
Restricted funds				
Capital fund	-	302,945	12,015	314,960
Fixed Asset Revaluation Reserve	-	15,283	-	15,283
Investment Property Revaluation Reserve	2,000	-	-	2,000
Other restricted funds	-	-	3,205	3,205
	2,000	318,228	25,010	345,238
	Investments £'000	Fixed assets £'000	Net current assets £'000	Total £'000
Prior year				
Unrestricted funds	-	-	9,997	9,997
Restricted funds				
Capital fund	-	279,873	22,019	301,892
Revaluation reserve	-	15,299	-	15,299
Other restricted funds	-	-	3,458	3,458
	-	295,172	35,474	330,646

17 FINANCIAL INSTRUMENTS

	2022 £'000	2021 £'000
Financial assets measured at amortised cost	2,044	9,537
Financial liabilities measured at amortised cost	(4,319)	(3,188)
	2,044	6,349

Financial assets measured at amortised cost comprise trade debtors, amounts owed by related parties and other debtors.
Financial liabilities measured at amortised cost comprise trade creditors, other tax and social security and other creditors.

18 COMMITMENTS

(a) Capital commitments at the end of the financial year for which no provision has been made:

	2022 £'000	2021 £'000
Authorised but not contracted for	6,113	28,835

The capital commitments of £6,113k (2021: £28,853k) will be funded by the BBSRC UKRI capital grants already awarded.

(b) Operating lease commitments

The Institute is committed to the following charges in respect of:

	2022 £'000	2021 £'000
Land and buildings		
Within one year	52	52
In two to five years	218	210
In over five years	250	293
Plant and Machinery		
Within one year	8	8
In two to five years	8	16

19 CONTINGENT LIABILITIES

There is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent and capital grants in excess of the financing requirements. No such liabilities existed at either 31 March 2022 or 31 March 2021.

20 RELATED PARTY TRANSACTIONS

Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI) BBSRC UKRI provides substantial funding to the Institute. The Institute is affiliated with BBSRC UKRI along with seven other institutes. Details of grants received from BBSRC UKRI are detailed in Notes 1 and 2. During the year, BBSRC UKRI charged the Institute £0, (2021: £0) for other costs and Engineering and Physical Sciences Research Council UKRI charged the Institute £42,134 (2021: £41,789) for other costs.

REFERENCE AND ADMINISTRATIVE DETAILS

Trustees:

Professor Vince Emery: Chair
Ian Bateman: Deputy Chair
Ian Black
Rona Chester
Jon Coles
Emma Griffin
Alison Hardy
Dr Paul Logan
Jane Tirard

Director of the Institute:

Professor Bryan Charleston MRCVS

Company Secretary:

Helen Watts, FCA

Registered office:

The Pirbright Institute
and Pirbright Innovations Limited
Ash Road, Pirbright,
Woking, Surrey, GU24 0NF

Auditor:

BDO LLP,
2 City Place,
Beehive Ring Road,
Gatwick,
West Sussex, RH6 0PA

Bankers:

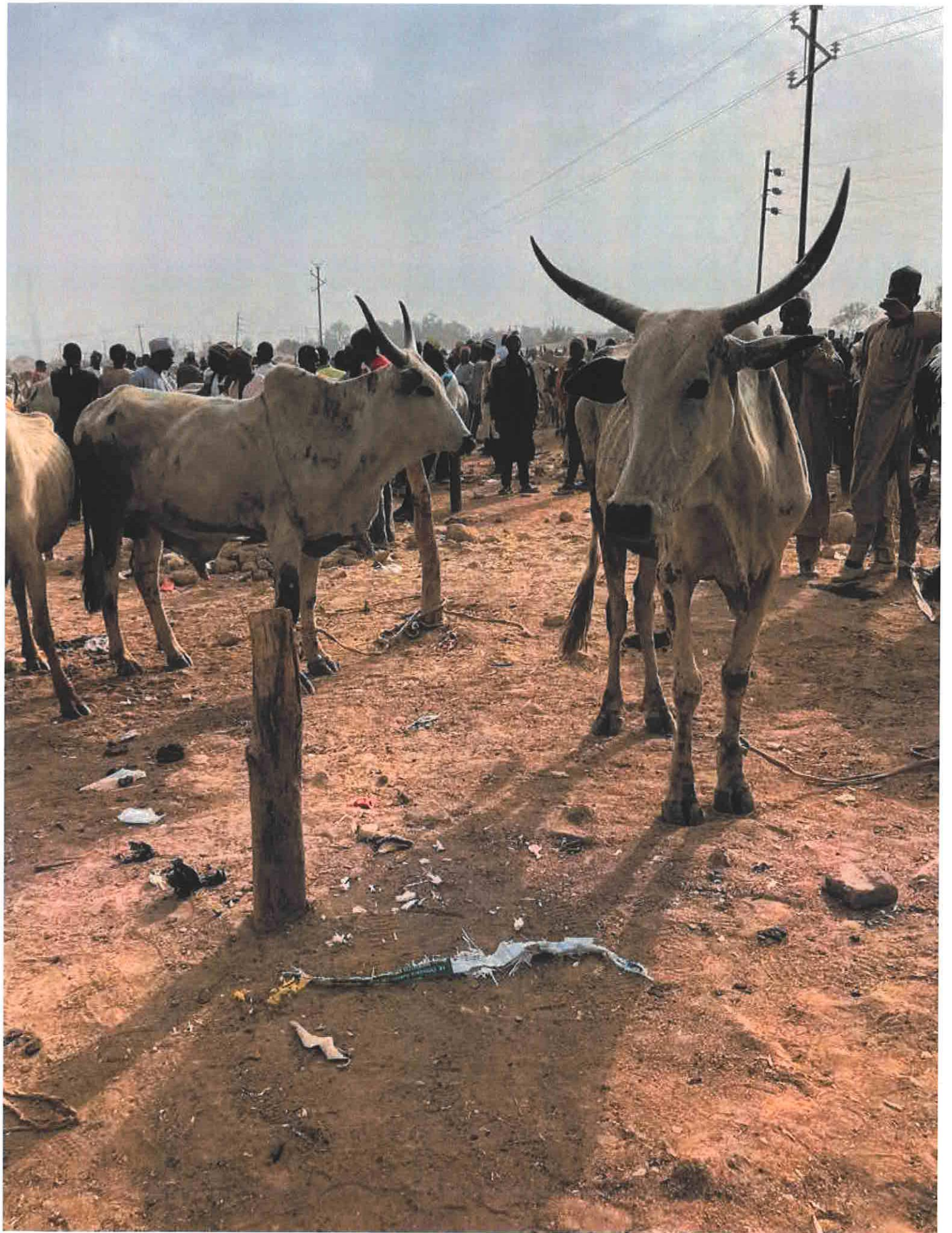
Barclays Bank PLC
Wytham Court, 11 West Way,
Oxford, OX2 0JB

Lloyds Bank PLC
5 High Street,
Swindon, SN1 3EN

Solicitors:

Charles Russell LLP,
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Biotechnology and
Biological Sciences
Research Council

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www.pirbright.ac.uk

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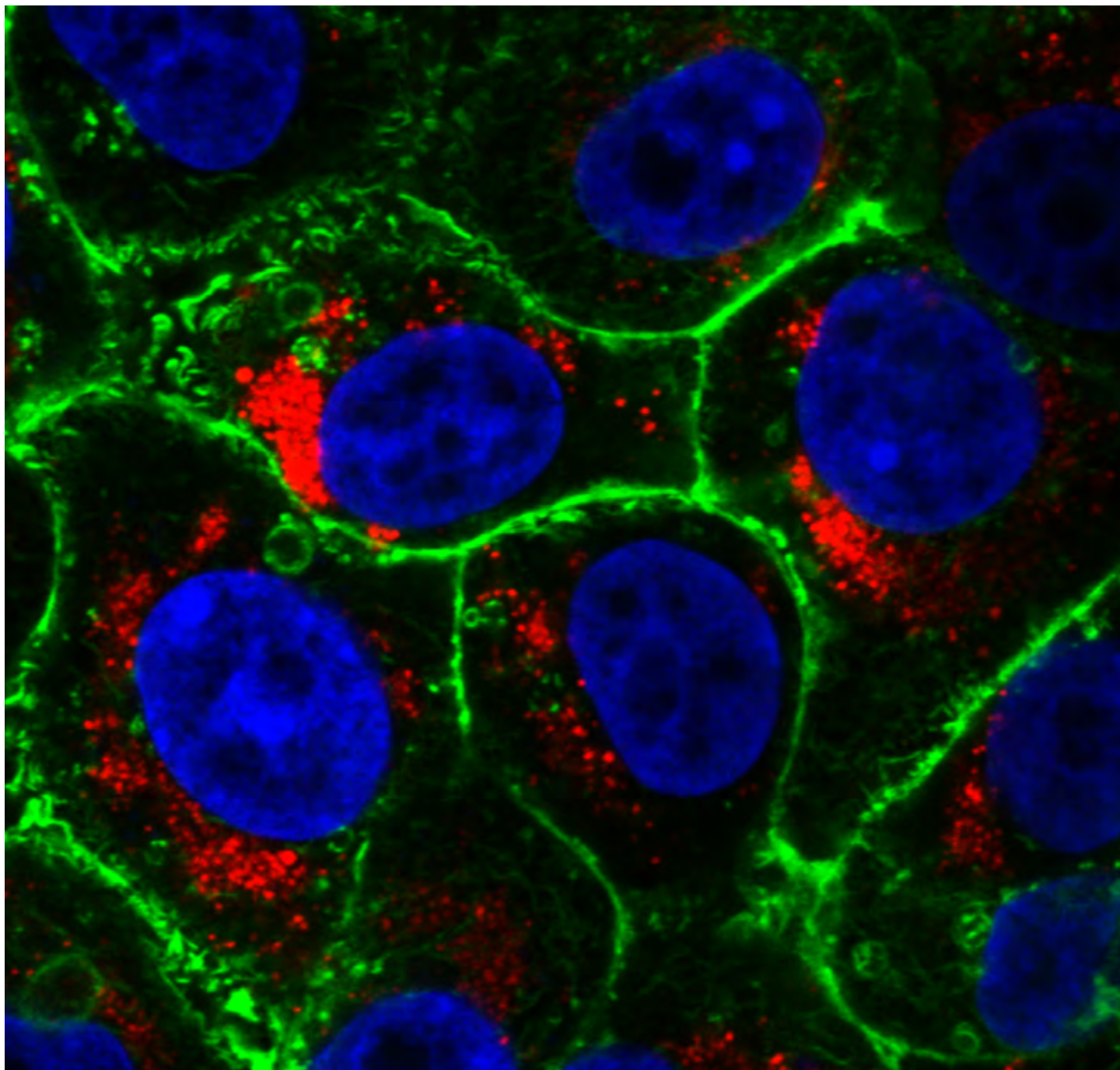
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 The Pirbright Institute

Accounts

ANNUAL REPORT AND ACCOUNTS FOR THE YEAR ENDED 31 MARCH 2021

REGISTERED CHARITY NUMBER: 228824 / REGISTERED COMPANY NUMBER: 00559784



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Cover image: Confocal microscope image of cells in culture infected with SARS-CoV-2. Host cell components are stained in blue (nuclei) and green (actin cytoskeleton), red labelling indicates infected cells. Credit: Nicole Doyle (Nidovirus-Cell Interactions), Dagmara Bialy (CL3 Virology), The Pirbright Institute.

Inside front image: Image shows cholesterol (blue) and MDV glycoprotein B (green) in infected cells in the presence of a cholesterol inhibitor. Nuclei are shown in white.

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The Pirbright Institute

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FOREWORD BY THE CHAIR OF TRUSTEES



I am delighted to present the Trustees' Report incorporating the Strategic Report for the year 1 April 2020 to 31 March 2021.

The COVID-19 pandemic has provided challenges for UK and global communities. No other period in recent times has highlighted so powerfully the importance of science in preventing and controlling viral diseases. This is the purpose for which Pirbright exists and whilst the focus of the Institute is on viruses that affect livestock, I am justly proud of the Institute's role in helping to identify and control COVID-19. This includes vaccine testing, providing diagnostic tools and expertise to NHS laboratories, advice and training for the Brants Bridge Lighthouse Laboratory for the NHS Berkshire and Surrey Pathology Service and research to investigate the mechanisms of viral pathogenesis and immunity. It is astonishing to think that in December 2019 we were largely unaware of the emergence of a deadly new coronavirus or that it would spread globally resulting in over 3.9 million deaths¹ (at the time of writing in June 2021) and untold economic and personal hardship.

Yet, just 18 months later, hundreds of millions of people around the world have already been vaccinated with effective vaccines that have been developed and manufactured with unprecedented speed. The pace of scientific research has been astounding and has been critical in detecting, understanding and responding to COVID-19. Advances in genetic sequencing have enabled scientists to map the virus genome and subsequent mutations with exceptional accuracy and speed and then correlate these to changes in the viruses' behaviour. The sharing of scientific knowledge globally has enabled policy makers, public health officials and government to make decisions about how to control its spread and highlighted the key role diagnostics and surveillance play in disease control.

Understanding, detecting and responding to viral diseases are the cornerstones of Pirbright's science strategy. Predicting new emerging diseases is also a key role, making it possible to prepare for rapid and decisive action to stop new viruses spreading. Predicting the next potential pandemic requires investment in research on viruses that 'could emerge' from animals (zoonoses), as well as investing in tackling those viruses that already exist. Preparedness for disease outbreaks has a huge impact on animal and human health as well as food and economic security.

Preventing disease requires detailed scientific knowledge on how a pathogen might emerge, excellent surveillance and diagnostics, as well as the ability to develop treatments and vaccines quickly and efficiently. Working collaboratively with countries where diseases may be more likely to emerge or are already circulating is also important.

I continue to be impressed by Pirbright's critical contribution to the international efforts in preventing and controlling current and emerging diseases in livestock (such as foot-and-mouth disease (FMD)), influenza and African swine fever (ASF). Pirbright currently studies many of the zoonoses that are considered potential threats such as Nipah and Rift Valley fever but will continue to focus its research on highly infectious viral diseases that have the potential to threaten animal health and economic and food security.

All this activity has been achieved through stringent risk management and the implementation of a COVID-19 safe working environment which enabled scientists and essential support services to return to our site. The Board recognises the huge effort Pirbright's staff have made despite the many challenges to keep Pirbright operational and maintaining research impact.

Finally, I would like to acknowledge the generous support from our main sponsor, BBSRC UKRI, in providing funds for Pirbright's state-of-the-art research facilities and strong scientific programmes. We anticipate that this support will continue as we adapt our strategy to rapidly changing threats from virus diseases and move forward to phase three of our site development programme.

Professor John Stephenson
Chair of Trustee Board
The Pirbright Institute



PANDEMIC PREPAREDNESS IS KEY

Dealing with the SARS-CoV-2 pandemic has dominated our lives over the last year. However, like other organisations we have found ways to continue working. During these challenging times we have made significant contributions to the control of the pandemic, delivered our research programmes, kept our site safe and continued to deliver our ambitious infrastructure development programme.

Our staff, collaborators and external contractors have risen to the challenges facing us to ensure everyone is safe and productive. New ways of working have emerged as a consequence of the crisis, some of these changes, such as video conferencing, can improve our efficiency, improve work life balance and reduce travel.

The speed of the spread of SARS-CoV-2 around the globe is testing modern society. There have been a huge number of tragic losses caused by the pandemic, but the response from scientists, industry and governments has by and large been impressive.

The possibility of a global pandemic has been high on the risk register of most countries for many years, especially after the Ebola outbreak in West Africa in 2014. A coronavirus pandemic was also highly probable as coronaviruses do jump between species more readily than some viruses, for example SARS and MERS infections in people and two global epidemics of coronaviruses in pigs in the last 10 years, originating from bats and birds.

Preparing for the next pandemic is vitally important. At Pirbright we will continue to focus on improving our understanding of viruses, how they cause disease and how they transmit between different species. We must also continue to develop diagnostic test and vaccine platforms to control current threats and be ready to adapt those platforms for emerging threats.

The known threats are a major concern and must not be forgotten, there is a huge global burden of animal diseases caused by pathogens that have been largely neglected in low- and middle-income countries, for example, foot-and-mouth disease, African swine fever and bovine tuberculosis. Improving the health of livestock improves human health and welfare and reduces the impact of agriculture on the environment.

Pirbright will continue to concentrate its efforts on finding solutions to the persistent and currently intractable diseases of livestock and prepare for emerging diseases. No organisation can work in isolation and our strategic collaborators in the UK and internationally are essential to bring the very best bioscience and medical science researchers together to find effective solutions to global problems.

Professor Bryan Charleston
Director and CEO
The Pirbright Institute

“Preparing for the next pandemic is vitally important. At Pirbright we will continue to focus on improving our understanding of viruses, how they cause disease and how they transmit between different species.”

We have developed methods, through the BMGF funded antibody hub, to sequence single cattle B cells. From these sequences we have expressed cattle antibodies, the heavy chain is shown in red and the light chain shown in green. Many cattle antibodies have extended heavy chain protrusions to bind to their targets. Understanding where antibodies bind to the viruses we study will help identify how to develop improved vaccines.



PIRBRIGHT'S PERFORMANCE

FOR 2020/21 PIRBRIGHT'S PRINCIPAL OBJECTIVES WERE:

- To continue a world leading research programme by publishing ground-breaking scientific research, winning research funding, and recruiting and retaining the brightest and the best staff and students
- To further develop the Pirbright long term vision of scientific research with impact, in particular enhancing our collaborations with agencies to improve disease control in low- and middle-income countries
- To continue to implement the fully funded development programme to provide additional animal research facilities to study high consequence pathogens. These facilities will further enhance the Institute as a unique National and International capability
- To develop strong strategic collaborations with other global centres of excellence to support the Institute Strategic Programme Grants
- To diversify our funding through greater collaboration with international partners via various new funding opportunities
- To maintain high containment infrastructure, to manage the safety, security, environment and quality risks from our work with high consequence pathogens, and to provide training and expertise to external partners in these areas.

PIRBRIGHT'S KEY PERFORMANCE INDICATORS ARE:

- Publications in relevant scientific journals; being one paper per post doctoral scientist a year
- Success rates for research grant proposals over the next five years; 35 percent in terms of successful applications and 30 percent in terms of value of the awards
- Recruitment and the retention of high quality staff and students; to achieve less than 15 percent annual staff turnover within five years
- Annual research income of £11 million externally won funding each year over the next five years
- Compliance with all statutory requirements as a Major Hazard site, close cooperation with regulators, and conformity to applicable standards such as ISO/IEC 17025.

OUR PERFORMANCE AGAINST KPIs 2020/21:

- We published 144 papers in a range of high impact journals achieving an average of 1.01 publications per post doctoral scientist in the year
- We had 45 percent successful grant applications and 48 percent in terms of value of the awards
- At the end of March 2021, the rolling annual average voluntary staff turnover figure was 8.6 percent, significantly beating the 15 percent target
- The annual grant income for 2020-21 was £14.7m, exceeding the £11m million target by 34 percent due to the Institute's significant success in being awarded 45 percent of all grants applied for.
- Pirbright is subject to an HSE Major Hazard Intervention Plan comprising of a minimum of four scheduled HSE inspections each year to monitor compliance with its licence under the Specified Animals Pathogen Order (SAPO) 2008 and with regulations under the Health & Safety at Work etc Act 1974. No enforcement action notices were issued, or enforcement action taken by HSE against Pirbright in 2020/21, and we complied with all HSE recommendations. Pirbright reference laboratories are accredited to ISO/IEC 17025 and are subject to annual surveillance audit by UKAS. Accreditation was maintained in 2020/21 with no findings from the surveillance audit. No other enforcement was applied for Pirbright in 2020/21 by any regulatory or audit body on any aspect of biorisk, health & safety, security, environment, quality or wider compliance.

Bioimaging of infectious bursal disease in chicken tissue.

PIRBRIGHT HIGHLIGHTS IN 2020/21

COMBATting COVID-19

Pirbright is ideally placed to support the global effort to control the pandemic. As a centre of excellence in viral research, vaccine development, and diagnostics and surveillance, Pirbright worked with colleagues in the Jenner Institute to evaluate a prime boost strategy for the AstraZeneca vaccine in the pig model. We also tested two other human vaccine candidates in pigs.



DEVELOPING VACCINES AGAINST AFRICAN SWINE FEVER



African Swine fever (ASF) has spread from Africa to Europe and Asia devastating pig production which has a significant impact on food security. Pirbright research, run in partnership with Zoetis, is evaluating three different ASF vaccine candidates to identify which is the most promising for further development. The partnership also aims to modify the vaccine so it can be distinguished from infection in the field during outbreaks.

Despite the pandemic Pirbright has continued its critical research during 2020-21 to both help support the fight against COVID-19 while continuing to advance its research and diagnostics in other viral diseases of global importance.

TRAINING DIAGNOSTIC STAFF

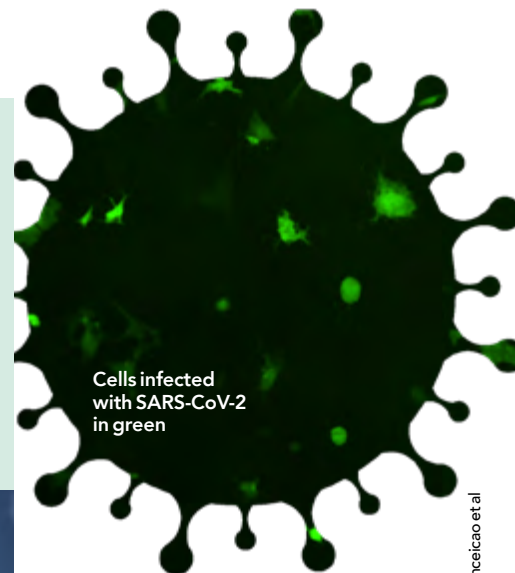
We were pleased to be asked to support the Brants Bridge Lighthouse Laboratory in Bracknell, run by NHS Berkshire and Surrey Pathology Services (BSPS). We provided a comprehensive specialist training programme for diagnostic scientists and staff who will be working at the lab. The laboratory is now operational and testing COVID-19 swabs as part of the national effort to help tackle the spread of coronavirus. It forms part of the Government's high throughput diagnostic national laboratory network to process swab samples from members of the public who have taken COVID-19 tests.



SARS-COV-2 RESEARCH

We have experienced researchers who have worked for many years on animal coronaviruses that cause widespread diseases globally, mainly of poultry and pigs, for example, infectious bronchitis virus (IBV) of poultry. Prior to 2020 the Institute did not work on human coronaviruses but last year we began research on SARS-CoV-2, which appears to have spread from a bat to an, as yet, unidentified intermediate animal, and then to humans.

Pirbright research during 2020-2021 has unravelled some of SARS-CoV-2's secrets including development of a test that detects the antibodies that prevent the virus undertaking cell-to-cell fusion to enter cells, research showing the virus can enter the cells of a range of different animals and identifying key mutations that may have enabled it to make the jump to humans.



Cells infected with SARS-CoV-2 in green

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101 DIFFERENT JOBS SUPPORTING SCIENCE

UKRI in collaboration with the Minister for Science Research and Innovation, Amanda Solloway, launched an initiative in 2021 to find 101 people, doing 101 different jobs that make major contributions to research and innovation, to highlight the fact that science is not just about 'lone geniuses' in labs. Pirbright relies on a wealth of experienced staff working in engineering, health, safety and biosafety, lab management, animal services, quality and assurance, research services and the campus development programme among others who support scientific research. Over the past year this was particularly evident, as for our essential research to continue, many support service personnel were also required to work on site to facilitate this research.



Anna Lawton interviewed by UKRI for 101 jobs that change the world campaign.

PIRBRIGHT CONFIRMS AFRICAN HORSE SICKNESS OUTBREAK IN THAILAND

Scientists in the Non-Vesicular Reference Laboratory (NVRL) confirmed an outbreak of African horse sickness (AHS) in Thailand, the first that south-east Asia has ever experienced. AHS is the most lethal viral disease of horses known, affecting the economies and food security of low-income countries as well as impacting the billion-dollar horse racing industry. The identification of AHS in Thailand is unprecedented and demonstrates the fact that this virus can emerge without warning in new areas. The rapid diagnostic services we provided enabled Thai authorities to respond quickly to contain the disease. Pirbright's ability to collaborate with groups from around the world to ensure accurate diagnosis plays an essential role in combatting these threats and ensures we are ready to respond to any incursions of disease into the UK.



HOUGHTON OPENS FOR SCIENCE

Pirbright's newest completed science building, The Houghton Facility opened in November 2020. Designed as a specified pathogen free (SPF) poultry laboratory it enables researchers to incubate, hatch and grow birds that are disease free. The construction of the laboratory cost £4 million, part of a continuing strategic development investment of £255 million from BBSRC UKRI.



PIGS SUPPORTING HUMAN HEALTH

Physical and immunological similarities between pigs and humans make pigs excellent models for studying influenza as they are also naturally infected by the virus. Pig studies have shown that combining injection and aerosol flu vaccines results in better disease protection, demonstrated that pigs can still spread swine flu after vaccination and have developed the first antibodies against flu from pigs. Based on the successful influenza pig studies, Pirbright researchers have adapted the pig model to assess immune responses generated by COVID-19 vaccines, providing critical information for further development and human clinical trials.

ABOUT PIRBRIGHT

OUR PURPOSE

Pirbright's mission is to prevent and control viral diseases of livestock and viruses that can spread from animals to people, known as zoonoses. 2020 has highlighted how important this area of research is with the emergence of COVID-19. As well as having scientific experts in coronaviruses like SARS-CoV-2, the Institute studies over 45 livestock and zoonotic diseases including foot-and-mouth disease virus (FMDV), African swine fever virus (ASFV), influenza viruses including avian and swine flu along with many other diseases of high consequence.

OUR STAFF AND STUDENTS

The Institute employs more than 370 staff and its research is supported by 60 students from a range of backgrounds and prides itself on its diversity. We are located on a campus in Pirbright, Surrey which over the past ten years has received, and continues to receive, considerable investment from Government through BBSRC UKRI in strategic site development. Scientists work in state-of-the-art laboratories including specialised high-containment laboratories and animal facilities.

OUR SCIENCE

Pirbright provides the UK and countries around the world with the capacity to predict, detect, understand and respond to emerging new viral diseases of livestock and viruses that are circulating in and outside of the UK. Our diagnostics and surveillance facilities and expertise enable us to protect the UK from livestock viral diseases that threaten our borders and act decisively and swiftly in the event of an outbreak in order to control it as rapidly as possible.

Our fundamental research falls under two science programmes which study either hosts or viruses and the interactions between these. Both programmes are funded by BBSRC UKRI over a six-year period. In addition to this the Institute receives funding for further research programmes and diagnostics from BBSRC UKRI and other organisations including Defra, the Wellcome Trust, Bill & Melinda Gates Foundation, and commercial partners.

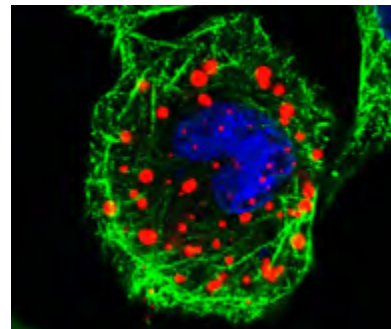
PROGRAMME ONE: UNDERSTANDING AND PREVENTING VIRAL DISEASES

Pirbright's research programme focusing on viruses is led by Dr Toby Tuthill and covers many aspects including:

- How viruses evolve and their diversity
- Viral structure and interactions with host proteins
- Transmission and epidemiology which encompasses spread of infection between individuals, populations as well as predicting the scale of outbreaks and designing and evaluating appropriate interventions to control outbreaks.

The programme aims to understand at a molecular and cellular level the structure and systems used by viruses that allow them to infect, replicate and transmit disease. This knowledge will then be used to prevent and control viral diseases, especially highly

infectious diseases that must be studied under high containment. Priority viruses that we are studying include: African swine fever virus, avian and swine influenza viruses, bluetongue virus, respiratory syncytial virus, coronaviruses including SARS-CoV-2, foot-and-mouth disease virus, infectious bronchitis virus, infectious bursal disease virus, Marek's disease virus, porcine reproductive and respiratory syndrome virus, swine influenza virus, pox viruses and mosquito-borne arboviruses.



PROGRAMME TWO: ENHANCING HOST RESPONSES FOR DISEASE CONTROL

Pirbright's host programme is led by Professor John Hammond and it focuses on four broad areas of research around livestock hosts and insect vectors:

- Disease pathogenesis
- Recognition and control of virus infections
- Viral persistence
- Viral transmission by insect vectors

The goal of the research is to develop innovative methods for the control of viral diseases through an enhanced understanding of host biology and host-virus interactions. Tools and disciplines that enable better understanding of the host-virus



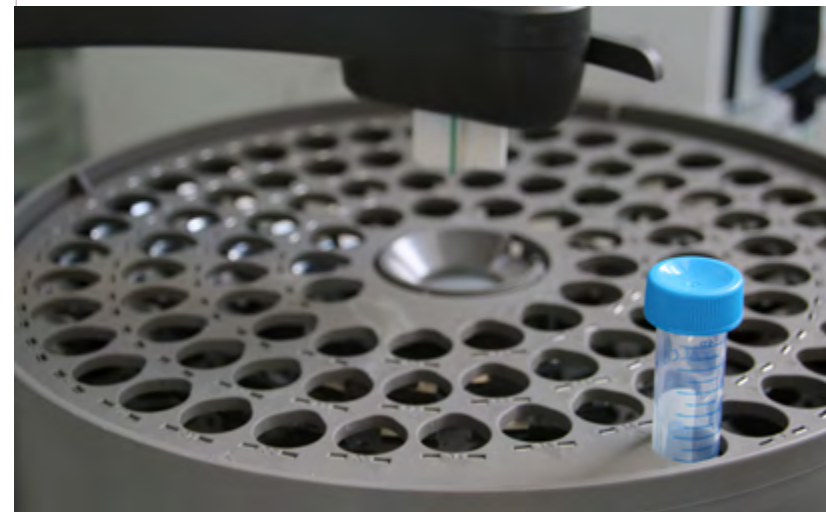
DIAGNOSTIC AND SURVEILLANCE EXPERTISE

Pirbright has a long history of protecting the UK from disease and has been home to the World Reference Laboratory for Foot-and-Mouth Disease for over 60 years; this status was recently renewed. We also operate the Non-Vesicular Reference Laboratory, which acts as OIE reference laboratory, for a number of viruses of high consequence including African swine fever virus, bluetongue, peste des petits ruminants, rinderpest, African horse sickness, lumpy skin disease, sheep pox and goat pox. These Reference Laboratories provide an essential diagnostic and advice service to the UK Government (Defra), United Nations Food and Agriculture

Organization (FAO), and the World Organisation for Animal Health (OIE).

We receive samples from all over the world and are instrumental in providing countries with sophisticated data on strains of viruses causing disease and helping to select vaccines to aid control. Last year we processed around 170,000 samples and have supported the UK's COVID-19 diagnostic capabilities throughout 2020-21 by providing expertise, high-throughput diagnostic machines and highly trained personnel.

The international reference laboratories are accredited to ISO/IEC 17025, a UKAS accredited laboratory number 4025. In 2021 this accreditation was renewed following an extremely successful assessment by UKAS.



OUR VALUES

We take PRIDE in everything we do which is reflected in our values:

Passion – for the highest quality standards, delivery and performance

Reliability – in everything we do; leadership, learning, biosafety, problem anticipation and bio-containment

Innovation – is the driving force behind our fundamental and applied science. Our work is positioned at the cutting-edge of science to deliver solutions for global good.

Dignity and respect – we respect and trust in our diverse community

Excellence – we aim to deliver the best in all aspects of our work, including scientific research, health, safety, biosafety, stakeholder support and protecting the environment.

We take PRIDE in being a world-class centre of excellence in scientific research, attracting experts in their field from around the world. This combined with our drive for professional excellence and rigorous academic, biosafety and ethical standards allows the Institute to have a measurable impact on health and wellbeing and economic and food security globally.

OUR GOVERNANCE

The Pirbright Institute is an independent company, limited by guarantee and a registered charity. It is governed by a Board of non-executive Trustee Directors who provide strategic input to the Senior Leadership Board at Pirbright. Science at the Institute is reviewed by an independent group of leading researchers who comprise the Science Advisory Board and whose role is to provide advice and guidance on science strategy and direction.

TRUSTEES



Ian Bateman

Ian is currently Director of Quality at NHS Blood and Transplant. He is an Executive Director and Board Member with significant strategic leadership experience in healthcare organisations in both public and private sectors. He has a strong background in corporate leadership of quality, regulatory affairs, corporate governance, assurance, risk and health and safety.



Ian Black

Ian worked as a senior executive in a range of global organisations with a business sector focus on Engineering, Technology and Fast-Moving Consumer Goods. This included various roles covering Strategy, HR, IT, Quality and Marketing Services worldwide. He has served as a Non-Executive Director in the public and private sectors where he has been a Member or Chair of Board Committees such as Audit, Remuneration, Nominations and Strategy. He is also a Director of BSH Ltd an international equestrian business and board advisor to CC North, an energy management consultancy.



Rona Chester

Rona is a fellow of the Institute of Chartered Accountants with over 30 years' experience in leading financial teams in both the public and private sector. During her early career

Rona worked in international finance managing the Finance and Treasury teams for an oil and gas shipping business followed by roles at Sotheby's as their European Finance Director and Ofcom the newly formed communications regulator. More recently Rona was the Chief Operating Officer at Sport England, the lottery distributor, where additional responsibilities included grants management, Commercial and IT as well as contributing to the development of the organisation's strategy.



Jon Coles

Jon Coles was a senior Partner at Brunswick Group LLP, a leading international communications consultancy, where he advised the Boards of Directors of global groups on strategic communications and corporate reputation. His particular focus was on clients in the pharmaceutical, biotechnology and agriculture industries.



Professor Vince Emery

Professor Vince Emery is Emeritus Professor of Translational Virology at the University of Surrey and holds an Honorary Professorship in Virology at UCL. His research, spanning over 33 years, aims to provide an interdisciplinary approach to understanding viral infections in immunocompromised hosts. He is a fellow of the Royal Society of Biology and has published 240 research articles, reviews and is a named inventor on five patents in the area of biotechnology and



CHAIR OF THE TRUSTEE BOARD

Professor John Stephenson

Professor John Stephenson became Chair on 1 January 2019. He has had a distinguished research career, with a long-standing interest in the interaction between virus infection and the immune system. He holds honorary professorships at the London School of Hygiene and Tropical Medicine and the University of Liverpool, and is an Independent Scientific and Technical Advisor (ISTA) for the UK Surgeon General.



Emma Griffin

Emma Griffin has over 25 years professional experience across a multitude of sectors in cyber security, technology, and regulatory compliance. Experienced in all facets of cyber security including data protection, cloud, infrastructure, and application security, preventing business disruption, cyber fraud and intellectual property theft. She participates on several advisory boards to influence and drive cyber security development and solution innovation and regularly participates in industry and regulatory forums as an advisor and speaker. Emma is actively involved in promoting diversity and inclusion and seeks to encourage careers in science and technology to minority groups. Emma has a Masters degree in Information Security from Royal Holloway, University of London.



Alison Hardy

Alison Hardy is a solicitor and partner with City law firm Ashurst LLP where she leads the real estate dispute resolution practice. She is a former Chair of the Property Litigation Association, having earlier chaired its website and marketing committee. Alison is experienced in all aspects of commercial real estate and is a member of the

Royal Institute of Chartered Surveyors (RICS) Dilapidations Forum and chaired the UK RICS dilapidations conference in 2021. She is actively involved in diversity and inclusion and is the partner sponsor of Ashurst's Social Mobility and Inclusion network, which is working to remove barriers to entry into and progression within the legal profession.



Dr Paul Logan

Prior to his retirement in 2020, Dr Paul Logan was a Senior Civil Servant in the Health and Safety Executive (HSE) which he had joined as a regulatory scientist. During his time in HSE he chaired a number of industry/ government committees, as well as representing the UK on a European Medicines Agency working group on Gene Therapy, and a World Health Organization group developing guidelines for the manufacture of pandemic flu vaccines. He was Director of the division in HSE with responsibility for regulation of major hazards industries, including chemical manufacturing, oil refineries, explosives manufacture and storage, and high containment laboratories.



Roger Louth

Roger Louth was a Senior Civil Servant in the Department for Business Innovation and Skills. In his final post before retirement in 2011 he was responsible for the strategic financial management of the Government's £6 billion per annum Science and Research Budget.



Jane Tirard

Jane has over 30 years of experience of all aspects of strategic financial planning, financial management, financial accounting, systems and processes. As a result of her roles, she has a working knowledge of government departments, funding councils, academia and the pharmaceutical industry. Her last position was as the Director of Finance and Corporate Services at the Diamond Light Source, the UK's national synchrotron science facility.

SCIENCE ADVISORY BOARD

Research at the Institute is reviewed by an independent group of leading scientists who comprise the Science Advisory Board and whose role it is to provide advice and guidance on science strategy and direction.

Chair:

Professor Jeffrey Almond,
University of Oxford
Members:

Professor Persephone Borrow,
University of Oxford

Professor Vince Emery,
University of Hertfordshire

Professor Gary Entrican,
The Roslin Institute,
University of Edinburgh

Professor Stephen Inglis,
NIBSC

Professor Thomas Mettenleiter,
Friedrich-Loeffler Institute

Professor John Pickett,
University of Cardiff

Professor David Rowlands,
University of Leeds

Professor Helen Sang,
The Roslin Institute,
University of Edinburgh

Professor Geoffrey L. Smith,
University of Cambridge

Dr Samuel Thevasagayam,
Bill & Melinda Gates Foundation

STAKEHOLDER ENGAGEMENT



ILRI Stevie Mann

Pirbright receives the majority of its income from government funding. We recognise the importance of engaging with all our key stakeholders including the public to ensure we comply with our operating and funding requirements and communicate the impact of our research. We have a range of stakeholders, some of which are included in the table below:

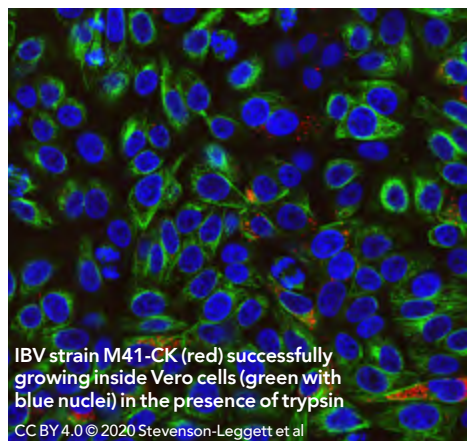
STAKEHOLDERS	HOW WE ENGAGE
FUNDERS	We communicate with funders at all stages of the funding process and have regular dialogue and face-to-face meetings with our key investors. Please see page 32 for more information.
PUBLIC	We engage with the public through our Outreach and Public Engagement programmes. These have been severely affected in 2020/21 due to the pandemic, although we continue to engage digitally where possible. More information can be found on page 26.
RESEARCH ORGANISATIONS AND PARTNERS	Pirbright undertakes numerous collaborations with universities, research institutes and disease control agencies around the world. See more on page 38.
PHARMA	Partnerships with pharmaceutical companies are essential for the development of vaccines, diagnostics and medicines. Find out more on page 34.
FARMERS	We engage with the farming community through specialist farming press, farming organisations and bodies and media outlets including BBC World Service and BBC Radio 4 Farming Today as well as at agricultural events.
EMPLOYEES	Employee Engagement forms a central part of the Institute's strategy. We employ a myriad of ways to communicate with our staff and students in a dialogue so we can also gain feedback. Communication channels include a fortnightly e-newsletter, intranet, forums, staff briefings, surveys, digital screens, seminars, blogs and workshops.
SUPPLIERS	One of the ways we engage with our suppliers is through an Annual Supplier Day held at Pirbright. However, due to the pandemic this was not possible but digital engagement continued throughout the year.
LOCAL COMMUNITY	Our neighbours are extremely important to us and we support the local community in a number of ways including sponsoring local events, volunteering in local conservation initiatives including Fox Corner Conservation and engaging with the Parish, Borough and County Councils over development on our campus. Our scientists also visit local schools and colleges – more can be found on page 26.
REGULATORS AND GOVERNMENTS	As a Major Hazard site, Pirbright works closely with the Health & Safety Executive (HSE), counter-terrorism security authorities, Home Office and other regulators. As a National Capability for the prevention and control of exotic viral diseases of livestock, Pirbright works closely with Defra, BBSRC UKRI and others. As the World Reference Laboratory for certain pathogens and a regional Reference Laboratory for others, Pirbright works closely with the UN Food & Agriculture Organization (FAO) and World Organisation for Animal Health (OIE). As an ISO/IEC 17025 accredited testing laboratory, Pirbright works with the UK Accreditation Service (UKAS). See page 28.
STUDENTS	Pirbright has a vibrant student community, and we are committed to supporting, nurturing and offering additional learning and training opportunities. Find out more on page 48.

SCIENTIFIC PROGRESS

Advances in research, vaccine development and new diagnostic tests help to ensure the world is better prepared to combat outbreaks of viral disease through prevention and control as well as fundamental understanding of the mechanisms used by existing and emerging viruses to infect hosts and spread.

NEW METHOD TO STUDY POULTRY VIRUS COULD REDUCE THE USE OF BIRDS IN RESEARCH

An enzyme called trypsin boosts the growth of infectious bronchitis virus (IBV) strains in lab cell cultures. The highly contagious poultry virus causes a respiratory disease, which has a large economic impact on industries worldwide. This finding could enable researchers to study strains of the poultry virus that don't grow well in a laboratory and potentially provide alternative vaccine production methods, which currently rely on eggs, therefore reducing the numbers of birds needed for research and vaccine production.



NEW CATTLE IMMUNE CELLS IDENTIFIED

Working with other partners across the globe, we have identified new immune cells in cattle, called mucosal-associated invariant T (MAIT) cells. Human MAIT cells have been shown to tackle bacterial and viral infections, as well as playing a role in wound healing and vaccine response. In the study, published in *Frontiers in Immunology*, researchers showed that cattle MAIT cells were extremely similar to human MAIT cells. Cells were mainly located in mucosal tissues (which cover internal organs and cavities) as well as in the lymph nodes (parts of the immune system that help to fight infection). The team also established that the cattle MAIT cells were stimulated by similar signals to their human counterparts and showed that they are activated in response to cattle bacterial infections suggesting they may play an important role in fighting infection.

PIGS CAN STILL SPREAD SWINE FLU AFTER VACCINATION

Effective flu vaccines are crucial for controlling disease outbreaks in pigs and to reduce potential threat of transmission to humans. Recent research between Pirbright and three collaborators has shown that several candidate vaccines against the 2009 swine flu pandemic virus (H1N1) were able to reduce signs of disease and virus shedding in pigs, but that immunised pigs could still pass the virus on to unvaccinated pigs in the same pen. The findings provide insight into whether immunised animals can continue to spread infection and show that a flu vaccine must virtually eliminate shedding of infectious virus to prevent onward transmission, otherwise even 'immune' pigs may still spread the virus to other animals, including humans.

FIRST PIG FLU ANTIBODIES IDENTIFIED THAT MAY HELP CONTROL HUMAN FLU

Our researchers have generated the first pig antibodies against swine influenza (flu) that protect against infection and recognise the same parts of the flu virus as human antibodies. Antibodies form a vital part of the immune system's response and help to fight off infections by latching on to important parts of invading microorganisms to neutralise them. In the case of flu viruses, many antibodies target a protein on the surface of the virus called haemagglutinin, which then prevents the virus from entering cells and replicating. This is significant because these pig antibodies could be used to develop and assess human antibody therapies and the most effective delivery methods. It is hoped that they also have the potential to improve how the evolution of flu viruses are monitored and inform decision-making on the annual flu vaccine selection.

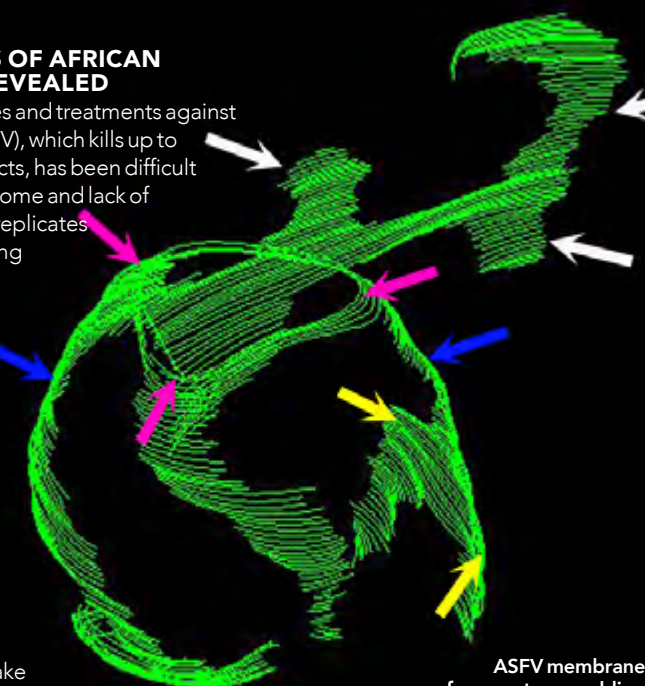


POOLED MILK CAN BE USED FOR FOOT-AND-MOUTH DISEASE SURVEILLANCE

A case study undertaken by Pirbright researchers working in Saudi Arabia is the first to confirm that milk tested from in-line milk samplers on a large-scale dairy farm can be used to detect circulating foot-and-mouth disease virus (FMDV) in cattle. This finding has major impact on how we can use a range of surveillance mechanisms to monitor the incidence of this devastating disease and prevent further spread.

REPLICATION SECRETS OF AFRICAN SWINE FEVER VIRUS REVEALED

Developing effective vaccines and treatments against African swine fever virus (ASFV), which kills up to 100 percent of the pigs it infects, has been difficult owing to the virus's large genome and lack of understanding about how it replicates within cells. Recent bioimaging studies from Pirbright have uncovered how ASFV forms new copies of itself in areas called viral factories, information which could inform future antiviral treatment development. Viral factories are complex structures that form within infected cells, which contain a mixture of viral DNA, viral proteins and sections of the virus membrane. These elements are packaged together to make new ASFV particles. The mechanisms by which the virus particles are assembled have remained unclear, but this research published in *Viruses* provides new super-resolution images of the early virus assembly stages that occur within viral factories which showed small, individual sections of virus membrane appear to grow and link together and can form 'skeletons' of virus particles.



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INFECTIOUS BRONCHITIS VIRUS SHUTS DOWN CELL STRESS SIGNALS

Together with scientists from the University of Surrey, we have shown that infectious bronchitis virus (IBV), an economically important poultry disease, can regulate the stress response of infected cells. The virus is able to manipulate several important cell signals, which would otherwise prevent a virus from making new copies of itself. Knowing the mechanisms and pathways that IBV disrupts will enable researchers to use a more targeted approach for generating effective treatments, such as antivirals.



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FLIGHTLESS FEMALE MOSQUITOES COULD CONTROL DISEASE

Our scientists have created flightless mosquitoes by editing a specific gene that is required for flight – but only in females. The creation of flightless females could provide a more controlled and targeted way of reducing mosquito

populations (females bite to obtain a blood meal and thereby spread disease; males do not bite) in select areas where mosquito-borne diseases such as Zika and dengue are rife. Insecticides are currently used to control populations but resistance and the negative impact on the environment mean other more effective and

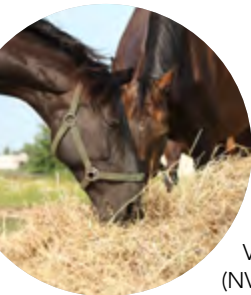
environmentally friendly control methods are required. Although further work is needed to assess the mating competitiveness of the engineered males and their compatibility with gene drive system, these findings are a positive step towards providing new tools to tackle diseases like dengue, Zika and West Nile fever.



GENETIC ANALYSIS OF RINDERPEST REVEALS VALUABLE NEW INFORMATION

By analysing the genetic sequences of rinderpest stocks before destruction at the Rinderpest Holding Facility and World Reference Laboratory for Rinderpest held at Pirbright, our experts have shed new light on the genetics, evolution and spread of the only virus after smallpox to have been eradicated. The study is an exemplar to other laboratories on how to glean as much information as possible through genetic analysis from remaining lab samples prior to destroying them. Further bioinformatic analyses of these samples may reveal more detailed information about the growth and evolution of the virus.





AFRICAN HORSE SICKNESS OUTBREAK CONFIRMED IN THAILAND

Diagnostic experts from the Non-Vesicular Reference Laboratory (NVRL) confirmed an outbreak of African horse sickness (AHS) in Thailand. AHS is the most lethal viral disease of horses known and the rapid diagnostic services provided by Pirbright has enabled authorities to respond quickly to the outbreak, the first that south-east Asia has ever experienced. As a designated AHS reference laboratory for the World Organisation for Animal Health (OIE), Pirbright tests samples sent from around the globe to verify suspected infections. Samples from Thailand were confirmed African horse sickness virus (AHSV) positive and further testing established that AHSV serotype 1 had caused the outbreak; the first time that this serotype has been seen outside of Africa.

AHSV is spread mainly by *Culicoides* biting midges and Thailand has several species that have previously been implicated in the spread of viruses. There are nine serotypes of virus and knowing which is involved in an outbreak is important in choosing an effective vaccine.



MIDGE HABITS IN ZOOS PROVIDE CLUES FOR POTENTIAL DISEASE OUTBREAKS

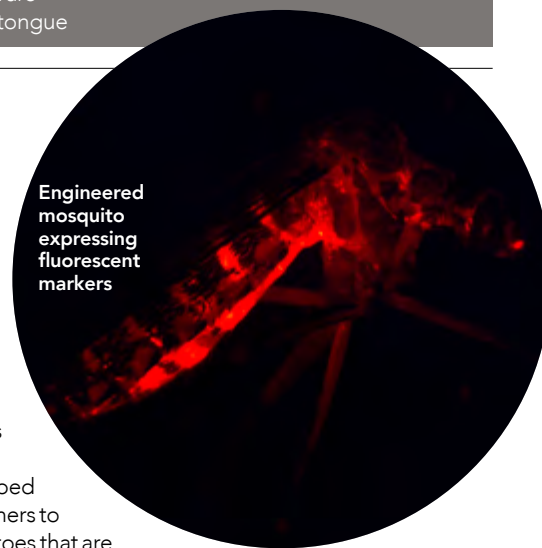
The first study ever undertaken to confirm the feeding habits of midges on exotic animals in UK zoos could hold important clues to prevent disease outbreaks in Northern Europe. Scientists from Pirbright, the Zoological Society London and the London School of Hygiene and Tropical Medicine worked together to collect midges from London and Whipsnade zoos. They identified 25 different species of *Culicoides* midges, six of which are considered to be vectors for bluetongue

virus (BTV), Schmallenberg virus (SBV) and African horse sickness virus (AHSV). These viruses are known as arboviruses because they are transmitted by arthropods such as insects and ticks. Crucially the data showed midges feed opportunistically on a range of birds and animals including exotic zoo species and therefore these animals are at a risk of developing disease and potentially may be involved in cycles of transmission, important information for modelling potential outbreaks and conservation breeding programmes.

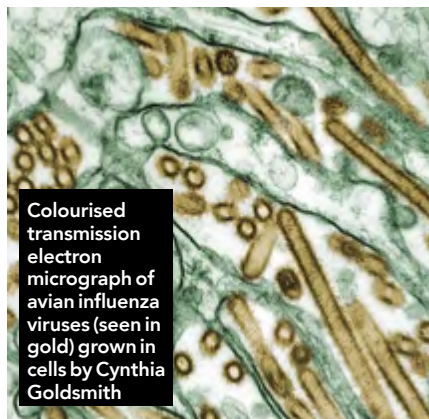
DISEASE RESISTANT MOSQUITOES COULD COMBAT CHIKUNGUNYA

We are using genetic engineering to disable the chikungunya virus genome in mosquito cells to hamper spread. Chikungunya, an alphavirus, is a mosquito-borne infection which is characterised by a sudden onset of fever usually accompanied by mild to severe joint pain. Although the majority recover, it can cause a longer illness with debilitating joint pain in some people which can last years. It is hoped this technology could help researchers to engineer disease resistant mosquitoes that are unable to spread chikungunya between animals and people.

Engineered mosquito expressing fluorescent markers



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Colourised transmission electron micrograph of avian influenza viruses (seen in gold) grown in cells by Cynthia Goldsmith

BIRD FLU VIRUS COULD EVADE HUMAN ANTIVIRALS

We reveal that four mutations in bird flu viruses could allow them to escape human antiviral drugs without compromising their fitness. If flu strains with these mutations were to make the jump from birds to humans, this could potentially limit methods used for prevention and treatment. The research highlights the importance of constant surveillance on genetic changes in bird flu viruses and what this might mean for potential human infection.

IMPROVING POULTRY DISEASE VACCINES

Two recent studies in collaboration with the Roslin Institute could improve vaccines for infectious bronchitis virus (IBV), a member of the coronavirus family that infects poultry. Scientists revealed that a vaccine virus was unable to survive in the lower airways of chickens because the core temperature of the birds was too high to support replication. This could be the reason the vaccine virus was unable to provide complete protection against multiple strains of IBV. Generating vaccine viruses with greater heat resilience could enhance protection by improving levels of replication to prime the immune system more effectively, findings which could potentially be applicable to other coronaviruses.



DOUBLE BLUETONGUE INFECTION POTENTIAL IN BRITISH SHEEP

British sheep can become infected with two serotypes of bluetongue virus (BTV) simultaneously and midges feeding on the sheep can also become co-infected with both strains. Importantly, the findings also illustrate the potential of reassortment occurring should two serotypes circulate at the same time, which could have rapid and unpredictable outcomes on virus characteristics and behaviour such as ability to cause disease and infectivity. The research highlights the importance of understanding the potential impact of more than one serotype of bluetongue circulating in the field and will help to inform policies on vaccination and control methods to prevent disease spread.

Bluetongue affects ruminants such as sheep, goats, cattle and deer and is transmitted mainly by *Culicoides* biting midges. At least 27 serotypes exist, but vaccines against one type do not necessarily protect against another. Between 2006 and 2010 the most economically damaging bluetongue outbreaks in Europe were caused by serotypes BTV-1 and BTV-8, which both circulated simultaneously in France and Spain between 2008-2009.



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RESPIRATORY VIRUS STEALS PROTEINS TO EVADE IMMUNE SYSTEM

Viruses have evolved many ways to avoid detection by the immune system. A recent study reveals that bovine and human respiratory syncytial viruses (bRSV and hRSV respectively) steal a protein that is important for the antiviral response, holding it hostage to prevent cells signalling for help from the immune system. bRSV causes respiratory infections in cattle, which can result in severe illness associated with bronchiolitis and pneumonia in calves. hRSV causes similar infections in humans, particularly infants, the elderly and immunocompromised. Unravelling this sneaky method of escape could help us to understand how these viruses cause disease and develop methods to prevent them.

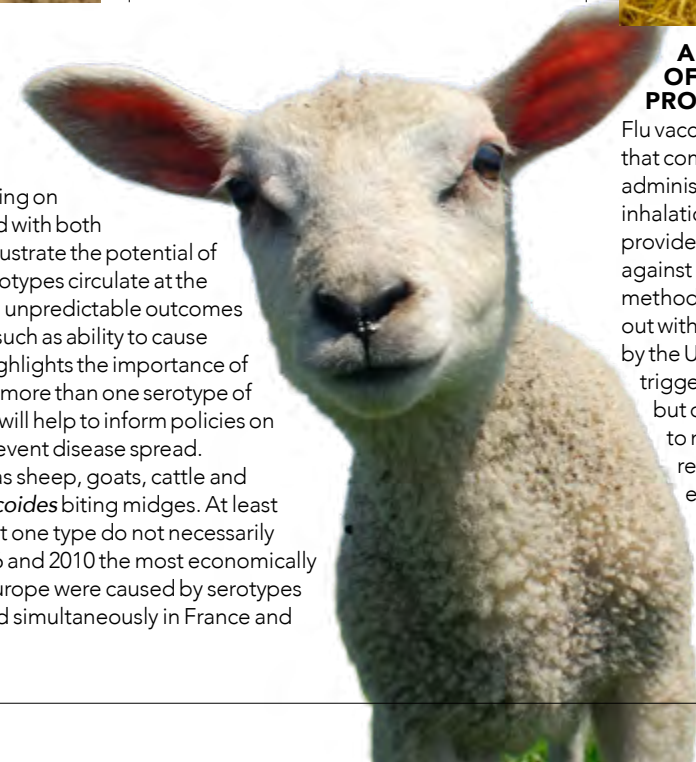
AFRICAN SWINE FEVER VACCINE STOPS PIGS DEVELOPING SEVERE DISEASE

We are a step closer in the race to develop a vital vaccine for African swine fever (ASF), a haemorrhagic disease in pigs with up to 100 percent mortality. In a recent trial, published in *Vaccines*, pigs immunised with the new vaccine survived a lethal dose of ASF virus, although some clinical signs of disease were seen. The vaccine uses a non-harmful virus (a vector) to deliver eight strategically selected genes from the ASF virus (ASFV) genome into pig cells. Once inside the cell the genes produce viral proteins which primes the pig immune cells to respond to an ASF infection. One of the benefits of this type of vaccine is pigs that are infected can be differentiated from those that have been vaccinated (DIVA), which means it does not affect trade of vaccinated animals.



AEROSOL AND INJECTION OF FLU VACCINE IMPROVES PROTECTION IN PIGS

Flu vaccine research has demonstrated that combining two different routes of administering flu vaccine, namely aerosol inhalation and intramuscular injection, provides pigs with better protection against disease than using only one method. The research which was carried out with the S-FLU vaccine, developed by the University of Oxford, which triggers a strong antibody response but cannot spread since it is unable to make a vital protein needed to replicate, haemagglutinin. The exciting discovery that the pig immune response triggered by S-FLU is very different between blood and the lung could inform vaccination strategies for human flu and other respiratory diseases.



PIRBRIGHT'S ROLE IN COMBATting COVID-19

In December 2019, reports of a new kind of pneumonia were reported in China. The cause was quickly identified as a novel coronavirus, which has resulted in arguably the most devastating healthcare emergency the world has seen. Now known as COVID-19, the illness rapidly spread across the globe and was declared a pandemic by the World Health Organization on 11 March 2020. As governments grappled with measures that would protect their overwhelmed healthcare services, COVID-19 cases soared, as did the death toll. To date¹ there have been 181 million cases and 3.9 million deaths.

The urgent need to discover more about the new coronavirus, named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has seen many scientists realign their research to help fight against the pandemic. Pirbright's history of working with livestock coronaviruses and viruses that spread from animals to people (zoonoses) ideally positioned the Institute's scientists to aid the COVID-19 research effort. Throughout 2020, Pirbright committed to several projects that would uncover details about SARS-CoV-2. A year on, our researchers have made several important discoveries, adding to the growing knowledge about the virus that will ultimately help to save lives.

¹ Figures from Johns Hopkins University June 2021

SARS-COV-2 RESEARCH

How do SARS-CoV-2 mutations affect transmission, severity and vaccines? Pirbright is part of a new national research project to study the effects of emerging mutations in SARS-CoV-2. With £2.5 million of funding from UK Research and Innovation (UKRI), the 'G2P-UK' National Virology Consortium, comprising of ten partners, will study how genetic mutations in the virus affect key outcomes such as how transmissible it is, the severity of COVID-19 it causes, and the effectiveness of vaccines and treatments. Ongoing work at Pirbright is specifically investigating whether naturally acquired mutations in the spike surface protein of SARS-CoV-2 change any of the fundamental properties of this virus, such as how well it replicates.

WHERE DID SARS-COV-2 ORIGINATE?

SARS-CoV-2's origin is currently unknown. Coronaviruses are common in bats and some researchers are of the view that the disease originated in bats, but how it jumped hosts to infect humans remains unclear. Pirbright researchers have identified key mutations in SARS-CoV-2 that may potentially have been responsible for this cross species jump. These genetic adaptations were similar to those made by the coronavirus that caused the Severe Acute Respiratory Syndrome (SARS) epidemic in 2003 when it adapted from bats to humans. Uncovering the common traits that allow viruses to jump between animals and humans helps us to identify potential reservoirs of disease and forewarn us of future threats.



WHICH ANIMALS CAN SARS-COV-2 INFECT?

Pirbright scientists have revealed that out of 22 animal species tested, SARS-CoV-2 is able to enter the cells of dogs, cats and cattle most efficiently. This could mean that infection may be more easily established in these animals, although cell entry is only the first step of infection. Findings from this study will enable scientists to prioritise research on animals that might be susceptible to infection and have the potential to act as reservoirs for COVID-19. It also identifies those animals that could provide good experimental models for understanding the disease, such as hamsters and ferrets.

CAN ANTIBODIES PREVENT SARS-COV-2 CELL FUSION?

A new test developed by researchers at Pirbright, in collaboration with the University of Queensland and the University of Oxford, can detect antibodies that prevent cell-to-cell fusion, a method some viruses use to infect neighbouring cells. The team showed SARS-CoV-2 can induce cell fusion and that antibodies from recovered COVID-19 patients could prevent cells from fusing. This enabled the team to characterise an important sub-class of SARS-CoV-2 antibodies, which may provide an additional indication of immunity and could be useful for future vaccine development.

SHARING PIRBRIGHT'S CORONAVIRUS EXPERTISE

Our coronavirus experts have contributed to a new book, '*Coronaviruses*', detailing the *Coronaviridae* family and laboratory techniques used in the field to study them. Coronaviruses have long been known to cause devastating outbreaks and SARS-CoV-2 has further emphasised the pandemic potential of these viruses. The book provides a comprehensive collection of protocols which will help develop diagnostics, vaccines and antiviral therapeutics to manage disease outbreaks in both humans and animals.

ASSESSING COVID-19 VACCINES

TWO DOSES OF OXFORD ASTRAZENECA VACCINE MORE EFFECTIVE

In pivotal research, Pirbright scientists worked in collaboration with the University of Oxford to demonstrate that two doses of the Oxford AstraZeneca COVID-19 vaccine administered to pigs produce a greater antibody response than a single dose. The study provided data that supported human trials of the vaccine, which was approved for UK emergency use in December 2020 with a two-dose vaccination programme. This successful outcome demonstrates the value of pigs as a model for assessing immune responses to COVID-19 vaccines and other infectious respiratory illnesses such as flu.

TESTING NEW COVID-19 VACCINES

Pirbright's pig model is also being used to assess new COVID-19 vaccines that are in the early stages of development. Work to assess Imperial College London's RNA vaccine is underway and studies to evaluate the University of Oxford's new potential vaccine against COVID-19, named RBD-Spy-VLP, have been completed. Researchers revealed that RBD-Spy-VLP produced a strong antibody response against SARS-CoV-2 in mice and pigs. Antibodies were identified in samples taken from the nose and mouth of vaccinated pigs, which could be important for providing robust protection against infection. The vital information will feed into the further development of this vaccine, which could be useful as a standalone vaccine or as a booster for individuals primed with a different COVID-19 vaccine.



SUPPORTING THE UK'S DIAGNOSTIC EFFORT

INDUCTION AND TRAINING OF NHS TEST AND TRACE STAFF

We have supported the NHS Berkshire and Surrey Pathology Services (BSPS) and the national NHS Test and Trace programme by providing induction and training for staff joining the new Brants Bridge Lighthouse Laboratory in Bracknell. The Lighthouse Laboratory is designed to increase the UK's COVID-19 diagnostic testing capability by processing COVID-19 samples from drive-in centres and swabs that people take at home.

Huge efforts were made to repurpose existing Pirbright laboratory facilities to support the launch of the Lighthouse Laboratory and to generate a comprehensive training programme. As home to several Reference Laboratories for viral diseases of livestock, Pirbright's staff are well versed in high throughput diagnostic protocols and ideally placed to train the COVID-19 diagnostics team who are working in the new lab.

To recognise the tremendous support offered by Pirbright, the Lighthouse Laboratory has named one of its new testing laboratories after the Institute.



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PROVIDING HIGH-TECH INSTRUMENTS

Pirbright supplied 13 of its high-throughput testing instruments to the Milton Keynes COVID-19 Lighthouse Lab at the UK Biocentre. The highly specialised equipment comprised seven nucleic acid extraction robots and six polymerase chain reaction (PCR) machines, which were used to detect the presence of the COVID-19 virus in samples taken from potentially infected people and/or healthcare workers.

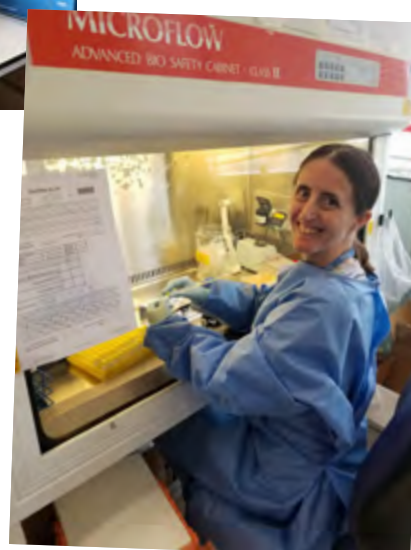
KEEPING RESEARCH ON TRACK

To ensure the Institute's critical research can continue throughout the pandemic and associated disruption, Pirbright has been awarded the UKRI COVID-19 Grant Extension Allocation (CoA). This funding supports Pirbright's research, staff and infrastructures to enable projects to be completed as well as sustaining the talent pool that will be needed to underpin the post-pandemic, national recovery. Pirbright has assembled a CoA Allocation Committee to prioritise the funding to projects that have been most significantly impacted, allowing the continuation of essential viral disease research.



VOLUNTEERING IN DIAGNOSTIC CENTRES ACROSS THE UK

Over 60 of Pirbright's diagnostic staff and scientists volunteered to join the diagnostics and surveillance effort for COVID-19 at seven Public Health England testing sites across the country. Volunteers began working in these laboratories from 23 March 2020 and continue to work away from their families and home to support the UK's Test and Trace efforts.



Director, Professor Bryan Charleston (right), and Head of the Non-Vesicular Reference Laboratory, Dr Carrie Batten visit the Brants Bridge Lighthouse Laboratory where a laboratory has been named Pirbright to acknowledge our support.



STATE-OF-THE-ART SCIENCE

CONTROLLING EXOTIC DISEASES

Pirbright's research into exotic livestock diseases such as African swine fever and foot-and-mouth disease could not take place without the specialist high containment facilities afforded by the BBSRC National Virology Centre: The Plowright Building. The laboratories within allow scientists to study both structure and behaviour of high-consequence viruses as well as develop vaccines, antivirals and diagnostics to aid their control in countries where the diseases are prevalent. The Plowright Building has also recently enabled crucial COVID-19 research that has informed human vaccine development and clinical trials.

The high containment laboratory also houses Pirbright's reference laboratories which are fundamental to the global control of disease and the UK's National Capability to protect itself from devastating outbreaks. These include world reference laboratories for foot-and-mouth disease, rinderpest and peste des petits ruminants, as well as World Organisation for Animal Health (OIE) reference laboratories for African swine fever, bluetongue, goat pox and sheep pox, lumpy skin disease, Marek's disease and swine vesicular disease. Scientists track the spread of these diseases through global surveillance programmes, and develop new and improved tools to detect and control the spread of outbreaks.

DEVELOPING VACCINES

The BBSRC National Vaccinology Centre: The Jenner Building provides a collaborative space for scientists to carry out research at a lower level of containment than The Plowright Building. It has large labs and specialised rooms for bioimaging and flow cytometry, as well as a home office licenced facility to study embryonated chicken eggs. These facilities provide a unified space for fundamental research as well as applied research, such as vaccine development.

Pirbright is a UK National Capability where fundamental research and advanced high-throughput diagnostics are carried out under high containment on diseases with the potential to severely affect national economic and food security, as well as animal and human health.

Many of the groups based in this containment level 2 laboratory work on avian diseases including infectious bronchitis virus and avian influenza, and detailed studies of the immune systems of the livestock hosts that are infected by viruses.

PREVENTING INSECT DISEASE TRANSMISSION

Two insectaries at Pirbright provide the specific controlled environments needed to study mosquitoes and midges, which spread a variety of human and animal diseases. The IS4L Insectary offers precise humidity and temperature control to support mosquito colonies

that spread diseases such as Zika and dengue. Research with these insects aims to engineer resistance to transmitting viruses that could offer more targeted alternatives to current disease control methods such as environmentally harmful pesticides. The Phillip Mellor Insectary provides facilities for the production, growth and maintenance of unique *Culicoides* midge colonies that are used to understand the relationship between the insect, virus and host animal. Pirbright supplies midges and expertise to other researchers across the UK to help address the critical shortage of insect research facilities in the UK.



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ANIMAL FACILITIES

LIVESTOCK LABORATORIES

Animals are used in Pirbright research to gain a better understanding of viral diseases that affect millions of animals each year. High containment animal housing facilities enable researchers to study viral diseases in their natural host and how these viruses transmit between animals. These studies provide vital information for the development of vaccines, diagnostic tests and disease modelling advice to improve global animal health.

POULTRY FACILITIES

Pirbright has a long history of working with viruses that have severe impacts on the global poultry industry. Opened in November 2020, The Houghton Facility is a Specific Pathogen Free (SPF) hatchery that allows us to hatch and grow poultry under very clean conditions. This maintains the disease-free status of the birds, enabling scientists to study antiviral responses in the absence of infections that could affect results, leading to the improved control of diseases that are important to the welfare of chickens and ultimately to ensure security of food supply for the UK.

ANIMAL WELFARE

Pirbright's team of specialist animal technicians and veterinary staff are all licenced and highly trained to provide the highest levels of care possible. The dedication of Pirbright staff ensures the highest standards of animal welfare that consistently exceed the legal requirements set by the Home Office. All animal research proposals are assessed by an Animal Welfare & Ethical Review Board, which ensures scientists have considered all aspects of the 3Rs (whether they can Replace, Refine and Reduce the use of animals in research) have been considered before being submitted to the Home Office for approval.

The Institute is a signatory to the Concordat on Openness on Animal Research and a member of Understanding Animal Research (UAR), which reflects the dedication of our animal services staff and scientists to inform the public about our work with animals. Pirbright was named a Leader in Openness for 2019-22 by UAR in recognition of the continuous and innovative work invested in



communicating Pirbright's animal research transparently.

ESSENTIAL INVESTIGATIVE TOOLS

Specialist tools are often needed to answer specific research questions. Bioimaging is a core component of viral research, and recent funding from BBSRC UKRI has enabled Pirbright to purchase a new transmission electron microscope and a confocal microscope to upgrade existing facilities. This high-tech equipment will allow scientists to view individual virus particles and infected cells within high containment and take images of even the weakest fluorescence signals for examining the location and interactions of virus and host cell proteins.

A suite of genetic sequencing and bioinformatics technology within high containment offers scientists the ability to gain in depth data about the genomes of viruses, insects and host animals. Detailed genetic information can be used for multiple purposes, such as identifying how viral strains mutate and spread for global disease surveillance and understanding how host immune systems

respond to infection.

The UK Immunological Toolbox, ran by researchers here and the University of Edinburgh's Roslin Institute, provides a platform for veterinary researchers to find resources and collaborate. It features the most up-to-date and comprehensive repository of antibodies and modified proteins available from commercial companies and academic institutes. Researchers are able to freely search the location, supply and application of these immune reagents, as well as submit requests for new reagents and antibody production, providing a central hub for the veterinary community.

FUTURE PROOFING RESEARCH

Pirbright is committed to delivering world class research which requires cutting-edge facilities and the leading scientific experts. Over the coming years new high containment animal facilities will become operational and our vision is to develop a campus that can adapt to the changing requirements in viral research to deliver to the One Health agenda.

VIRTUAL SCIENCE FOR ALL

The importance of engaging the public on why scientific research is crucial in preventing and controlling diseases has never been highlighted so clearly as during the COVID-19 pandemic. Pirbright's robust public engagement programme has always focused on generating valuable face-to-face interactions with a wide range of audiences, including schools, students, farmers, and the public. However, Pirbright's annual programme of live public engagement events has been severely restricted because of COVID-19 which has prevented all face-to-face public dialogue.

We had been selected to exhibit at the prestigious Royal Society's Summer Science Festival 2020 to showcase our exhibit 'Disease Detectives', but sadly the event, along with hundreds of others, was cancelled. Ironically, months before the pandemic had emerged, we were developing an interactive exhibit that was designed to showcase the essential role scientists play in preventing and controlling potential epidemics by using research to unravel the mysteries behind viruses that cause disease, especially new and emerging zoonotic viruses (those that spread from animals to people), SARS-CoV-2 being just such a virus. The last year has made the public even more aware of the threat of disease and familiar with scientific terms like 'R number', herd immunity, genetic sequencing and spike proteins.

So, we have taken this opportunity to rework our engagement programme to bring events online and cover scientific research, science misinformation and vaccine development. During 2020-21 Pirbright has taken part in 35 online public engagement activities, from hosting classroom talks via Zoom to exhibiting in virtual booths at online festivals.

FESTIVAL OF TOMORROW

FESTIVAL OF TOMORROW
In February 2021, Pirbright showcased its COVID-19 research in Science Swindon's online Festival of Tomorrow. Our virtual booth provided visitors with the chance to view our cutting-edge science and explore our animal facilities via an Understanding Animal Research virtual 360° Laboratory Animal Tour. Professor Simon Graham also provided a live talk to visitors about the COVID-19 pig vaccine studies carried out at Pirbright and answered the audience's keen questions.

INSPIRING FUTURE SCIENTISTS

As schools have adapted to online teaching, so have the careers events that we usually attend. This year, Pirbright volunteers have imparted their wisdom and experience to students through online talks and mentoring, videos, blogs and virtual fairs. This new emphasis on electronic communication has led us to expand our range of online outreach tools, helping us to inspire more students from a wider range of backgrounds to consider scientific careers than was previously possible via face-to-face interactions.

I'M A SCIENTIST

Several of our researchers took part in the 'I'm a scientist, get me out of here' initiative, where students from multiple schools chatted to scientists in online forums and asked questions about what they do. Students then voted for their favourite scientists in a series of knockout rounds that left the most popular scientist as winner at the end. The format is not only engaging for the students, but also specifically targets schools that are under served by higher education establishments due to their location.



SUPPORTING OLD AND NEW VOLUNTEERS

Pirbright's engagement programme could not exist without our superb volunteers, so training is essential to support both experienced staff and students, as well as encouraging prospective volunteers. We actively encourage participation in the Science, Technology, Engineering and Maths (STEM) Learning network which connects schools with STEM Ambassadors – experts from a range of disciplines that volunteer their time to help with talks and events. This year, we organised STEM Ambassador training for 20 Pirbright staff and students, who will add valuable knowledge and skills to our pool of over 70 STEM Ambassadors. We also provided specialised training for both PhD and placement students to help them understand the importance of engagement and equip them with confidence and tools to effectively communicate with the public.



Our scientists carried out public dialogue virtually.

Virtual tours show our animal research facilities.

FUTURE PLANS

We will be developing more interactives including our 'Disease Detectives' exhibit, which will include elements on how scientists act like sleuths, looking for clues to understand how existing and emerging viruses spread and cause disease, as well as finding ways to prevent and control outbreaks. We will be including COVID-19 and how researchers are learning more about the SARS-CoV-2 virus and how it spreads and



A SUSTAINABLE INSTITUTE

The Institute is committed to environmental sustainability and is undertaking a number of energy-saving projects that will make a positive contribution. These will be completed over the next couple of years and will reduce energy consumption, help reduce our carbon emissions and make us more efficient. The most significant of these projects is the installation of a Combined Heat and Power Plant which will provide around 75 percent of Pirbright's power needs on campus. The contract for this equipment has been agreed and it is anticipated that it will be fully operational in spring 2022.

The Institute will base its environmental objectives around the UKRI Environmental Sustainability Strategy which drives towards a zero-carbon future by 2040.

The Institute has established an Environment and Energy Team to promote the continual improvement of energy and environment performance on the site, monitor and review the Energy and Environment policy, report on and action results of inspections and audits and provide a forum for personnel to raise queries related to energy and environmental sustainability. Due to the impact of COVID-19 lockdowns the work of this committee has been somewhat limited this year, although they have overseen the installation of charging points for electric vehicles and sown a new wildflower garden alongside the BBSRC National Vaccinology Centre: The Jenner Building. The team has recently been restructured and its remit refocused to ensure this important area is given the attention it deserves during the coming year as staff and students all return to site.



GREENHOUSE GAS EMISSIONS	2020/21	2019/20
EMISSIONS TONNES CO ₂ e		
Scope 1: Gas	913,500	3,620,551
Scope 2: Electricity	2,792,600	2,858,250
Scope 3: Official business travel	1,700	5,577
Total emissions	3,707,800	6,484,378
Emissions per £ of grant received	0.11	0.20
ENERGY CONSUMPTION - kWh		
Scope 1: Gas	3,937,196	17,466,483
Scope 2: Electricity	11,978,211	11,182,512
Scope 3: Official business travel	6,998	1,622
Total energy consumption	15,922,405	28,650,617
Consumption per £ of grant received	0.48	0.87
FINANCIAL INDICATORS		
Total Energy cost - £'000	2,232	2,059
Energy cost per £ of grant received	6.685p	6.2265p
Cost of official business travel - £'000	8	12
Cost of official business travel per £ of grant received	0.0003p	0.0003p

MANAGING RISK AT PIRBRIGHT: A MAJOR HAZARD SITE

Risk management at Pirbright has three broad objectives:

- 1 to facilitate research excellence and diagnostic surveillance capability
- 2 to strengthen financial sustainability to ensure high reliability such that
- 3 the work of the Institute cannot jeopardise the UK livestock population and agricultural economy, the health and safety of people, or the environment.

Risk management at Pirbright is broadly aligned with ISO 31000 and ISO Annex L, including a Risk and Opportunities Register, Key and Safety Performance Indicators (KPIs & SPIs), and operational planning linked to the Register and to strategic objectives. The Register, KPIs and SPIs and operational plans are regularly updated and reviewed for action by Senior Leadership Board (SLB) and Trustee Directors. The Register covers operational risks (biorisk, security, cyber/IT, health and safety, environment, quality), continuity risks, and strategic risks (reputational, enterprise, financial, political). There is an internal audit programme broadly aligned with ISO 19011, covering critical risks and areas, and subject to ongoing review by SLB and Trustee Directors. Risk metrics (KPIs and SPIs) and internal audit findings together generate assurance for stakeholders. Pirbright actively maintains excellent, open and cooperative relationships with stakeholders, regulators and accreditation bodies.

A comprehensive portfolio of insurance protects Pirbright and its stakeholders. Policies in place include: Property damage and business interruption; employers, public, product and management liabilities; professional indemnity; and security and cyber incident response.

REGULATED VIRUS RESEARCH

Many of the animal viruses studied at Pirbright are high consequence pathogens, in that they are not endemic



© Edward Brydon

to the UK and so could cause a disease outbreak if released. The authority to work with these pathogens is via a SAPO (Specified Animals Pathogens Order) licence issued and enforced by the Health and Safety Executive (HSE). Pirbright's SAPO licence is at Containment Level 4 (CL4, highest level) and the Institute is classed as Major Hazard Site. Each year there is a HSE intervention plan, and in 2020/21 there were four visits by specialist HSE inspectors scrutinising internal audit, containment and control in a sample of CL4 laboratories, major hazard leadership, and an annual performance review. There were also security inspections by specialist counter-terrorism officers. The outcome of these regulatory interventions were all

extremely positive, with just a few minor improvement actions.

Biorisk management at Pirbright comprises containment engineering including sealed facilities, negative air pressure cascades and HEPA air filtration, effluent treatment plant, automation and control systems etc; and operational arrangements including risk assessment, control measures and operating procedures, training and competency, waste management, transport procedures, emergency plans, audit and inspection, planned preventative maintenance and testing etc. Pirbright has all these in place, and each element is examined by a HSE planned intervention every few years. All CL4 facilities at Pirbright are less than 15 years old.

ACCREDITED DIAGNOSTICS

Diagnostic surveillance at Pirbright is accredited to the ISO/IEC 17025 quality standard, which is required for its role as a UK National Capability and its global role as an OIE Reference Laboratory and a FAO/OIE World Reference Laboratory for some viruses. A Quality Management System ensures conformity with 17025 and increasingly further underpins risk management across the wider Institute. The annual 17025 surveillance audit of the Reference Laboratories in 2020/21 by the UK Accreditation Service gave an extremely positive outcome with no improvement actions.

In addition to its risk management system, and the assurance arrangements and regulatory oversight, Pirbright actively works to enhance its risk control and resilience. Examples in 2020/21 include capital projects for upgrades of an effluent treatment plant, electrical supply infrastructure, containment automation and control systems and physical security infrastructure; and operational projects to enhance cyber security, to improve organisational structure and effectiveness, to develop a new competency framework, and to improve asset obsolescence and functional safety management.



© Andy Newbold

DEVELOPING SCIENCE FOR THE FUTURE

Pirbright is a National Capability and provides unique facilities and infrastructure to the UK to monitor and to support the control of diseases that are circulating globally and are a threat to the UK's livestock.

Over the past ten years there has been substantial investment by UK government through BBSRC UKRI into Pirbright's campus and infrastructure to ensure the Institute can continue to deliver its responsibilities as a National Capability and its programmes of research into highly infectious viral pathogens. The development that started about ten years ago is delivered in three phases.



DEVELOPMENT PHASE ONE

THE PLOWRIGHT BUILDING

Development phase one encompassed the construction of a cutting-edge high-containment laboratory at a cost of £135 million to replace outdated facilities to study highly infectious viruses. The BBSRC National Virology Centre: The Plowright Building became operational in 2015 to provide diagnostics service through the Reference Laboratories and undertake fundamental research on viruses such as foot-and-mouth disease virus (FMDV), African swine fever (ASF) and bluetongue. It was named in honour of Walter Plowright who played a key role in the eradication of rinderpest by developing a vaccine.

THE BROOKSBY BUILDING

Construction began on Brooksby, a high containment large animal facility, in 2019 and building continued throughout 2020 under the 'critical construction' works designation. Post March lockdown only essential contractors and safety teams were permitted on the construction site to ensure concrete pouring (enough to fill an Olympic sized swimming pool - over 2,600m³) could go ahead at a critical point in the project timeline. The construction site

implemented the Construction Leadership Council guidelines and bubbles of contractors enabled building to continue throughout the year, although there is now a ten week delay due to COVID-19. New ways of working including virtual Factory Acceptance Testing (FAT), which despite initial teething problems is now an efficient and carbon-friendly

approach to construction. By November 2020 external

cladding was applied and the building topped out to ensure it was weatherproof, which was followed by the installation of mechanical services such as cabling and pipework. The Air Handling Units, Effluent Treatment Plant (ETP) tanks have been installed and most of the containment coatings have been completed. Manufacture of the incinerator components is in progress, and we are expecting delivery later this year. Brooksby will be capable of handling highly infectious viruses that must be studied under a Specified Animal Pathogen Order (SAPO 4) including FMDV



25 February 2019



17 June 2019



13 August 2019

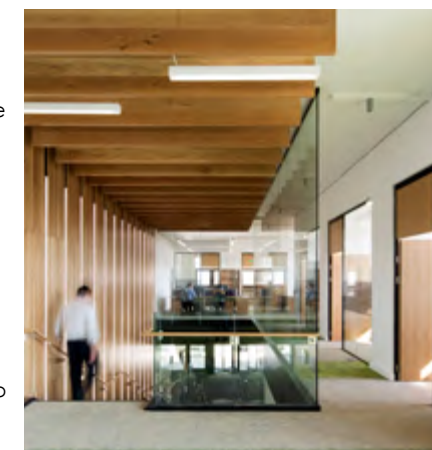


3 September 2019

DEVELOPMENT PHASE TWO

THE JENNER BUILDING

Development phase two is well underway and has already delivered important facilities to enable Pirbright to continue its research on poultry viruses and vaccine development. The first stage of this phase was the construction of a £23 million new containment level 2 energy efficient laboratory, the BBSRC National Vaccinology Centre: The Jenner Building. The laboratory has been operational since 2017 and is home to over 100 scientists working on strategically important endemic and exotic diseases which can be handled at low containment such as infectious bronchitis virus (IBV) and low pathogenic influenza viruses. The building named after Edward Jenner who developed the vaccine that was used to eradicate smallpox is a leading UK vaccine development hub as well as the centre for the Bill & Melinda Gates Foundation Livestock Antibody Hub and Immunological Toolbox.



© Richard Chivers



THE BIGGS BUILDING

Repurposing of an existing high containment animal facility at a cost of £7.5 million will result in a new avian research laboratory which will operate under containment level 2 for 'in vivo' research. Animal room renovations, updates to the mechanical and electrical plant and a new effluent treatment plant are nearing completion and will enable the building to open for scientific research in late 2021. The laboratory is named after Peter Biggs who was the first scientist to isolate the virus that causes Marek's disease, a disease of poultry that has huge economic and animal welfare impact globally every year. Another project allowed the separation of Biggs from the existing high containment facility ISO11 and a £4.9 million investment in a new effluent treatment plant for ISO11 which became operational in the spring of 2021.



THE HOUGHTON FACILITY

The £4.44 million Houghton Facility is a specified pathogen free poultry laboratory that allows scientists to carry out experiments on disease free birds. Birds are hatched from eggs within this 'clean' facility and rigorous biosafety protocols applied to ensure pathogens do not enter the building. Phase three of development is detailed in the Master Outline Planning Application (MOPA) and is currently in the early stages of being scoped out in more detail.

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and ASFV along with zoonotic viruses that can infect humans which are studied under ACDP3 regulations, for example Rift Valley fever virus. The animal facility has six rooms and the capacity to handle large livestock up to 250kg. The Brooksby Building, which will cost in the region of £72 million for construction with a total project value of circa £85 million,

is crucial to further the development of the Pirbright Campus and will be a key component that allows sustained success in livestock and zoonotic pathogens research

and vaccine development. It is named in honour of John Brooksby who joined the Foot-and-Mouth Research Institute at Pirbright in 1939 and became Director in 1957. His laboratory was designated the World Reference Laboratory for foot-and-mouth disease (FMD) in 1958.



13 August 2020



15 April 2021



25 May 2021

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FUNDING FOR OUR RESEARCH

Pirbright can only progress its research to prevent and control viral diseases of livestock with financial support from BBSRC UKRI for its two programmes of research and income from a variety of other funders. In 2020/21 the Institute Programme Grants were extended by BBSRC UKRI to 2023 and we were awarded £9,080,673 from other funding bodies including Defra, Bill & Melinda Gates Foundation and ICRAD.

Scientist: Bryan Charleston
Project: G2P-UK; A National Virology Consortium to address phenotypic consequences of SARS-CoV-2 genomic variation
Value: £194,607 (£2,520,248)*
Funder: UK Research and Innovation (UKRI) - Medical Research Council (MRC)
Pirbright is part of a new national research project to study the effects of emerging mutations in severe acute respiratory syndrome virus 2 (SARS-CoV-2), the cause of coronavirus disease (COVID-19). With funding from UK Research and Innovation (UKRI), the 'G2P-UK' National Virology Consortium, comprising of ten partners, will study how mutations in the virus affect key outcomes such as how transmissible it is, the severity of COVID-19 disease it causes, and the effectiveness of vaccines and treatments. Ongoing work at Pirbright is specifically investigating whether naturally acquired mutations in the spike surface protein of SARS-CoV-2 change any of the fundamental properties of this virus, such as how well it replicates.

Scientist: Toby Tuthill
Project: Understanding RNA packaging signals in foot-and-mouth disease virus (FMDV) for improved vaccine production
Value: £385,907 (£421,812)*
Funder: Biotechnology and Biological Sciences Research Council (BBSRC)
How do the components of foot-and-mouth disease virus (FMDV) assemble together to make new viruses inside an infected cell? This project aims to answer this question and more by understanding how the virus genome uses 'hooks' to latch on to virus proteins, allowing the virus to package itself up ready for exiting the cell and infecting the next. Gaining detailed information about this critical part of the virus lifecycle may enable scientists to reprogramme the viral genome to improve on the production of FMD vaccines by increasing yield and/or the stability of vaccines.

Scientist: Venugopal Nair
Project: The consequences of transmissible vaccines on disease ecology and pathogen evolution: Marek's disease virus as a case study (US-UK collaboration)
Value: £477,500
Funder: Biotechnology and Biological Sciences Research Council (BBSRC)
Transmissible vaccines are vaccines that are able to transmit between individual animals. These vaccines show great promise for disease interventions in wildlife populations as well as farmed animals that may be difficult to vaccinate such as fish or poultry. Together with Penn State University as part of the Ecology and Evolution of Infectious Diseases (EEID) programme, scientists will investigate the effects that a potential transmissible Marek's disease vaccine would have on the spread of disease in birds as well as the effects on Marek's disease virus evolution.

Scientists: Chris Netherton/ Linda Dixon
Project: Vaccines, diagnosis and epidemiology for control and prevention of African swine fever
Value: £495,901 (£1,307,501)*
Funders: International Coordination of Research on Infectious Animal Diseases (ICRAD) - UK funding through Defra
There are currently no vaccines or treatments commercially available for African swine fever (ASF), a deadly pig disease. Understanding which ASF virus genes are important for replication and immune system interaction will help scientists to develop these vital disease control tools. To discover if specific genes are important for replication or evading the pig immune response, six European partners, including Pirbright, will identify the roles of around half of the 150-170 ASF virus genes. This could provide new pathways for antivirals to target or additional genes that could be used in vaccine development.

Scientist: Bryan Charleston
Project: Foot-and-mouth disease virus like particle vaccines for Africa
Value: £419,800 (£1,092,251)*
Funder: Bill & Melinda Gates Foundation
Foot-and-mouth disease (FMD) is estimated to cost Africa over US\$2 billion in direct production losses and vaccination programmes. Pirbright's ongoing work with the University of Reading, the University of Oxford and a multinational animal health company aims to provide low cost and accessible vaccines to reduce the impact of the disease in East Africa. Further funding from the Bill & Melinda Gates Foundation will enable scientists to progress key research that will tailor the vaccines to African strains of FMDV, providing a strong foundation for manufacturing them at scale and bringing them to market.

Scientist: Shahriar Behboudi
Project: A novel platform for producing cell-free third generation Marek's disease virus vaccine
Value: £516,435
Funder: Biotechnology and Biological Sciences Research Council (BBSRC) – Industrial Partnership Award (IPA)
Around 22 billion doses of Marek's disease virus vaccine are administered to chickens every year. The cost of vaccination is very high as the vaccine must be grown in chicken eggs and then stored and transported at very low temperatures using liquid nitrogen. Any error in storage and handling can reduce the effectiveness of the vaccine. This project aims to produce a vaccine that can be grown in cells and which do not require very low temperatures for storage or transportation, thereby greatly reducing the cost and reliability of vaccine production and distribution.

Scientist: John Hammond
Project: Using CRISPR/cas9 gene editing for increased vaccine yields in avian cell lines Phase II proposal
Value: £584,500
Funder: International Development Research Centre (IDRC)
The natural defence mechanisms of chicken eggs and cells used to grow poultry vaccine viruses limit the amount of virus that can be produced. To improve vaccine virus yields, Pirbright scientists will collaborate with multiple international commercial partners to use advanced gene editing technology (CRISPR/Cas9) to remove a defence gene from cells that limits virus growth. These modified cells would then be able to support high levels of vaccine viral growth and used to quickly respond to emerging disease threats.

Scientist: Linda Dixon
Project: Exploiting novel African swine fever virus virulence factors and a porcine macrophage cell line to develop a live attenuated vaccine
Value: £813,238 (£955,741)*
Funder: Biotechnology and Biological Sciences Research Council (BBSRC) LINK award
This LINK project brings together a cutting-edge academic and industry partnership between Pirbright, the University of Plymouth and an international animal health company to rapidly progress African swine fever (ASF) vaccine development. ASF has rapidly spread across Europe and Asia, killing up to 100 percent of pigs that it infects and currently there is no licenced vaccine to prevent it. By deleting combinations of genes from the ASF virus, the team aims to create a weakened virus that primes the pig immune system and protects 80 to 100 percent of pigs from disease. They will also optimise and scale up a cell line that can be used to grow the vaccine virus.

Scientists: Donald King and Anna Ludi
Project: Improved FMD vaccine quality control
Value: £826,319 (£1,055,285)*
Funder: Bill & Melinda Gates Foundation
This funding will enable the World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) at Pirbright to develop an improved pipeline that can be used to assess the quality of FMD vaccines in countries where the disease is widespread. WRLFMD scientists will develop new tests and provide technical support to ensure vaccine quality is maintained throughout the manufacturing process so that vaccinated animals are afforded the best possible protection against FMD.

Scientist: Linda Dixon
Project: Vaccines, diagnosis and epidemiology for control and prevention of African swine fever
Value: £899,730
Funder: Department for Environment, Food and Rural Affairs (Defra)
Pirbright scientists will establish important characteristics about African swine fever virus (ASFV), in order to protect the UK pig farming industry against this deadly porcine disease which has no treatments or vaccine. Researchers will investigate the virus's survival rate in water and excrements and the role that biting flies play in ASFV transmission. This will provide vital information for decontamination procedures and will be integrated into models for disease spread within and between farms in the UK and beyond. They will also build on their successful approaches to vaccine development and improve diagnostic methods by investigating cell lines that can replace the currently used primary pig cells, contributing to 3Rs of animal research (Replace, Reduce, Refine). The research will be important for controlling an outbreak should the virus reach our shores.

* Numbers in brackets represent total funding for project to all collaborators.

PIRBRIGHT INNOVATIONS

Commercial activity is an important element of the Institute's strategy to diversify funding streams and ensure a sustainable organisation for the future. Pirbright has recently established a commercial arm, Pirbright Innovations, to capture and manage operations that attract income on business activities and services. Existing industry partnerships, licensing and patents will form part of this, including new income streams which have been introduced during the 2020-21 reporting period.

SHARING PIRBRIGHT'S EXPERTISE

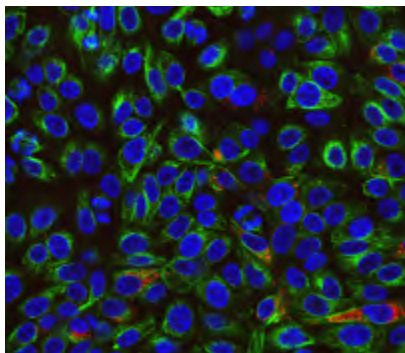


SPiRE
Sharing Pirbright's
Expertise

In January 2020 Pirbright launched Project SPiRE (Sharing Pirbright's Expertise),

an initiative designed to bring its internationally recognised science and training to a global audience through online and instructor-led courses. Having launched in January 2020, the project was immediately faced with the first lock

down of the pandemic. With face-to-face training no longer possible, members of Project SPiRE team turned their focus to the development of e-learning materials. E-learning courses have been created to cover a range of areas of research expertise including African horse sickness virus, Newcastle disease virus, African swine fever virus, HEPA filtration (Validating, Testing and Changing), and Biological Safety Cabinets (Maintenance and Validation). This use of virtual reality has helped to provide accessible training



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courses suitable for today's global needs and address the challenges of delivering training in the pandemic. Training has been delivered to people located in over 80 countries worldwide.

SUPPORTING COVID-19 DIAGNOSTICS TRAINING FOR BRANTS BRIDGE LIGHTHOUSE LABORATORY

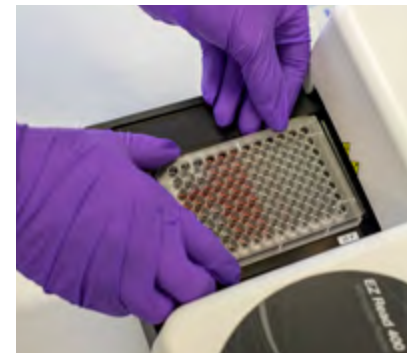
Since October 2020, Pirbright staff have been heavily involved in providing training for Berkshire and Surrey Pathology Services to establish a new lighthouse laboratory for COVID-19 high-throughput testing. Members of the SPiRE, HSBS and QA Teams worked together to develop a General Laboratory Practice induction course which has since been delivered to over 350 people. More advanced training courses for BSPS including Spill training and Biological Safety Cabinet use were also created. Scientists from the Non-Vesicular Reference Laboratories played a critical role in assisting with the installation, set up and validation of the diagnostic equipment and have provided training on sample accessioning and on the Thermo Fisher Scientific Amplitude Solution testing rig.

COMMERCIAL ZONE

Pirbright commenced its first commercial sublet of science laboratories within its campus in February 2021 with company 272BIO who work with biotherapeutics for animal health, finding solutions with innovative biotherapies to improve veterinary medicine for both livestock and companion animals. This has taken approximately six months of negotiation with the company and with BBSRC UKRI, the lessor, and it is a significant milestone in the project which was funded initially through an Enterprise M3 investment. Not only does it bring a new income stream to the Institute but will generate new jobs within the M3 corridor.

PARTNERSHIP TRAINING

Two important collaborations were also progressed during the year. One of these, with APHA and the University of Surrey, is to explore the production of e-learning courses on exotic viral diseases of animals as training for Government and private practice vets, as well as final year veterinary students. Two courses have been produced so far for foot-and-mouth disease virus (FMDV) and African swine fever virus (ASFV), both diseases of livestock with a huge impact on the



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global economy and food security. More modules are planned. The second project is a collaboration with the University of Nottingham, producing e-learning modules on viral diseases of poultry which will be accredited and form part of their planned Certificate in Advance Veterinary Practice on Poultry Health.

DEVELOPING AFRICAN SWINE FEVER VACCINES FOR AFRICA

Reports of African swine fever's (ASF) rapid spread through Europe and Asia often overshadow outbreaks of the deadly pig disease in African countries where the virus originated. Several different ASF virus types (genotypes) circulate in sub-Saharan Africa. To aid with the control of outbreaks, Pirbright scientists received funding

from GALVmed (with funding from UK aid of the UK Government) to develop African swine fever virus (ASFV) vaccine candidates. They will also investigate if a vaccine strain developed from one genotype can also protect against other circulating genotypes. If cross protection is possible, vaccination programmes would be cheaper and easier to coordinate, benefiting ASF control across sub-Saharan Africa.

EVALUATING PROMISING AFRICAN SWINE FEVER VACCINES

An African swine fever vaccine is desperately needed to contain the devastating disease that has been decimating pig populations across the globe. New research run in partnership

with an international animal health company will evaluate three ASF vaccine candidates developed by Pirbright scientists to identify which is most promising for further development. They also aim to modify the selected vaccine virus to allow differentiation between infected and vaccinated animals (DIVA) as well as developing the complementary DIVA test. This is essential for enabling trade in countries where outbreaks are occurring.

FOUR IN ONE VACCINE TO PROTECT POULTRY HEALTH

Vaccines that can protect against multiple diseases at once are highly desirable for the poultry industry. Pirbright researchers have developed the first stable vaccines that protect against four economically important poultry diseases in one shot. Follow-on research with a multi-national animal health company will extend and broaden the successful work to improve the effectiveness of the current vaccines and develop new vaccines that can be used in combination to protect against even more diseases.

USING CRISPR/CAS9 GENE EDITING FOR POULTRY VACCINES

The CRISPR/Cas9 gene editing tool has the potential to revolutionise vaccine development through allowing targeted and efficient editing of vaccine viruses, making the process quicker and more flexible. Pirbright scientists have recently employed the CRISPR/Cas9 system to generate vaccines that can simultaneously protect against multiple poultry viruses. Their latest project, funded by a small start-up animal health company based outside the UK, will use innovative CRISPR/Cas9-based tools to develop efficient vaccines that use herpesvirus of turkeys to deliver components of other viruses to poultry, stimulating their immune response against several diseases. This will not only reduce costs but will also allow vaccines to be adapted more easily to protect against circulating virus strains.

EVALUATING NEW PRRSV VACCINES

In a collaborative project between Pirbright, The Vaccine Group (TVG) and ECO Animal Health, Pirbright will assess two porcine respiratory and reproductive syndrome virus (PRRSV) vaccine candidates for their effectiveness at tackling the disease in pigs. The vaccines

are created by using TVG technology to insert non-infectious PRRSV genes supplied by Pirbright into a benign herpesvirus, which then stimulates the immune system when delivered into animals. Generating effective vaccines against PRRSV is essential for curbing one of the most economically damaging diseases for the global pig industry, which costs European pig farmers an estimated £1.5 billion a year and those in the US approximately \$600 million.

GENETIC ENGINEERING TO IMPROVE PRRSV VACCINES

Pirbright scientists are working with ECO Animal Health to develop a significantly improved inactivated porcine respiratory and reproductive syndrome virus (PRRSV) vaccine. The team aim to generate modified PRRSV strains and then inactivate them to create vaccine candidates. The strain modifications

aim to prevent inappropriate antibody responses and enhance those that are thought to provide immunity against multiple strains of PRRSV. This 'killed' vaccine would offer an attractive alternative to the current generation of live vaccines, which are only partially effective against different strains and suffer from safety constraints owing to the potential for the live vaccine virus to revert back to an infectious form.

PROTECTING ANIMALS AGAINST COVID-19

Vaccines can protect people against COVID-19, but it is possible that virus variants currently circulating within the human population may evade the present COVID-19 vaccines. It is also possible that the viruses could re-emerge to infect humans from new or existing animal populations. A vaccine which is able to broadly target the virus that

causes COVID-19 and related viruses in a diverse range of animal species may be a critical tool to combat these potential threats. Pirbright researchers will use their highly successful pig model to evaluate the immune responses against vaccines developed by The Vaccine Group, which are intended to protect a variety of animals against COVID-19.

LICENCING PIRBRIGHT'S INNOVATIONS

Pirbright's scientific innovations are of great interest to pharmaceutical and animal health companies for further development and commercialisation. This financial year the Institute signed two licences with companies to evaluate two new technologies.

NEW PATENT APPLICATIONS

Pirbright has five new priority patent applications covering a range of inventions. Three patents relate to potential African swine fever vaccines, which could help to bring the devastating disease of pigs under control. Another covers a possible avian influenza vaccine for protecting poultry against the flu. The final application encompasses a novel method to prevent gene drive resistance. Gene drives are intended to spread through target populations to promote a particular genetic characteristic, so inhibiting resistance will make gene drives more durable and reliable to ensure the intended beneficial effects are realised.

EIGHT NEW PATENTS GRANTED

Eight new patents have also been granted in various countries this financial year.

A patent granted in Australia covers the use of a gene editing technology to enhance the growth of vaccine viruses for avian diseases. By removing an immune system gene that reduces virus growth, cells without the gene can produce higher yields of vaccine viruses, which could make vaccine production more viable for developing countries. The invention has already been patented in Mexico, Japan, Europe, USA and South Africa.

Three more patents have been granted for an African swine fever vaccine in Eurasia, China and Africa. The vaccine is

generated by deleting ASF virus genes that allow it to evade the pig immune system. This creates a weakened virus that can provoke an immune response, which protects pigs from natural strains of ASF. These patents are in addition to a previous patent granted in the USA and Europe.

Two patents granted by Canada and Japan cover the development of effective infectious bronchitis virus (IBV) vaccines using genetic engineering to weaken IBV. The weakened virus can then be used to prime the poultry immune system against future IBV infections. Another IBV patent was accepted by India, which extends the ability of the virus to grow in multiple different cell types.

This financial year, Brazil granted a patent for Pirbright's foot-and-mouth disease (FMD) vaccine. The vaccine is made of synthetic 'virus like particles', which imitate the FMD virus and stimulate an immune response. They have no need for cold chain storage and can be produced outside of high containment, making them far more accessible to low- and middle-income countries where FMD circulates. The vaccine is already patented in Vietnam, India, China, Europe, Singapore, South Africa, South Korea, Russia, Thailand, USA and Indonesia, and in 2019 it was licenced to MSD Animal Health to take forward for development, registration and manufacturing.

5 NEW PATENT APPLICATIONS

- 3 AFRICAN SWINE FEVER VACCINES
- AVIAN INFLUENZA VACCINE
- GENE DRIVE RESISTANCE

8 NEW PATENTS GRANTED

- GENE EDITING TECHNOLOGY TO ENHANCE THE GROWTH OF VACCINE VIRUSES FOR AVIAN DISEASES
- AFRICAN SWINE FEVER VACCINE
- INFECTIOUS BRONCHITIS VIRUS (IBV) VACCINES
- FOOT-AND-MOUTH DISEASE (FMD) VACCINE



GLOBAL
IMPACT

Pirbright's reputation for scientific excellence continues to extend across the globe enabling us to have positive outcomes in animal health and food and economic security for millions of people who rely on their livestock to

survive. In 2020/2021 we began 48 new projects (including studentships) in different countries. Over half of these projects were working with partners in Belgium, Germany, Ghana, Nigeria, Philippines, South Africa, South Korea,

UK and the USA. We also continued to collaborate with 108 partners on 218 ongoing projects in 42 countries during the year. In addition our students were involved in over 60 projects worldwide.

BETTER BIRD FLU VACCINES
AND DIAGNOSTICS

Pirbright is collaborating with researchers in Pakistan and Vietnam to improve avian influenza vaccines and diagnostics and transferring them to in-country partnered laboratories. This will help these countries to reduce poultry production losses, directly benefiting farming communities.



STABILISING
VACCINES

A collaboration with Jordan will evaluate a vaccine stabilisation technology using a peste des petits ruminants (PPR) vaccine.

HARMONISING
REFERENCE LABS

The World Reference Laboratory for Foot-and-Mouth Disease at Pirbright is working with other reference labs in Belgium, France, the Netherlands and Italy to harmonise methods used for post-vaccination monitoring.



CATCHING BITING
FLIES IN GHANA

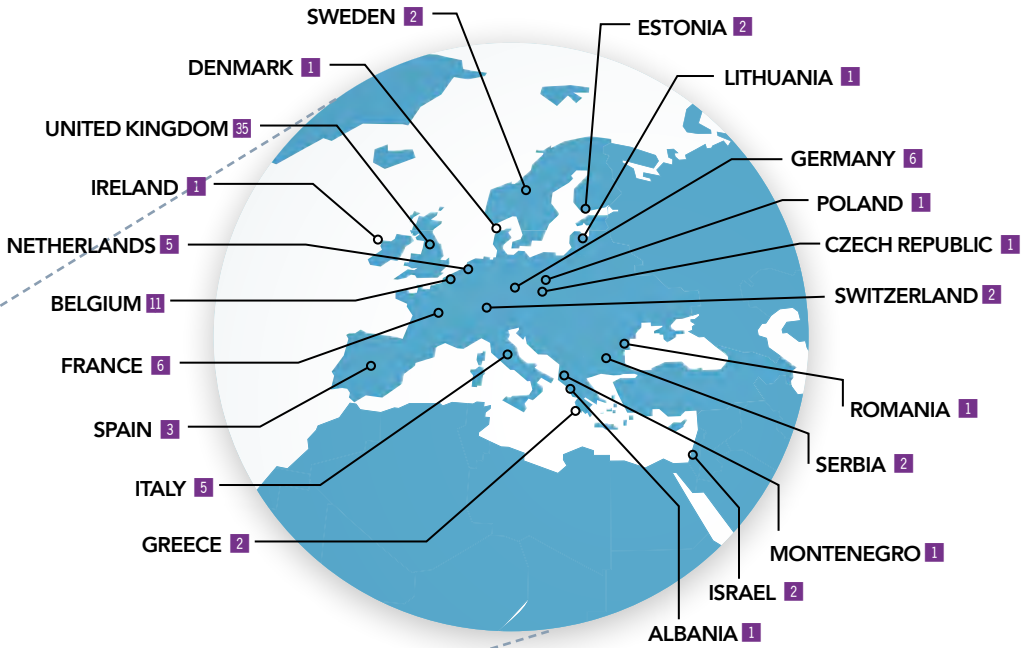
We are working with researchers in Ghana to test a trap for *Culicoides* biting midges and sand flies against traps that use humans as bait. This will help to characterise which species are present in Ghana and facilitate understanding of the diseases they spread.

PROTECTING NEWBORN
ANIMALS

The International Coordination of Research on Infectious Animal Diseases (ICRAD) supports Pirbright to work with five other research partners in France, Sweden, Switzerland, and Norway. Funded by BBSRC UKRI, the project is designed to develop vaccine strategies to improve the protection of new-born animals against two economically important livestock diseases: bovine respiratory syncytial virus (BRSV) in cattle, and porcine reproductive and respiratory syndrome virus (PRRSV) in pigs.

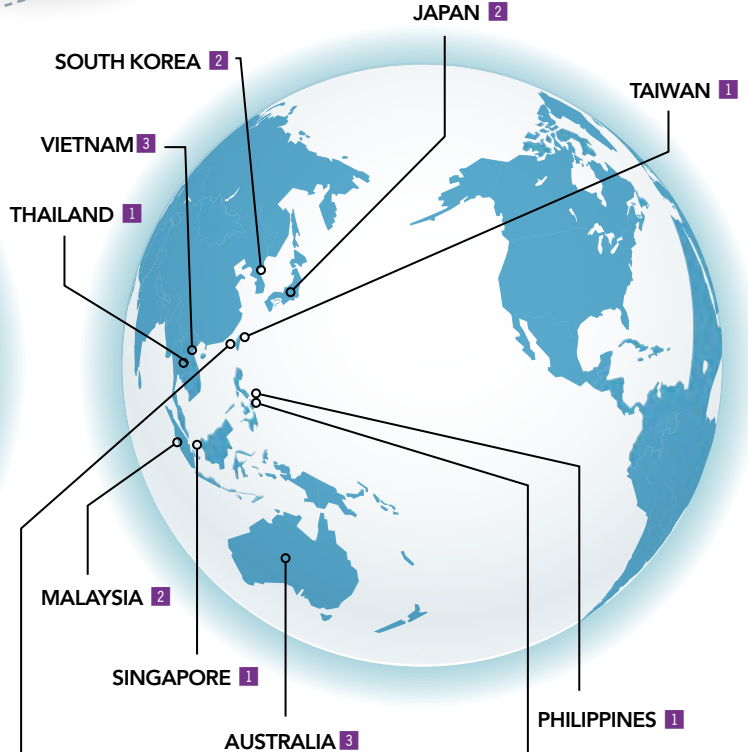
QUALITY VACCINES FOR
AFRICA

The World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) is assisting the African Union Pan African Veterinary Vaccine Centre (AU-PANVAC) in Ethiopia to establish capacity for independent evaluation of foot-and-mouth disease (FMD) vaccines in Africa. Implementing an efficient FMD vaccine quality control system will help to control the disease by ensuring vaccines are as effective as possible.



PROTECTING BUSY BEES

We are exploring a non-chemical approach for inhibiting deadly bee viruses with partners in the USA. This could form part of an enhanced and sustainable integrated bee health programme.



EXCHANGING
POULTRY DISEASE
EXPERTISE

Pirbright is partnering with the National Taiwan University to exchange knowledge and expertise about infectious bronchitis virus, a devastating disease of poultry.

TWINNING WITH THE
PHILIPPINES

A twinning project will enable the Institute's experts to share their extensive knowledge and experience with laboratories in the Philippines to build capacity for African swine fever testing. This is essential for bringing the disease under control and will work towards the laboratories meeting specific standards that will help them to gain reference laboratory status for South East Asia.

INVESTING IN OUR PEOPLE

The coronavirus pandemic and resulting lockdowns that began in March 2020 have presented challenges that none of us have had to face before - at work, at home and in our personal lives. We have all risen to these challenges and continued to deliver scientific impact throughout the year, despite the unprecedented disruption and difficulties that have tested our resilience, our stamina, and our flexibility. We are rightly proud of how well our staff and students have coped and responded in such difficult circumstances. Our priority throughout the year has been to ensure that all our staff and students have stayed safe and well, particularly when working on site. We have liaised closely with our Occupational Health partner, Cordell, to provide personal health reviews for those with underlying health conditions, and who were pregnant, as well as offering support to those staff self-isolating or impacted by COVID-19.

SUSTAINING OUR SCIENCE

Many staff continued to work physically on site throughout the pandemic in order to deliver our critical science including testing COVID-19 vaccines on animals and developing diagnostic tests which, as well as researchers, required support from operational staff to maintain key services and engineering facilities. We did not have to furlough any staff and have adapted our ways of working to minimise attendance on site, whilst seeking to maximise productivity.

Managers and leaders were actively supported and given guidance on how to help their teams, whether they were working fully remotely, on site, or a hybrid of both – a very different way of managing. Our staff and students have been able to change their working routine to best suit their personal circumstances, e.g., to accommodate childcare arrangements and caring responsibilities, whilst also fulfilling their work requirements. This has been very positively received by staff. Our

Pirbright prides itself on valuing its diverse community of staff and students, from virologists to veterinarians, cleaners to communicators and biosafety experts to biomathematicians. We all work to support each other in achieving Pirbright’s mission to eliminate viral diseases of livestock through fundamental research, vaccine development and diagnostics and surveillance.



Pirbright volunteers supporting delivery of COVID-19 diagnostics in NHS and PHE labs

Information Services team has done an amazing job ensuring that staff could access their work from home.

GIVING OUR SUPPORT

We are proud to say that Pirbright provided the NHS Royal Surrey Hospital and Public Health England with several volunteers who have helped to support the setting up and delivery of diagnostics throughout the pandemic, as well as training of staff to the Berkshire and Surrey Pathology Services Lighthouse Laboratory at Brants Bridge. This work is ongoing. We provided several staff with recognition vouchers during the summer

for their voluntary services and celebrated their achievement internally.

RECRUITMENT AND RETENTION

Our recruitment activity was paused during the summer months and our long-term visiting scientist process was also suspended, as well staff and student travel within the UK and overseas. Nonetheless, we have been able to recruit 68 new colleagues in the last year, 49 into Science roles and the remainder spread across our other functions. We welcomed two new Science Group Leaders, who will help strengthen our Virology and Immunological Science

expertise. We also appointed a new Director of Capability in April 2021, ahead of the retirement of our current Director of Capability in June 2021. In total 43 staff left the Institute during this period which represents an annual turnover rate of just under 11.18%, which is reflective of the national average.

REWARD AND REMUNERATION

The organisation has taken a prudent approach to staff reward and remuneration during the year with a modest pay increase of 1% implemented last September. We have this year introduced a new benefit – selling and buying of up to one week’s annual leave, which has been well received.

BREXIT has also had an impact on the Institute this year. Combined with the impact of the pandemic, this has resulted in a small number of colleagues resigning and returning to their home country. The number of overseas applicants for roles at Pirbright does not appear to have declined and we have put in place financial support to contribute to the increased immigration costs. We hope this will help us to continue to attract the best talent to Pirbright.

DEVELOPING MANAGERS

Supporting management in the last year has included training and development on the following topics:

- Managing teams remotely
- Absence Management
- Managing Performance
- Managing Capability
- Understanding Mental Health at Work.

WELLBEING

In supporting our staff wellbeing, our focus has been to introduce a range of options which could be remotely accessed as we were not able to deliver these physically. Mental wellbeing was prioritised with topics covered including:

- Building Personal and Emotional Resilience
- Looking after your Mental Health
- Healthy Home Working
- Stress Awareness
- Sleep Clinics
- Mindfulness practical sessions.

These activities were in addition to our annual Wellbeing Calendar which is published on the intranet.

EQUALITY, DIVERSITY AND INCLUSION

Our Equality, Diversity & Inclusion (ED&I) Committee has been actively promoting this important area throughout the year. We have reviewed and updated our ED&I strategy and policy and identified key topics of focus, many in recognition of national/international events. Children on the Edge, the staff ‘charity of the year’ was introduced in January 2021 following a staff vote. The Committee raised over £800 by completing over 2 million steps in March. Fundraising efforts will be increased on site as COVID-19 restrictions ease.

Our Gender Pay Gap reduced this year to a mean of 14.2% and median of 8.1%. We have increased the gender diversity within our Trustee Board membership, with three of the four new appointees being women. We have developed more guidance for managers in supporting staff to avail of our suite of family friendly policies.

Our work towards our next Athena SWAN application continues, and we are aiming for the Silver Award in 2021/22. Some progress on our Employee

Engagement Action Plan arising from our last staff survey has been achieved but the pandemic has prevented us from progressing all the actions. A staff survey will take place next financial year (2021-22) along with a specific COVID-19 survey to assess the effectiveness of Pirbright’s response and COVID-19 secure site management and how the pandemic has impacted our staff/students.

Following the appointment of new Trustee Board members, our gender balance has been positively impacted with female Trustee membership increasing from 21.5% to 36.4% during the year.

2020:

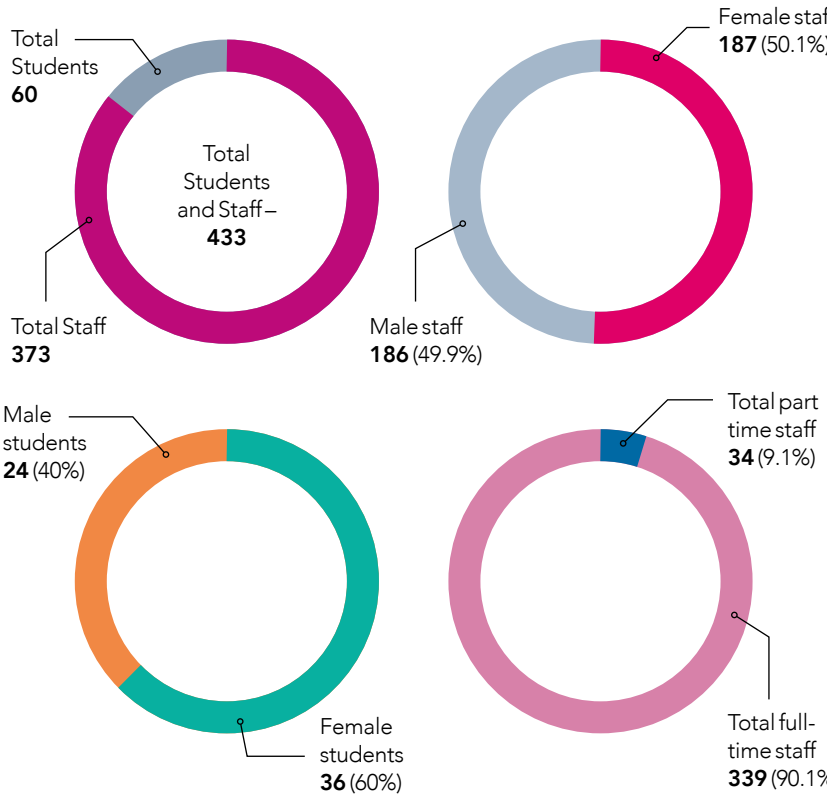
Total: 14
Male: 11(78.5%)
Female: 3(21.5%)
Chair: Male

2021:

Total: 11
Male: 7 (63.6%)
Female: 4(36.4%)
Chair: Male

STAFF/STUDENT PROFILE AND GENDER BREAKDOWN

An overview of our staff profile is shown below:



TOP TALENT

Recruitment of top talent and investment in our staff and students is a priority at Pirbright. World-class researchers and specialist support staff enable the Institute to deliver its cutting-edge research, diagnostics and surveillance.



DR MIKE JOHNSON RETIRES

After 13 years of service at the Institute, Dr Mike Johnson will retire this summer as Director of Capability. Having overseen major development projects at Pirbright and led the Capability Directorate which includes Estate Management Services, Animal and Research Services and Development Project Team. Mike moved to the UK from Australia to join the Institute as Head of The Pirbright Laboratory and Head of Estates. Key development projects that Mike was responsible for includes the BBSRC National Virology Centre: The Plowright Building, the BBSRC National Vaccinology Centre: The Jenner Building and Houghton Facility, a specified pathogen free poultry facility, which are all part of Pirbright's Master Plan for future development on the site. Mike will return to his native Australia and we wish him a happy and healthy retirement.



DR SIMON CARPENTER NEW DIRECTOR OF CAPABILITY

Dr Simon Carpenter was appointed to the Director of Capability in March 2021. Simon, who was previously Head of the Entomology research group at Pirbright and leads the Core Capability Grant (CCG) funded by BBSRC UKRI that provides approximately £12m per year to deliver the facilities and infrastructure to support our science, took up the position in April. Simon's strong science background and experience in leading the CCG grant means he is ideally placed to take on this new role and become a member of Pirbright's Senior Leadership Board (SLB).



KEVIN MARINGER GROUP LEADER: FLAVIVIRUS TRANSMISSION AND PATHOGENESIS

Dr Kevin Maringer joined the Institute as a Group Leader at the beginning of October 2020 and will lead the new Flavivirus Transmission and Pathogenesis Group. A virologist and immunologist, Kevin started working on flaviviruses as a Sir Henry Wellcome postdoctoral fellow at the Icahn School of Medicine at Mount Sinai in New York City. He joined the Institute from the University of Surrey, where he set up his own research group focussed on dengue virus-host interactions, with a primary interest in virus-immune interactions in the mosquito.



DR WILHELM GERNER GROUP LEADER: T CELL BIOLOGY

Dr Wilhelm Gerner previously worked at the Institute of Immunology, University of Veterinary Medicine Vienna in Austria. His research focused on basic aspects of T cell and NK cell biology in pigs (cells involved in the immune response). His most recent research focuses on T follicular helper cells, which support B cells to generate effective antibodies. Now at Pirbright, Wilhelm will lead the T cell Biology Group at Pirbright which involves research in both pigs and cattle.



DR CHRISTOPHER SANDERS FELLOW: ENTOMOLOGY

Dr Christopher Sanders joined Pirbright fifteen years ago, back in 2006, as a postdoctoral scientist. His role at that time was to look at the long-distance flight potential of *Culicoides* biting midges and, although his role has changed significantly since then, he still works with midges.

Chris has taken up a research Fellow position and now heads up the Entomology group at Pirbright where he will continue to investigate the role of insect vectors in virus transmission to understand how they determine the emergence, spread and persistence of virus outbreaks and how we might minimise the impact of vector-borne disease.

NICK KNOWLES CELEBRATING 50 YEARS AT PIRBRIGHT

Congratulations to Nick Knowles, Head of the Molecular Epidemiology team in the World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD), for an astonishing 50 years of service to the Institute.

Nick joined the then Animal Virus Research Institute as a Scientific Assistant, on 8 February 1971, shortly before his 17th birthday and has served under ten Institute Directors, eight Heads of the WRLFMD and has published over 200 papers. During his long career at Pirbright he has become an internationally renowned expert for his pioneering work to characterise foot-and-mouth disease virus (FMDV) and many other picornaviruses. He truly has an encyclopaedic knowledge of historical FMD events and his contribution to monitoring the global epidemiology of FMD has been previously recognised with a medal from the Food and Agriculture Organization of the United Nations.



PERSONAL PROMOTIONS

Pirbright's Personal Promotion scheme provides our staff with an opportunity to move to a higher grade based on consistently excellent performance and personal contribution to the Institute. Our Personal Promotion Scheme had a high number of applications this year and 12 people were successfully promoted through this process – with a 50/50 split in gender. We continue to support the apprenticeship scheme and were pleased that several completed their training and were successful in securing positions at the Institute in Engineering and HR.



LIZELLE GOUVERNEUR KNOWLEDGE EXCHANGE AND COMMERCIALISATION MANAGER

Lizelle joined the Institute in 2013 in the Knowledge Exchange and Commercialisation (KEC) team. The KEC team works closely with research groups, reference laboratories and other operational teams to manage the Institute's intellectual property portfolio and support engagement with external partners, especially industry. Lizelle is looking forward to supporting the establishment of Pirbright Innovations, the Institute's wholly-owned trading subsidiary, and enabling the full exploitation of our research for social and economic benefit.



DR MARION ENGLAND SENIOR POSTDOCTORAL SCIENTIST

Marion joined Pirbright in 2013 as a postdoctoral research scientist in the Entomology Group to run a network of surveillance traps for *Culicoides* vector population monitoring, and to maintain expertise in both *Culicoides* taxonomy and ecology. She has long-standing collaboration with the Zoological Society of London (ZSL), carrying out extensive *Culicoides* collections to understand the risk that viruses such as bluetongue, Schmallenberg and African horse sickness pose to susceptible animals in zoo collections. Marion also advises Defra on the risk of bluetongue virus posed by the windborne incursion of infected *Culicoides* and how this risk varies throughout the year. As vice-chair of Pirbright's Equality, Diversity and Inclusion Committee (EDIC) Marion is passionate about driving forward positive cultural and behavioural change within Pirbright. Marion's commitment and dedication were recognised last year through her promotion to Band E and now works in the Transmission Biology group.

Promotions were also awarded to the following staff:

Amin Asfor
Antonello Di Nardo
Clare Browning
John Flannery
Jurkea Gould
Michael Boylan
Pengxiang Chang
Priscilla Tng
Vishi Avalakuppa Papi Reddy
Will Larner



ASPIRING APPRENTICE JAMES GASKELL

James Gaskell joined Pirbright four years ago as an electrical apprentice within our Estate Management Services (EMS) department. His professional attitude, attention to detail and commitment to his role led to him being shortlisted in the 2021 Top 6 UK Apprentices after being nominated by his college, Farnborough Technical College (Aldershot Campus).

James has now transitioned into working within the Building Monitoring Services (BMS) team specialising in building automation and control systems to further enhance his knowledge and expertise. James has been a prime example of how effective training and mentoring can allow an individual to prosper and gain key industry skills and experience.

CELEBRATING SUCCESS

The Institute, its scientists and staff received a variety of prestigious awards last year, recognising Pirbright's scientific and operational commitment to excellence.

STAFF AWARDS

The 2020 Institute staff awards recognised and celebrated teams who have consistently made a difference to work and life at Pirbright, by going above and beyond during an exceptionally challenging year.

Nominations were shortlisted by our Equality, Diversity and Inclusion Committee (ED&IC) based on the following criteria and voted on by Institute staff:

- What was done and how did it support the wider teams at the Institute to ensure business needs were met?
- The impact the work has had reinforcing our PRIDE value
- Does this demonstrate going the extra mile?



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TEAM OF THE YEAR: PRRS IMMUNOLOGY

Professor Simon Graham's team Porcine Reproductive and Respiratory Syndrome (PRRS) Immunology were awarded Team of the Year and received a certificate and monetary gift. The group undertook testing of COVID-19 vaccine candidates in pigs which significantly contributed to the development of the Oxford/AstraZeneca vaccine which millions of people have received.

The values demonstrated included:

Passion: an unwavering commitment to science and vaccine development.

Reliability: completing the studies in challenging conditions

Innovation: using pigs as a respiratory disease model for vaccine testing

Excellence in scientific research

Extra mile: The team worked extremely long hours during the pandemic, putting aside personal commitments to complete the COVID-19 vaccine pig studies.

Six further teams were shortlisted in the nominations:

- Animal Services
- Cleaning, Laundry and Autoclave team
- Communications
- Information Technology (IT)
- Estate Management Services (EMS)
- Stores



Fieldwork testing portable diagnostics for foot-and-mouth disease virus with the Maasai Tribe

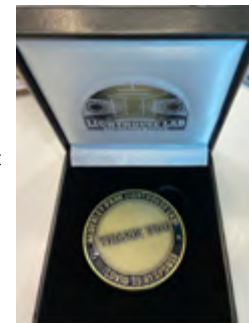
RENEWAL OF WORLD REFERENCE LABORATORY STATUS

The Vesicular Disease Reference Laboratory team achieved renewal of its status as the FAO World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) for a further four years. Pirbright's status as the World Reference Laboratory involves leadership in global projects aiming to control foot-and-mouth disease (FMD) through large scale surveillance programmes as well as coordinating a network of 15 reference centres across the world. These programmes help by providing diagnostic support and training to countries where the disease is endemic,

preventing further spread and halting existing outbreaks by providing scientists and farmers with tools to tackle FMD. Renewal of this status with the FAO acknowledges decades of hard work and experience to contribute to the development of effective diagnostics, vaccines and control strategies. First designated in 1958, the WRLFMD recently commemorated 60 years as the FAO World Reference Laboratory, marking a historic point in the Institute's accomplishments, and celebrated the contributions of the many scientists at the Institute whose work provides a vital service in the surveillance and control of FMD.

MEDAL OF APPRECIATION

Pirbright's donation of high throughput diagnostic equipment to support the UK's COVID-19 testing programme in 2020, has been recognised with a medal and letter of thanks awarded by the Alderley Park Lighthouse Laboratory in Cheshire which received one of the testing instruments. As well as equipment, Pirbright also offered specially trained diagnostic scientists as volunteers to work at testing sites across the UK. The Alderley Lighthouse Laboratory recently reached a testing milestone, processing its six millionth sample, with Pirbright's equipment contributing to a sizeable proportion of those patient samples.



STUDENT PLACEMENTS A SUCCESS

Eight undergraduate students joined Pirbright in August 2019, to undertake a 12-month placement as part of their degree. The students from universities across the country including Bath, Birmingham, Bristol, Glasgow, Leeds, Leicester, and Reading presented their work and achievements in July 2020 at the end of their time at Pirbright.

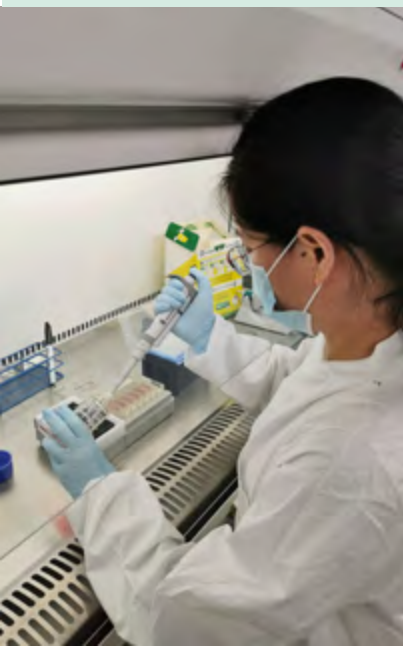
The students' positive attitude and determination to achieve, despite a considerable amount of time out of the lab, shone through in their presentations. Well done to Ellie Hayhurst, Emma Benham, Isaac Dowell, Lucy Tate, Matthew McKeating, Matthew Thomas, Sian Wells and Zoe Hargreaves.

NEW SCITECH IN LIVESTOCK RESEARCH

CN BIO INNOVATIONS

Dr Yaoyao Zhang undertook four weeks of intensive training, at CN Bio Innovations, a Cambridge-based bioengineering company, to incorporate new technology and skills into her own research at Pirbright.

Dr Zhang's training involved learning how CN Bio's PhysioMimix™ cell culture technology works – a clever microphysiological system that allows scientists to mimic tissues and organs in the lab, thus reducing the use of animals in research. Although originally designed for human tissues, Dr Zhang will be adapting the system for use with animal cells so that it can be used at Pirbright to aid research into livestock viral diseases. The training was made possible by a Flexible Talent Mobility Account (FTMA) Innovation Fellowship, supported by BBSRC part of UKRI. The funding enables researchers to spend time in different industries to learn new skills and transfer knowledge between organisations.



© CN Bio Innovations



DEVELOPING THE NEXT GENERATION OF SCIENTISTS

STUDENTSHIPS

Pirbright has a diverse and energetic student community, which is comprised of more than 60 PhD students, MSc research project students, BSc year-in-industry students and undergraduate veterinary students. We offer our students so much more than basic benchwork research skills - our transferable skills training courses are combined with a Careers Day and the opportunities to attend placements off-site with other universities and organisations, providing them a wealth of possible choices following graduation. A large number PhD of students have inevitably lost time at the bench due to the ongoing pandemic which has resulted in increased anxiety and confusion about the future of their studentships. We have worked tirelessly throughout the year to provide pastoral and academic support during lockdown, and all students who required an extension have been granted the extra time and funding.

Student training courses continued to run throughout the year, with both trainers and students having to adapt to a virtual learning environment. Courses included presentation skills, developing professional researcher networks,

imposter syndrome, secrets of successful CVs and interview skills, writing a paper with impact and viva workshops.

The students have also been very proactive at supporting each other, particularly during periods of lockdown and they have organised some fantastic virtual social events during the year. These proved to be very popular and helped to forge a sense of community and highlighted some creative abilities! Events included: themed painting and photograph competitions, a 1920s Murder Mystery games evening, a Halloween quiz and a Christmas gingerbread house making competition.

STUDENT PLACEMENTS

The placement student scheme at Pirbright has been enhanced in recent years – originally this was a scheme for just two students per year from the University of Surrey, but it has now grown to 12 students from August 2020 to July 2021, and 14 students will be joining us in August 2021. We advertise our placements to around 20 universities directly (where we know they have suitable degree courses with a placement / year-in industry) and on our website. Placements

represent a valuable work experience for the students, and they are often involved in writing papers on the research work conducted. Placements are also valued by our Group Leaders as a hard-working, valuable academic resource. The students present at the Pirbright Placement Day in July and the standard is always very high.

RECRUITMENT

Recruitment has of course been virtual throughout 2020 and 2021 it has worked very well. We do not feel that anyone has been put at a disadvantage, which is important in terms of equal opportunities. In fact, we are considering continuing this because it makes interview days easier to organise, and staff and students save time and money on not having to travel. In this case, we would run an interview virtually and then call the top two candidates to visit the Pirbright campus and meet the research team before making a final decision.

BREXIT has had an impact on PhD studentships this year (from Jan 2021, so affecting the Oct 2021 cohort intake). Before BREXIT, only UK and some European students were eligible for PhD

studentship funding, but the changes now mean that international students can also apply, provided they can pay the difference between home and international university tuition fees. As such it is likely that we will receive a higher number of applications per studentship, opening up opportunities to a wider pool of international candidates.

APPRENTICESHIPS

Pirbright runs an extremely successful apprenticeship scheme covering a wide range of career areas within the Institute including engineering, Finance, HR, Learning and Development, IT and health & safety and biosafety. Our apprenticeship scheme last year included:

- Four Animal Technicians completed their Animal Technologist Apprenticeships successfully whilst in-post, each passing with Distinction
- Two full-time apprentices passed their apprenticeships successfully in March 2021 - one HR apprentice and a Science

Technician apprentice

- Future funding has been approved to recruit seven new full-time apprentices in 2021 - four in Engineering, one in HSBS, one Science Technician and one Business Admin apprentice.

FUTURE INNOVATORS

As part of the National Productivity Investment Fund awarded to Pirbright in 2019 (from BBSRC UKRI for the development of entrepreneurial and innovation skills in early career researchers) we teamed up with Skillfluence Ltd to deliver a Future Innovators Masterclass. We had a great uptake of 23 postdocs and final year PhD students who followed this six-week interactive programme supported by guest speakers from industry.

DEVELOPING STAFF

Staff development continued throughout lockdown with training moving to online delivery. Workshops were provided on: Mental wellbeing and resilience; Understanding and managing stress; Sleep is vital – how to get better sleep; and Active bystander training.

SHARING INDUSTRY EXPERTISE

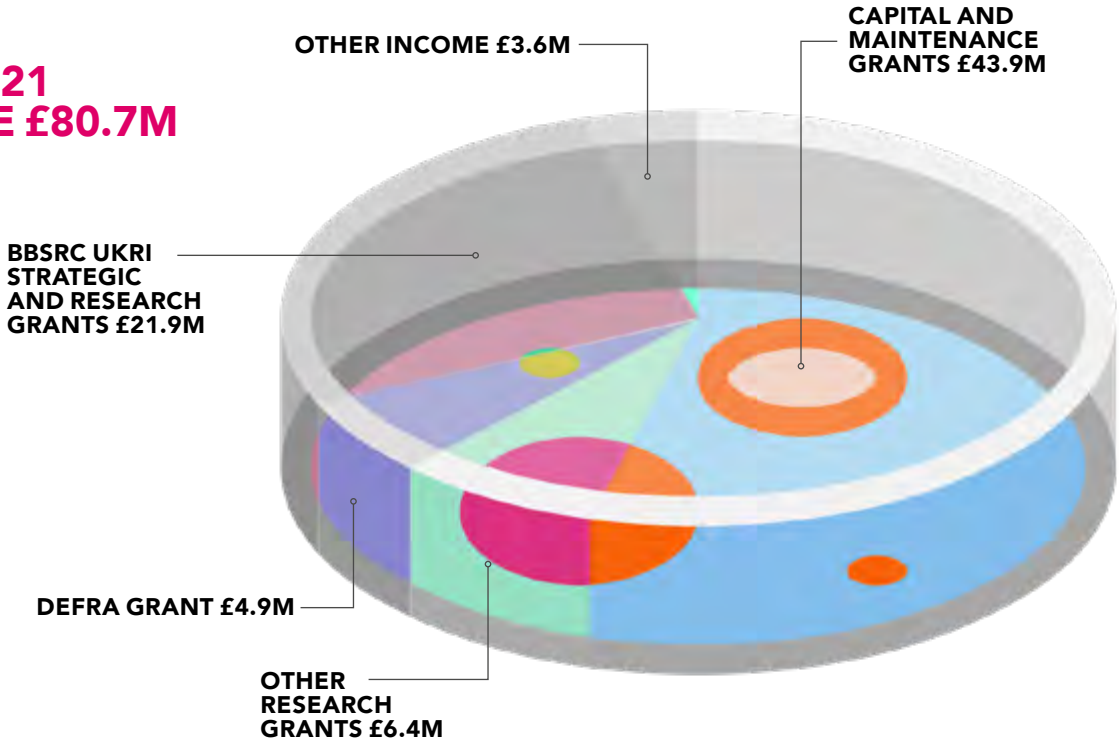
Secondments and training between Pirbright and commercial partners provide an excellent opportunity for early career post-doctoral scientists to develop industry skills and explore different job roles. Pirbright researchers were paired with a variety of companies in different industries, such as intellectual property and technology management, the poultry industry and biotechnology. We also took on a scientist from a farm animal vaccine company in Jordan to share our expertise in the development of poultry vaccines.



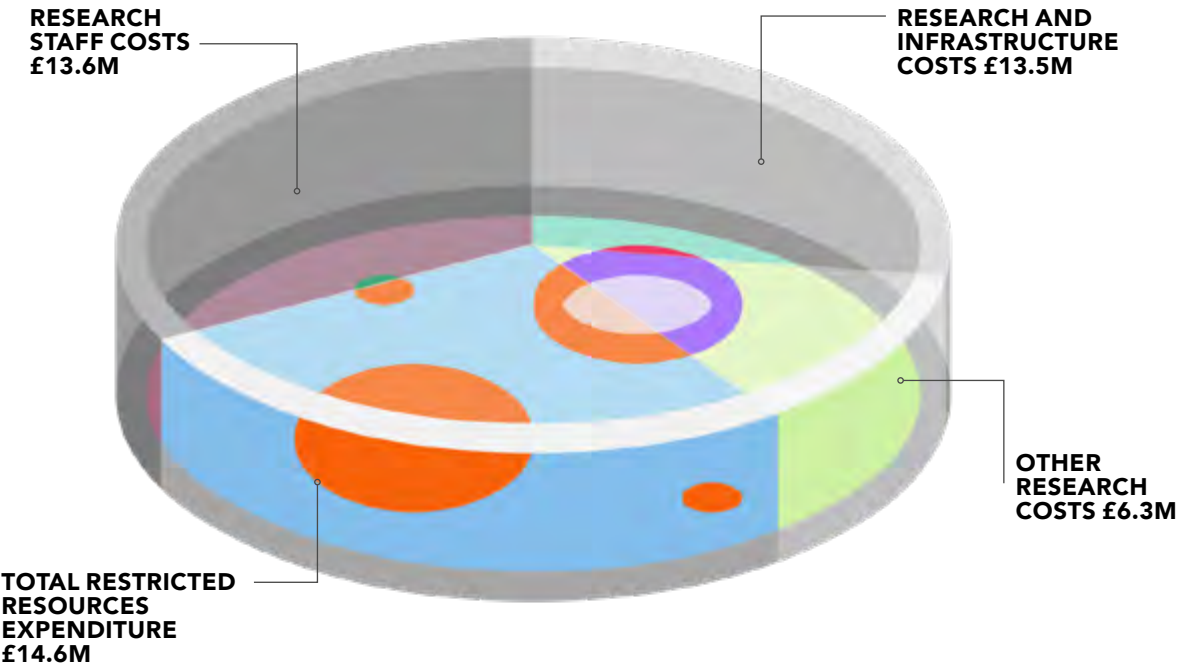
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FINANCIAL CHARTS

2020-2021
INCOME £80.7M



2020-2021
EXPENDITURE £48M



INCOME

Total incoming resources amounted to £80.7m (2020: £60.1m). Investment in tangible fixed assets in the year totalled £36.7m (2020: £21.4m). This was substantially funded by grants from the Institute’s principal sponsor Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI), Defra and other grant awarding bodies. The change relates to both an increase in capital funding (£18.5m), and non-capital income being £37.0m in 2021 compared to £34.9m in 2020.

EXPENDITURE

Recurrent expenditure for the year amounted to £48.0m (2020: £45.6m) Staff costs accounted for £18.1m (37%) (2020: £17.1m; 37%) of expenditure. The rise in staff costs from 2020 relates to the pay award for the year.

CASH AND TERM DEPOSITS

Cash and terms deposits at March 2021 were £42.4m (2020: £40.7m). Pirbright deposits its cash with UK registered financial institutions. Investment income from cash deposits in the year was £0.1m (2020: £0.3m).

GRANT PROPOSALS

During the year, Pirbright researchers submitted grant proposals with a sponsor value of £20.1m (2020: £40.0m) and were awarded grants with a value of £9.5m (2020: £19m).

GOING CONCERN

The Trustees have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC UKRI, £15m per annum; this award runs from 5 April 2017 to March 2022. The Institute has now been advised by BBSRC UKRI that the grant period will be extended for a sixth year to March 2023. This source of confirmed funding, the consistent performance of attracting income from other funding bodies, the successful occupation of new laboratory facilities and the development of a business plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security. Having considered the risks in

respect of future funding, financial forecasts for the period to March 2023 and the level of reserves, the Trustees have concluded that it remains appropriate to prepare the financial statements on a going concern basis.

NET MOVEMENT IN RESERVES

The Pirbright Institute recorded a net increase in unrestricted reserves of £1.9m. (2020: £1.0m decrease) There was a £0.5m decrease in the designated reserve with the general reserve increasing by £2.4m. Due to the phasing of the Pirbright Development Programme, the restricted reserves increased by £30.8m. (2020: £15.5m). Capital expenditure in the year was £36.7m (2020: £21.4m). There has been an ongoing major development of the Pirbright site which has resulted in building new laboratory facilities and providing additional state of the art science equipment.

RESERVES POSITION

Total Institute reserves increased by £32.7m in the year to £330.6m (2020: £14.5m to £298.0m). Restricted reserves increased by £30.8m (2020 £15.5m) to £320.6m (2020: £289.8m), of which £320.6m relates to capital reserve in connection with funding received from BBSRC UKRI (2020: increased by £15.5m to £289.8m). Unrestricted reserves increased by £1.9m (2020: £1.0m decrease) in the year to £10.0m (2020: £8.1m), of which £2.5m relates to a designated reserve to support ongoing non-operational activity and £7.5m to general reserves.

RESERVES POLICY

Unrestricted funds
It is the policy of the Trustees to ensure the General Fund in the Unrestricted Reserves reaches £4.5m by the end of the current business plan cycle being 2021/22 to enable the Institute to manage fluctuations in income and unforeseen cost pressures. At 31 March 2021 unrestricted general funds showed a surplus of £7.5m (2020: surplus of £5.1m) reaching the target as set by the Trustees. It is anticipated that over the coming years it will be possible for the Institute to undertake further development of science activity to enhance the overall sustainability and improvement of activity. The redevelopment of the site will also provide the world class facilities required to ensure the Institute is best placed to succeed in future grant submissions.

DESIGNATED FUNDS

The use of the unrestricted designated fund as set out in note 15 comprises sums set aside for specific purposes as decided by the Trustees to support ongoing non-operational activity and the continued development of the Pirbright site in support of the construction programme.

RESTRICTED NON-ENDOWMENT FUNDS

The Institute has been undertaking a significant building programme within the Pirbright site for which funding has been received from BBSRC UKRI. The funding of this programme is via grants which are held within the restricted funds and comes to a total of £317.2m. This funding is solely and specifically granted for the purpose of the building programme hence the inclusion within the restricted fund and mostly this represents the value of the buildings which have been constructed.

FUNDRAISING ACTIVITIES

Section 162a of the Charities Act 2011 requires charities to make a statement regarding fundraising activities. Although we do not undertake direct fundraising from the general public, with the legislation defining fundraising as “soliciting or otherwise procuring money or other property for charitable purposes”, we have to disclose the value of such income in the year. We have received no such income during the current or previous financial year.

STRUCTURE, GOVERNANCE AND MANAGEMENT

MEMBERS

Members of the Institute are as follows:
Chair of the Trustee Board
Chair of the Science Advisory Board
BBSRC UKRI
National Farmers’ Union
Royal College of Veterinary Surgeons

ORGANISATION AND GOVERNANCE

The Pirbright Institute is a company limited by guarantee and a registered charity. The Annual Report provides information for legal purposes of the charity, its business activities and its main achievements. The financial statements have been prepared in accordance with the Charities Act 2011, the Companies Act 2006, the Memorandum and Articles of Association and Accounting and Reporting by Charities: Statement of the Recommended Practice applicable to charities preparing their accounts in accordance with Financial Reporting Standards applicable to the UK and Republic of Ireland (FRS102), effective 1 January 2015.

THE BOARD OF TRUSTEES AND ITS INTERESTS

The Directors of the Trustee Board during the year were:
Professor John Stephenson – Chair
Professor Vince Emery – Deputy Chair and Chair of Risk and Assurance Committee
Roger Louth – Chair of Finance and Audit Committee
Sir Bertie Ross – resigned March 31 2021, Chair of Nominations and Governance Committee
Ian Bateman
Ian Black
Rona Chester (appointed - January 1, 2021)
Jon Coles
Alison Hardy (appointed - January 1, 2021)
Dr Paul Logan (appointed - January 1, 2021)
Dr Vanessa Mayatt OBE (resigned - December 31, 2020)
Dr Sandy Primrose (resigned - August 10, 2020)
Jane Tirard

Trustee Directors are appointed by the existing Trustee Directors for a period of up to three years, when they are eligible for re-

appointment for a second term.
The purpose of the Trustee Board is to ensure that the Institute carries out its purpose for the public benefit in accordance with its memorandum, articles of association and governing law. The main focus of the Trustee Directors is on leadership, strategy, performance, and assurance with focus on maintaining Pirbright’s reputation, staff and infrastructure whilst protecting the Institute’s sustainability.
Furthermore, the Trustee Directors must act in the Institute’s best interests; they must ensure that the Institute’s resources are managed responsibly; they must act with reasonable care and skill; they must ensure that the Institute complies with all statutory accounting and reporting requirements; and they must meet the oversight requirements expected of a major hazard site.
The Trustee Board has established three committees to support it in its work: the Finance and Audit Committee, the Risk and Assurance Committee and the Nomination and Governance Committee and work closely with the Institute Director and senior management of the Institute to achieve its aims.
Trustee Directors and co-opted members are required to declare any conflicts or potential conflicts of Interests at Trustee Board and committee meetings, and these are recorded in the minutes. During the year, no Trustee Director declared a conflict of interest. Depending on the conflict, the Chair may require a Trustee Director or co-opted member to either leave the meeting, or not take part in a discussion or decision on a particular Issue.
The Trustee Board has also established a Scientific Advisory Board, comprised of independent leading scientists, to provide advice, guidance, and recommendations regarding the scientific strategy and direction of the Institute. In addition, the Science Advisory Board provides assurance to the Trustee Board on the quality of science and research, the relevance and importance of the strategy, and advise on the Institute’s positioning within the international scientific landscape.

BOARD/ COMMITTEE	REMIT
Trustee Board	To ensure that the Institute carries out its purpose for the public benefit in accordance with its memorandum, articles of association and governing law.
Finance and Audit Committee	To provide assurance and advice to the Board in relation to the Institute’s finances and other assets; business planning and corporate reporting; the Institute’s strategic risks; and the statutory external audit and the programme of internal audits covering the corporate functions
Nominations and Governance Committee	To provide assurance to the Board in relation to all governance matters, with the aim of obtaining the highest possible standard of governance and compliance.
Risk and Assurance Committee	To provide assurance to the Board on the arrangements to meet legal duties and to manage risk within the Institute, working in consort with the Risk and Assurance Strategy and Plan, to oversee all risk management systems, controls and processes that may have an impact on the Institute’s ability to meet its objectives.

TRUSTEES’ INDEMNITY INSURANCE

The Institute maintains liability insurance for its Trustee Board, with an annual aggregate cover limit for all claims against them in that capacity. The Trustees have also been granted a qualifying third-party provision under section 233 of Companies Act 2006. Neither the Institute’s indemnity nor insurance provides cover in the event that a Trustee Director is proved to have acted fraudulently or dishonestly. The premium and related costs in respect of this policy were £20,432, (2020: £14,924). The Trustees are satisfied they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charities Commission. Based on this guidance, and as described in the Trustees’ Report, the Trustees believe the activities of The Pirbright Institute to be charitable in nature.

TRAINING OF TRUSTEES

The Institute continually reviews its practices for induction and ongoing Trustee training. Trustees are encouraged to attend appropriate external training events where these will facilitate the undertaking of their role.

SENIOR LEADERSHIP BOARD

The Trustee Board consider that the Senior Leadership Board (SLB) is accountable for Institute strategy, risk mitigation and governance of day-to-day operational delivery. The SLB comprising the Institute Director and the Directorate heads; namely Director of Risk and Assurance, Director of Capability and Director of Finance and Company Secretary.
The remuneration and benefits of the SLB is based on the agreed and recognised salary banding for the Institute and reviewed annually.

RELATED PARTIES

The Institute’s subsidiary undertaking, Pirbright Innovations Limited, (formerly Avrigo Limited), last traded in 2003 and is currently dormant. Avrigo Limited was formed as part of the Institute’s role in the 2001 UK foot-and-mouth disease outbreak and provided diagnostic and testing services to Defra. Genomia Management Limited was formed on 16 April 2004 and is also a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with The Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Scotland’s Rural College (SRUC).

STATEMENT OF TRUSTEES' RESPONSIBILITIES

The Trustees who are also Directors of the charitable company for the purposes of company law are responsible for preparing the Trustees' Report incorporating the Strategic Report in accordance with applicable law and regulations.

Company law requires the Trustee Board to prepare financial statements for each financial year. Under that law the Trustee Board has elected to prepare the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable laws), including FRS102 (the Financial Reporting Standard applicable in the UK and Republic of Ireland). Under company law the Trustee Board must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period.

In preparing these financial statements, the Trustee Board is required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP (FRS102);
- make judgments and accounting estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The Trustee Board is responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions

and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. It is also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Trustee Board confirms that:

- so far as each Trustee Director is aware, there is no relevant audit information of which the charitable company's auditor is unaware;
- and the Trustees have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

The Report of the Trustees incorporating the Strategic Report was approved and signed on behalf of the Trustee Board.

John R. Stephenson

Professor John Stephenson
Trustee Director

Approved by the Board of Trustees
on 20 July 2021

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

Opinion on the financial statements
In our opinion, the financial statements:

- give a true and fair view of the state of the Charitable Company's affairs as at 31 March 2021 and of its incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of The Pirbright Institute ("the Charitable Company") for the year ended 31 March 2021 which comprise the principle accounting policies, the statement of financial activities, the balance sheet, the cash flow statement and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

BASIS FOR OPINION
We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the Charitable Company in accordance with the ethical requirements relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

CONCLUSIONS RELATED TO GOING CONCERN
In auditing the financial statements, we have concluded that the Trustees' use of the going

concern basis of accounting in the preparation of the financial statements is appropriate.
Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Charitable Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.
Our responsibilities and the responsibilities of the Trustees with respect to going concern are described in the relevant sections of this report.

OTHER INFORMATION
The Trustees are responsible for the other information. The other information comprises the information included in the Annual Report and Accounts, other than the financial statements and our auditor's report thereon. The other information comprises the Trustees Report. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the course of the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Other Companies Act 2006 reporting
In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Trustees' Report, which includes the Directors' Report and the

Strategic report prepared for the purposes of Company Law, for the financial year for which the financial statements are prepared is consistent with the financial statements; and

- the Strategic report and the Directors' Report, which are included in the Trustees' report, have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the Charitable Company and its environment obtained in the course of the audit, we have not identified material misstatement in the Strategic report or the Trustee's report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion;

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

RESPONSIBILITIES OF TRUSTEES
As explained more fully in the Trustees' responsibilities statement, the Trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustees determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.
In preparing the financial statements, the Trustees are responsible for assessing the Charitable Company's ability to continue as a going concern, disclosing, as applicable,

matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the Charitable Company or to cease operations, or have no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

We have been appointed as auditor under the Companies Act 2006 and report in accordance with the Act and relevant regulations made or having effect thereunder.

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Extent to which the audit was capable of detecting irregularities, including fraud.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below:

Based on our understanding of the Charitable Company and the sector in which it operates, we identified that the principal risks of non-compliance with laws and regulations related to its registration with the Charity Commission for England and Wales and the Animals (Scientific Procedures) Act 1986 (ASPA) – under licence from the Home Office. We considered the extent to which non-compliance might have a material effect on the Financial Statements or the charity's continued operation. We also considered those laws and regulations that have a direct impact on the financial statements such as relevant companies acts and charities acts in the UK.

We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to posting

inappropriate journal entries to manipulate financial results and management bias in accounting estimates.

The audit procedures to address the risks identified included:

- Challenging assumptions made by management in their significant accounting estimates in particular in relation to the assumptions related to the estimated useful economic life of tangible fixed assets and assessment of the risks and rewards of ownership of the leasehold land and buildings owned by third parties;

- Testing journals including those which potentially impact remuneration and other performance targets and evaluating whether there was evidence of bias by management or Those Charged with Governance that represented a risk of material misstatement due to fraud;

- Reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with the Home Office, HMRC and the Charities Commission for England and Wales.

We challenged assumptions made by management in their significant accounting estimates, in particular in relation to the assumptions related to the estimated useful economic life of tangible fixed assets and assessment of the risks and rewards of ownership of the leasehold land and buildings owned by third parties.

We did not identify any matters relating to irregularities, including fraud. As in all of our audits, we also addressed the risk of management override of internal controls, including testing journals including those which potentially impact remuneration and other performance targets and evaluating whether there was evidence of bias by management or Those Charged with Governance that represented a risk of material misstatement due to fraud.

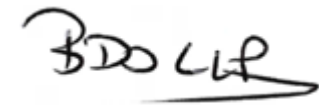
Our audit procedures were designed to respond to risks of material misstatement in the financial statements, recognising that the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery, misrepresentations or through collusion. There are inherent limitations in the audit procedures performed and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial

statements, the less likely we are to become aware of it.

A further description of our responsibilities for the audit of the financial statements is located at the Financial Reporting Council's ("FRC's") website at: <https://www.frc.org.uk/auditorsresponsibilities>. This description forms part of our auditor's report.

USE OF OUR REPORT

This report is made solely to the Charitable Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Charitable Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Charitable Company and the Charitable Company's members as a body, for our audit work, for this report, or for the opinions we have formed.



James Aston (Senior Statutory Auditor)
For and on behalf of BDO LLP,
Statutory Auditor Gatwick
Date: 26 July 2021

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

PRINCIPAL ACCOUNTING POLICIES

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Institute's financial statements.

BASIS OF ACCOUNTING

The financial statements have been prepared in accordance with Accounting and Reporting by Charities:

Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2019) – (Charities SORP (FRS 102), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

The Institute meets the definition of a public benefit entity under FRS102. Assets and liabilities are initially recognised at historical cost or transaction value unless otherwise stated in the relevant accounting policy note(s).

GOING CONCERN

The Trustees have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC UKRI, £15m per annum. This award runs from 5 April 2017 to March 2022. The Institute has now been advised by BBSRC UKRI that the grant period will be extended for a sixth year to March 2023.

This source of confirmed funding, the consistent performance of attracting income from other funding bodies, the successful occupation of new laboratory facilities and the development of a business plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security.

Having considered the risks in respect of future funding, financial forecasts for the period to March 2023 and the level of reserves, the Trustees have concluded that it remains appropriate to prepare the financial statements on a going concern basis.

GROUP FINANCIAL STATEMENTS

The Institute is exempt from the requirement

to prepare consolidated financial statements by virtue of section 405(2) of the Companies Act 2006 as the result of its dormant subsidiary undertaking, Pirbright Innovations Limited, is not material for the purposes of providing a true and fair view.

Accordingly, these financial statements present information about the Institute as an individual entity and not its group.

The associated company, as detailed in note 10, has also been excluded from the consolidation on the grounds of this being immaterial to the Institute's financial statements.

INCOME

Income comprises unencumbered grants received from research councils; grant income from collaborative, commissioned and competitively awarded research projects; income from miscellaneous charitable activities; commercial and residential rents from the letting of Institute controlled property; and interest earned on the temporary investment of surplus funds.

Income is recognised when the Institute becomes legally entitled to the income and the amount can be quantified with reasonable accuracy.

All core BBSRC UKRI grants are recognised as revenue in the year they are received. Grant income including research grants received in advance of conditions being met is deferred until those conditions are fully satisfied. Rental and interest income is recognised based on the period to which it relates.

Capital grants are recognised in the statement of financial activities when entitlement passes, and once the criteria of certainty and measurement are met.

EXPENDITURE

Costs of charitable activities comprises costs incurred directly or in support of scientific research whether carried out in the Institute's own facilities or in other laboratories. Raising funds represents the costs associated with trading and raising income including the Institute's rental activities and tenant services and investments.

All costs are allocated between the expenditure categories of the Statement of

Financial Activities on a basis designed to reflect the use of the resource. Costs relating to a particular activity are allocated directly. Support costs, representing the staffing and associated costs of finance, personnel and general administration in supporting the operations of the Institute, are apportioned on an appropriate basis (see note 5).

RESTRICTED NON-ENDOWMENT FUNDS

Income received by way of grants, sponsorship, donation or legacy which is directed by the provider as to be applied for specific purposes is accounted for within restricted income.

Awards applied within the terms dictated by the awarding authority on the acquisition or improvement of tangible fixed assets are also accounted for within restricted non endowment funds in full. The balance of the restricted fixed asset fund is reduced by the depreciation or amortisation charges over the expected useful life of the asset. This treatment has been applied to reflect the assets being on land owned by a third party, therefore at the end of the lease they will revert to that third party (see further explanation below regarding the ownership of land and buildings). In addition, as detailed in note 19, there is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent grant in excess of the financing requirements.

DESIGNATED FUNDS

Unrestricted designated funds comprise sums set aside by the Trustees for specific purposes including the acquisition and improvement of tangible fixed assets, the presentation of scientific conferences, and contributions towards capital to be replaced using the fully economic costing policy adopted by the Institute.

UNRESTRICTED FUNDS

Income received which is not directed by the provider to be applied for specific purposes to an extent which exceeds the constraints of the Institute's constitution is accounted for within unrestricted general funds.

FIXED ASSETS

Fixed assets with a cost of £10,000 or more are capitalised and depreciated to their estimated residual values basis as set out below. Plant and machinery and fixtures and fittings with a cost of less than £10,000 are expensed in year of purchase.

- Land – 99 years being the length of the lease from BBSRC UKRI
- Buildings – on a component basis, between 15 and 50 years
- Plant and machinery – 5 years on a straight line basis
- Fixtures, fittings, tools and equipment – 5 years on a straight line basis
- No depreciation is provided on assets in the course of construction.

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. Both leases have recently been renewed. The North side lease was renewed in December 2020 for 25 years and the South site lease for a term of 99 years. The Trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the Trustees’ view is highly unlikely.

Individual freehold and leasehold properties at the Pirbright site were revalued to fair value upon transition to FRS 102 (1 April 2014) with the surplus on book value being transferred to the revaluation reserve, except that a deficit which is in excess of any previously recognised surplus over depreciated cost relating to the same property, or the reversal of such a deficit, is charged (or credited) to the Statement of Financial Activities. The fair value at the transition date was recognised as the deemed cost of the assets.

LEASED ASSETS

Rentals payable under operating leases are charged to the Statement of Financial Activities on a straight line basis over the lease term.

Assets acquired under finance leases are capitalised as tangible fixed assets and depreciated over their useful lives. Finance charges and interest are taken to the income and expenditure account in proportion to the remaining balance of capital repayments or net obligations outstanding.

STOCK

Laboratory consumables are valued at the lower of cost and net realisable value.

DEBTORS

Trade and other debtors are recognised at the settlement amount due after any trade discount offered. Prepayments are valued at the amount prepaid.

CREDITORS AND PROVISIONS

Creditors and provisions are recognised where the Institute has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably. Creditors and provisions are normally recognised at their settlement amount.

FINANCIAL INSTRUMENTS

The Institute only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value.

FOREIGN CURRENCY TRANSLATION

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at the rates of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of the transaction.

STAFF AND PENSION COSTS

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute. Following the Transfer of Undertakings (Protection of Employment) exercise as of 1 January 2017, all BBSRC UKRI employees are now covered under the Institute’s position as a separate legal entity. The Institute therefore retains responsibility for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the Research Councils’ Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer. The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the Government Actuary’s Department on a periodic basis. The cost of providing pension and related benefits is charged to the statement of financial activities. Some

payments are to a defined benefit scheme as explained above and in Note 8 but there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

TAXATION

The Pirbright Institute is a registered charity within the meaning of the UK Taxes Acts and is, therefore, eligible to claim exemptions to income tax and capital gains tax.

JUDGEMENTS IN APPLYING ACCOUNTING POLICIES AND KEY SOURCES OF ESTIMATION UNCERTAINTY

Preparation of the financial statements requires management to make significant judgements and estimates. The items in the financial statements where these judgements and estimates have been made include:

- Depreciation, which has been charged in line with the accounting policy above.
- The amount of depreciation charged and net book value of the assets is included in Note 9.
- The Institute includes in its financial statements leasehold land and buildings owned by third parties because the Trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. These assets are held at their deemed cost, being their fair value at the transition date. The judgements applied and the revaluation adjustments and net book value of the assets is included in Note 9.

STATEMENT OF FINANCIAL ACTIVITIES

For the year ended 31 March 2021

	Note	Unrestricted Funds £'000	Restricted Funds £'000	2021 Total Funds £'000	2020 Total Funds £'000
Income from Donations					
Core strategic grant	1	-	18,928	18,928	15,449
Charitable activities					
Grants and contracts	2	14,503	43,687	58,190	41,532
Other charitable income	2	2,609	-	2,609	2,053
Investment income	3	956	-	956	1,045
Total		18,068	62,615	80,683	60,079
Expenditure on					
Raising funds					
Rental income and tenant services		312	324	636	628
Investment management costs		18	-	18	20
Charitable activities					
Scientific research		31,639	13,211	44,850	42,582
Rental income and tenant services		963	1,062	2,025	1,834
Other charitable activities		422	49	471	515
Total	4	33,354	14,646	48,000	45,579
Net (expenditure)/income before tax		(15,286)	47,969	32,683	14,500
Transfers between funds	15	17,155	(17,155)	-	-
Net movement in funds		1,869	30,814	32,683	14,500
Balances brought forward		8,128	289,835	297,963	283,463
Balances carried forward	16	9,997	320,649	330,646	297,963

All incoming resources and resources expended derive from continuing activities. The accompanying accounting policies and notes form an integral part of these financial statements.

BALANCE SHEET

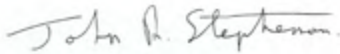
At 31 March 2021. Company Number 00559784

	Note	2021	2020
		£'000	£'000
<i>Fixed assets</i>			
Tangible fixed assets	9	295,172	267,984
<i>Current assets</i>			
Stocks	11	264	306
Debtors	12	13,397	6,704
Term deposits over three months		23,194	21,169
Cash at bank and in hand		19,237	19,529
		56,092	47,708
Creditors: amounts falling due within one year	13	(20,618)	(17,729)
Net current assets		35,474	29,979
Total assets less current liabilities		330,646	297,963
Net assets		330,646	297,963
<i>Financed by</i>			
Unrestricted funds	16	9,997	8,128
Restricted			
Fixed asset fund (including revaluation reserve of £15,299k (2020: £16,135k))	15	317,191	284,798
Other restricted reserve	16	3,458	5,037
Total funds	16	330,646	297,963

The Institute includes in its financial statements leasehold land and buildings owned by third parties, these are detailed further in Note 9.

Approved by the Board of Trustees on 20 July 2021 and signed on their behalf on 20 July 2021.
The accompanying accounting policies and notes form an integral part of these financial statements.

Professor John Stephenson
Trustee Director



Roger Louth
Trustee Director



STATEMENT OF CASH FLOWS

For the year ended 31 March 2021

	£'000	2021 £'000	£'000	2020 £'000
<i>Net cash provided by operating activities</i>				
Net movement in funds	32,683		14,500	
Interest and rent receivable	(956)		(1,045)	
Depreciation charged	9,469		10,191	
Profit on disposal of plant & equipment	-		(2)	
Realised gain on disposal of investments	-		(14)	
Decrease/(increase) in stocks	42		(148)	
(Increase)/decrease in debtors	(6,693)		2,147	
Increase in creditors	1,288		2,044	
Net cash provided by operating activities		35,833		27,673
<i>Cash flows from investing activities:</i>				
Proceeds of sale of plant & equipment	-		2	
Proceeds of sale of investments	-		173	
Interest and rents received	956		1,045	
Increase in cash deposits > 3 months	(2,025)		(562)	
Purchase of property, plant and equipment	(35,056)		(18,669)	
Net cash used in investment activities		(36,125)		(18,011)
Change in cash and cash equivalents in the reporting period		(292)		9,662
Cash and cash equivalents at the beginning of the reporting period		19,529		9,867
Cash and cash equivalents at the end of the reporting period		19,237		19,529
Cash and cash equivalents as above		19,237		19,529
Cash placed on term deposits longer than 3 months		23,194		21,169
Cash at bank and in hand per the balance sheet		42,431		40,698

The accompanying accounting policies and notes form an integral part of these financial statements.

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2021

1 INCOME FROM DONATIONS

	2021 £'000	2020 £'000
BBSRC UKRI – core strategic grant	15,449	15,449
Resource contribution grants	3,479	-
	<u>18,928</u>	<u>15,449</u>

All income from donations in the current and prior year was restricted.

2 INCOME FROM CHARITABLE ACTIVITIES

	2021 £'000	2020 £'000
<i>Grant income</i>		
BBSRC UKRI – research grants	2,960	2,854
BBSRC UKRI – other grants	43,885	25,462
Other research grants	11,345	13,216
	<u>58,190</u>	<u>41,532</u>
Other charitable activities	2,609	2,053
	<u>60,799</u>	<u>43,585</u>

Income from charitable activities includes restricted income from grants and contracts of £43,687k (2020: £25,171k)

All other income from charitable activities in the current and prior year was unrestricted.

The analysis by region is set out below:

	2021 £'000	2020 £'000
United Kingdom	55,636	35,158
Europe	1,106	704
North America	2,573	3,822
Others	1,484	3,901
	<u>60,799</u>	<u>43,585</u>

INCOME FROM CHARITABLE ACTIVITIES (CONT)

	Unrestricted £'000	Restricted £'000	2021 Total £'000	2020 Total £'000
<i>Analysis of grant income</i>				
BBSRC UKRI				
Competitive Project Grant – research grants	2,960	-	2,960	2,854
Other grants	198	43,687	43,885	25,462
Total BBSRC UKRI	3,158	43,687	46,845	28,316
Defra “Umbrella” commission projects	2,250	-	2,250	2,472
Defra Surveillance	2,697	-	2,697	2,648
Other government departments, public sector	540	-	540	166
European Union	1,106	-	1,106	703
Industry, levy boards	1,176	-	1,176	513
Trusts, foundations, charities	1,003	-	1,003	2,892
Other research grant income	2,573	-	2,573	3,822
Total incoming resources – grants including research	14,503	43,687	58,190	41,532

Ancillary trades and activities

Other charitable income consists of trades and activities which are ancillary to the charitable activities of the Institute:

	Unrestricted £'000	Restricted £'000	2021 Total £'000	2020 Total £'000
Royalties	388	-	388	361
Diagnostic kits	2	-	2	141
Other	2,219	-	2,219	1,551
	<u>2,609</u>	<u>-</u>	<u>2,609</u>	<u>2,053</u>

3 INVESTMENT INCOME

	2021 £'000	2020 £'000
Rental income and tenant services	849	755
Bank interest	107	290
	<u>956</u>	<u>1,045</u>

All investment income in the current and prior year was unrestricted.

4 ANALYSIS OF EXPENDITURE

	Staff costs £'000	Other direct costs £'000	Allocated support costs £'000	2021 Total £'000	2020 Total £'000
Unrestricted funds					
<i>Costs of raising funds</i>					
Rental income and tenant services	-	-	312	312	307
Investment management costs	-	9	9	18	20
<i>Charitable expenditure</i>					
Grants for scientific research	13,620	6,043	11,976	31,639	33,158
Rental income and tenant services	-	(7)	970	963	960
Other charitable activities	-	206	216	422	462
Total unrestricted resources expended	13,620	6,251	13,483	33,354	34,907
Restricted funds					
Cost of raising funds	-	-	324	324	321
Charitable expenditure	-	-	14,322	14,322	10,351
Total restricted resources expended	-	-	14,646	14,646	10,672
Total resources expended	13,620	6,251	28,129	48,000	45,579
Total resources expended – 2020	12,549	9,013	24,017	45,579	

Included in allocated support costs are normal staff costs of £5,034,466 (2020: £4,946,242)

5 ANALYSIS OF SUPPORT COSTS

	Rental income and tenant services £'000	Investment management costs £'000	Grants and contracts for scientific research £'000	Science rental income and tenant services £'000	Staff restaurant £'000	Other charitable activities £'000	Total 2021 £'000	Total 2020 £'000	wBasis of allocation
Unrestricted									
Premises	174	-	7,473	867	65	-	8,579	8,760	% of floor area
Financial costs	27	9	593	46	27	26	728	669	time spent
Management	39	-	953	17	19	10	1,038	960	time spent
Human resources	54	-	391	-	16	-	461	457	time spent
Information technology	10	-	2,059	23	11	23	2,126	2,004	time spent
Purchasing and procurement	5	-	424	16	11	5	461	457	time spent
Governance	3	-	83	1	2	1	90	38	time spent
	312	9	11,976	970	151	65	13,483	13,345	
Restricted									
Depreciation	296	-	8,335	789	49	-	9,469	10,191	
Repairs / compliance	28	-	4,876	273	-	-	5,177	481	
	324	-	13,211	1,062	49	-	14,646	10,672	
	636	9	25,187	2,032	200	65	28,129	24,017	

6 OPERATING COSTS

	2021 £'000	2020 £'000
Operating costs stated after charging:		
Auditor's remuneration		
- audit services	48	44
- non-audit services	12	8
Depreciation	9,469	10,191
Loss on foreign exchange translations	189	93
Hire of plant and machinery	17	28
Rental of land and buildings	52	59

Operating costs are stated net of laboratory supplies carried forward in stock amounting to £264,046 (2020: £305,937).

7 REMUNERATION OF THE MEMBERS OF THE TRUSTEE BOARD

None (2020: none) of the members of the Trustee Board received any remuneration from the Institute during the year. Eleven members (2020: eleven members) of the Trustee Board had travel expenses of £907 (2020: £7,917) reimbursed during the year.

8 STAFF NUMBERS AND COSTS

The average number of persons employed by the Institute (including members of the Governing Council) during the year, analysed by category, was as follows:

	Number of employees	
	2021	2020
Office, management and estate support	126	122
Scientific	247	241
	373	363

The aggregate payroll costs of these persons were as follows:

	2021 £'000	2020 £'000
Wages and salaries	14,103	13,275
Social security costs	1,418	1,297
Other pension costs	2,613	2,520
	18,134	17,092

STAFF NUMBERS AND COSTS
(CONTINUED)

Some employees of the Institute are members of the Research Councils’ Pension Schemes, which are funded principally through employer and employee contributions. The pension schemes are analogous to the Principal Civil Service Pension Scheme (PCSPS), except that while the schemes that are defined benefit schemes and provide retirement and related benefits on final emoluments, redundancy and capability ill health are administered and funded by the council, the pension schemes are administered by the Research Councils’ Joint Superannuation Services and the schemes’ finances are administered by BBSRC UKRI. It is an unfunded scheme, and there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme. The Institute pays employers’ contributions,

at a percentage of scheme members’ pensionable pay and emoluments assessed by the Government Actuary’s Department (GAD) on a periodical basis. The rate for the year was 26.0%, which was established following GAD’s most recent assessment. The pension costs represent contributions payable by the Institute to the scheme and amount to £1,011,524, (2020: £1,129,452). Since April 2015, all new staff (including promoted staff) are employed directly by the Institute, rather than BBSRC UKRI under the Institute’s own terms and conditions. These staff are members of The Pirbright Company Pension, a defined contribution scheme administered by Aviva on behalf of the Institute. The Institute contributes 10% of scheme members’ pensionable pay and emoluments. The pension costs represent contributions payable by the Institute to the scheme and amount to £1,516,186 (2020: £1,315,851). Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute. Following the Transfer of Undertakings (Protection of Employment) (TUPE) exercise

as of 1 January 2017, all BBSRC employees are now covered under the Institute’s position as a separate legal entity. The Institute therefore retains responsibility for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the Research Councils’ Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer. The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the GAD on a periodic basis. The key management personnel of the Institute comprise the Senior Leadership Board and the Trustees (Note 7). The total employee benefits (including wages and salaries, employer’s national insurance and pension costs) of the key management personnel of the Institute were £558,121 (2020: £574,405).

The number of staff with emoluments greater than £60,000, (excluding pension costs), was:

	2021 Number	2020 Number
£60,000 – £69,999	13	11
£70,000 – £79,999	6	5
£80,000 – £89,999	4	3
£90,000 – £99,999	4	2
£110,000 - £119,999	1	1
£140,000 – £149,999	1	1

The number of staff earning over £60,000 for whom retirement benefits are accruing under defined benefit schemes amounted to 13 (2020: 12) and the amounts paid in the year were £273,183 (2020: £232,785)

9 TANGIBLE FIXED ASSETS

	Land and buildings £'000	Plant and machinery £'000	Fixtures, fittings, tools and equipment £'000	Payments on account and assets in course of construction £'000	Total £'000
Cost/revaluation					
At 1 April 2020	244,321	19,238	1,283	68,103	332,945
Additions	-	1,003	-	35,654	36,657
Disposals	-	(761)	-	-	(761)
Transfers	4,471	-	-	(4,471)	-
At 31 March 2021	248,792	19,480	1,283	99,286	368,841
Depreciation					
At 1 April 2020	46,918	16,760	1,283	-	64,961
Charge for year historic	7,442	1,121	-	-	8,563
Charge for year revaluation	906	-	-	-	906
Disposals	-	(761)	-	-	(761)
At 31 March 2021	55,266	17,120	1,283	-	73,669
Net book value at 31 March 2021	193,526	2,360	-	99,286	295,172
Net book value at 31 March 2020	197,403	2,478	-	68,103	267,984

Land and buildings include land with a book value of £13,603k.

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The North side leases was renewed in December 2020 for 25 years and the south side lease for a term of 99 years. The Trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the Trustees’ view is highly unlikely. The Institute derives a rental income from some of the buildings included in its financial statements which it does not classify as investment properties as the cost of doing so exceeds the benefits.

The Institute used the option in FRS102 to use fair value at the date of transition to FRS102, (1 April 2014), as deemed cost on transition. GVA Grimley Limited, Chartered Surveyors, and an independent valuer derived these values from a professional valuation.

Part of the site is leased to Boehringer Animal Health UK Ltd. The lease is currently in the process of being renegotiated. If this process is successfully completed then this part of the site will be reclassified as an investment property.

10 INVESTMENTS

Investment in subsidiary undertaking

During the year Avrigo Limited, which is incorporated in England and Wales, changed its name to Pirbright Innovations Limited. This Company which previously undertook foot-and-mouth disease testing on behalf of the Institute, was dormant during the current and previous year. The Institute owns the entire share capital of 100 ordinary shares of £1 each.

The assets and liabilities of the subsidiary were:

	2021 £'000	2020 £'000
Current assets		
Creditors: amounts falling due within one year	(8)	(8)
Net liabilities	(8)	(8)
Aggregate share capital and reserves	(8)	(8)

The Institute has provided for the deficit shown by the subsidiary undertaking by writing off the amount owed to it by Pirbright Innovations Limited.

Investment in associated undertaking

Genomia Management Limited was formed on 16 April 2004 and is a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Scotland's Rural College (SRUC). The company's turnover for the year ended 31 March 2021 was £94,000 (2020: £229,000) and its net assets as at 31 March 2021 were £162,000 (2020: £114,000).

11 STOCKS

	2021 £'000	2020 £'000
Laboratory consumables	264	306

The Institute's stock consists of laboratory supplies for research purposes.

12 DEBTORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2021 £'000	2020 £'000
Trade debtors	2,181	2,967
Prepayments	1,539	1,375
Accrued income	2,321	1,836
Other debtors	7,356	526
	13,397	6,704

13 CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2021 £'000	2020 £'000
Trade creditors	2,484	1,451
Taxation and social security	550	563
Other creditors	154	110
Accruals	7,655	5,715
Deferred income	9,285	9,276
Short-term compensated absences	490	614
	20,618	17,729

14 RECONCILIATION OF MOVEMENT IN ACCRUED AND DEFERRED GRANT INCOME

	2021 £'000	2020 £'000
Accrued income	2,321	1,836
Deferred income	(9,285)	(9,276)
	(6,964)	(7,440)
Net deferred research grant income at the beginning of the year	(7,440)	(2,202)
Research grant income received during the year	(14,027)	(21,600)
Research grant money released to SOFA during the year	14,503	16,362
	(6,964)	(7,440)

15 FUNDS

	Balance 1 April 2020	Net incoming/ (outgoing) resources	Transfer between funds	Balance 31 March 2021
	£'000	£'000	£'000	£'000
Unrestricted funds:				
General	5,102	(14,953)	17,355	7,504
Designated	3,026	(333)	(200)	2,493
Restricted non-endowment funds:				
Fixed Asset Fund	284,798	29,400	2,993	317,191
Other restricted funds:				
Fixed Asset Project Support Costs	3,343	-	(2,750)	593
DP2 phase 2 occupation	1,620	(359)	(37)	1,224
IS4L Interim Insectary	6	-	(6)	-
BBSRC UKRI core grant funding	-	18,928	(18,928)	-
Brooksby support costs	-	-	1,573	1,573
Other	68	-	-	68
	297,963	32,683	-	330,646

Unrestricted designated funds

Unrestricted designated funds comprise sums set aside for specific purposes including the acquisition and improvement of tangible fixed assets, the presentation of scientific conferences, and contributions towards capital to be replaced using the fully economic costing policy adopted by the Institute. This includes£1,661k for occupation costs relating to capital projects (2020: £2,167k), £41k to maintain scientific equipment capacity and capability (2020: £15k), £43k for IT resilience (2020: £153k), £352k for group leaders (2020: £624k) and £396k for other projects (2020: £67k)

FUNDS (CONTINUED)

Restricted non-endowment funds

Restricted non-endowment funds comprise grants received from funders specifically to be applied in the acquisition or improvement of tangible fixed assets or otherwise applied for such purposes as specified by the grants provided.

	2021 £'000	2020 £'000
Fixed Asset Fund		
Balance brought forward	284,798	266,596
Grants received	43,687	25,171
Depreciation/impairment (Note 6)	(9,469)	(10,191)
Revenue spend	(4,818)	(381)
Transfers	2,993	3,603
Balance carried forward	317,191	284,798

The Fixed Asset Fund is not an endowment fund, but represents funding received, principally from BBSRC UKRI, for the past and future acquisition of tangible fixed assets. These assets are built on land that is not owned by The Pirbright Institute. The capital fund has been set up to assist in identifying those funds that are not free funds and it represents the net book value of tangible fixed assets held by the Institute and amounts received for capital but not yet spent. The unexpended balance of unrestricted designated funds and restricted funds is invested temporary in deposits and appears in the balance sheet under current assets.

Other restricted funds

Fixed Asset Project Support Cost grants have been received from BBSRC UKRI to provide funding towards support costs and overrun costs relating to the DP1 capital projects. The Capital Rebuild Grant, Additional Construction Support has on approval from BBSRC UKRI been transferred to development phase 2 occupation fund. As part of the ongoing development, project funds from these reserves have been transferred to the Fixed Asset Fund. The BBSRC UKRI core grant funding is received from BBSRC UKRI to ensure that the Institute’s facilities are maintained at the necessary cutting-edge high containment level that is essential to provide a national capability.

Transfers between funds

	Unrestricted general funds £'000	Unrestricted designated funds £'000	Restricted funds £'000
Transfer of funds to general reserves	17,355	(200)	(17,155)

The transfers during the year are as follows:
The BBSRC UKRI core grant funding restricted fund transfer of £17,355k has been made to set overhead expenditure incurred in the year against the restricted grant received for this purpose.
£1,573K has been transferred from the BBSRC UKRI core grant funding restricted fund to Brooksby support costs in respect of funds received from BBSRC to be utilised against the running costs of the new Brooksby large animal experimental facility across the 2021/22 and 2022/23 financial years.
£200k has been transferred from the designated reserve for group leaders to the fixed asset fund in respect of a reallocation of funds to the restricted fixed asset fund.
£2,750K has been transferred from the Fixed Asset Project Support cost restricted fund to the restricted fixed asset fund in respect of expenditure Incurred and subsequently capitalised as construction in progress.
£37K has been transferred from the DP2 phase 2 occupation restricted fund in respect of a reclassification of expenditure.
£6K of funds not utilised have been transferred from the IS4L Interim Insectary restricted fund to the restricted fixed asset fund.

16 ANALYSIS OF NET ASSETS BETWEEN FUNDS

	Fixed assets £'000	Net current assets £'000	Total £'000
Unrestricted funds	-	9,997	9,997
Restricted funds			
Capital fund	279,873	22,019	301,892
Revaluation reserve	15,299	-	15,299
Other restricted funds	-	3,458	3,458
	<u>295,172</u>	<u>35,474</u>	<u>330,646</u>
	Fixed assets £'000	Net current assets £'000	Total £'000
Prior year			
Unrestricted funds	-	8,128	8,128
Restricted funds			
Capital fund	251,849	16,814	268,663
Revaluation reserve	16,135	-	16,135
Other restricted funds	-	5,037	5,037
	<u>267,984</u>	<u>29,979</u>	<u>297,963</u>

17 FINANCIAL INSTRUMENTS

	2021 £'000	2020 £'000
Financial assets measured at amortised cost	9,537	3,493
Financial liabilities measured at amortised cost	(3,188)	(2,124)
	<u>6,349</u>	<u>1,369</u>

Financial assets measured at amortised cost comprise trade debtors, amounts owed by related parties and other debtors.
Financial liabilities measured at amortised cost comprise trade creditors, other tax and social security and other creditors.

18 COMMITMENTS

(a) Capital commitments at the end of the financial year for which no provision has been made:

	2021 £'000	2020 £'000
Authorised but not contracted for	28,835	8,923

The capital commitments of £28,835k (2020: £8,923k) will be significantly funded by the BBSRC UKRI.

(b) Operating lease commitments

The Institute is committed to the following charges in respect of:

	2021 £'000	2020 £'000
Land and buildings		
Within one year	52	52
In two to five years	210	207
In over five years	<u>293</u>	<u>340</u>
Plant and Machinery		
Within one year	8	-
In two to five years	<u>16</u>	<u>-</u>

19 CONTINGENT LIABILITIES

There is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent and capital grants in excess of the financing requirements. No such liabilities existed at either 31 March 2021 or 31 March 2020.

20 RELATED PARTY TRANSACTIONS

Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI)

BBSRC UKRI provides substantial funding to the Institute. The Institute is affiliated with BBSRC UKRI along with seven other institutes. Details of grants received from BBSRC UKRI are detailed in Notes 1 and 2. During the year, BBSRC UKRI charged the Institute £0, (2020: £3,983) for other costs and Engineering and Physical Sciences Research Council UKRI charged the Institute £41,789 (2020: £0) for other costs.

Genomia Management Limited

During the year our associated undertaking in Genomia Management Ltd (Note 10) provided the Institute with £0 of grant income (2020: £71,831).

REFERENCE AND ADMINISTRATIVE DETAILS

Trustees:
Professor John Stephenson: Chair
Professor Vince Emery: Deputy Chair
Ian Bateman
Ian Black
Rona Chester
Jon Coles
Emma Griffin
Alison Hardy
Paul Logan
Roger Louth
Jane Tirard

Director of the Institute:
Professor Bryan Charleston MRCVS

Company Secretary:
Helen Watts

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An internal shot of The BBSRC
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The Jenner Building, which
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