

OPERATIONAL RESEARCH SOCIETY LIMITED

England & Wales · Charity number 313713

Details

Other names THE OR SOCIETY

Status Registered

Legal form Charitable company

Company number [00663819](#)

Registered 1968-01-19

Register [View on the Charity Commission register](#)

Contact

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Activities

Objects: (A) THE ADVANCEMENT OF KNOWLEDGE AND INTEREST IN OPERATIONAL RESEARCH. B) THE ADVANCEMENT OF EDUCATION IN OPERATIONAL RESEARCH.

Activities: Charitable aims are the advancement of knowledge, education and interest in OR, through its publications, conferences, training, accreditation scheme, awards, regional societies, and special interest groups. Its 'Science of Better' campaign is specifically designed to promote wider knowledge of OR and how it can be used in the public and private sectors alike.

Classification

- **How:** Provides Services, Provides Advocacy/advice/information, Sponsors Or Undertakes Research
- **What:** Education/training
- **Who:** Other Defined Groups, The General Public/mankind

Geography

- Throughout England And Wales

Finances

Period end	Income	Expenditure	Assets	Employees
2024-12-31	£1,350,939	£1,726,405	£2,032,162	21
2023-12-31	£1,400,213	£1,557,842	£2,314,674	16
2022-12-31	£1,530,630	£1,513,788	£2,377,673	18
2021-12-31	£1,379,680	£1,300,233	£2,651,313	18
2020-12-31	£1,243,123	£1,207,414	£2,395,382	17

Trustees

Name	Role	Appointed
Dr Christina Phillips		2022-01-01
Dr Duncan Robertson		2026-01-01
Dr Mosab Bazargani		2025-06-27
Dr STEPHEN LORRIMER		2023-01-01
Katherine Kent		2026-01-01
Professor Christina Pagel		2022-01-01
Professor Jacco Thijssen		2025-03-01
Professor Miguel Anjos		2026-01-01
Professor Sanja Petrovic		2024-01-01
Professor Thomas Archibald		2022-01-01
Robert Scott		2019-02-01

OPERATIONAL RESEARCH SOCIETY LIMITED

England & Wales - Charity number 313713

Accounts



Annual Report

for the year ended 31 December 2024

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Foreword from the President

It is a great pleasure to introduce this report, which describes The Operational Research Society's achievements during 2024 and sets out our future plans.

Our regular governance meetings, including Board and General Council, have continued to take place mostly online, with one in-person Board meeting in Birmingham. Traditionally, the Blakett lecture took place in the Royal Society in London and was very well attended. There was a change of the Executive Director in October 2024. The transition was smooth, because fortunately, the previous Executive Director, now in retirement but still active in the Society, was available and willing to temporarily take over the role. The main strategic priorities remained to be Visible, Valued and Vibrant. However, the operating environment of the Society is changing considerably, which is indeed the case for all the relevant sectors, including the industrial, healthcare, education, and third sector. Of particular concern to us is the change of income from publications. Together with Taylor & Francis, we have been taking steps to mitigate challenges in the evolving publications market, which includes preparing journals for a transition to open access and initiatives such as *Applied Operations and Analytics*, which is fully open access journal. We have to adapt our activities and service we provide to our members and carefully choose the cost-effective way to achieve our goals as a charity organisation.

Sanja Petrovic
OR Society President 2025-2026
April 2025

Introduction

The Operational Research Society is a charity set up to advance knowledge, interest and education in operational research (OR). Our vision is of a world improved by rigorous analysis and better, evidence-based decision-making: "OR providing world class analysis for world class decisions". In this world OR would be seen as indispensable – not just a 'nice to have' but a 'must have' – and be used and acknowledged widely in all areas of industry, business, government and the third sector.

As a charity, we must work for the public benefit, but we also aim to work for the good of our members, because without active, able and well-supported researchers and practitioners, students and supporters, OR would not exist. We disseminate learning; promote awareness of OR; support OR professionals and standards; and aim to ensure that UK OR has a 'voice at the table', both in the international OR world and in wider UK arenas. This represents a broad programme of activities and services, that has been growing year on year and that we continue to maintain and develop.

With the continuing dramatic changes in the world around us our activities and services have had to adapt accordingly. These changes present great challenges for the whole world, but offer great opportunities for the OR discipline, OR professionals and The OR Society.

Review of the Year 2024

2024 was the second year into the current strategic planning cycle. As part of the earlier review, it was agreed that the strategic pillars and priorities for the Society remained fit for purpose. The strategic pillars are: raising awareness of the importance of OR; supporting OR knowledge development; supporting OR education; growing membership and wider reach; ensuring financial sustainability of the Society; and embedding good diversity practice in OR and the ORS. Whilst we aim to put EDI considerations at the heart of everything we do, we felt its importance deserves highlighting as a separate strategic strand. We also recognised the increasing importance of the Research element of our work by recognising the Research committee as a core subcommittee of the Board, with the Research committee chair joining the Board of Trustees with effect from the start of 2024.

Highlights of the Year

This has been another year of highlights which, along with our full range of activities, support our charitable aims to advance knowledge, interest and education in OR.

Advancing knowledge

The Society's portfolio of academic journals continued to make a substantial contribution to both advancing and sharing knowledge. The publishing landscape is evolving, and the move towards Open Access has meant our content has become more widely available through the increasing number of 'read and publish' deals that are being signed across the world. More than one million downloads of academic papers were made during the year.

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Operational research apprenticeships took further steps towards becoming a serious route to training the analysts of the future, with the Society establishing itself at the heart of the quality assurance processes core to that route.

The Society continues to work with the Council for Mathematical Sciences on the next steps towards the establishment of the Academy for Mathematical Sciences. We supported the creation of the proto-Academy and are engaged across all levels of this work. This will play a key role in the future knowledge advancement in OR. Other activities to advance knowledge are covered below in the Events, Publications and Research sections.

Advancing interest

The Society's strategic goal of advancing interest in OR returned to a more normal footing with the return of in-person events. The opportunity to expand its global reach through a complementary programme of online events was well received.

The Society continued to implement the recommendations of its Artificial Intelligence (AI) task and finish group, especially through its links to the work of the ValidateAI group (validateai.org). The Society continues to be at the heart of the Alliance for Data Science Professionals, establishing standards for both practitioners and degree courses. Other activities to advance interest are covered below in the Events, OR in Education and Pro Bono OR sections.

Advancing education

In 2024 the Society finally achieved its goal of recognition as an End Point Assessment Organisation with Ofqual and the first of its Level 7 OR Specialist apprentices entered gateway, the start of their assessment journey. Other activities to advance education are covered below in the Education, Training and OR in Education sections.

Other highlights

Some of our 2024 highlights made contributions to all our charitable aims. These included the continuing growth of our Women in OR and Analytics Network (WORAN), both in terms of the number of participants and its activities during the year. We also continued our valuable charitable work through our Pro Bono OR projects.

Achievements during the year

Equity, Equity, Diversity & Inclusion

Heather Tewkesbury continued to act as the EDI Board Champion and Eve Hardy acted as the staff EDI representative in 2024. As of 2025, Christina Pagel assumed the role of EDI Board Champion and Chiara Carparelli has taken on the role of staff EDI coordinator.

EDI continues to be a key focus within ORS publications. Notably, we have achieved gender balance at the editor-in-chief level across three of our journals, which reflects our sustained efforts to promote representative and inclusion in publishing. However, there are still improvements to be made across the whole editorial boards. The *Gender Equality: Opportunities and Challenges for the OR Community* discussion paper was successfully published in *JORS* and a dedicated webinar on gender equality was hosted by the Women in OR and Analytics Network

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(WORAN), contributing to the ongoing discourse on gender equality in OR.

The WORAN Special Interest Group also held a well-attended event examining the barriers and enablers of career success, providing valuable insights into the systemic challenges faced by individuals in the OR community.

The OR in Education Taskforce has maintained EDI at the heart of its initiatives. The National Memorial Arboretum event ran successfully, with travel bursaries provided to state-funded schools, ensuring equitable participation. Our partnership with the Advanced Mathematics Support Programme, funded by the Department for Education, has enabled targeted outreach to schools in priority areas as identified by the DfE. This deliberate approach has helped to engage students from underrepresented backgrounds in OR education and careers. To further our understanding of outreach impact, we have begun collecting gender and approximate location data from ORiE events to inform our future goals and strategies for inclusive engagement.

EDI remains a key focus within the Research Committee. Plans are underway to commission an EDI-related research project in the coming year. We also continue to promote EDI best practice guidance, including the recently published guidelines by the EPSRC on hosting neurodiversity-inclusive webinars.

We actively reviewed our EDI successes and areas for development using the Science Council Framework. This ensured we are well-prepared for the upcoming Science Council review in 2025 after which an action plan will be formulated.

Our partnership with In2Science UK continues to provide opportunities for students from low socioeconomic backgrounds. In 2024, we supported two students from disadvantaged backgrounds who took part in work placements at UCL in the field of engineering. This initiative aligns with our broader goal of increasing access to STEM careers for underrepresented groups and as such, we will be sponsoring another student in 2025.

Conferences and Events

The Events programme over the last year began with a hybrid Beale lecture and a well-attended start to a new series of one day joint SIG events with a session on Making Better Futures with Systems Approaches, with four SIGs coming together in an in-person event in Birmingham.

In June we held our first New2OR event since before the pandemic. Those attending were very enthusiastic about the new format and the content. Congratulations are due to the organising committee for establishing a successful new one-day format for this event.

July saw another first for the Society, with a special event at the House of Lords to celebrate our 75th anniversary. The reception was held on the terrace, with a fine view along the Thames towards the London Eye and Big Ben. The event was hosted by Lord Clement Jones on behalf of the Society, giving us an opportunity to say thank you to some of the volunteers whose efforts have built the Society over the past 75 years.

Continuing the new theme our ISMOR conference moved to a new venue in the National Oceanographic Centre in Southampton, with an unprecedented move to multiple sessions to accommodate demand and an outing to the Isle of Wight.

The annual conference in 2024 was in Bangor, with the OR community migrating to this beautiful and historic corner of North Wales for a very enjoyable event, with highlights including a hike

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in the mountains and the group photo in the historic courtyard at Bangor University. Many thanks to all those who contributed to the success of this event.

The WORAN Land Lecture was held in October and an inspiring talk and Q & A was given by Dervilla Mitchell DBE, FREng, FIEI on Building Change: a life in engineering.

The year ended with Professor Anna Nagurney giving the Blackett lecture in December at the Royal Society on the subject of NetWORks and Policies: OR to the rescue.

The Wednesday Webinar series continues to grow in numbers and popularity with the programme supporting topics across operational research, analytics and data science.

Publications

The OR Society now publishes seven academic journals. Six are hybrid – subscription based with the option for authors to make individual articles open access through an article processing charge (APC). These are: the *Journal of the Operational Research Society* (JORS), *European Journal of Information Systems* (EJIS), *Knowledge Management Research & Practice* (KMRP), *Journal of Simulation* (JOS), *Health Systems* (HS), and the *Journal of Business Analytics* (JBA). In November 2024, the Society launched a new fully open access journal – *Applied Operations and Analytics* (AOA) – which is published exclusively online. The Publication Committee is chaired by Professor Tom Archibald.

Usage statistics for the Society's hybrid journals continue to show year-on-year growth. In 2024, article downloads exceeded 1.2 million – a 4.75% increase compared to 2023. Citation levels remained consistent with the previous year. As the use of X (formerly Twitter) declined, the Society, have shifted their promotional efforts to LinkedIn. Dedicated LinkedIn journal pages launched in 2024 attracted 3,935 followers.

The 2023 Impact Factor (released June 2024) for *JBA* showed improvement on the previous year, while *KMRP* maintained its score. The Impact Factors of the other hybrid journals fell after several years of growth. The volatility in Impact Factors has been reflected across the sector and is partly due to recent changes in the method of calculation of the score filtering through. CiteScores (Scopus-based metrics) for six journals were published in 2023 and indicated performance increases across the board – with *EJIS* and *JORS* showing the largest improvements.

Our editorial teams continue to play a vital role in ensuring the quality and rigour of the Society's journals, providing authors with timely and constructive feedback. In 2024, Kostas Nikolopoulos (Durham University) joined the *JORS* editorial team, and Enlu Zhou (Georgia Institute of Technology, USA) replaced Christine Currie on *JOS*. Looking ahead to 2025, Kathy Kotiadis (*HS*), Richard Vidgen (*JBA*), and Tom Jackson (*KMRP*) will be stepping down, and recruitment for their successors will take place in early 2025.

Diversity on the editorial boards remains under review and active management. Some progress was made in 2024, but by year-end, boards remained predominantly male (70%), with most members based in Europe (41%) or North America (38%).

Peer review is a critical element of our publishing process, and we are grateful to our reviewers for their voluntary contributions. Reviewers may opt to receive recognition through Publons, and in 2024, the Society awarded certificates for the fourth consecutive year to reviewers who made particularly helpful contributions. The number of reviewers increased by 21.4% between

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2023 and 2024, this is a strong indication of the community's ongoing commitment to maintain the quality of our journals. This growth was supported by targeted initiatives to recruit reviewers.

The Society's strategy for open access and open data continues to evolve with guidance from Taylor & Francis. All journals encourage data sharing in line with Taylor & Francis's basic data policy and offer authors the option to publish open access through the Open Select programme. In 2024, approximately 21% of articles across Society journals were published open access. Plans to convert Health Systems into a fully open access journal have been paused while efforts are made to grow submission volumes.

The launch of *Applied Operations and Analytics* (AOA) in 2024 marks a significant expansion of the Society's portfolio. A dedicated working group established the journal's positioning and consulted widely with leading academics. AOA complements our existing titles with a broader, interdisciplinary scope, welcoming contributions from areas including (but not limited to) Computer Science, Economics, Industrial Engineering, Mathematics, and Management Information Systems. AOA is led by Editor-in-Chief John Fowler (Arizona State University), with Editor-in-Chief Elect Asil Oztekin (University of Massachusetts Lowell), and supported by a strong international editorial board. Since its launch in November, AOA received 80 submissions, with two articles accepted for publication by the end of the year.

This year also marked a major milestone for the Society: the 75th Anniversary of JORS, the oldest journal in the field of operational research. A celebratory lunch was held in March 2024 to honour past and present editors. Several special initiatives marked the occasion, including the publication of a special encyclopedic article, *Operational Research: Methods and Applications*, which received over 29,000 views and 11 Crossref citations in 2024. Other highlights included a collaborative webinar with the Women in Operational Research and Analytics Network (WORAN), featuring a discussion paper on *Gender Equality: Opportunities and Challenges for the OR Community*, and the launch of the JORS Research in Focus webinar series, hosted by Emel Aktas, to highlight and discuss selected JORS articles.

The Society also publishes two magazines: *Impact* and *Inside OR*.

Impact is published biannually and is aimed at practitioners and potential users of OR. It is freely available in both print and electronic formats. Only one issue appeared in 2024 due to the editor, Maurizio Tomasella, being unavailable during the first half of the year.

Inside OR is the Society's monthly news magazine for members. In 2024, John Crocker stepped down as editor and was succeeded by Gavin Blackett.

Carol McLaughlin and Sophie Rouse from the OR Society office, together with Richard Goodman from Taylor & Francis, continue to support and develop our publications strategy in partnership with the editorial teams. Our sincere thanks go to everyone who contributed over the past year to supporting and promoting the Society's publishing programme.

Education

The key activities for the Education committee are laid out below under its various areas of influence.

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The committee is chaired by Vania Sena and supported by Chiara Carparelli, the Education Manager. The work in education is divided into two main areas: the main Education Committee and the ORiE Taskforce, which focuses on education outreach efforts.

OR in Education (ORE)

Throughout 2024, ORiE volunteers participated in various events. They attended four teacher-focused conferences, including the MEI and the Joint Conference of Mathematics Subject Associations, as well as 12 careers fairs and talks. We also exhibited at four science fairs, most notably New Scientist Live, where members Christina Pagel and Duncan Robertson gave a talk on *Science Communication in Times of Emergency*. Additionally, ORiE volunteers helped deliver workshops at six school events, including the OR STEM Day which was held in collaboration with the AMSP and the National Memorial Arboretum.

Volunteer engagement grew modestly compared to the previous year. However, challenges remain in retaining repeat volunteers.

Our teaching resources, available on the TES website, continue to perform strongly, with an average of 77 downloads per month. This consistent usage underscores the relevance and utility of our materials. The resources are reviewed and updated by the Education Manager with assistance from the ORiE Taskforce, ensuring their continued relevance. Also, the Termly Teacher Newsletter was re-launched this year to promote our resources and share relevant events and opportunities. The newsletter has maintained a 40% average open rate, receiving positive feedback.

To enhance our outreach efforts, two Master's students from the University of Strathclyde were commissioned by one of our Taskforce members to analyse the collected data and provide recommendations. This review aims to ensure we are reaching a diverse audience and adhering to our EDI goals. Once the data has been analysed, the Taskforce will establish more appropriate KPIs.

In2Science UK

We continued our partnership with In2Science UK, a charity focused on social mobility and providing STEM opportunities for young people from under-resourced backgrounds. The charity arranges two-week summer STEM placements for students aged 17 – 18. We sponsored two young people for work placements in engineering at UCL in 2024.

Master's Scholarship

Applications for our Master's Scholarship increased slightly this year, from three applicants to five. The winner was awarded the scholarship to study and MSc in Operational Research at the University of Southampton.

Joint Mathematical Council (JMC)

The ORS actively participated in JMC meetings through the year. Key discussions included reviewing the UK's performance in the latest PISA results, the election of the new JMC chair, the growing role of AI in education, the RS Mathematics Futures report and ongoing JMC projects related to mathematics education and AI, and the transition to secondary school.

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Involvement in the educational landscape

The engagement of the ORS within the educational landscape has grown in 2024, with participation in several high-profile discussions and initiatives.

A significant focus was the establishment of the Academy of Mathematical Sciences, with both the Education and Research Committees contributing to discussions. In 2024, we attended a round table discussion organised by DSIT on the future of the National Academy and participated in the inaugural Maths Summit. Additionally, we are actively involved in the education stream of the Academy of Mathematical Sciences, collaborating with other learned societies on educational initiatives.

The committee also contributed to several consultations, including the government's curriculum assessment and review, led by Professor Becky Francis CBE. We also maintained involvement in the Maths Horizon project, which focuses on mathematics curriculum development.

Other notable engagements included the Parliamentary Maths Expo, which brought together leaders from academia, industry, and politics to discuss mathematical sciences. We also attended the "AI in Assurance in Education" event, hosted by Validate AI and Loughborough University. This event led to a series of articles on AI in education featured in *Inside OR*, which we plan to develop further in 2025.

In 2024, an academic newsletter was launched to highlight news and opportunities relevant to academics. Sent bi-monthly, it achieved an average open rate of 34% and was well-received by our members.

Although the Education Committee is available for consultation, a separate staff team was appointed to advance the development of the Level 7 Apprenticeship qualification.

Research

The Research Committee, chaired by Professor Christine Currie, supports the development of operational research (OR) knowledge and the increase in the scale and impact of OR research in the UK. In 2024, four long-standing members completed their extended terms. Thanks to a major recruitment drive in 2023, the committee was still able to nominate members to represent the Society across a range of key academic bodies and organisations, including the Heads of Departments of Mathematical Sciences, EPSRC, the Isaac Newton Institute (INI), and the International Centre for Mathematical Sciences (ICMS). This ongoing engagement ensures that the Society remains involved in important conversations and can keep members well informed.

In partnership with the Education Committee, a redesigned Academic Newsletter was launched in 2024 to support communication across the academic community. The newsletter has been well received.

The committee continued to participate in two major initiatives throughout the year: the Academy of Mathematical Sciences (AcadMathSci) and the Knowledge Exchange Hub for Mathematical Sciences (KE Hub). The Academy's aim is to be a unifying voice for the UK mathematical sciences community, spanning academia, industry, and education. The OR Society continues to play a pivotal role, with several Research Committee members contributing to working groups led by the Council for the Mathematical Sciences (CMS). An example of this was the *Maths Manifesto*, produced by the CMS and the Academy, and launched alongside the Maths Summit held in London in March, to highlight the value of mathematics to the UK and present key asks to policymakers ahead of the Westminster elections. While the Academy did not receive

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expected government funding in September, its work has continued. In November, Research and Education Committee members attended the Maths Week Parliamentary Expo organised by the Academy and contributed to consultations.

Knowledge exchange (KE) has become an increasing focus for the committee. One major highlight was the KE Panel held at the Society's annual conference (OR66) in Bangor, titled *Making an Impact: Bridging the Gap – How to Deliver More Effective Knowledge Exchange Between Academia and Industry*. The session was chaired by Professor Christine Currie and featured panellists from BT, the Welsh Government, and Simul8, alongside academic contributors, including Associate Professor Mosab Bazagarni, who also played a key role in organising the event. The committee has encouraged members to become KE Champions within their universities and OR groups, and the Society's Research Database was updated to allow users to filter by members involved in KE.

The committee continues to maintain strong links with EPSRC. OR Society members are well represented across key EPSRC committees, including the Peer Review College and the Strategic Advisory Team (SAT). In 2024, Associate Professor Vadim Zverovich (UWE Bristol) became the Society's SAT member, and Dr Laura Boyle (Queen's University Belfast) joined the EPSRC Early Career Researcher Forum.

Finally, the committee supported the OR Early Career Researcher (ECR) Network. In 2024, the network ran several events, including a webinar on the academic job market, an in-person professional development event, and a session at OR66 on collaborating with industry.

Training

In 2024, the Society delivered 31 courses on a variety of operational research topics, attracting 331 delegates in total. Income from training exceeded expectations—23% above budget and nearly 150% higher than in 2023.

Course wording and titles were reworded to appeal more directly to those working in industry, and the list was refined to focus on those with proven success in previous years. Following the website update and course rewording, the Society secured five in-house bookings from corporate clients.

The training offer is continually reviewed to ensure content remains relevant.

Looking ahead, new courses for 2025 will explore the use of operational research with AI and data science. A sponsored LinkedIn advertising campaign is planned for the first six months of the year, with a focus on increasing attendance from industry.

Publicity and Membership

In 2024, the Society completed several major projects that build the foundations for an improved member offer and will support a growing member base. Alongside our regular operations, we developed a new CRM system, redesigned our website and completed a comprehensive rebranding exercise.

The CRM system is now fully functional, serving as a centralised hub for all member-related activities such as training, membership management, events, and volunteering. The new website was designed to prioritise user experience (UX) and user interface (UI) design, with an optimised member journey that ensures most information is accessible within three clicks. This

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transition was a strategic financial investment, expected to save substantial costs over the next three years while allowing flexibility for future enhancements as needs evolve.

In November the Society unveiled a refreshed logo, updated messaging and a stronger brand identity. The new brand reflects extensive feedback and embodies the Society's vision for Operational Research.

PR activity in 2024 secured 94 pieces of coverage in key publications like *Business Now*, *UK Tech News*, *Global Banking and Finance*, *Transport and Logistic Magazine*, and *National Health Executive*. This resulted in a potential readership of 748,000 and an equivalent advertising value of £45,000.

Membership growth in 2024 included a 4.4% increase in full memberships, although student memberships declined. Looking ahead to 2025, a new student offering, featuring a dedicated network, is planned to boost student engagement.

The broader membership strategy remains focused on growth, emphasising both acquisition and retention. Seven new corporate members joined, and a digital welcome pack was introduced to enhance the onboarding experience. Additionally, the year saw the launch of a mentorship program, with 20 partnerships already underway.

Pro Bono OR

The Steering Group is chaired by Ruth Kaufman and at the end of 2024 the group consisted of: J Jane Parkin, Ian Seath, Shamim Rahman, Mike Boyles, Owen Bowden, Kate Hammond, John Lincoln, Ashleigh Monks and Hugo Herrera.

Louise Allison assumed responsibility for the Pro Bono OR Programme as Interim Manager from September to November 2024. Isma Shafqat commenced her tenure as the new Pro Bono OR Manager on 28 October 2024, with Louise providing training and support during the transition. Isma has settled into the role smoothly and is steadily working to develop the programme further.

Pro Bono OR's dedicated volunteers worked on 23 projects throughout the year, of which they completed 10 and 13 remain ongoing. Volunteers applied a variety of OR techniques including impact evaluation, outcome measurement, forecasting, process improvement and optimisation to help third sector organisations tackle issues such as refugee crisis, children's education, mental health, maternal and neonatal care, access to healthcare, cybersecurity and social exclusion.

Pro Bono OR is one of the OR Society's main outreach activities, intended to promote and exploit the value of OR, provide opportunities for OR professionals to share their skills and give something worthwhile to society, and to help third sector organisations become more effective.

In 2024, here is some of the feedback:

Examples of feedback from third sector organisations:

"...his approach to meet our specific needs, explained what was (for us) a new and very technical technology very clearly and simply and put a huge amount of work into the project that went far beyond anything we might reasonably have asked for. The result was a working pilot of the platform and apps, which has led to a fundamental change in our strategic approach..."

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"The ORS processes were seamless and smooth. We got what we were looking for, and then some. The final outcome was exactly what the NSPCC needed, and the training and upskilling provided have equipped them with a solution they can now use to accomplish things they couldn't do before."

Examples of feedback from our volunteers:

"Working on this project felt truly collaborative. It was clear from the start that, if done right, the outcome would make a real and meaningful impact. The experience was not only enjoyable but also rewarding, as it allowed me to apply my OR skills in a volunteering capacity. It's great to contribute in a way that makes a difference."

"I was impressed with list of potential projects; the application process was simple, and it was easy to understand what was expected; liked the objectives and content of the project, which aligned with my interests. I felt that the coordination worked well – Eve was available enough to provide security, without unnecessary interference or micro-management. Documentation was good. Client was wonderful to work with."

We were able to generate 25 project leads against the yearly target of 50. Moreover, a total of 23 new PBOR projects were started in 2024 against the yearly target of 25.

To formally acknowledge the dedication of the volunteers, a small number of volunteers were sent an appreciation souvenir, accompanied by a personal letter from the President of The OR Society, Gilbert Owusu. These volunteers had contributed to multiple projects in the last two years. In addition to these tokens of appreciation, volunteers were prominently featured in the monthly PBOR newsletter, providing them with well-deserved visibility and showcasing their efforts to the wider community.

Pro Bono OR, in collaboration with our PR firm, applied for two third sector awards for the first time. The application for the Charity Times Award in the Charity Collaboration category section was shortlisted – an encouraging milestone, even though we did not win.

PBOR and ORIE jointly exhibited at the OR Society's stand at OR66. It was used as a central point for gathering insights on what would motivate people to volunteer and what types of activities they would be interested in. The two PBOR questions asked were: Which charities should we work with and How can you get involved in PBOR without doing a project. The answers were recorded and informed future marketing efforts for both PBOR and ORIE.

Pro Bono OR participated in the annual Volunteers' Week (1-7 June) showcasing project outcomes and promoting the scheme to both volunteers and charities. Eve Hardy represented PBOR at House of Lords reception for Or volunteers, where OR Society President Gilbert Owusu and Ruth Kaufman and Christine Currie (Chair of the Research Committee) gave a speech thanking volunteers and acknowledging their numerous contributions to the society and wider OR community. Eve also exhibited at a joint SIG event and the Maths Summit in March, further boosting the PROR.

Relationships with other Pro Bono organisations such as the Pro Bono Association, RSS's Statisticians for Society, Pro Bono Economics, DataKind and Data Orchard continue to be supported, enabling us to signpost charities to alternative Pro Bono providers where appropriate, and to share and learn from each other. Our relationship with the Cranfield Trust was rekindled, and they hosted a webinar delivered by Ian Seath, which discussed OR and promoted Pro Bono OR. An online meeting with HORAF was held in December, where Pro Bono OR was a key

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agenda item. The scheme was presented and discussed, with HORAF agreeing to support its wider promotion.

Members, Affiliates and Fellows

At the end of the year, The OR Society had 3,916 members, a total decline of 3.5% from 2023. However, this overall decline was due to a reduction in student members, while the number of full members increased by 4.4%.

In addition to the 19 existing corporate partners, there were 5 new corporate partners representing 1,224 members.

There were 418 accreditees, comprising 168 Fellows, 77 Associate Fellows, 56 Associates and 117 Candidate Associates. There were 27 members accredited as a Chartered Scientist and four as a Registered Scientist. There were four members accredited as an Advanced Data Science Professional, and one as a Data Science Professional.

Awards

The annual awards ceremony, held as part of the Blackett Memorial Lecture at the Royal Society in December, saw the usual array of awards plus a bumper crop of new Companions to make the end of the 75th anniversary celebrations. The award winners over the year were:

- Goodeve Medal (awarded for best paper published in JORS in 2023): Awarded to Bahman Rostami-Tabar, M. Zied Babai and Aris Syntetos "To aggregate or not to aggregate: Forecasting of finite autocorrelated demand.", *Journal of The Operational Research Society* 74 (8) 1840-1859.
- Stafford Beer Medal (awarded for best paper published in EJIS in 2023): Awarded to Koteswara Ivaturi and Cecil Chua "Rethinking time: Ubichronic time and its impact on work.", *European Journal of Information Systems*, 32 (2) 315-330.
- Cook Medal (awarded for best paper published in KMRP in 2022/2023): Awarded to Andrea Gardeazabal, Tobias Lunt, Molly M. Jahn, Nele Verhulst, Jon Hellin and Bram Govaerts "Knowledge management for innovation in agri-food systems: a conceptual framework.", *Knowledge Management Research & Practice* 21 (2) 303-315.
- Ranyard Medal (awarded for best paper published in JBA in 2022/2023): Awarded to Jonas Wanner, Lukas-Valentin Herm, Kai Heinrich and Christian Janiesch "A Social Evaluation of the Perceived Goodness of Explainability in Machine Learning", *Journal of Business analytics*, 5 (1) 29-50.
- Doctoral Award (awarded for the most distinguished body of research leading to the award of a doctorate in the field of OR in 2023): Awarded to Elizabeth Williams, Cardiff

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University, "Linking Predictive and Prescriptive Analytics for Modelling Healthcare Services for Frail and Elderly Patients".

- President's Medal (awarded for the best practical application of OR): Awarded to Francis Woodhouse (Smith Institute), Kieran Kalair (Smith Institute), Alex Bowring (Smith Institute), Tim Boxer (Smith Institute), Adam Brummitt (Smith Institute) and Joshua Brooke (NESO) for "Using explainable AI to reduce risk and improve efficiency in GB electricity reserve".
- Lyn Thomas Impact Medal (awarded for the academic OR research which best demonstrates both novelty and real-world impact, backed up by evidence): Awarded to Bart Baesens for "Applications of Machine Learning and Artificial Intelligence".
- Companionship of OR (awarded for sustained support and encouragement for the development of operational research or for those in influential positions who are in broad sympathy with the subject area): Awarded to Thomas Archibald, Christine Currie, Duncan Robertson, Gavin Blackett, Frances Sneddon and Alan Robinson.
- Beale Medal (awarded for best sustained contribution to OR): Awarded to Sally Brailsford.

Finance

Structure of the Funds

The unrestricted elements make up the majority of our funds and covers:

- ongoing operations (previously categorised as the General fund); and
- the Seymour House property together with investments and cash on deposit to cover potential risks of a general nature, the most significant of which would arise if the Society were forced to move quickly to a financial regime in which its publications income was significantly reduced (previously labelled the Reserve Fund).

The restricted funds are made up of three separate components. The first is a long-standing one received from Mrs May Hicks in 2002 and is used for purposes consistent with her wishes, by providing awards for the best student OR projects undertaken for a client organisation. The second was received in 2024 upon the closure of the MISTA (Multidisciplinary in Scheduling: Theory & Applications) charity, with the Society agreeing to support the MISTA community within its existing programme of events and conferences. The final component relates to an amount received from the ISMOR (International Symposium on Military OR) trust of £14,600 to be used to fund ISMOR scholarships and an amount of £36,254 transferred from Multidisciplinary in Scheduling: Theory and Applications (MISTA) to be used for scheduling MISTA activity into ORS events and conferences.

Review of Operations

The Society's income and expenditure account showed a deficit of £279k during the year, on a turnover of £1.35m. This compares with a loss of £63k in 2023. The operating loss (before net gains or losses on investments) was £372k versus a £158k deficit in 2023.

The primary driver for the deficit was Board's decision to invest heavily in development projects to support the Society's future operations. These included a new website and CRM system, a significant re-branding and re-positioning exercise and support for the Society's push to become an Ofqual-recognised End Point Assessment Organisation (EPAO). These efforts will support both future income streams and increased operational efficiency. Some elements of this expenditure were capitalised, however, under current accounting standards the re-branding costs could not be included. This made the deficit higher than Board had initially anticipated.

Combined with the investment projects, it was a challenging year for the Society as we continued to see the effects of the revised publications contract and reduced revenue through our journal portfolio. Both income and costs for Events & Conferences were substantially down on 2023, reflecting the operating decision to require delegates to book accommodation directly with suppliers rather than through the Society to remove pass-through cost risks. Attendance at the annual conference was good but other specialist conferences failed to attract the expected interest. Training income saw an impressive increase over 2023. The end of 2024 did see the first income for our work assessing the level 7 OR Specialist apprenticeship standard.

Most operations to support the charitable aims of the Society – such as conferences, special events, regional societies, special interest groups, education, publicity and outreach initiatives, the bi-monthly *Inside OR* magazine and special charitable projects – result in deficits to the Society. To support them the Society relies primarily on subscriptions and income from its academic journals – particularly the latter. In 2024, publications revenue once again equated to more than 60% of the Society's total income. This serves as a reminder of the Society's current financial dependence on the academic publication system; see the section on 'Risk' below.

The Society employed 21 members of staff during 2024 (18.4 full-time-equivalents), compared to 17 (14.4 FTE) during 2023. The increase was driven by the Society's move into End Point Assessment activity for apprenticeships.

Going Concern Statement

The Society has undertaken analysis of its going concern status, reviewing the organisation's cashflow position, budget position for 2025 and 2026, level of reserves and areas of consideration under sensitivity analysis. The Board of Trustees / Directors are confident in their assessment of the Society as a 'going concern'.

Assets, Reserves and Investments

The total net assets of the Society fell by almost £300k to £2.03m over the year, with the loss on income and expenditure being offset by a modest increase in the value of our investments. There remains continued turbulence in the financial markets due to global events such as the wars in the Middle East and Ukraine and the impact of the new US administration.

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It is important that the Society maintains an appropriate level of reserves in relation to perceived financial risks. Based on the usual annual costs of running the Society, one year's costs of £900k should be a minimum value for the reserves and the maximum value would then be three years' costs giving a value of £2.7 million. This would cover any growth of the Society over the next few years and release funds to further the Society's aims.

The Society's reserves, with a definition slightly widened from previous years, cover funds which are neither restricted nor designated, less illiquid assets (such as tangible fixed assets). At 31 December 2024, this amounted to £1.8m. The reserves are therefore within their prescribed limits. The Board will bear this in mind when considering further opportunities for spending on worthwhile one-off projects that further the Society's objectives or improve its operational efficiency and effectiveness.

The Society's investments and their performance are kept under review by the Investment Committee in accordance with policies decided by the Board. The Committee is chaired by the Treasurer and, in addition to other members of the Society, includes representatives from the Society's investment managers.

Risk

The Society's dependency on journal income is the most significant material risk. Our current contract with Taylor & Francis to a large extent mitigates this risk for the Society, for the four years of the contract (finishing in December 2026), by transferring some of it to the publisher. The risk has not disappeared though, and we could never be wholly insulated from any impact that might result from this risk on our publisher. The publications market will be rapidly adapting to the demands of open access over the course of the current contract and this element of income remains at risk. The Society is already investigating its publishing options beyond 2026, and this may involve a full tender process to ensure it gets the best return on its journal assets.

Work on diversification of revenue streams continues. Apprentices have started work towards the Operational Research specialist level 7 standard which will provide a new source of income from 2025 onwards. However, the costs associated with applying for and subsequently acting as an End Point Assessment Organisation were higher than anticipated since the requirements have tightened considerably under the switch to Ofqual's oversight. A Government review of funding for level 7 apprenticeships presents a threat to the Society, but options to diversify into other standards are under investigation to mitigate against this.

Training income improved significantly during 2024, but this also presents as an increased risk as the vast majority of that income was from the training programmes for analysts from the Government Operational Research Service. Further tightening of Government spending in 2025 and beyond could threaten this. Efforts are being made to make the training portfolio more interesting and relevant to the rest of the practitioner community.

The key strategic risk that OR could be seen as less relevant in the competitive analytics, data science and AI space remains. We have been mitigating this through a number of initiatives led by our Analytics Development Group and are also actively promoting the relevance of OR to data science, robotics and artificial intelligence as well as other overlapping fields. The Government and society's attitude towards mathematical education, understanding statistics and probabilities seem to be in our favour. More generally, we aim to raise the visibility of OR and support outward-looking practice and membership through outreach to other professional

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societies and to organisations and businesses who may benefit from what OR has to bring and through the variety of topics and speakers at our events.

A further key risk is that The OR Society could be seen as less relevant to OR professionals. We have been mitigating this through the whole range of activities addressing our strategic goals and described elsewhere in this report.

The Board regularly reviews the risk register covering a wide range of operational risks, including IT risks, and, where feasible, puts mitigating action in place.

Key Management Personnel

The Key Management Personnel for the Society comprise the trustees (its Board of Directors) and the Executive Director. No remuneration is payable to trustees for service on the Board.

Basis for Remuneration

The President, Treasurer and President Elect or Immediate Past President review the Executive Director's salary and, when agreed by Finance Committee, a written recommendation is made to Board. The Executive Director leads the process for other staff which is again initially discussed by Finance Committee before the recommendations go to Board for final approval.

Voluntary Contributions

The Society's work in 2024 benefited from voluntary contributions of time, from members and others, through these principal lines of work: refereeing of journal papers; editing of journals; conference organisation; authorship and delivery of talks to regional societies and special interest groups; organisation of regional networks and special interest groups; the work of the Society's officers; contributions to the administration of the Society, its Awards and its accreditations through service on Board and the Society's committees.

It is estimated that a total of 5,000 person-days were contributed in 2024. If this time is valued at £500 per day, its value is £2.5M. The Society is most grateful to all who contributed voluntary effort, without which the Society could not accomplish its goals.

Fundraising

The OR Society does not engage in public fundraising activities by professional fundraisers or commercial participators. The charity has not received any fundraising complaints in the year.

Related Parties

The Society is a member of EURO, the Association of European Operational Research Societies, and IFORS, the International Federation of Operational Research Societies. It shares information and works closely with other operational research societies around the world, particularly its counterpart in the USA, INFORMS. The Society pays membership fees to both EURO and IFORS.

The Society is also a member of the Council for Mathematical Sciences, CMS. It works with the other member bodies (Institute for Mathematics & its Applications, London Mathematical Society, Royal Statistical Society and Edinburgh Mathematical Society) on relationships to research funding bodies, relevant consultations and various other initiatives. Currently this includes the development of plans for a national academy for mathematical sciences.

The Society's related party transactions for the year ended 31 December 2024 have been disclosed in note 8 of the financial statements.

Objectives for 2025

During 2023, Board produced a revised version of its 3–5-year goals and priorities. These build on those in place for the previous strategic planning phase and represent exciting opportunities for the Society and the wider OR community. The strategic pillars were revisited and confirmed to remain relevant and fit for purpose. They are to: raise awareness of the importance of OR; support OR knowledge development; support OR education; grow membership and wider reach; ensure financial sustainability of the Society; and address diversity and inclusion challenges in OR and the OR Society.

Work has already started on many of the initiatives that we hope will come to fruition in the next year or so:

- working with Taylor & Francis to capitalise on its strategy to maximise the value of our current publications contract, develop robust publishing models including launching our first fully open access journal to deal with opportunities and challenges presented by open access publishing and Plan S;
- ensuring that OR continues to be fully involved in the establishment of the Academy for Mathematical Sciences;
- building policy influence with key Government contacts and connect with other key decision makers;
- implementing an engagement plan and training modules for the analytics / artificial Intelligence /data science community, and specifically implementing a self-learning modular course on AI safety;
- supporting the continued growth of the Women in OR and Early Careers networks;
- capitalise on the new website and CRM to improve our digital infrastructure, member functionality and usability and improve data capture and reporting;
- widen the portfolio of apprenticeship standards we serve as an End point Assessment Organisation;
- strengthening relationship with key bodies such UKRI, Royal Society, Science Council and other learned societies;
- investigating diversification of income, including exploring new streams (accrediting University courses, fundraising / donations, sponsorship);
- implementing our diversity plan based on recommendations from the diversity champion;
- demonstrating the relevance of OR to complex problems and big issues through targeted PR campaigns.

These developments will be on top of our existing broad sweep of services: conferences, events, lectures and training; publications; Pro Bono OR and OR in Schools; representing The OR Society on bodies including the Academy for the Mathematical Sciences, the Science Council, EURO and IFORS; and our more inward-looking activities to improve sustainability, efficiency and effectiveness.

For a relatively small professional body in an uncertain world, there are many challenges to overcome. By undertaking these activities, we aim not just to meet the challenges, but to grow the profession and The OR Society's contribution and make the most of the opportunities awaiting us.

Information about the Society

- (1) The Operational Research Society is a company limited by guarantee (no. 00663819). It is also a charity registered in accordance with the provisions of the Charities Act 2011 (registration no. 313713)
- (2) The objects of the Society are given in its Memorandum and Articles and can be summarised as:
 - (a) the advancement of knowledge by fostering, promoting and furthering interest in operational research; and
 - (b) the advancement of education by providing facilities for and, by subsidising it, endowing, organising or supporting scholarships or educational or training schemes; and conducting examinations or advising on their content.
- (3) The Society is empowered to do all proper things in pursuit of these objectives.
- (4) The affairs of the Society were managed during 2024 by the elected officers and members of the Board listed below. Together they constitute the Board of Directors of the limited company and Trustees of the charity and the members of its management committee. Specific matters are delegated to particular committees of the Society by resolution of the Board and in accordance with the Society's Articles.

The following served as members of the Board in 2024

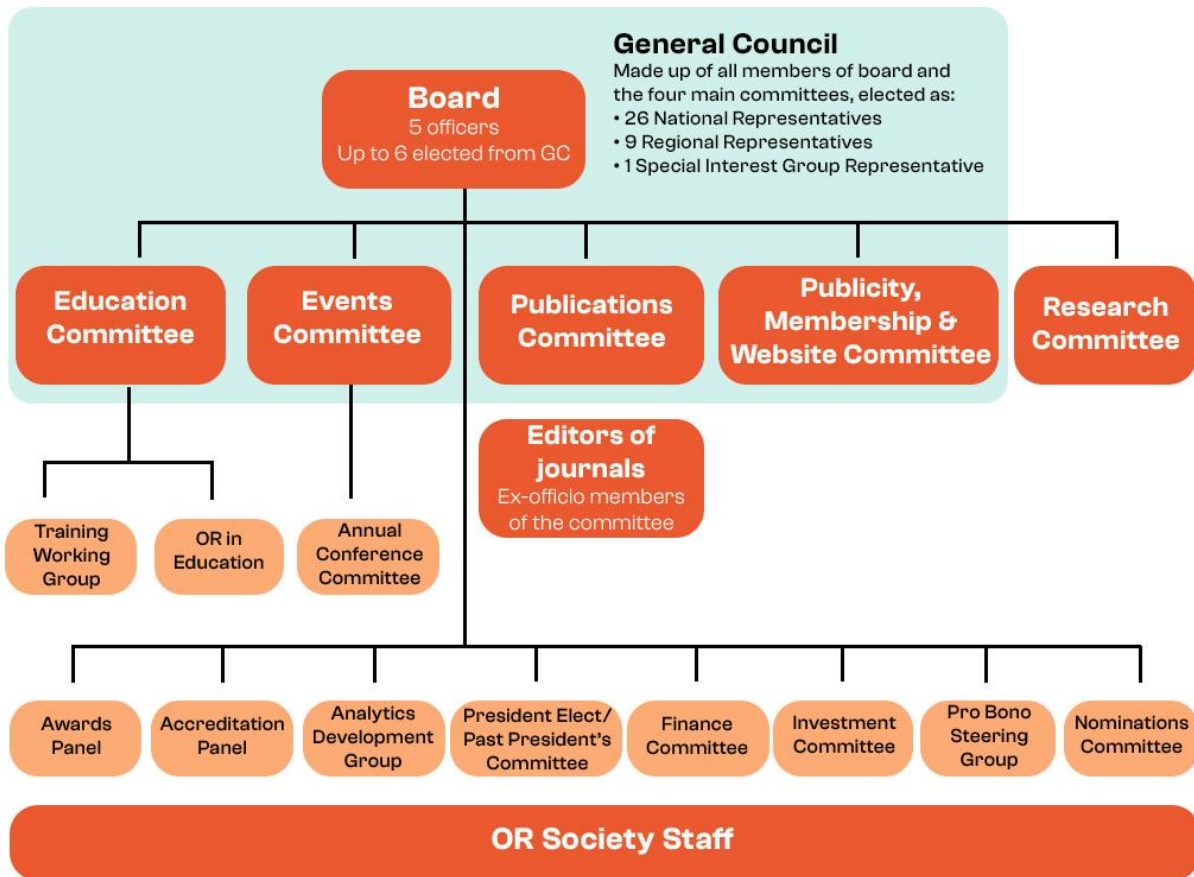
G OWUSU President	T W ARCHIBALD
S PETROVIC President Elect	C CURRIE
A C PAGEL Vice President	J MEDHURST
S L LORRIMER Vice President	C J PHILLIPS
R A SCOTT Hon. Treasurer	V SENA
H TEWKESBURY	

Unless otherwise stated, changes in the membership of the Board occur at the end of a calendar year.

The Board is supported by a General Council with a maximum membership of thirty-six. These two bodies assist the Society in its ongoing commitment to involve as many members as possible in its affairs. The Board of Directors is responsible for governance and strategy and the General Council, with its wide representation, provides advice, feedback and challenge and monitors the Board's activity. Members of General Council have also, in all cases, been assigned to one of the Society's four main committees: Publications; Publicity, Membership and Website; Education and Research; and Events and the Chairs of those committees are currently Board members.

The structure is set out in the diagram below.

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(5) The committees are established to implement policies of Board & General Council with respect to meeting the Society's objectives and to controlling expenditure. The names of the committees are set out as follows, together with the object ((a) or (b) as above) towards the achievement of which they contribute:

Accreditation Panel	(a)
Analytics Development Group	(a)
Awards Panel	(a)
Education	(b)
Events	(a), (b)
Finance	Management of financial aspects
Investment	Management of investments
Nominations	Volunteer recruitment to governance roles
Past President's/President Elect's	Elections, planning & administrative reviews
Pro Bono Steering Group	(a)
Publications	(a)
Publicity, Membership & Website	(a)
Research	(a)
Training Working Group	(b)

(6) Other Committees are set up from time to time for specific purposes, but they are given no delegated powers. In addition, the Society has a large number of active Special Interest Groups which are listed in the Journal of the Society. They contribute particularly to object (a).

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(7)The registered address of the Society is:

Seymour House
12 Edward Street
BIRMINGHAM
B1 2RX

Its Executive Director is:

C Fletcher
The OR Society
12 Edward Street
BIRMINGHAM
B1 2RX

Its Bankers are:

The Co-operative Bank
Delf House
Southway
SKELMERSDALE
WN8 6WT

Its Solicitors are:

Sydney Mitchell and Co
Cavendish House
Waterloo Street
BIRMINGHAM
B2 5PU

Its Auditors are:

Sayer Vincent LLP
110 Golden Lane
LONDON
EC1Y 0TL

Its Investment Adviser is:

Tom Quicke
Rathbones
30 Gresham Street
LONDON
EC2V 7QN

Its Stockbrokers are:

Rathbones
30 Gresham Street
LONDON
EC2V 7QN

(8)The Society's investment policy is governed by the legislative provisions relating to charity investments, but the Society is not otherwise restricted in the way in which it can invest. However, it is the Society's policy not to invest in tobacco shares and accept the standard ESG commitments of the Investment house Rathbones Investec.

(9)These particulars are published in compliance 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).

Public Benefit

The OR Society is a charity and meets the public benefit test as set out in the Charities Act 2011 in various ways:

Advancement of education:

Through the OR in Schools initiative, its many networking, training and conferencing activities in schools, universities and workplaces and extensive on-line resources, The OR Society promotes the understanding of OR and how it can be applied for the wider benefit. The OR Society is a participating society (with voting rights) on the Joint Mathematical Council of the UK.

Advancement of science:

Through its publications, conferences and networking activities; representation on the Council for Mathematical Sciences, Science Council, funding bodies and international federations; and on-line materials and facilities, The OR Society supports, promotes and publicises research; raises standards of research and practice; and promotes the effective application of OR for wider social benefit. Through its accreditation and awards schemes, The OR Society recognises and promotes engagement, effectiveness and development in its members, further raising standards.

Advancement of community development:

The OR Society encourages volunteering and involvement through its Pro Bono OR initiative, involvement of members in outreach to schools and universities and networks of Regional and Special Interest Groups.

The OR Society funds educational, development and research projects that are in line with its charitable aims of advancing knowledge and education through fostering OR

All OR Society events and training are open to all who may be interested. In addition, it minimises barriers to access by:

- (1) ensuring that many of its on-line resources are publicly and freely available;
- (2) keeping membership fees low and offering reduced fees for unwaged groups; and
- (3) supporting Regional and Special Interest Group networks which offer free meetings.

In governing The OR Society, the Trustees have had regard to the Charity Commission's public benefit guidance.

Statement of responsibilities of the elected officers and members of the Board

The trustees (who are also directors of The Operational Research Society for the purposes of company law) are responsible for preparing the trustees' annual report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the trustees to prepare financial statements for each financial year which

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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 trustees are required to:

- Select suitable accounting policies and then apply them consistently;
- Observe the methods and principles in the Charities SORP;
- Make judgements and estimates that are reasonable and prudent;
- State whether applicable UK Accounting Standards and statements of recommended practice 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 charity will continue in operation.

The trustees are responsible for keeping adequate accounting records that 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.

In so far as the trustees are 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 trustees are responsible for the maintenance and integrity of the corporate and financial information included on the charitable company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Appointment of trustees

The officers and other members of the Board are elected by secret ballot of the Society's membership and the members of General Council respectively, to serve for a three-year term (except for the President, who serves one year as President-Elect, two years as President and a further year as Immediate Past-President). A member of the Board, other than the President, whose first term of office has expired may stand for election for one further term. At the end of 2024, one member of the Board completed their term of office: V SENA and one resigned to take up another significant role: H TEWKESBURY.

Induction of new trustees

New trustees receive a comprehensive information pack, setting out details of their role and responsibilities as both trustees and company directors, the nature of a charity, the Society's constitution, its policies on members' interests and expense claims and including the Charity Commission's 'welcome' leaflet.

Members' interests

In accordance with Article 46 of its constitution, the Society requires that members of Board or committees having an interest in a matter to be debated should declare that interest and leave the room whilst the matter is discussed and decided. Members of the Training Working Group

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are drawn from organisations which have no interest in bidding for courses and wherever appropriate, recommendations on major charitable projects are made by a special expert committee comprised entirely of disinterested parties.

The trustees' annual report has been prepared in accordance with the provisions applicable to companies subject to the small companies' regime.

Approval of report

We approve this report and the audited accounts for the year 1 January to 31 December 2024 and recommend their adoption by the Society at its Annual General Meeting.

S PETROVIC President R A SCOTT Hon Treasurer

T W ARCHIBALD	C CURRIE	S LORRIMER	J MEDHURST
G OWUSU	A C PAGEL	C J PHILLIPS	J THIJSSSEN

Being the elected officers and members of the Board of The Operational Research Society as of 21 May 2025.

Sanja Petrovic
President
May 2025

History

In the autumn of 1947, at a dinner discussion convened at the Athenaeum Club in London, it was decided to form the Operational Research Club. The club was inaugurated in April 1948 with an initial membership of 50, under the chairmanship of Sir Charles Goodeve and with Mr J A Jukes as the first secretary. The exclusivity associated with the word “club” was deliberately chosen for the initial period, to ensure clarification of what was meant by operational research and to attempt to develop a wholeness in what was otherwise a somewhat vague field. The club met regularly in the rooms at the Royal Society for technical discussions. By 1953 the initial objectives had been achieved and the pressure to form a normal “learned and professional” society had become strong. Therefore, the club was transformed into The Operational Research Society and its first president was Sir Owen Wansbrough-Jones and the hon secretary Mr B H P Rivett.

Presidents of the Society

Sir Owen Wansbrough-Jones	1954/55	Dr G Owusu	2023/24
Sir William K Slater	1956/57	Professor S Petrovic	2025/26
Professor M G Kendall	1958/59		
The Earl of Halsbury	1960/61		
Professor B H P Rivett	1962/63		
Professor G A Barnard	1964/65		
Professor R T Eddison	1966/67		
Mr E C Williams	1968/69		
Mr S Beer	1970/71		
Professor K D Tocher	1972/73		
Mr R C Tomlinson	1974/75		
Mr A M Lee	1976/77		
Professor M G Simpson	1978/79		
Mr G H Mitchell	1980/81		
Professor K B Haley	1982/83		
Dr R S Stainton	1984/85		
Professor J V Rosenhead	1986/87		
Dr J C Ranyard	1988/89		
Mr P N Thornton	1990/91		
Professor C B Chapman	1992/93		
Professor L C Thomas	1994/95		
Mr I J Disley	1996/97		
Professor R G Dyson	1998/99		
Professor M Pidd	2000/01		
Mr J Gibb	2002/03		
Professor V Belton	2004/05		
Professor J D Griffiths	2006/07		
Mrs S M Merchant	2008/09		
Professor R W Eglese	2010/11		
Dr G H Royston	2012/13		
Professor S L Robinson	2014/15		
Ms R A Kaufman OBE	2016/17		
Mr J R Hopes	2018/19		
Professor E K Burke	2020/22		

OR Society Awards

Companion of Operational Research

Sir Hermann Bondi	1983	Professor R G Dyson	2007
Mr D Hicks	1983	Mr E K G James	2007
Professor R V Jones	1983	Professor J Friend	2008
Professor B H P Rivett	1983	Dr G Royston	2008
Mr H R W Watkins	1984	Professor R J Paul	2009
Professor Sir David Cox	1985	Professor A Mercer	2010
Lord Ezra	1985	Mr T O'Connor	2010
Mr P Hughes	1985	Professor V Belton	2011
Lord Zuckerman	1985	Ms R A Kaufman	2011
Sir John Kingman	1986	Professor M Pidd	2011
Sir Dennis Rooke	1986	Professor P H Millard	2012
Sir Charles Carter	1987	Professor D M Ryan	2013
Mr T P Frost	1987	Professor R M Davies	2014
Professor H.Muller-Merbach	1988	Mr C R Humby	2014
Mr D A Quarmby	1989	Mrs S M Merchant	2015
Professor R C Tomlinson	1990	Professor S C Brailsford	2016
Mr R A Showell	1991	Professor J D Griffiths	2016
Mr G H Mitchell	1992	Professor E K Burke	2017
Professor P Whittle	1994	Professor P R Harper	2018
Mr J Plymen	1994	Professor R W Eglese	2019
Professor S Vajda	1995	Mr A Waterhouse	2020
Professor K B Haley	1996	Professor A C Pagel	2021
Professor M F Shutler	1996	Dr J E Williams	2022
Professor D J White	2001	Mr J Hopes	2023
Professor K C Bowen	2001	Professor T Archibald	2024
Dr R A Forder	2005	Mr I G Blackett	2024
Professor F Kelly	2005	Professor C Currie	2024
Mr G K Rand	2005	Professor D Robertson	2024
Dr J C Ranyard	2005	Mr A Robinson	2024
Professor J V Rosenhead	2005	Ms. F Sneddon	2024
Dr J F Miles	2006		

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Beale Medal

J V Rosenhead	1992	J D Griffiths	2009	R Cheng	2018
D J White	1993	K H Haley	2010	A Land	2019
A H Christer	1995	F Kelly	2011	V Belton	2020
G H Mitchell	1998	M D Elder	2012	C Potts	2021
H P Williams	1999	K D Glazebrook	2013	R Dyson	2023
R C Tomlinson	2005	R Fildes	2014	S Brailsford	2024
P Checkland	2006	J Friend	2015		
C Eden	2007	R Ormerod	2016		
L C Thomas	2008	M Jackson	2017		

Silver Medal

C F Goodeve	1964	A M Lee	1970	S Eilon	1982
P M Morse	1965	R L Ackoff	1971	G Dantzig	1986
K D Tocher	1967	C G Vickers	1975	L V Kantorovich	1986
B H P Rivett	1968	E.K.G.James	1979		
R T Eddison	1969	E M L Beale	1980		

Bronze Medal

R M Adelson	1965	A R Wild	1967	F K Lyness	1970
J Stringer	1967	D J Chambers	1968	A M Duguid	1972
T A Burgin	1967	M F Cantley	1969	C G Moss	1972

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Goodeve Medal

B H Mahon	1976	P Kloprogge	2001	S Crowe	2015
R J M Bailey	1976	R Dekker	2001	P Bennett	2015
N R Tobin	1977	S Howick	2002	M Daraktchiev	2015
I Sanderson	1979	C Eden	2002	M Utley	2015
A J Williams	1980	J E Beasley	2003	S C Brailsford	2016
J G Shepherd	1981	H Howells	2003	D De Silva	2016
F K Lyness	1982	J Sonander	2003	A Backiel	2017
L P Fatti	1984	R Hartley	2004	B Baesens	2017
A H Christer	1985	G Lanot	2004	G Claeskens	2017
W M Waller	1985	S C Brailsford	2005	A I Ali	2018
G Best	1987	V Lattimer	2005	G Ince	2018
G Parston	1987	P Tarnaras	2005	A Brice	2019
J V Rosenhead	1987	J Turnbull	2005	R Bye	2019
D Rowland	1988	K Taylor	2006	J Oppen	2019
I R Turner	1989	B Dangerfield	2006	J Royset	2019
R	1990	S C Brailsford	2007	E Adiyeye	2020
Bandyopadhyay					
S Datta	1990	D Evenden	2007	S Agrali	2020
D Schrady	1992	V Harinda	2007	E Canakoglu	2020
D Wadsworth	1992	P Harper	2007	G Gehret	2021
A Bouzاهر	1993	A Medina-Borja	2008	J Weir	2021
S Offutt	1993	K S Pasupathy	2008	A Johnson	2021
D W Bunn	1994	K Triantis	2008	D Jacques	2021
E R Larsen	1994	D Ronen	2009	G Bruno	2022
K Vlahos	1994	C A Goodhart	2009	M Cavola	2022
G M Campbell	1995	S Kumar	2010	A Diglio	2022
C F Davis	1995	D A Nottestad	2010	G Laporte	2022
M Carey	1996	E E Murphy	2010	C Piccolo	2022
D Lockwood	1996	L C Thomas	2011	E Gökalp	2023
C M Yeats	1997	F R Johnston	2012	I Kougkoulos	2023
T Rehman	1997	E A Shale	2012	M Selim Cakir	2023
D-W Tcha	1998	S Kapoor	2012	B Rostami-Tabar	2024
T-J Choi	1998	A Sheth	2012	A Syntetos	2024
Y-S Myung	1998	R True	2012	M Zied Babai	2024
F Duckworth	1999	P Kemmer	2013		
A J Lewis	1999	A Strauss	2013		
J Banasik	2000	T Winter	2013		
J N Crook	2000	J Bengtsson	2014		
L C Thomas	2000	D Bredstrom	2014		
R Korporaal	2001	P Flisberg	2014		
A Ridder	2001	M Ronnqvist	2014		

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Stafford Beer Medal

JJ Jahng	2003	D Denyer	2014	A Baiyere	2021
H Jain	2003	M Hall	2014	H Salmela	2021
K Ramamurthy	2003	E Kutsch	2014	T Tapanainen	2021
R Lindgren	2004	E Lee-Kelley	2014	A Hanelt	2022
D Stenmark	2004	P Tallon	2015	S Firk	2022
J Ljungberg	2004	J Gerow	2016	B Hilebrant	2022
S Sarker	2005	J Thatcher	2016	L Kolbe	2022
S Sahay	2005	V Grover	2016	N Gillespie	2023
S Madon	2006	A Utesheva	2017	S Gregor	2023
C Middleton	2007	J Simpson	2017	M Indulska	2023
W Cukier	2007	D Cecez-		T Rinta-Kahila	2023
S K Sia	2008	Kecmanovic	2017	C Chua	2024
C Soh	2008	R Parks	2018	K Ivaturi	2024
C Ashurst	2009	H Xu	2018		
N Doherty	2009	C-H Chu	2018		
J Peppard	2009	P Lowry	2018		
F Thiesse	2010	N Hikmet	2019		
J Al-Kassab	2010	A Connolly	2019		
E Fleisch	2010	C Davis	2019		
P O'Reilly	2011	A	2019		
		Bhattacharjee			
P Flanagan	2011	F Brachten	2020		
R Lederman	2012	B Cabrera	2020		
R Johnston	2012	G Neubaum	2020		
H Koch	2013	L Pilz	2020		
E Gonzalez	2013	B Ross	2020		
D Leidner	2013	S Stieglitz	2020		

Tocher Medal

K Kotiadis	2009	Q Jia	2017	S Chick	2023
T Pitana	2011	C Chen	2017	C Kaligotla	2023
E Kobayashii	2011	M Cabrera-Rios	2019	E Yücesan	2023
C Boer	2013	D E Arias	2019		
Y Saanen	2013	Gonzalez			
K-H Chang	2015	E Nino-Perez	2019		
A-L Chang	2015	Y M Mendez-	2019		
C-Y Kuo	2015	Vazquez			
J Xu	2017	E Applegate	2021		
E Huang	2017	G Feldman	2021		
L Hsieh	2017	S Hunter	2021		
L H Lee	2017	R Pasupathy	2021		

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Cook Medal

P Jackson	2014	F Di Vincenzo	2018	B Govaerts	2024
J Klobas	2014	D Mascia	2018	J Hellin	2024
D Pentland	2016	D Apostolou	2020	M Jahn	2024
K Forsyth	2016	E Kalogeraki	2020	T Lunt	2024
D MacIver	2016	S Papastergiou	2020	N Verhulst	2024
M Walsh	2016	N Polemi	2020		
R Murray	2016	C Guthrie	2022		
L Irvine	2016	A Gardezabal	2024		

Griffiths Medal

H Witteman	2015	V Mabin	2019	J Wilkerson	2021
J Stahl	2015	J Yee	2019	L Millburg	2021
M Mihaylow	2017	S Babington	2019	T Robberts	2021
P Smet	2017	R Moore	2019	D Morgareidge	2021
W Van Den	2017	V Caldwell	2019	P Harper	2023
Noortgate		T Young	2021	J Moore	2023
G Vanden	2017	S Soorapanth	2021	T Woolley	2023
Berghe					

Ranyard Medal

A Jeyaraj	2020	V Dixit	2022	C Janiesch	2024
A Zadeh	2020	A Wani	2022	J Wanner	2024
S John	2022	K Heinrich	2024		
B Shah	2022	L Herm	2024		

Lyn Thomas Impact Medal

S Crowe	2019	D Behrens	2021	A Harper	2022
C Pagel	2019	V Knight	2021	T Kaplan	2022
M Utley	2019	G Palmer	2021	S Chakravarty	2022
P Harper	2021	M Tuson	2021	S Martin	2022
I Spernaes	2021	S Bale	2021	A Fordyce	2022
D Gartner	2021	N Mustafee	2022	B Baesens	2024
T England	2021	J Powell	2022		

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Doctoral Award

K Kaparis	2008	C Koc	2015	G Alozie	2021
A Strauss	2009	I Megiddo	2016	S Pougkakiotis	2022
F Liberatore	2010	J F Sze	2017		
R Wood	2011	G Palmer	2018		
K Rustogi	2012	M Bedenek	2019 †		
T Lidbetter	2013	L Morgan	2019 †		
M Takac	2014	J Clarkson	2020		
† Joint winners					

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President's Medal

D R Corkindale	1976	P Loader	2004	M Wauben	2019
M L Chambers	1977	M Bryant	2004	P Macdent	2019
R G Dyson	1977	P Bates	2004	B Marshall	2019
M Sloman	1978	C McGuckin	2004	E Baggot	2020
J V Rosenhead	1979	D Kelly	2004	K Brett	2020
P Doyle	1980	P Loucopoulos	2005	J Low	2020
J Fenwick	1980	KG Zagrafos	2005	H Mann	2020
G P Savage	1980	Y Pyrgiotis	2005	M McKee	2020
D B Gilding	1981	D Beis	2005	S Rose	2020
C Lock	1981	A Swain	2006	S Smith	2020
B Fokkens	1982	A Ross	2006	A Tako	2021
M Puylaert	1982	A Lewins	2007	S Robinson	2021
R S Hambleton	1983	M Sykes	2007	A Gogi	2021
A W Nimmo	1984	A Moon	2007	Z Radnor	2021
C B Chapman	1985	M Allwright	2008	E Arafailova	2022
D F Cooper	1985	J Ball	2008	F Bucci	2022
A B Cammaert	1985	D Pankhurst	2008	T Butler	2022
P Doyle	1987	I Wright	2008	G Dikas	2022
J Saunders	1987	P Frangos	2010	S Doguparthi	2022
M Pidd	1988	S Hughes	2010	R Fuentes	2022
S R Clarke	1989	S Hammond	2011	R Hart	2022
A H Christer	1990	K Slater	2011	A Kishan	2022
K A H Kobbacy	1990	C Marston	2012	C Kocer	2022
B C Dangerfield	1991	P Rose	2012	A Kolev	2022
C A Roberts	1991	S Mardle	2013	S Lautz	2022
M B Wright	1992	L Fildes	2013	S Logan	2022
C P Thunhurst	1993	A Lewins	2013	F Milano	2022
C J Ritchie	1993	E Husemann	2014	E Reynolds	2022
A Khakee	1994	D Lane	2014	H Singh	2022
K Stromberg	1994	E Munro	2014	S Spurri	2022
J J Glen	1996	G Owusu	2016	H Teagle	2022
H Tsoukas	1997	S Shakya	2016	B White	2022
D B Papoulias	1997	R Dorne	2016	D Wong	2022
J H Powell	1998	A Mohamed	2016	B Green	2023
G Laporte	1999	A McCormick	2016	K Gronow	2023
F Semet	1999	A Liret	2016	A Mackenzie-	
V V Dadeshidze	1999	O Buhlinger	2017	Jones	2023
L J Olsson	1999	C Henzel	2017	M McKee	2023
F Vasko	2000	M Clocherty	2017	Y Sidhu	2023
H Gilles	2000	M Knapton	2017	A Stannard	2023
D Bright	2000	H Papachristou	2017	C Stewart	2023
V Kocatulum	2000	C Legge	2017	A Bowring	2024
E Wolf	2000	R Leese	2018	T Boxer	2024
J Moffat	2000	J Blaavand	2018	J Brooke	2024
J J Race	2001	C Centazzo	2018	A Brummitt	2024
D Burnell	2001	A Bejan	2018	K Kalair	2024
M Neighbour	2002	P Munday	2018	F Woodhouse	2024
M Acutt	2003	A Booker	2019		

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF OPERATIONAL RESEARCH SOCIETY

Opinion

We have audited the financial statements of Operational Research Society (the 'charitable company') for the year ended 31 December 2024 which comprise the statement of financial activities, balance sheet, statement of cash flows and notes to the financial statements, including significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

In our opinion, the financial statements:

- Give a true and fair view of the state of the charitable company's affairs as at 31 December 2024 and of its incoming resources and application of resources, including its income and expenditure for the year then ended
- Have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice
- Have been prepared in accordance with the requirements of the Companies Act 2006

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 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. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating 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 Operational Research Society'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.

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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 other information comprises the information included in the trustees' annual report, other than the financial statements and our auditor's report thereon. The trustees are responsible for the other information contained within the annual 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.

Opinions on other matters prescribed by the Companies Act 2006

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

- The information given in the trustees' annual report, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- The trustees' annual report has been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

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 misstatements in the trustees' annual 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 trustees' remuneration specified by law are not made; or
- We have not received all the information and explanations we require for our audit; or

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- The directors were not entitled to prepare the financial statements in accordance with the small companies' regime and take advantage of the small companies' exemptions in preparing the trustees' annual report and from the requirement to prepare a strategic report.

Responsibilities of Trustees

As explained more fully in the statement of trustees' responsibilities set out in the trustees' annual report, 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

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.

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 are set out below.

Capability of the audit in detecting irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, our procedures included the following:

- We enquired of management and the finance committee, which included obtaining and reviewing supporting documentation, concerning the charity's

Operational Research Society Annual Report 2024

policies and procedures relating to:

- Identifying, evaluating, and complying with laws and regulations and whether they were aware of any instances of non-compliance;
- Detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected, or alleged fraud;
- The internal controls established to mitigate risks related to fraud or non-compliance with laws and regulations.
- We inspected the minutes of meetings of those charged with governance.
- We obtained an understanding of the legal and regulatory framework that the charity operates in, focusing on those laws and regulations that had a material effect on the financial statements or that had a fundamental effect on the operations of the charity from our professional and sector experience.
- We communicated applicable laws and regulations throughout the audit team and remained alert to any indications of non-compliance throughout the audit.
- We reviewed any reports made to regulators.
- We reviewed the financial statement disclosures and tested these to supporting documentation to assess compliance with applicable laws and regulations.
- We performed analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud.
- In addressing the risk of fraud through management override of controls, we tested the appropriateness of journal entries and other adjustments, assessed whether the judgements made in making accounting estimates are indicative of a potential bias and tested significant transactions that are unusual or those outside the normal course of business.

Because of the inherent limitations of an audit, there is a risk that we will not detect all irregularities, including those leading to a material misstatement in the financial statements or non-compliance with regulation. This risk increases the more that compliance with a law or regulation is removed from the events and transactions reflected in the financial statements, as we will be less likely to become aware of instances of non-compliance. The risk is also greater regarding irregularities occurring due to fraud rather than error, as fraud involves intentional concealment, forgery, collusion, omission or misrepresentation.

A further description of our responsibilities is available on the Financial Reporting Council's website at: 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

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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.

Fleur Holden
Senior statutory auditor
Date 24 June 2025
for and on behalf of
Sayer Vincent LLP
Statutory Auditor
110 Golden Lane
LONDON
EC1Y 0TG

Operational Research Society

Statement of financial activities (incorporating an income and expenditure account)

For the year ended 31 December 2024

	Note	Unrestricted £	Restricted £	2024 Total £	Unrestricted £	Restricted £	2023 Total £
Income from:							
Charitable activities							
Subscriptions	2	166,416	–	166,416	159,861	–	159,861
Events and Conferences	2	126,148	–	126,148	260,951	36,254	297,205
Training	2	155,637	–	155,637	63,204	–	63,204
Publications	2	830,062	–	830,062	822,766	–	822,766
Accreditation	2	10,242	–	10,242	9,745	–	9,745
Websites / Digital Services	2	–	–	–	200	–	200
Apprenticeships		11,760	–	11,760	–	–	–
Investments	3	50,674	–	50,674	47,232	–	47,232
Total income		1,350,939	–	1,350,939	1,363,959	36,254	1,400,213
Expenditure on:							
Raising funds	4	21,186	–	21,186	12,473	–	12,473
Charitable activities							
Subscriptions	4	140,188	–	140,188	138,608	–	138,608
Events and Conferences	4	288,978	–	288,978	381,407	–	381,407
Training	4	119,997	–	119,997	97,793	–	97,793
Apprenticeships	4	130,168	–	130,168	51,565	–	51,565
Publications	4	247,882	–	247,882	274,723	–	274,723
Accreditation	4	15,678	–	15,678	17,906	–	17,906
Websites / Digital Services	4	297,613	–	297,613	157,047	–	157,047
Other Charitable expenditure	4	460,964	3,750	464,714	426,320	–	426,320
Total expenditure		1,722,655	3,750	1,726,405	1,557,842	–	1,557,842
Net income / (expenditure) before net gains / (losses) on investments		(371,716)	(3,750)	(375,466)	(193,883)	36,254	(157,629)
Net gains / (losses) on investments		92,954	–	92,954	94,094	536	94,630
Net income / (expenditure) for the year		(278,762)	(3,750)	(282,512)	(99,789)	36,790	(62,999)
Transfers between funds		–	–	–	–	–	–
Net movement in funds		(278,762)	(3,750)	(282,512)	(99,789)	36,790	(62,999)
Reconciliation of funds:							
Total funds brought forward		2,215,428	99,246	2,314,674	2,315,217	62,456	2,377,673
Total funds carried forward		1,936,666	95,496	2,032,162	2,215,428	99,246	2,314,674

All of the above results are derived from continuing activities. There were no other recognised gains or losses other than those stated above. Movements in funds are disclosed in Note 17 to the financial statements.

Operational Research Society

Balance sheet

Company no. 00663819

As at 31 December 2024

	Note	£	2024 £	£	2023 £
Fixed assets:					
Tangible assets	10		187,961		214,137
Intangible assets	11		40,640		12,500
Investments	12		1,511,838		1,821,091
			<u>1,740,439</u>		<u>2,047,728</u>
Current assets:					
Debtors	13	365,095		296,593	
Cash at bank and in hand		172,643		193,108	
		<u>537,738</u>		<u>489,701</u>	
Liabilities:					
Creditors: amounts falling due within one year	14	(246,015)		(222,755)	
			<u>291,723</u>		<u>266,946</u>
Net current assets			<u>291,723</u>		<u>266,946</u>
Total net assets			<u><u>2,032,162</u></u>		<u><u>2,314,674</u></u>
The funds of the charity:					
	17				
Restricted Funds		95,496		99,246	
Unrestricted Funds		1,936,666		2,215,428	
		<u>1,936,666</u>		<u>2,215,428</u>	
Total unrestricted and restricted funds			<u>2,032,162</u>		<u>2,314,674</u>
Total charity funds			<u><u>2,032,162</u></u>		<u><u>2,314,674</u></u>

Approved by the trustees on 21 May 2025 and signed on their behalf by

R. A. Scott
Honorary Treasurer

Sanja Petrovic
President

Operational Research Society

Statement of cash flows

For the year ended 31 December 2024

	2024		2023	
	£	£	£	£
Cash flows from operating activities				
Net (expenditure)/income for the reporting period (as per the statement of financial activities)	(282,512)		(62,999)	
Depreciation and amortisation charges	37,536		27,778	
(Gains) on investments	(92,954)		(94,630)	
Dividends and interest from investments	(50,674)		(47,232)	
(Increase) in debtors	(68,502)		83,710	
Increase in creditors	23,260		16,285	
		<hr/>		<hr/>
Net cash used in operating activities		(433,846)		(77,088)
Cash flows from investing activities:				
Dividends and interest from investments	50,674		47,232	
Purchase of fixed assets	(1,200)		(25,080)	
Purchase of intangible assets	(38,300)		(12,500)	
Proceeds from sale of investments	2,186,373		629,661	
Purchase of investments	(1,805,756)		(646,675)	
		<hr/>		<hr/>
Net cash provided by investing activities		391,791		(7,362)
		<hr/>		<hr/>
Change in cash and cash equivalents in the year		(42,055)		(84,450)
Cash and cash equivalents at the beginning of the year		215,331		299,781
		<hr/>		<hr/>
Cash and cash equivalents at the end of the year		173,276		215,331
		<hr/> <hr/>		<hr/> <hr/>
Analysis of cash and cash equivalents and of net debt				
	At 1 January		At 31	
	2024	Cash flows	December	
	£	£	2024	£
Cash at bank and in hand	193,108	(20,465)	172,643	
Cash deposited with investment brokers	22,223	(21,590)	633	
		<hr/>		<hr/>
Total cash and cash equivalents	215,331	(42,055)	173,276	
		<hr/> <hr/>		<hr/> <hr/>

1 Accounting policies

a) Statutory information

The Operational Research Society is a charitable company limited by guarantee and is incorporated in England and Wales.

The registered office address is 12 Edward Street, Birmingham, B1 2RX, UK

b) Basis of preparation

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) – (Charities SORP FRS 102), The Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

c) Public benefit entity

The charity meets the definition of a public benefit entity under FRS 102.

d) Preparation of the accounts on a going concern basis

The Operational Research Society operates as a going concern. The trustees consider there are no material uncertainties about the charity's ability to continue as a going concern.

The Society operates a reserves policy that reflects its critical dependence on journal income.

The policy sets the minimum level of reserves at one year's fixed running costs of £900k to keep the charity viable whilst alternative funding is found.

The maximum level is to be set at three years' running costs or £2.7 million. The charity is currently meeting its reserves target.

e) Key estimates and judgements

When preparing the financial statements, management makes a number of judgements, estimates and assumptions about the recognition and measurement of assets, liabilities, income and expenses. The company amortises fixed assets over their estimated useful lives. The estimation of the useful lives of assets is based on historic performance as well as expectations about future use and therefore requires estimates and assumptions to be applied by management. The actual lives of these assets can vary depending on a number of factors, including the maintenance and level of upkeep of the software systems.

f) Income

Income is recognised when the charity has entitlement to the funds, any performance conditions attached to the income have been met, it is probable that the income will be received and that the amount can be measured reliably. Income from government and other grants, whether 'capital' grants or 'revenue' grants, is recognised when the charity has entitlement to the funds, any performance conditions attached to the grants have been met, it is probable that the income will be received and the amount can be measured reliably and is not deferred. Income received in advance of the provision of a specified service is deferred until the criteria for income recognition are met.

g) Dividends and investment income

Interest and dividends on funds held on deposit or invested is included when receivable and the amount can be measured reliably by the charity; this is normally upon notification of the interest or dividend paid or payable by the relevant institution.

h) Expenditure

Expenditure is recognised once there is a legal or constructive obligation to make a payment to a third party, it is probable that settlement will be required and the amount of the obligation can be measured reliably. Expenditure is classified under the following activity headings:

Costs of raising funds relate to the costs incurred by the charity in inducing third parties to make voluntary contributions to it, as well as the cost of any activities with a fundraising purpose.

Expenditure on charitable activities includes the costs of delivering services, exhibitions and other educational activities undertaken to further the purposes of the charity and their associated support costs.

Other expenditure represents those items not falling into any other heading.

1 Accounting policies (continued)

i) Value added tax

The Society has partial exemption status for Value Added Tax and Value Added Tax on apportionable costs which cannot be reclaimed is disclosed separately within administration costs.

j) Allocation of costs

Salaries, depreciation, websites / digital services expenditure and other central and establishment overheads are allocated to appropriate cost categories using consistently applied ratios based on estimates of actual time and costs expended in each area.

Allocation of support and governance costs:

Raising funds	0%
Subscriptions	13%
Events and Conferences	19%
Training	6%
Apprenticeships	0%
Publications	14%
Accreditation	2%
Websites / Digital Services	18%
Other Charitable expenditure	28%

k) Tangible and Intangible fixed assets

Tangible and intangible fixed assets costing more than £1,000 and with a useful economic life in excess of 3 years are capitalised and included at cost including any incidental expenses of acquisition.

Depreciation of tangible fixed assets is charged on a straight line basis at the following rates:

Long leasehold building	2%
Office machines and computer equipment	33%
Fixtures and fittings	10%

Amortisation of Intangible fixed assets is charged on a straight line basis at the following rate:

Software systems	20%
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The amortisation rate charged is based on management's best estimate of the useful life of the software systems.

l) Investments

Investments are a form of basic financial instrument and are initially recognised at their transaction value and subsequently measured at their fair value as at the balance sheet date using the closing quoted market price. Any change in fair value will be recognised in the statement of financial activities. Investment gains and losses, whether realised or unrealised, are combined and shown in the heading "Net gains/(losses) on investments" in the statement of financial activities. The charity does not acquire put options, derivatives or other complex financial instruments.

m) Debtors

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

n) Cash at bank and in hand

Cash at bank and cash in hand includes cash and short term highly liquid investments.

o) Creditors and provisions

Creditors and provisions are recognised where the charity has a present obligation resulting from a past event that will 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 after allowing for any trade discounts due.

p) Pensions

The Society contributes to individual pension schemes established for each eligible employee.

q) Financial instruments

The Society 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.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2024

2 Income from charitable activities

	Unrestricted £	Restricted £	2024 Total £	Unrestricted £	Restricted £	2023 Total £
Journal of The OR Society / Knowledge Management Research & Practice / Journal of Simulation	612,645	-	612,645	603,761	-	603,761
Inside OR	-	-	-	1,324	-	1,324
European Journal of Information Systems / Health Systems / Journal of Business Analytics	217,417	-	217,417	215,155	-	215,155
Other publications	-	-	-	2,526	-	2,526
Sub-total for Publications	830,062	-	830,062	822,766	-	822,766
Subscriptions	166,416	-	166,416	159,861	-	159,861
Events and Conferences	126,148	-	126,148	260,951	36,254	297,205
Training	155,637	-	155,637	63,204	-	63,204
Accreditation	10,242	-	10,242	9,745	-	9,745
Websites / Digital Services	-	-	-	200	-	200
Apprenticeships	11,760	-	11,760	-	-	-
Total income from charitable activities	1,300,265	-	1,300,265	1,316,727	36,254	1,352,981

3 Income from investments

	Unrestricted £	Restricted £	2024 Total £	Unrestricted £	Restricted £	2023 Total £
Income from Listed Investments	49,802	-	49,802	44,152	-	44,152
Interest on Bank Deposits	872	-	872	2,940	-	2,940
Profit on Sale of Fixed Assets	-	-	-	140	-	-
Total	50,674	-	50,674	47,232	-	47,092

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2024

4a Analysis of expenditure (current year)

	Charitable activities										2024 Total £	2023 Total £
	Raising funds £	Subscriptions £	Events and Conferences £	Training £	Apprentice- ships £	Publications £	Accreditation £	Website / Digital Services £	Other Charitable Activities £	Support and governance costs £		
Staff costs (Note 6)	-	72,516	115,311	28,116	62,174	100,453	6,573	110,412	249,984	111,567	857,106	687,023
Recruitment costs	-	743	1,181	288	636	1,029	67	1,131	2,560	1,143	8,778	14,482
Establishment Costs	-	4,549	6,732	3,211	1,338	4,817	268	-	4,549	1,338	26,802	33,550
Postage and phones	-	1,093	2,065	972	54	3,470	13	134	1,299	479	9,579	9,658
Office Costs	-	5,431	7,986	3,833	1,597	5,751	320	-	5,431	1,597	31,946	43,712
Computer s/ware and maintenance	-	10,519	7,012	3,506	3,506	9,817	-	21,037	14,726	-	70,123	59,905
Website	-	15,454	21,154	12,056	-	-	-	-	-	-	48,664	44,443
Bank Charges	-	3,075	4,211	2,399	-	-	-	-	-	-	9,685	8,731
Legal and Professional Fees	12,286	-	-	-	-	-	-	-	-	41,376	53,662	60,909
Other Direct costs	8,900	4,891	90,477	55,359	58,986	98,374	4,644	117,014	133,880	-	572,525	567,651
Depreciation & Amortisation	-	1,321	2,747	751	1,877	1,990	624	19,367	7,924	934	37,535	27,778
	21,186	119,592	258,876	110,491	130,168	225,701	12,509	269,095	420,353	158,434	1,726,405	1,557,842
Support and governance costs	-	20,596	30,102	9,506	-	22,181	3,169	28,518	44,361	(158,434)	-	-
Total expenditure 2024	21,186	140,188	288,978	119,997	130,168	247,882	15,678	297,613	464,714	-	1,726,405	
Total expenditure 2023	12,473	138,608	381,407	97,793	51,565	274,723	17,906	157,047	426,320	-		1,557,842

Other Charitable Activities covers the remaining non-revenue earning activities carried out in pursuit of the Society's charitable aims. It includes: library, public information about OR, third sector pro bono, research support, strategic initiatives, regional societies, special interest groups, awards and scholarships.

Other Direct Costs includes the physical costs of putting on events, and producing our publications as well as costs of promoting OR and membership and support of other learned societies.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2024

4b Analysis of expenditure (prior year)

	Charitable activities										2023 Total £
	Raising funds £	Subscriptions £	Events and Conferences £	Training £	Apprentice- ships £	Publications £	Accreditation £	Website / Digital Services £	Other Charitable Activities £	Support and governance costs £	
Staff costs (Note 6)		83,610	122,958	38,641	-	88,835	10,830	72,083	196,272	73,794	687,023
Recruitment costs	-	1,762	2,592	815	-	1,873	228	1,519	4,137	1,556	14,482
Establishment Costs	-	4,083	6,004	1,887	-	4,338	529	3,520	9,585	3,604	33,550
Postage and phones	-	1,102	2,082	1,034	-	3,498	14	135	1,310	483	9,658
Office Costs	-	7,431	10,928	7,431	-	7,868	437	-	7,431	2,186	43,712
Computer s/ware and maintenance	-	8,986	5,990	2,995	-	8,387	-	20,967	12,580	-	59,905
Website	-	6,667	4,444	2,222	-	6,222	-	15,555	9,333	-	44,443
Bank Charges	-	2,773	3,795	2,163	-	-	-	-	-	-	8,731
Legal and Professional Fees	12,473	-	-	-	-	-	-	-	-	48,436	60,909
Other Direct costs	-	4,218	195,739	32,528	51,565	134,295	2,791	-	146,515	-	567,651
Depreciation & Amortisation	-	978	2,032	232	-	1,102	462	19,733	2,546	693	27,778
	12,473	121,610	356,564	89,948	51,565	256,418	15,291	133,512	389,709	130,752	1,557,842
Support and governance costs	-	16,998	24,843	7,845	-	18,305	2,615	23,535	36,611	(130,752)	-
Total expenditure 2023	12,473	138,608	381,407	97,793	51,565	274,723	17,906	157,047	426,320	-	1,557,842
Total expenditure 2022	12,439	143,682	358,719	113,932	3,186	297,509	16,793	186,898	380,630	-	

Other Charitable Activities covers the remaining non-revenue earning activities carried out in pursuit of the Society's charitable aims. It includes: library, public information about OR, third sector pro bono, research support, strategic initiatives, regional societies, special interest groups, awards and scholarships.

Other Direct Costs includes the physical costs of putting on events, and producing our publications as well as costs of promoting OR and membership and support of other learned societies.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2024

5 Net income / (expenditure) for the year

This is stated after charging / (crediting):

	2024 £	2023 £
Depreciation and amortisation	37,536	27,778
Operating lease rentals payable:		
Property	3,030	3,030
Other	9,177	5,435
Auditor's remuneration (excluding VAT):		
Audit	11,250	10,400
	<u>11,250</u>	<u>10,400</u>

6 Analysis of staff costs, trustee remuneration and expenses, and the cost of key management personnel

Staff costs were as follows:

	2024 £	2023 £
Salaries and wages	674,302	570,821
Termination Costs	42,139	-
Social security costs	64,391	54,546
Pension costs	76,274	61,656
	<u>857,106</u>	<u>687,023</u>

The following number of employees received employee benefits (excluding employer pension costs and employer's national insurance) during the year between:

	2024 No.	2023 No.
£60,000 – £69,999	-	-
£80,000 – £89,999	-	1
£90,000 – £99,999	1	-
	<u>1</u>	<u>-</u>

The key management personnel of the Society comprise the Executive Director, the Head of Membership Engagement and the Head of Professional Services. The total employee benefits (including pension contributions and employer's national insurance) of the key management personnel were £252,129 (2023: £202,328).

No remuneration was paid or is payable to Trustees for service on the Board for the year (2023: £nil).

Trustees' expenses represents the payment or reimbursement of travel and subsistence costs totalling £6,362 (2023: £6,248) incurred by 9 (2023: 9) members relating to attendance at meetings of the trustees.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2024

7 Staff numbers

The average number of employees (head count based on number of staff employed) during the year was 20.5 (2023: 16.3).

Staff are split across the activities of the charity as follows:

	2024		2023	
	Headcount	FTE	Headcount	FTE
Charitable activities	16.8	14.9	13.3	11.4
Management and administration	3.7	3.5	3.0	3.0
	20.5	18.4	16.3	14.4

8 Related party transactions

In 2024, Seb Hargreaves as part of his Society role as the Executive Director, was also a Director of Edward Street Management Limited, the company that managed the Society's buildings car park. During 2023 the Society paid rent to the company of £3,030.

There are no donations from related parties which are outside the normal course of business and no restricted donations from related parties.

9 Taxation

The charity is exempt from corporation tax as all its income is charitable and is applied for charitable purposes.

10 Tangible fixed assets

Cost	Long leasehold land and buildings £	Office equipment £	Fixtures and fittings £	Total £
At the start of the year	314,306	33,681	137,051	485,038
Additions in year	-	1,200	-	1,200
At the end of the year	<u>314,306</u>	<u>34,881</u>	<u>137,051</u>	<u>486,238</u>
Depreciation				
At the start of the year	188,580	20,326	61,995	270,901
Charge for the year	6,286	7,385	13,705	27,376
At the end of the year	<u>194,866</u>	<u>27,711</u>	<u>75,700</u>	<u>298,277</u>
Net book value				
At the end of the year	<u>119,440</u>	<u>7,170</u>	<u>61,351</u>	<u>187,961</u>
At the start of the year	<u>125,726</u>	<u>13,355</u>	<u>75,056</u>	<u>214,137</u>

The Trustees consider the market value of the Long Leasehold Land and Buildings to be materially in excess of the book written down value shown above.

11 Intangible fixed assets

Cost	Software systems £	Total £
At the start of the year	219,172	219,172
Additions in year	38,300	38,300
Write offs	(206,672)	(206,672)
At the end of the year	50,800	50,800
Amortisation		
At the start of the year	206,672	206,672
Charge for the year	10,160	10,160
Write offs	(206,672)	(206,672)
At the end of the year	10,160	10,160
Net book value		
At the end of the year	40,640	40,640
At the start of the year	12,500	12,500

12 Listed investments

	2024 £	2023 £
Fair value at the start of the year	1,798,868	1,687,224
Additions at cost	1,805,756	646,675
Disposal proceeds	(2,186,373)	(629,661)
Net gain on change in fair value	92,954	94,630
	1,511,205	1,798,868
Cash held by investment broker pending reinvestment	633	22,223
Fair value at the end of the year	1,511,838	1,821,091
Investments comprise:		
	2024 £	2023 £
UK Common investment funds	189,491	163,231
Shares listed on the London Stock Exchange	97,178	393,900
UK Property and assets	223,860	322,081
Overseas Investment funds	66,446	138,466
Overseas Shares	934,863	803,413
	1,511,838	1,821,091

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2024

13 Debtors

	2024 £	2023 £
Trade debtors	75,647	36,957
Prepayments	70,490	61,553
Accrued income	186,027	155,655
Recoverable VAT	32,931	42,428
	<u>365,095</u>	<u>296,593</u>

14 Creditors: amounts falling due within one year

	2024 £	2023 £
Trade creditors	64,389	46,371
Taxation and social security	20,913	22,593
Other creditors	31,610	19,224
Accruals	68,347	77,310
Deferred income (note 15)	60,756	57,257
	<u>246,015</u>	<u>222,755</u>

15 Deferred income

	2024 £	2023 £
Balance at the beginning of the year	57,257	43,859
Amount released to income in the year	(57,257)	(43,859)
Amount deferred in the year	60,756	57,257
	<u>60,756</u>	<u>57,257</u>

Deferred income consists of 2024 subscription income paid in advance.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2024

16a Analysis of net assets between funds (current year)

	Unrestricted £	Restricted £	Total funds £
Tangible fixed assets	187,961	–	187,961
Intangible fixed assets	40,640	–	40,640
Investments	1,511,838	–	1,511,838
Net current assets	196,227	95,496	291,723
Net assets at 31 December 2024	1,936,666	95,496	2,032,162

16b Analysis of net assets between funds (prior year)

	Unrestricted £	Restricted £	Total funds £
Tangible fixed assets	214,137	–	214,137
Intangible fixed assets	12,500	–	12,500
Investments	1,821,091	–	1,821,091
Net current assets	167,700	99,246	266,946
Net assets at 31 December 2023	2,215,428	99,246	2,314,674

17a Movements in funds (current year)

	At 1 January 2024 £	Income & gains £	Expenditure & losses £	Transfers £	At 31 December 2024 £
Restricted Funds					
ISMOR	14,600	–	–	–	14,600
May Hicks	48,392	–	(1,250)	–	47,142
MISTA	36,254	–	(2,500)	–	33,754
Total Restricted Funds	99,246	–	(3,750)	–	95,496
Unrestricted Funds	2,215,428	1,443,893	(1,722,655)	–	1,936,666
Total funds	2,314,674	1,443,893	(1,726,405)	–	2,032,162

The narrative to explain the purpose of the restricted fund is given at the foot of the note below.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2024

17b Movements in funds (prior year)

	At 1 January 2023 £	Income & gains £	Expenditure & losses £	Transfers £	At 31 December 2023 £
Restricted Funds	62,456	36,790	-	-	99,246
Unrestricted Funds	2,315,217	1,458,053	(1,557,842)	-	2,215,428
Total funds	2,377,673	1,494,843	(1,557,842)	-	2,314,674

Restricted Funds

ISMOR includes an amount received from the ISMOR (International Symposium on Military OR) trust of £14,600 to be used to fund ISMOR scholarships

May Hicks consists of a legacy received in 2002. The Legator, Mrs May Hicks, expressed a non-binding wish that the Society uses its bequest to fund an annual award to be determined by the Council of the Society.

MISTA is an amount of £36,254 transferred from Multidisciplinary in Scheduling: Theory and Applications to be used for scheduling MISTA activity into ORS events and conferences.

18 Operating lease commitments payable as a lessee

The charity's total future minimum lease payments under operating leases is as follows for each of the following periods

	Leasehold Property Service Charge		Equipment	
	2024 £	2023 £	2024 £	2023 £
Less than one year	3,030	3,030	9,177	5,435
One to five years	12,120	12,120	17,470	11,224
Over five years	242,400	245,430	-	-
	257,550	260,580	26,647	16,659

19 Legal status of the charity

The Society is a company limited by guarantee, has no share capital and is a registered charity. The objectives of the Society are the advancement of knowledge and education in operational research.

The liability of each member in the event of a winding-up is limited to £1.

OPERATIONAL RESEARCH SOCIETY LIMITED

England & Wales - Charity number 313713

Accounts



THE
OPERATIONAL
RESEARCH
SOCIETY

Annual Report

for the year ended 31 December 2023

Operational Research Society

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A registered charity No 313713. A company limited by guarantee No 00663819

Foreword from the President

It is a great pleasure to introduce this report, which describes The Operational Research Society's achievements during 2023 and sets out our future plans.

Our regular drumbeat of Governance meetings have continued to take place online, with a highlight being a trustees 'in person' meeting and away day in the autumn. Following leadership changes at the start of 2023 with a new President and Executive Director in post, we have embarked on some work to revisit the strategy that was set in 2019/20. Overarching priorities remained to project our Visibility, Value and Vibrancy as a Society with a particular focus on diversifying our income away from Publications. Continued volatility in the external environment presented continued challenges to Investment growth, but we saw a rebound in our Events attendance and activities following a difficult few years post pandemic, firstly being able to return to in-person activity and then encouraging members to participate, resume travel and attendance.

This report describes some of The OR Society's key achievements during 2023 in responding to the opportunities and challenges presented by the operating environment. These have included: developing the scope and reach of our in person and online delivery of services, building a new senior leadership team, responding to the decline in Publications income, achieving readiness to deliver the level 7 apprenticeship for an Operational Research Specialist as an End Point Assessment Awarding Body; and our continued contribution to both the Alliance for Data Science Professionals, the Council for Mathematical Sciences and development of the Academy for Mathematical Sciences.

2023 was an important year for the Society, not least because we celebrated 75 years of Operational Research in the UK. We commenced 12 months of activity to celebrate the past, present and future of Operational Research and the OR Society at our OR65 annual Conference at the University of Bath.

Later in this report I'll be listing some of the objectives for 2024. This will be a significant year for the Society as we continue our celebrations for our 75th anniversary. We'll be planning and delivering some significant projects to create the optimal foundation in which to grow and prosper in future years.

Gilbert Owusu
OR Society President 2023-2024
April 2024

Introduction

The Operational Research Society is a charity set up to advance knowledge, interest and education in operational research (OR). Our vision is of a world improved by rigorous analysis and better, evidence-based decision-making: "OR providing world class analysis for world class decisions". In this world OR would be seen as indispensable – not just a 'nice to have' but a 'must have' – and be used and acknowledged widely in all areas of industry, business, government and the third sector.

As a charity, we must work for the public benefit, but we also aim to work for the good of our members, because without active, able and well-supported researchers and practitioners, students and supporters, OR would not exist. We disseminate learning; promote awareness of OR; support OR professionals and standards; and aim to ensure that UK OR has a 'voice at the table', both in the international OR world and in wider UK arenas. This represents a broad programme of activities and services, that has been growing year on year and that we continue to maintain and develop.

With the continuing dramatic changes in the world around us our activities and services have had to adapt accordingly. These changes present great challenges for the whole world, but offer great opportunities for the OR discipline, OR professionals and The OR Society.

Review of the Year 2023

2023 was the fourth year of a 3 to 5-year strategic planning cycle. Due to the changing external environment (since the plan was created and launched in 2019/20) and recent leadership changes within the organisation (President and Executive Director) it was decided to revisit the strategy with a view to a strategy refresh and revised plan for the next 3 years. We worked with an external consultant to apply Viable System Modelling to our structures and processes, revisiting our main priorities and strategic pillars and creating an updated strategic plan for 2024 to 2026. During this review, we agreed that the strategic pillars and priorities for the Society remained fit for purpose. The strategic pillars are: raising awareness of the importance of OR; supporting OR knowledge development; supporting OR education; growing membership and wider reach; ensuring financial sustainability of the Society; and embedding good diversity practice in OR and the ORS. Whilst we aim to put EDI considerations at the heart of everything we do, we felt its importance deserves highlighting as a separate strategic strand. We also recognised the increasing importance of the Research element of our work by recognising the Research Cttee as a core sub cttee of the Board, with the Research Cttee Chair joining the Board of Trustees with effect from the end of 2023.

Highlights of the Year

This has been another year of highlights which, along with our full range of activities, support our charitable aims to advance knowledge, interest and education in OR.

Advancing knowledge

The Society's portfolio of academic journals continued to make a substantial contribution to both advancing and sharing knowledge. The publishing landscape is evolving, and the move towards Open Access has meant our content has become more widely available through the increasing number of 'read and publish' deals that are being signed across the world. More than one million downloads of academic papers were made during the year.

Operational research apprenticeships took further steps towards becoming a serious route to training the analysts of the future, with the Society looking to establish itself at the heart of the quality assurance processes core to that route.

The Society continues to work with the Council for Mathematical Sciences on the next steps towards the establishment of the Academy for Mathematical Sciences. We supported the creation of the proto-Academy and are engaged across all levels of this work. This will play a key role in the future knowledge advancement

in OR. Other activities to advance knowledge are covered below in the Events, Publications and Research sections.

Advancing interest

The Society's strategic goal of advancing interest in OR returned to a more normal footing with the return of in-person events. The opportunity to expand its global reach through a complementary programme of online events was well received.

The Society continued to implement the recommendations of its Artificial Intelligence (AI) task and finish group, especially through its links to the work of the ValidateAI group (validateai.org). The Society continues to be at the heart of the Alliance for Data Science Professionals, establishing standards for both practitioners and degree courses. Other activities to advance interest are covered below in the Events, OR in Education and Pro Bono OR sections.

Advancing education

The Society reached application stage as an awarding body for the purposes of End Point Assessment. This is to deliver the assessment for the Level 7 OR specialist apprenticeship. Submission to Ofqual as an awarding body was achieved in 2023 with recognition expected in 2024. Other activities to advance education are covered below in the Education, Training and OR in Education sections.

Other highlights

Some of our 2023 highlights made contributions to all our charitable aims. These included the continuing growth of our Women in OR and Analytics Network (WORAN), both in terms of the number of participants and its activities during the year. We also continued our valuable charitable work through our Pro Bono OR projects.

Achievements during the year

Equity, Equity, Diversity & Inclusion

Nicola Morrill continued to act as the EDI Board Champion until October 2023. Steps were taken to identify a replacement Board Champion and a staff EDI Manager. As of 2024, Heather Tewkesbury assumed the role of EDI Board Champion and Eve Hardy the staff EDI Manager.

EDI pervaded much of our activity in 2023 with committees leading on EDI for their respective areas. The Publications committee have continued their review of gender across all editorial boards. As a result of work undertaken in 2023, EJIS is on target to achieve gender parity across both Editors-in-Chief and Associate Editors in 2024. The Editors-in-Chief for JoS and HS are evenly split between men and women, further work continues to increase the gender diversity of other editorial boards. The Publications Committee also centred EDI as part of their 75th anniversary celebrations, commissioning the WISDOM discussion paper, which is expected to be published in 2024.

The OR in Education Taskforce also put EDI at the heart of the celebrations and undertook significant work planning a 75th Anniversary celebration event at the National Memorial Arboretum. Students from disadvantaged schools will receive priority invitations to the 2024 event and ringfenced budget was requested to pay for travel bursaries for these schools to ensure that the event is as accessible as possible.

The Research Committee continued to liaise with UKRI and EPSRC on EDI topics and promoted the implementation of their new handbook on EDI best practice. The Research Committee also participated in a consultation led by EPSRC on neurodiversity in the Mathematical Sciences. They are looking forward to implementing any recommendations that result from the consultation.

In Pro Bono OR, we have supported a number of charities which help disadvantaged communities, including BLAST Fest, which is a charity that encourages people from Black and Ethnic Minority communities to engage

with STEM, and wrapped up a project for the Brandon Trust, which focussed on supporting their implementation of their EDI strategy. Pro Bono OR has also attracted a diverse range of volunteers, with their ethnic diversity exceeding that of the wider OR Society membership.

The Acting Education Manager rekindled our relationship with In2Science. As a result of this, at the end of 2023 we agreed to fund 2 students from disadvantaged backgrounds to undertake work placements with OR professionals. The success rate of In2Science is phenomenal, with the odds of these students going to university after completing their placement up from 10% to 50%.

During October 2023 we hosted a webinar on understanding the challenges for colleagues with ADHD and Autism. The WORAN Special Interest Group celebrated the International Day of Girls and Women in Science with a Land Lecture on the state of play for women in STEM and the role of unions in the movement for gender equality.

The goal for 2024 is to review the Science Council Framework and use this to identify future areas of focus, as our last assessment was three years ago.

Conferences and Events

The return to physical, in-person events was completed in 2023 for all the Society's conferences. The Simulation Workshop was held in Southampton in January 2023, this event in previous years had typically attracted around 70 delegates. In 2023, 125 delegates attended with 45 papers submitted. This represented outstanding growth due to the campaign and work within the Society and the committee.

The Beale Lecture in February 2023 was hosted on Zoom and saw 100+ delegates attend online to listen to Professor Robert Dyson as guest speaker. Also, Jake Clarkson the Doctoral Award Winner presented on Optimal search in discrete locations: extensions and new findings.

The Scenario Planning conference was held in June, the first for five years. We had a good attendance with around 60 delegates. This conference will now move to a bi-annual event due to the success of this recent event and become more of a regular activity within the OR calendar.

Royal Holloway hosted ISMOR in July with 100+ delegates. The conference received excellent feedback, however, the venue was not to the standard that the Society would like, therefore the committee have pursued an alternative venue for 2024 located in Southampton. The event had a mixture of in person and virtual participation, the virtual option was unpopular and so 2024 will be 'in person' only.

For those able to attend OR65 at the University of Bath, it offered a packed conference programme with lots of opportunity to network. Event growth was significant with income growing largely due to 12 paid sponsors compared to 2 in the previous year and around 350 paid delegates, up by nearly 100 from the previous year. This was a sign that the challenging years of covid affecting event attendance were passing and 'in person' events were here to stay as a valuable aspect to our programme of activity. The conference brought together many different areas of OR, with streams such as Systems Thinking and Healthcare passing above 30 submissions per stream. Overall, there was near to 300 abstracts originally submitted with around 250 presented across the conference. The gala dinner was hosted at The Pump Rooms, to launch the 75th anniversary celebration. Bath was a wonderful location to start celebrating the anniversary and the dinner was a sellout. The committee were instrumental in ensuring the success of the conference and worked hard to ensure the programme and social trips were varied and that there were plenty of learning opportunities for both academics and practitioners. The pre-event ECR conference worked well before the main conference and attracted 30 ECR delegates that also attended the main conference.

Additionally, our webinar programme has grown from strength to strength, with 100+ registrations per month. The webinar programme supports a wide range of topics within OR and the Society's EDI programme. The WORAN land lecture was held during October, with a focus on women in OR, unions, and the workplace with Sue Ferns.

The Blackett Lecture was held on the 7th of December at the Royal Society in London, over 120 attendees registered for the event. The 2023 format had 3 speakers; Dr Roger Forder, Paul Clarke CBE and Professor Alison Etheridge of the University of Oxford and the focus of the talks discussed the Past, Present and Future of OR and the Society.

Validate AI (in collaboration with the OR Society) has been holding several events throughout the UK and abroad focusing on AI Assurance and Certification, with the most recent being at the University of Southampton in Autumn 2023 entitled 'OR Enabled AI'. This F2F meeting was well attended, with a workshop format leading to discussion on how OR could support and enable AI throughout the AI life cycle. The total number of SIG events delivered included 28 SIG events and 7 Regional Society events. 70% of SIG events were delivered virtually allowing engagement and attendance from members and non-members from all of the UK and occasionally overseas.

Finally, as always it is important to recognise that our events programme would not have happened without the many volunteers and hard-working OR Society staff members who work tirelessly on the delivery of a full event programme – the Annual Report gives the opportunity to say a big thank you to all our event volunteers.

Publications

The OR Society has six academic journals. These are the *Journal of The Operational Research Society* (JORS), *European Journal of Information Systems* (EJIS), *Knowledge Management Research & Practice* (KMRP), *Journal of Simulation* (JOS), *Health Systems* (HS) and the *Journal of Business Analytics* (JBA). The Publication Committee is chaired by Professor Tom Archibald.

Statistics relating to the usage of the Society's journals show year-on-year increases across all titles continuing the upward trend observed in recent years. The number of article downloads in 2023 exceeded 1.1 million, an increase of 13% compared to 2022. The number of citations remained in line with the previous year. Due to the decline in usage of Twitter, the considerable efforts of the Editorial Teams, the Society and Taylor & Francis have adapted to focussing promotion of the journals on LinkedIn.

The 2022 Impact Factors (published in June 2023) for *JORS*, *EJIS* and *KMRP* all showed increases compared to the 2021 data. *EJIS* continued its remarkable progress. Having increased 4.3 in 2020 to 9.0 in 2021, the Impact Factor of *EJIS* has continued to increase to 9.5 in 2022. *HS* and *JBA* have received Impact Factors for the first time with *HS* receiving an Impact Factor of 1.8 and *JBA* receiving 1.0. A CiteScore (a performance measure similar to Impact Factor derived from the Scopus database) is available for all six journals. The CiteScores published in 2022 showed improvements for all journals compared to the previous year, with the highest increases for *EJIS* and *JOS*.

The journals are led by hard working editorial teams who strive to provide submitting authors with timely and constructive feedback. In 2023, Charles Macal (Argonne National Laboratory, USA) replaced Loo Hay Lee on the editorial team for *JOS*. In July 2023, sadly John Boylan Co-Editor in Chief of *JORS* passed away. The Society will look to recruit to fill this vacancy for *JORS* next year. Giovanni Schiuma stepped down from *KMRP*. The Society will be recruiting to fill this vacancy during the second half of 2024.

The diversity of the editorial boards for each of our journals continues to be monitored and managed. Although some progress was made to increase diversity through appointments in the past year, at the end of 2023 the members of the editorial boards are predominantly male (72%) from North America (41%) or Europe (38%). Progress has been made in appointing Editor-in Chiefs (see EDI section)

Taylor & Francis has changed the way in which volumes are compiled so that 2023 is the first year in which the journals are not constrained by strict page budgets, and this has reduced the backlog significantly. This means we can publish on a timelier basis. All the journals have accumulated a stock of accepted papers waiting to be published in an issue. These papers are published online immediately, but there can be a delay of more than a year before publication in an issue. Going forward, editors will have discretion to increase the size of a volume to ensure more timely publication of papers.

Editors rely on the voluntary contributions of reviewers who provide reports on articles submitted for publication. Acknowledging these valuable contributions is an important element of the Society's strategy for recruiting and retaining reviewers. Reviewers can choose to have their efforts recognised via Publons. In 2023, for the third year, the Society awarded certificates to reviewers who had made particularly helpful contributions to the reviewing process.

The Society continues to develop its strategy for open access and open data with advice and support from Taylor & Francis. In line with Taylor & Francis's basic data sharing policy, all journals encourage authors to share or make open the data supporting the results or analyses presented in their paper where possible. All journals also offer authors the opportunity to publish open access via Taylor & Francis's Open Select publishing program. Of the papers published in the Society's journals in 2023, approximately 16% were published open access. The proposal to convert *HS* to a fully open access journal from 2024 has been put on hold as we are looking to further increase the submissions to the journal before converting. There is a plan to launch a new fully open access journal in 2024.

The Society also publishes two magazines: *Impact* and *Inside OR*.

Impact is published biannually and is aimed at practitioners and potential users of OR. The magazine is freely available in print or electronic versions. The founding editor, Graham Rand, has stepped down after eight years in charge, the Spring 2023 issue was the last issue that he edited. The new editor Maurizio Tomasella started his term from Spring 2023.

Inside OR is the news magazine for Society members and is published monthly. Despite a long-standing wish to stand down, John Crocker continued to edit *InsideOR* throughout 2023 and is due to be replaced in March 2024 by Gavin Blackett.

Carol McLaughlin from the OR Society office and Richard Goodman from Taylor & Francis continue to work with the Editorial Teams to monitor and update our joint publications strategy. They were supported by a new member of the team at the end of the year, Sophie Rouse, who joined as the Publications Coordinator. Our thanks go to all those involved over the past year in supporting and promoting the OR Society's publications.

Education

The key activities for the Education committee are laid out below under its various areas of influence.

OR in Education (ORIE)

ORiE volunteers have attended a variety of events during 2023. These have included:

- New Scientist Live
- Brunel University Career Fair
- The Big Bang Fair
- King David High School Careers Fair
- Patcham High School Careers Fair
- John Hampden Grammar School careers talk
- Lancaster Science and Tech Fair
- Wellington College OR workshop

There was a noticeable falling off of volunteer engagement, possibly due to the incumbent Education Manager departing in May 2023. In tandem the ORiE taskforce were continuing to relook at which of the large-scale events will best align with its objectives. This meant retaining the Society's presence at Big Bang Fair and looking to reformat our presence at New Scientist Live. The taskforce is also developing a volunteer strategy which will be a joint effort with the Pro Bono scheme so that the same strategy sits across the whole organisation.

The annual Careers Open Day could not occur this year due to staff changes, however preparation for Careers Open Day 2024 is already underway.

Apprenticeships

The OR Society is planning to apply to become an “End Point Assessment Organisation” (EPAO) for the Level 7 (L7) postgraduate apprenticeship in the occupation of “OR Specialist”. The Education Manager has explained the intricacies of the application process and the paperwork that needs to be submitted to Ofqual.

The Education committee has also discussed how the role of the Education manager will evolve once the Society becomes an EPAO and the impact it will have on staffing and eventually financial resources. We have asked for information on the role of the Education committee in advising/supervising the assessment procedures. At the moment, it is not clear, and more clarity will be needed so that the committee can receive the right training. Following further investigation and discussion, a comprehensive picture of amount of work involved to submit the application and carry out the day-to-day management has been formed. A meeting has taken place with a specialist EPAO consultant, who has agreed to submit a formal proposal of the options available to the Society at this point.

A L6 (degree level) apprenticeship trailblazer group is almost set up as had been done previously in the case of the L7 apprenticeship.

Joint Mathematical Council (JMC)

The JMC met in February to discuss a few updates. A representative from AMS provided a presentation on the developments to date on the Academy of Mathematical Sciences, Education Scotland gave a presentation on the National Response to Improving Mathematics in Scotland, and the Royal Society gave a presentation on the Mathematical Futures programme.

Following the Prime Minister’s announcement on Maths to 18, a representative from the Department for Education introduced topic and posed some questions for discussion. Council broke into groups to discuss these and give feedback.

Consultations

The Education Committee responded to several consultations including the Royal Society’s Mathematical Futures Programme which advocated for a change in the maths curriculum to encourage core and applied mathematics teaching.

Dr Chiara Carparelli was recruited as the new Education Manager in December 2023. This is an opportunity to review the Committee’s priorities for the following year.

Data science degrees standards

Degree accreditation is important to universities, students and employers, and this could be an important area of growth for the Society. There is an opportunity for the ORS to be involved in the data science degree accreditation, however, this poses a risk that we make accredited data science degrees more appealing than unaccredited OR degrees. It may be worth developing OR degree accreditation alongside participation in the data science degree accreditation scheme. More research needs to be done into the costs for this and how thorough the accreditation process should be. There is also the possibility of accrediting degrees or business schools or both.

The process could also be linked to personal accreditation schemes, such that students taking certain degrees are automatically given credits towards personal accreditation such as ACAP/CAP. This is currently unpopular in the UK, but there is an issue of low awareness amongst students and low demand from employers. Both of these would need to be tackled to see a successful accreditation scheme. It was suggested employers would be easier to approach at first as there is no cost barrier to asking for the qualification.

Research

The Research Committee, chaired by Professor Christine Currie, aims to support the development of operational research (OR) knowledge, and increase the scale and impact of OR research in the UK. In 2023, we saw a transition as five long-standing members completed their extended terms, and eleven new members joined. This increase in recruitment was not just about numbers, but about ensuring representation across

universities, diversity of career stages and gender, and practitioner representation. This expansion also allowed for better Society representation in key academic bodies such as Heads of Departments of Mathematical Sciences, EPSRC, Isaac Newton Institute (INI) and International Centre for Mathematical Sciences, making each member of the OR Society an integral part of our collective efforts.

During 2023, the Committee remained actively engaged in two pivotal initiatives: the Academy of Mathematical Science (AcadMathSci) and the establishment of the Knowledge Exchange Hub for Mathematical Sciences (KE Hub). The Academy aims to be a leading voice for the entire mathematical sciences community, bridging academia, industry and mathematical education. The OR Society has played a pivotal role in these initiatives, with several committee members contributing to Advisory Boards and working groups led by the Council of Mathematical Sciences (CMS). The Committee, in consultation across the Society, responded by taking part in workshops and replying to the consultation questionnaire. Committee members have continued to maintain a dialogue with the AcadMathSci.

In addition to holding a Knowledge Exchange Day, the Committee has supported the development of the KE Hub by identifying KE Champions and improving the links with KE professionals working in OR Groups in UK Universities.

The Committee has also continued to work closely with EPSRC and has a healthy representation of ORS members involved in all the EPSRC's key committees, including the Peer Review College and Strategic Advisory Team. The Committee continued contributing to the development of EPSRC's EDI Strategy, with input given to the Mathematical Sciences consultation on neurodiversity, due to be published next year.

Finally, the committee set an objective to develop an OR Early Career Network, this culminated in a highly successful workshop preceding OR65, attended by 35 individuals. The feedback from attendees unanimously affirmed the workshop's efficacy in meeting its objectives, underscoring the committee's dedication to nurturing the next generation of OR professionals.

Training

During 2023, the Society delivered 21 courses covering a range of OR topics, attracting a total of 135 delegates. The Society re-introduced the in-person courses and 2 courses were held in London and one in Birmingham, virtual delivery methods are still proving to be the most popular.

The training offered by the Society is under review with an active consultation to understand the training needs of our audiences.

Publicity and Membership

2023 was an extremely busy year for marketing combining business as usual activity with the launch of the 75th anniversary.

For the anniversary, 12 case studies were collated as to what memberships means to individuals, a new logo and promotional collateral was written, and a promotional social media campaign run throughout the 75th year.

The frequency of Inside OR has been reduced to every two months, with an e-newsletter supporting the reduce of print in the alternate months. The change in the frequency to Inside OR has allowed time to be focused on increasing engagement on social media, membership acquisition campaigns and providing marketing support to all internal departments.

The Society's LinkedIn page had 3,973 followers a growth of 43% members (an increase of 1.3k). Total engagement outperformed 2022 by 41% reaching 13,489 individuals. Twitter growth was static throughout 2023. The focus for the Society moving forward is engagement through Linked In.

A new membership strategy has been written for implementation during 2024. Areas of focus include member growth; acquisition & retention and increasing engagement within existing membership. New

initiatives will include, a mentorship programme, introduction of a student network and a new members engagement campaign to attract non-members who currently attend our events and training.

Membership fees were reviewed and increased by 5.4% in line with CPI.

A PR company was instructed in September 2023 to support the outreach of the Society and OR in general. From September to December the society received 26 pieces of coverage, 291.5k potential readership and a £24,955 value if advertising had been purchased.

Pro Bono OR

The Steering Group is chaired by Ruth Kaufman and at the end of 2023 the group consisted of: Jane Parkin, Ian Seath, Shamim Rahman, Mike Boyles, Owen Bowden, Kate Hammond, John Lincoln, Ashleigh Monks and Hugo Herrera.

Graham Rand stepped down from the Steering Group in late 2023. His contributions to Pro Bono OR have been greatly appreciated and were formally acknowledged with a letter of thanks from Seb Hargreaves.

Pro Bono OR's dedicated volunteers worked on 14 projects throughout the year, using a variety of OR, analytics and data science methods to help third sector organisations tackle issues such as preventing homelessness, preventing child abuse, and supporting endangered animals and children experiencing bereavement. Feedback from the organisations and volunteer analysts has remained positive.

Feedback from our volunteers:

- *"The OR Pro Bono team were great. They provided comprehensive and useful guidance at the start and as a 'newbie' volunteer I appreciated this. The offers to provide support was appreciated."*

Feedback from third sector organisations:

- *"We engaged more with our own data, which will be helpful for future projects, and also have a better understanding now of a realistic time estimate for how long this type of work might take."*
- *"Very thankful for the work and support that Pro-Bono OR have been able to help us with. It really has been a very useful piece of work."*

The target for new projects this year was 25-30, which was not achieved. We also fell short on our target of 70 new leads generated, as we generated 33. However, the ratio of new leads to new projects started is in line with our target, suggesting our conversion rate is on track.

The third sector continues to face difficulties post-pandemic as the cost of living continues to rise and funding cuts are becoming more common, requiring charities to do more with less. This appears to translate into charities being interested in a pro bono project but waiting to hear on funding before proceeding/not having the capacity to support a project. This explains why some leads do not turn into Pro Bono projects, or there is a considerable lag between the lead generation and the project start.

Other activity included maintaining or rekindling relationships with partner organisations such as the Pro Bono Association, RSS's Statisticians for Society, Pro Bono Economics, DataKind and Data Orchard and the Cranfield Trust. We attended 3 events aimed at volunteers and 2 events aimed at the third sector. Pro Bono OR participated in the annual Volunteers' Week (1-7 June).

The Pro Bono OR webpages were refreshed in 2023, offering a more streamlined and modern look for potential charities and volunteers alike. The Pro Bono blog, which was a third-party website which hosted project adverts, was archived as part of this update. New project adverts now appear on the main ORS website, providing one home for online pro bono information.

Pro Bono record management was streamlined in 2023, reducing the administrative burden of running the programme and facilitating better data analysis. This was achieved via Microsoft Forms, Power Automate and Excel.

Members, Affiliates and Fellows

At the end of the year, The OR Society had 4,057 members, a total growth of 8.7% from 2022.

In addition to the 17 existing corporate partners, there were 3 new corporate partners representing 1,025 members.

There were 394 accreditees, comprising 165 Fellows, 75 Associate Fellows, 50 Associates and 104 Candidate Associates. There were 26 members accredited as Chartered Scientists and 4 as a Registered Scientist.

Awards

- **Goodeve Medal** (awarded for best paper published in JORS in 2022): Awarded to Elvan Gökalp, M. Selim Cakir and Ioannis Kougkoulos "Capacity management of migrant accommodation centre's using approximate dynamic programming.", *Journal of The Operational Research Society* (2022) 73 (6) 1198-1210.
- **Stafford Beer Medal** (awarded for best paper published in EJIS in 2022): Awarded to Tapani Rinta-Kahila, Ida Someh, Nicole Gillespie, Marta Indulska, Shirley Gregor "Algorithmic Decision-Making and System Destructiveness: A Case of Automatic Debt Recovery.", *European Journal of Information Systems*, 31 (3) 313-338.
- **KD Tocher Medal** (awarded for best paper published in JOS in 2021/2022): Awarded to Chaitanya Kaligotla, Enver Yücesan and Stephen E. Chick "Diffusion of Competing Rumours on Social Media.", *Journal of Simulation* 16 (3) 230-250.
- **Griffiths Medal** (awarded for best paper published in Health Systems in 2021/2022): Awarded to Paul R. Harper, Joshua W. Moore and Thomas E. Woolley "Covid-19 Transmission Modelling of Students Returning Home from University", *Health Systems*, 10 (1) 31-40.
- **Doctoral Award** (awarded for the most distinguished body of research leading to the award of a doctorate in the field of OR in 2022): Awarded to Spyridon Pougkakiotis, University of Dundee, "Regularized Interior Point Methods for Convex Programming".
- **President's Medal** (awarded for the best practical application of OR): Awarded to Adam Mackenzie-Jones (DESNZ), Beth Green (DESNZ), Adam Stannard (DESNZ) Charlie Stewart (DESNZ), Yaadwinder Sidhu (Defra), Katie Gronow (DfT), Mary McKee (DfT) for "The Net Zero Strategy Directorate at the Department for Energy Security and Net Zero: Net Zero Systems tool (NZST) for use in government departments".
- **Companionship of OR** (awarded for sustained support and encouragement for the development of operational research or for those in influential positions who are in broad sympathy with the subject area): Awarded to John Hopes.
- **Beale Medal** (awarded for best sustained contribution to OR): Awarded to Robert G Dyson.

Finance

Structure of the Funds

The unrestricted elements make up the majority of its funds and covers:

- ongoing operations (previously categorised as the General fund); and
- the Seymour House property together with investments and cash on deposit to cover potential risks of a general nature, the most significant of which would arise if the Society were forced to move quickly to a financial regime in which its publications income was significantly reduced (previously labelled the Reserve Fund).

The restricted funds represent a bequest received from Mrs May Hicks in 2002 and which is used for purposes consistent with her wishes, by providing awards for the best student OR projects undertaken for a client organisation.

Review of Operations

The Society's income and expenditure account showed a loss of £63k during the year, on a turnover of £1.4m. This compares with a loss of £274k in 2022. The operating loss (before net gains or losses on investments) was £158K versus a £17k surplus in 2022.

This was a challenging year for the Society as we started to see the effects of the revised Publications contract and reduced revenue through our Journal portfolio. Training income was also down for the year against forecasts. However, cost controls were well managed and there were some positive signs for Events income.

Most operations to support the charitable aims of the Society – such as conferences, special events, regional societies, special interest groups, education, publicity and outreach initiatives, the monthly *Inside OR* magazine and special charitable projects – result in deficits to the Society. To support them the Society relies primarily on subscriptions and income from its academic journals – particularly the latter. In 2023, Publications revenue equated to 60% of the Society's total income. This serves as a reminder of the Society's current financial dependence on the academic publication system; see the section on 'Risk' below.

The Society employed 21 members of staff during 2023 (19.8 full-time-equivalents), compared to 18 (16.6 FTE) during 2022.

Going Concern Statement

The Society has undertaken analysis of its Going Concern status, reviewing the organisation's cashflow position, budget position for 2024 and 2025, level of reserves and areas of consideration under sensitivity analysis. The Board of Trustees / Directors are confident in their assessment of the Society as a 'going concern'.

Assets, Reserves and Investments

The total net assets of the Society fell by almost £100k to £2.3m over the year, with the loss on income and expenditure being offset by a modest increase in investment values although our investments are still £195k down on 2021 values. This reflects the markets' continued turbulence due to global events such as the war in Ukraine. Prudent financial management of its cash resources meant the Society did not need to draw down any of its investment funds during the year, allowing the recovery to take begin.

It is important that the Society maintains an appropriate level of reserves in relation to perceived financial risks. Based on the usual annual costs of running the Society, one year's costs of £900k should be a minimum value for the reserves and the maximum value would then be three years' costs giving a value of £2.7 million. This would cover any growth of the Society over the next few years and release funds to further the Society's aims.

The Society's reserves, with a definition slightly widened from previous years, cover funds which are neither restricted nor designated, less illiquid assets (such as tangible fixed assets). At 31 December 2023, this amounted to £2.0m. The reserves are therefore within their prescribed limits. The Board will bear this in mind when considering opportunities for spending on worthwhile one-off projects that further the Society's objectives.

The Society's investments and their performance are kept under review by the Investment Committee in accordance with policies decided by the Board. The Committee is chaired by the Treasurer and, in addition to other members of the Society, includes representatives from the Society's investment managers.

Risk

The Society's dependency on journal income is the most significant material risk. Our new contract with Taylor & Francis to a large extent mitigates this risk for the Society, for the four years of the contract (finishing in December 2026), by transferring some of it to the publisher. The risk has not disappeared though, and we could never be wholly insulated from any impact that might result from this risk on our publisher. The publications market will be rapidly adapting to the demands of open access over the course of the new contract and this element of income remains at risk.

Work on diversification of revenue streams continues. Apprentices have started work towards the Operational Research specialist level 7 standard which will provide a new source of income from 2024 onwards. However, the costs associated with applying for and subsequently acting as an End Point Assessment Organisation are higher than anticipated since the requirements have tightened considerably under the switch to Ofqual's oversight. Education committee are progressing with options for offering degree course accreditation.

The key strategic risk that OR could be seen as less relevant in the competitive analytics, data science and AI space remains. We have been mitigating this through a number of initiatives led by our Analytics Development Group and are also actively promoting the relevance of OR to data science, robotics and artificial intelligence as well as other overlapping fields. The Government and society's attitude towards mathematical education, understanding statistics and probabilities seem to be in our favour. More generally, we aim to raise the visibility of OR and support outward-looking practice and membership through outreach to other professional societies and to organisations and businesses who may benefit from what OR has to bring and through the variety of topics and speakers at our events.

A further key risk is that The OR Society could be seen as less relevant to OR professionals. We have been mitigating this through the whole range of activities addressing our strategic goals and described elsewhere in this report.

The cost-of-living crisis is an issue for our members (their ability to afford membership, training, events etc.) and the Society's operations itself. A full assessment of the susceptibility of our operations and each P&L line item to inflationary pressures. The modelling ensured that the Board understood the risks and sensitivity of revenue and costs, enabling better informed decisions.

The Board regularly reviews the risk register covering a wide range of operational risks, including IT risks, and, where feasible, puts mitigating action in place.

Key Management Personnel

The Key Management Personnel for the Society comprise the trustees (its Board of Directors) and the Executive Director. No remuneration is payable to trustees for service on the Board.

Basis for Remuneration

The President, Treasurer and President Elect or Immediate Past President review the Executive Director's salary and, when agreed by Finance Committee, a written recommendation is made to Board. The Executive Director leads the process for other staff which is again initially discussed by Finance Committee before the recommendations go to Board for final approval.

Voluntary Contributions

The Society's work in 2023 benefited from voluntary contributions of time, from members and others, through these principal lines of work: refereeing of journal papers; editing of journals; conference organisation; authorship and delivery of talks to regional societies and special interest groups; organisation of regional

networks and special interest groups; the work of the Society's officers; contributions to the administration of the Society, its Awards and its accreditations through service on Board and the Society's committees.

It is estimated that a total of 5,000 person-days were contributed in 2023. If this time is valued at £500 per day, its value is £2.5M. The Society is most grateful to all who contributed voluntary effort, without which the Society could not accomplish its goals.

Fundraising

The OR Society does not engage in public fundraising activities by professional fundraisers or commercial participators. The charity has not received any fundraising complaints in the year.

Related Parties

The Society is a member of EURO, the Association of European Operational Research Societies, and IFORS, the International Federation of Operational Research Societies. It shares information and works closely with other operational research societies around the world, particularly its counterpart in the USA, INFORMS. The Society pays membership fees to both EURO and IFORS.

The Society is also a member of the Council for Mathematical Sciences, CMS. It works with the other member bodies (Institute for Mathematics & its Applications, London Mathematical Society, Royal Statistical Society and Edinburgh Mathematical Society) on relationships to research funding bodies, relevant consultations and various other initiatives. Currently this includes the development of plans for a national academy for mathematical sciences.

The Society's related party transactions for the year ended 31 December 2023 have been disclosed in note 8 of the financial statements.

Objectives for 2024

During 2023, Board produced a revised version of its 3–5-year goals and priorities. These build on those in place for the previous strategic planning phase and represent exciting opportunities for the Society and the wider OR community. The strategic pillars were revisited and confirmed to remain relevant and fit for purpose. They are to: raise awareness of the **importance of OR**; support **OR knowledge development**; support **OR education**; grow **membership and wider reach**; ensure **financial sustainability** of the Society; and address **diversity and inclusion challenges** in OR and the OR Society.

Work has already started on many of the initiatives that we hope will come to fruition in the next year or so:

- continue celebrations for the Society's 75th anniversary, capitalising on the opportunities to raise awareness of both the Society and operational research;
- working with Taylor & Francis to capitalise on its strategy to maximise the value of our current publications contract, develop robust publishing models including launching our first fully open access journal to deal with opportunities and challenges presented by open access publishing and Plan S;
- ensuring that OR continues to be fully involved in the establishment of the Academy for Mathematical Sciences;
- building policy influence with key Government contacts and connect with other key decision makers;
- implementing an engagement plan and training modules for the analytics / artificial Intelligence /data science community, and specifically implementing a self-learning modular course on AI safety;
- supporting the continued growth of the Women in OR and Early Careers networks;
- Relaunching regional societies as regional networks and providing a minimum SLA and centralised support to enable them to flourish
- Launching a new website and CRM to improve our digital infrastructure, member functionality and usability and improve data capture and reporting;
- Conduct a branding a repositioning exercise
- finalise Ofqual Awarding body status as an End point Assessment Organisation and further support the uptake of the level 7 OR apprenticeship scheme for OR Specialist. Widen our portfolio of qualifications;
- strengthening relationship with key bodies such UKRI, Royal Society, Science Council and other learned societies;
- investigating diversification of income, including exploring new streams (accrediting University courses, fundraising / donations, sponsorship);
- implementing our diversity plan based on recommendations from the diversity champion;
- demonstrating the relevance of OR to complex problems and big issues through targeted PR campaigns.

These developments will be on top of our existing broad sweep of services: conferences, events, lectures and training; publications; Pro Bono OR and OR in Schools; representing The OR Society on bodies including The Council for Mathematical Sciences, the Science Council, EURO and IFORS; and our more inward-looking activities to improve sustainability, efficiency and effectiveness.

For a relatively small professional body in an uncertain world, there are many challenges to overcome. By undertaking these activities, we aim not just to meet the challenges, but to grow the profession and The OR Society's contribution and make the most of the opportunities awaiting us.

Information about the Society

- (1) The Operational Research Society is a company limited by guarantee (no. 00663819). It is also a charity registered in accordance with the provisions of the Charities Act 2011 (registration no. 313713)
- (2) The objects of the Society are given in its Memorandum and Articles and can be summarised as:
 - (a) the advancement of knowledge by fostering, promoting and furthering interest in operational research; and
 - (b) the advancement of education by providing facilities for and, by subsidising it, endowing, organising or supporting scholarships or educational or training schemes; and conducting examinations or advising on their content.
- (3) The Society is empowered to do all proper things in pursuit of these objectives.
- (4) The affairs of the Society were managed during 2023 by the elected officers and members of the Board listed below. Together they constitute the Board of Directors of the limited company and Trustees of the charity and the members of its management committee. Specific matters are delegated to particular committees of the Society by resolution of the Board and in accordance with the Society's Articles.

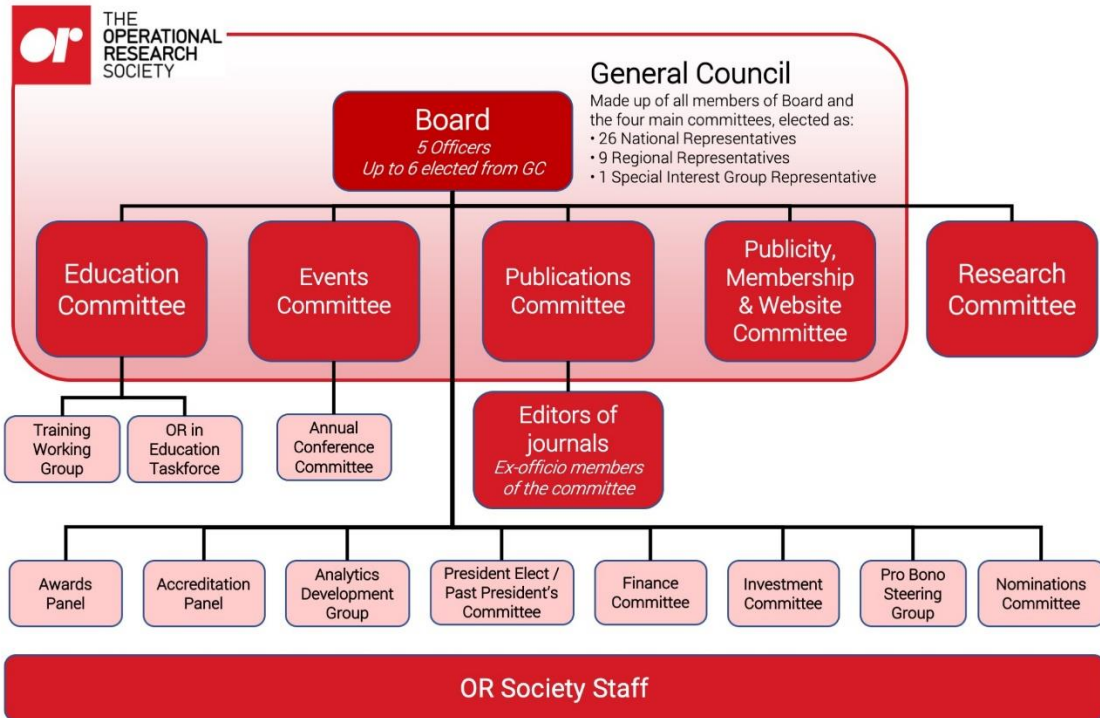
The following served as members of the Board in 2023

G OWUSU President	T W ARCHIBALD
E K BURKE Immediate Past President	R BYDE
A C PAGEL Vice President	J MEDHURST
S L LORRIMER Vice President	N MORRILL (resigned 21/12/2023)
R A SCOTT Hon. Treasurer	C J PHILLIPS
V SENA	

Unless otherwise stated, changes in the membership of the Board occur at the end of a calendar year.

The Board is supported by a General Council with a maximum membership of thirty-six. These two bodies assist the Society in its ongoing commitment to involve as many members as possible in its affairs. The Board of Directors is responsible for governance and strategy and the General Council, with its wide representation, provides advice, feedback and challenge and monitors the Board's activity. Members of General Council have also, in all cases, been assigned to one of the Society's four main committees: Publications; Publicity, Membership and Website; Education and Research; and Events and the Chairs of those committees are currently Board members.

The structure is set out in the diagram below.



(5) The committees are established to implement policies of Board & General Council with respect to meeting the Society's objectives and to controlling expenditure. The names of the committees are set out as follows, together with the object ((a) or (b) as above) towards the achievement of which they contribute:

Accreditation Panel	(a)
Analytics Development Group	(a)
Awards Panel	(a)
Education	(b)
Events	(a), (b)
Finance	Management of financial aspects
Investment	Management of investments
Nominations	Volunteer recruitment to governance roles
Past President's/President Elect's	Elections, planning & administrative reviews
Pro Bono Steering Group	(a)
Publications	(a)
Publicity, Membership & Website	(a)
Research	(a)
Training Working Group	(b)

(6) Other Committees are set up from time to time for specific purposes, but they are given no delegated powers. In addition, the Society has a large number of active Special Interest Groups which are listed in the Journal of the Society. They contribute particularly to object (a).

(7) The registered address of the Society is:

Seymour House
12 Edward Street
BIRMINGHAM
B1 2RX

Its Executive Director is:

S J Hargreaves
The OR Society
12 Edward Street
BIRMINGHAM
B1 2RX

Its Bankers are:

The Co-operative Bank
Delf House
Southway
SKELMERSDALE
WN8 6WT

Its Solicitors are:

Sydney Mitchell and Co
Cavendish House
Waterloo Street
BIRMINGHAM
B2 5PU

Its Auditors are:

Sayer Vincent LLP
110 Golden Lane
LONDON
EC1Y 0TL

Its Investment Adviser is:

Tom Quicke
Rathbones Investec
30 Gresham Street
LONDON
EC2V 7QN

Its Stockbrokers are:

Rathbones Investec
30 Gresham Street
LONDON
EC2V 7QN

(8) The Society's investment policy is governed by the legislative provisions relating to charity investments, but the Society is not otherwise restricted in the way in which it can invest. However, it is the Society's policy not to invest in tobacco shares and accept the standard ESG commitments of the Investment house Rathbones Investec.

(9) These particulars are published in compliance 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).

Public Benefit

The OR Society is a charity and meets the public benefit test as set out in the Charities Act 2011 in various ways:

Advancement of education:

Through the OR in Schools initiative, its many networking, training and conferencing activities in schools, universities and workplaces and extensive on-line resources, The OR Society promotes the understanding of OR and how it can be applied for the wider benefit. The OR Society is a participating society (with voting rights) on the Joint Mathematical Council of the UK.

Advancement of science:

Through its publications, conferences and networking activities; representation on the Council for Mathematical Sciences, Science Council, funding bodies and international federations; and on-line materials and facilities, The OR Society supports, promotes and publicises research; raises standards of research and practice; and promotes the effective application of OR for wider social benefit. Through its accreditation and awards schemes, The OR Society recognises and promotes engagement, effectiveness and development in its members, further raising standards.

Advancement of community development:

The OR Society encourages volunteering and involvement through its Pro Bono OR initiative, involvement of members in outreach to schools and universities and networks of Regional and Special Interest Groups.

The OR Society funds educational, development and research projects that are in line with its charitable aims of advancing knowledge and education through fostering OR

All OR Society events and training are open to all who may be interested. In addition, it minimises barriers to access by:

- (1) ensuring that many of its on-line resources are publicly and freely available;
- (2) keeping membership fees low and offering reduced fees for unwaged groups; and
- (3) supporting Regional and Special Interest Group networks which offer free meetings.

In governing The OR Society, the Trustees have had regard to the Charity Commission's public benefit guidance.

Statement of responsibilities of the elected officers and members of the Board

The trustees (who are also directors of The Operational Research Society for the purposes of company law) are responsible for preparing the trustees' annual report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the trustees to prepare financial statements for each financial year which 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 trustees are required to:

- Select suitable accounting policies and then apply them consistently;
- Observe the methods and principles in the Charities SORP;
- Make judgements and estimates that are reasonable and prudent;
- State whether applicable UK Accounting Standards and statements of recommended practice 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 charity will continue in operation.

The trustees are responsible for keeping adequate accounting records that 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.

In so far as the trustees are 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 trustees are responsible for the maintenance and integrity of the corporate and financial information included on the charitable company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Appointment of trustees

The officers and other members of the Board are elected by secret ballot of the Society's membership and the members of General Council respectively, to serve for a three-year term (except for the President, who serves one year as President-Elect, two years as President and a further year as Immediate Past-President). A member of the Board, other than the President, whose first term of office has expired may stand for election for one further term. At the end of 2023, two members of the Board completed their term of office: E K BURKE & R BYDE.

Induction of new trustees

New trustees receive a comprehensive information pack, setting out details of their role and responsibilities as both trustees and company directors, the nature of a charity, the Society's constitution, its policies on members' interests and expense claims and including the Charity Commission's 'welcome' leaflet.

Members' interests

In accordance with Article 46 of its constitution, the Society requires that members of Board or committees having an interest in a matter to be debated should declare that interest and leave the room whilst the matter is discussed and decided. Members of the Training Working Group are drawn from organisations which have no interest in bidding for courses and wherever appropriate, recommendations on major charitable projects are made by a special expert committee comprised entirely of disinterested parties.

The trustees' annual report has been prepared in accordance with the provisions applicable to companies subject to the small companies' regime.

Approval of report

We approve this report and the audited accounts for the year 1 January to 31 December 2023 and recommend their adoption by the Society at its Annual General Meeting.

G OWUSU President R A SCOTT Hon Treasurer

T W ARCHIBALD
J MEDHURST

S PETROVIC
A C PAGEL

H TEWKESBURY
C J PHILLIPS

S LORRIMER
V SENA C CURRIE

Being the elected officers and members of the Board of The Operational Research Society as at 22 May 2024.

S Hargreaves
Executive Director
May 2024

Accounts

for the year ended 31 December 2023

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF OPERATIONAL RESEARCH SOCIETY

Opinion

We have audited the financial statements of Operational Research Society (the 'charitable company') for the year ended 31 December 2023 which comprise the statement of financial activities, balance sheet, statement of cash flows and notes to the financial statements, including significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

In our opinion, the financial statements:

- Give a true and fair view of the state of the charitable company's affairs as at 31 December 2023 and of its incoming resources and application of resources, including its income and expenditure for the year then ended
- Have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice
- Have been prepared in accordance with the requirements of the Companies Act 2006

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 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. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating 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 Operational Research Society'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 other information comprises the information included in the trustees' annual report, other than the financial statements and our auditor's report thereon. The trustees are responsible for the other information contained within the annual 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.

Opinions on other matters prescribed by the Companies Act 2006

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

- The information given in the trustees' annual report, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- The trustees' annual report has been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

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 misstatements in the trustees' annual 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 trustees' remuneration specified by law are not made; or
- We have not received all the information and explanations we require for our audit; or
- The directors were not entitled to prepare the financial statements in accordance with the small companies' regime and take advantage of the small companies' exemptions in preparing the trustees' annual report and from the requirement to prepare a strategic report.

Responsibilities of Trustees

As explained more fully in the statement of trustees' responsibilities set out in the trustees' annual report, 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

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.

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 are set out below.

Capability of the audit in detecting irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, our procedures included the following:

- We enquired of management and the finance committee, which included obtaining and reviewing supporting documentation, concerning the charity's policies and procedures relating to:
 - Identifying, evaluating, and complying with laws and regulations and whether they were aware of any instances of non-compliance;
 - Detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected, or alleged fraud;
 - The internal controls established to mitigate risks related to fraud or non-compliance with laws and regulations.
- We inspected the minutes of meetings of those charged with governance.
- We obtained an understanding of the legal and regulatory framework that the charity operates in, focusing on those laws and regulations that had a material effect on the financial statements or that had a fundamental effect on the operations of the charity

from our professional and sector experience.

- We communicated applicable laws and regulations throughout the audit team and remained alert to any indications of non-compliance throughout the audit.
- We reviewed any reports made to regulators.
- We reviewed the financial statement disclosures and tested these to supporting documentation to assess compliance with applicable laws and regulations.
- We performed analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud.
- In addressing the risk of fraud through management override of controls, we tested the appropriateness of journal entries and other adjustments, assessed whether the judgements made in making accounting estimates are indicative of a potential bias and tested significant transactions that are unusual or those outside the normal course of business.

Because of the inherent limitations of an audit, there is a risk that we will not detect all irregularities, including those leading to a material misstatement in the financial statements or non-compliance with regulation. This risk increases the more that compliance with a law or regulation is removed from the events and transactions reflected in the financial statements, as we will be less likely to become aware of instances of non-compliance. The risk is also greater regarding irregularities occurring due to fraud rather than error, as fraud involves intentional concealment, forgery, collusion, omission or misrepresentation.

A further description of our responsibilities is available on the Financial Reporting Council's website at: 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.

Fleur Holdon
Senior statutory auditor
29 May 2024

for and on behalf of
Sayer Vincent LLP
Statutory Auditor
110 Golden Lane
LONDON
EC1Y 0TG

Operational Research Society

Statement of financial activities (incorporating an income and expenditure account)

For the year ended 31 December 2023

	Note	Unrestricted £	Restricted £	2023 Total £	Unrestricted £	Restricted £	2022 Total £
Income from:							
Charitable activities							
Subscriptions	2	159,861	–	159,861	147,613	–	147,613
Events and Conferences	2	260,951	36,254	297,205	155,501	–	155,501
Training	2	63,204	–	63,204	107,753	–	107,753
Publications	2	822,766	–	822,766	1,060,539	–	1,060,539
Accreditation	2	9,745	–	9,745	8,803	–	8,803
Websites / Digital Services	2	200	–	200	6,271	–	6,271
Investments	3	47,232	–	47,232	41,585	2,565	44,150
Total income		1,363,959	36,254	1,400,213	1,528,065	2,565	1,530,630
Expenditure on:							
Raising funds	4	12,473	–	12,473	12,439	–	12,439
Charitable activities							
Subscriptions	4	138,608	–	138,608	143,682	–	143,682
Events and Conferences	4	381,407	–	381,407	358,719	–	358,719
Training	4	97,793	–	97,793	113,932	–	113,932
Apprenticeships	4	51,565	–	51,565	3,186	–	3,186
Publications	4	274,723	–	274,723	297,509	–	297,509
Accreditation	4	17,906	–	17,906	16,793	–	16,793
Websites / Digital Services	4	157,047	–	157,047	186,898	–	186,898
Other Charitable expenditure	4	426,320	–	426,320	380,630	–	380,630
Total expenditure		1,557,842	–	1,557,842	1,513,788	–	1,513,788
Net income / (expenditure) before net gains / (losses) on investments		(193,883)	36,254	(157,629)	14,277	2,565	16,842
Net gains / (losses) on investments		94,094	536	94,630	(277,025)	(13,457)	(290,482)
Net income / (expenditure) for the year		(99,789)	36,790	(62,999)	(262,748)	(10,892)	(273,640)
Transfers between funds		–	–	–	–	–	–
Net movement in funds		(99,789)	36,790	(62,999)	(262,748)	(10,892)	(273,640)
Reconciliation of funds:							
Total funds brought forward		2,315,217	62,456	2,377,673	2,577,965	73,348	2,651,313
Total funds carried forward		2,215,428	99,246	2,314,674	2,315,217	62,456	2,377,673

All of the above results are derived from continuing activities. There were no other recognised gains or losses other than those stated above. Movements in funds are disclosed in Note 18 to the financial statements.

Operational Research Society

Balance sheet

Company no. 00663819

As at 31 December 2023

	Note	£	2023 £	£	2022 £
Fixed assets:					
Tangible assets	10		214,137		216,835
Intangible assets	11		12,500		–
Investments	12		1,821,091		1,762,536
			<u>2,047,728</u>		<u>1,979,371</u>
Current assets:					
Debtors	13	296,593		380,303	
Cash at bank and in hand		193,108		224,469	
		<u>489,701</u>		<u>604,772</u>	
Liabilities:					
Creditors: amounts falling due within one year	14	(222,755)		(206,470)	
			<u>266,946</u>		<u>398,302</u>
Net current assets			<u>266,946</u>		<u>398,302</u>
Total net assets			<u>2,314,674</u>		<u>2,377,673</u>
The funds of the charity:					
Restricted Funds	17	99,246		62,456	
Unrestricted Funds		2,215,428		2,315,217	
		<u>2,314,674</u>		<u>2,377,673</u>	
Total unrestricted and restricted funds			<u>2,314,674</u>		<u>2,377,673</u>
Total charity funds			<u>2,314,674</u>		<u>2,377,673</u>

Approved by the trustees on 22 May 2024 and signed on their behalf by

R. A. Scott
Honorary Treasurer

G. Owusu
President

Operational Research Society

Statement of cash flows

For the year ended 31 December 2023

	2023 £	£	2022 £	£
Cash flows from operating activities				
Net (expenditure)/income for the reporting period (as per the statement of financial activities)	(62,999)		(273,640)	
Depreciation and amortisation charges	27,778		68,962	
Losses/(gains) on investments	(94,630)		290,482	
Dividends and interest from investments	(47,232)		(44,150)	
(Increase)/decrease in debtors	83,710		(168,008)	
Increase/(decrease) in creditors	16,285		34,205	
Net cash used in operating activities		(77,088)		(92,149)
Cash flows from investing activities:				
Dividends and interest from investments	47,232		44,150	
Purchase of fixed assets	(25,080)		(4,335)	
Purchase of intangible assets	(12,500)		-	
Proceeds from sale of investments	629,661		436,292	
Purchase of investments	(646,675)		(419,180)	
Net cash provided by investing activities		(7,362)		56,927
Change in cash and cash equivalents in the year		(84,450)		(35,222)
Cash and cash equivalents at the beginning of the year		299,781		335,003
Cash and cash equivalents at the end of the year		215,331		299,781
Analysis of cash and cash equivalents and of net debt				
	At 1 January 2023 £	Cash flows £	At 31 December 2023 £	
Cash at bank and in hand	224,469	(31,361)	193,108	
Cash deposited with investment brokers	75,312	(53,089)	22,223	
Total cash and cash equivalents	299,781	(84,450)	215,331	

1 Accounting policies

a) Statutory information

The Operational Research Society is a charitable company limited by guarantee and is incorporated in England and Wales.

The registered office address is 12 Edward Street, Birmingham, B1 2RX, UK

b) Basis of preparation

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) – (Charities SORP FRS 102), The Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

c) Public benefit entity

The charity meets the definition of a public benefit entity under FRS 102.

d) Preparation of the accounts on a going concern basis

The Operational Research Society operates as a going concern. The trustees consider there are no material uncertainties about the charity's ability to continue as a going concern.

The Society operates a reserves policy that reflects its critical dependence on journal income.

The policy sets the minimum level of reserves at one year's fixed running costs of £900k to keep the charity viable whilst alternative funding is found.

The maximum level is to be set at three years' running costs or £2.7 million. The charity is currently meeting its reserves target.

e) Key estimates and judgements

When preparing the financial statements, management makes a number of judgements, estimates and assumptions about the recognition and measurement of assets, liabilities, income and expenses. The company amortises fixed assets over their estimated useful lives. The estimation of the useful lives of assets is based on historic performance as well as expectations about future use and therefore requires estimates and assumptions to be applied by management. The actual lives of these assets can vary depending on a number of factors, including the maintenance and level of upkeep of the software systems.

f) Income

Income is recognised when the charity has entitlement to the funds, any performance conditions attached to the income have been met, it is probable that the income will be received and that the amount can be measured reliably. Income from government and other grants, whether 'capital' grants or 'revenue' grants, is recognised when the charity has entitlement to the funds, any performance conditions attached to the grants have been met, it is probable that the income will be received and the amount can be measured reliably and is not deferred. Income received in advance of the provision of a specified service is deferred until the criteria for income recognition are met.

g) Dividends and investment income

Interest and dividends on funds held on deposit or invested is included when receivable and the amount can be measured reliably by the charity; this is normally upon notification of the interest or dividend paid or payable by the relevant institution.

h) Expenditure

Expenditure is recognised once there is a legal or constructive obligation to make a payment to a third party, it is probable that settlement will be required and the amount of the obligation can be measured reliably. Expenditure is classified under the following activity headings:

Costs of raising funds relate to the costs incurred by the charity in inducing third parties to make voluntary contributions to it, as well as the cost of any activities with a fundraising purpose.

Expenditure on charitable activities includes the costs of delivering services, exhibitions and other educational activities undertaken to further the purposes of the charity and their associated support costs.

Other expenditure represents those items not falling into any other heading.

i) Value added tax

The Society has partial exemption status for Value Added Tax and Value Added Tax on apportionable costs which cannot be reclaimed is disclosed separately within administration costs.

Notes to the financial statements

For the year ended 31 December 2023

1 Accounting policies (continued)**j) Allocation of costs**

Salaries, depreciation, websites / digital services expenditure and other central and establishment overheads are allocated to appropriate cost categories using consistently applied ratios based on estimates of actual time and costs expended in each area.

Allocation of support and governance costs:

Raising funds	0%
Subscriptions	13%
Events and Conferences	19%
Training	6%
Apprenticeships	0%
Publications	14%
Accreditation	2%
Websites / Digital Services	18%
Other Charitable expenditure	28%

k) Tangible and Intangible fixed assets

Tangible and intangible fixed assets costing more than £1,000 and with a useful economic life in excess of 3 years are capitalised and included at cost including any incidental expenses of acquisition.

Depreciation of tangible fixed assets is charged on a straight line basis at the following rates:

Long leasehold building	2%
Office machines and computer equipment	33%
Fixtures and fittings	10%

Amortisation of Intangible fixed assets is charged on a straight line basis at the following rate:

Software systems	25%
------------------	-----

The amortisation rate charged is based on management's best estimate of the useful life of the software systems.

l) Investments

Investments are a form of basic financial instrument and are initially recognised at their transaction value and subsequently measured at their fair value as at the balance sheet date using the closing quoted market price. Any change in fair value will be recognised in the statement of financial activities. Investment gains and losses, whether realised or unrealised, are combined and shown in the heading "Net gains/(losses) on investments" in the statement of financial activities. The charity does not acquire put options, derivatives or other complex financial instruments.

m) Debtors

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

n) Cash at bank and in hand

Cash at bank and cash in hand includes cash and short term highly liquid investments.

o) Creditors and provisions

Creditors and provisions are recognised where the charity has a present obligation resulting from a past event that will 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 after allowing for any trade discounts due.

p) Pensions

The Society contributes to individual pension schemes established for each eligible employee.

q) Financial instruments

The Society 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.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2023

2 Income from charitable activities

	Unrestricted £	Restricted £	2023 Total £	Unrestricted £	Restricted £	2022 Total £
Journal of The OR Society / Knowledge Management Research & Practice / Journal of Simulation	603,761	-	603,761	759,963	-	759,963
Inside OR	1,324	-	1,324	2,021	-	2,021
European Journal of Information Systems / Health Systems / Journal of Business Analytics	215,155	-	215,155	295,273	-	295,273
Other publications	2,526	-	2,526	3,282	-	3,282
Sub-total for Publications	822,766	-	822,766	1,060,539	-	1,060,539
Subscriptions	159,861	-	159,861	147,613	-	147,613
Events and Conferences	260,951	36,254	297,205	155,501	-	155,501
Training	63,204	-	63,204	107,753	-	107,753
Accreditation	9,745	-	9,745	8,803	-	8,803
Websites / Digital Services	200	-	200	6,271	-	6,271
Total income from charitable activities	1,316,727	36,254	1,352,981	1,486,480	-	1,486,480

During the year an amount of £36,254 was transferred to us from MISTA (Multidisciplinary in Scheduling: Theory and Applications) to be disbursed over the next 10 years under pre-determined conditions for the purpose of running MISTA based events within OR events and conferences.

3 Income from investments

	Unrestricted £	Restricted £	2023 Total £	Unrestricted £	Restricted £	2022 Total £
Income from Listed Investments	44,152	-	44,152	41,071	-	41,071
Interest on Bank Deposits	2,940	-	2,940	514	-	514
Profit on Sale of Fixed Assets	140	-	140	-	-	-
Distributions – CAF	-	-	-	-	2,565	2,565
	47,232	-	47,232	41,585	2,565	44,150

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2023

4a Analysis of expenditure (current year)

	Charitable activities										2023 Total £	2022 Total £
	Raising funds £	Subscriptions £	Events and Conferences £	Training £	Apprentice- ships £	Publications £	Accreditation £	Website / Digital Services £	Other Charitable Activities £	Support and governance costs £		
Staff costs (Note 6)		83,610	122,958	38,641	-	88,835	10,830	72,083	196,272	73,794	687,023	772,631
Recruitment costs	-	1,762	2,592	815	-	1,873	228	1,519	4,137	1,556	14,482	34,659
Establishment Costs	-	4,083	6,004	1,887	-	4,338	529	3,520	9,585	3,604	33,550	20,693
Postage and phones	-	1,102	2,082	1,034	-	3,498	14	135	1,310	483	9,658	10,658
Office Costs	-	7,431	10,928	7,431	-	7,868	437	-	7,431	2,186	43,712	29,353
Computer s/ware and maintenance	-	8,986	5,990	2,995	-	8,387	-	20,967	12,580	-	59,905	51,038
Website	-	6,667	4,444	2,222	-	6,222	-	15,555	9,333	-	44,443	35,506
Bank Charges	-	2,773	3,795	2,163	-	-	-	-	-	-	8,731	6,959
Legal and Professional Fees	12,473	-	-	-	-	-	-	-	-	48,436	60,909	34,206
Other Direct costs	-	4,218	195,739	32,528	51,565	134,295	2,791	-	146,515	-	567,651	449,123
Depreciation & Amortisation	-	978	2,032	232	-	1,102	462	19,733	2,546	693	27,778	68,962
	12,473	121,610	356,564	89,948	51,565	256,418	15,291	133,512	389,709	130,752	1,557,842	1,513,788
Support and governance costs	-	16,998	24,843	7,845	-	18,305	2,615	23,535	36,611	(130,752)	-	
Total expenditure 2023	12,473	138,608	381,407	97,793	51,565	274,723	17,906	157,047	426,320	-	1,557,842	
Total expenditure 2022	12,439	143,682	358,719	113,932	3,186	297,509	16,793	186,898	380,630	-		1,513,788

Other Charitable Activities covers the remaining non-revenue earning activities carried out in pursuit of the Society's charitable aims. It includes: library, public information about OR, third sector pro bono, research support, strategic initiatives, regional societies, special interest groups, awards and scholarships.

Other Direct Costs includes the physical costs of putting on events, and producing our publications as well as costs of promoting OR and membership and support of other learned societies.

The Operational Research Society

Notes to the financial statements

For the year ended 31 December 2023

4b Analysis of expenditure (prior year)

	Charitable activities										2022 Total £
	Raising funds £	Subscriptions £	Events and Conferences £	Training £	Apprentice- ships £	Publications £	Accreditation £	Website / Digital Services £	Other Charitable Activities £	Support and governance costs £	
Staff costs (Note 6)	-	94,028	138,280	43,456	-	99,904	12,179	81,065	220,728	82,991	772,631
Recruitment costs	-	4,218	6,203	1,949	-	4,482	546	3,636	9,902	3,723	34,659
Establishment Costs	-	2,518	3,703	1,164	-	2,676	326	2,171	5,912	2,223	20,693
Postage and phones	-	1,216	2,298	1,141	-	3,861	15	149	1,445	533	10,658
Office Costs	-	4,990	7,338	4,990	-	5,284	293	-	4,990	1,468	29,353
Computer s/ware and maintenance	-	7,656	5,104	2,552	-	7,145	-	17,863	10,718	-	51,038
Website	-	5,326	3,551	1,775	-	4,971	-	12,427	7,456	-	35,506
Bank Charges	-	2,210	3,025	1,724	-	-	-	-	-	-	6,959
Legal and Professional Fees	12,439	-	-	-	-	-	-	-	-	21,767	34,206
Other Direct costs	-	4,217	162,431	47,739	3,186	150,430	-	-	81,120	-	449,123
Depreciation & Amortisation	-	2,428	5,046	577	-	2,737	1,146	48,991	6,321	1,716	68,962
	12,439	128,807	336,979	107,067	3,186	281,490	14,505	166,302	348,592	114,421	1,513,788
Support and governance costs	-	14,875	21,740	6,865	-	16,019	2,288	20,596	32,038	(114,421)	-
Total expenditure 2022	12,439	143,682	358,719	113,932	3,186	297,509	16,793	186,898	380,630	-	1,513,788
Total expenditure 2021	13,145	137,599	227,392	105,501	2,000	280,778	15,598	182,215	336,006	-	

Other Charitable Activities covers the remaining non-revenue earning activities carried out in pursuit of the Society's charitable aims. It includes: library, public information about OR, third sector pro bono, research support, strategic initiatives, regional societies, special interest groups, awards and scholarships.

For the year ended 31 December 2023

5 Net income / (expenditure) for the year

This is stated after charging / (crediting):

	2023 £	2022 £
Depreciation and amortisation	27,778	68,962
Auditor's remuneration (excluding VAT): Audit	10,400	9,750

6 Analysis of staff costs, trustee remuneration and expenses, and the cost of key management personnel

Staff costs were as follows:

	2023 £	2022 £
Salaries and wages	570,821	642,043
Social security costs	54,546	64,489
Pension costs	61,656	66,099
	687,023	772,631

The following number of employees received employee benefits (excluding employer pension costs and employer's national insurance) during the year between:

	2023 No.	2022 No.
£60,000 – £69,999	–	1
£80,000 – £89,999	1	–
£90,000 – £99,999	–	1

The key management personnel of the Society comprise the Executive Director, the Head of Membership Engagement and the Head of Professional Services. In 2022 key management solely comprised of the Executive Director. The total employee benefits (including pension contributions and employer's national insurance) of the key management personnel were £202,328 (2022: £111,308).

No remuneration was paid or is payable to Trustees for service on the Board for the year (2022: £nil).

Trustees' expenses represents the payment or reimbursement of travel and subsistence costs totalling £6,248 (2022: £544) incurred by 9 (2022: 8) members relating to attendance at meetings of the trustees.

7 Staff numbers

The average number of employees (head count based on number of staff employed) during the year was 16.3 (2022: 17.7).

Staff are split across the activities of the charity as follows:

	2023		2022	
	Headcount	FTE	Headcount	FTE
Charitable activities	13.3	11.4	14.7	13.6
Management and administration	3.0	3.0	3.0	3.0
	16.3	14.4	17.7	16.6

8 Related party transactions

In 2022, Gavin Blackett, as part of his Society role as the previous Executive Director, was also a Director of Edward Street Management Limited, the company that managed the Society's buildings car park. During 2022 the Society paid rent to the company of £3,030.

Also, in 2022, Amanda Blackett, the wife of Gavin Blackett, the Society's Executive Director, was employed by the Society. Amanda received an appropriate salary for the role undertaken, in line with market rates.

In 2023, Seb Hargreaves as part of his Society role as the Executive Director, was also a Director of Edward Street Management Limited, the company that managed the Society's buildings car park. During 2023 the Society paid rent to the company of £3,030.

There are no donations from related parties which are outside the normal course of business and no restricted donations from related parties.

9 Taxation

The charity is exempt from corporation tax as all its income is charitable and is applied for charitable purposes.

10 Tangible fixed assets

Cost	Long leasehold land and buildings £	Office equipment £	Fixtures and fittings £	Total £
At the start of the year	314,306	57,743	130,418	502,467
Additions in year	–	18,447	6,633	25,080
Disposals in year	–	(42,509)	–	(42,509)
At the end of the year	314,306	33,681	137,051	485,038
Depreciation				
At the start of the year	182,294	55,048	48,290	285,632
Charge for the year	6,286	7,787	13,705	27,778
Disposals	–	(42,509)	–	(42,509)
At the end of the year	188,580	20,326	61,995	270,901
Net book value At the end of the year	125,726	13,355	75,056	214,137
At the start of the year	132,012	2,695	82,128	216,835

The Trustees consider the market value of the Long Leasehold Land and Buildings to be materially in excess of the book written down value shown above.

11 Intangible fixed assets

	Software systems £	Total £
Cost		
At the start of the year	206,672	206,672
Additions in year	12,500	12,500
At the end of the year	219,172	219,172
Amortisation		
At the start of the year	206,672	206,672
Charge for the year	-	-
At the end of the year	206,672	206,672
Net book value		
At the end of the year	12,500	12,500
At the start of the year	-	-

12 Listed investments

	2023 £	2022 £
Fair value at the start of the year	1,687,224	1,994,818
Additions at cost	646,675	419,180
Disposal proceeds	(629,661)	(436,292)
Net gain/(loss) on change in fair value	94,630	(290,482)
	1,798,868	1,687,224
Cash held by investment broker pending reinvestment	22,223	75,312
Fair value at the end of the year	1,821,091	1,762,536

Investments comprise:

	2023 £	2022 £
UK Common investment funds	163,231	158,566
Shares listed on the London Stock Exchange	393,900	504,289
UK Property and assets	322,081	306,021
Overseas Investment funds	138,466	181,510
Overseas Shares	803,413	536,838
	1,821,091	1,687,224

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2023

13 Debtors

	2023 £	2022 £
Trade debtors	36,957	63,838
Prepayments	61,553	68,470
Accrued income	155,655	223,522
Recoverable VAT	42,428	24,473
	<u>296,593</u>	<u>380,303</u>

14 Creditors: amounts falling due within one year

	2023 £	2022 £
Trade creditors	46,371	35,041
Taxation and social security	22,593	28,783
Other creditors	19,224	4,238
Accruals	77,310	94,549
Deferred income (note 15)	57,257	43,859
	<u>222,755</u>	<u>206,470</u>

15 Deferred income

	2023 £	2022 £
Balance at the beginning of the year	43,859	31,051
Amount released to income in the year	(43,859)	(31,051)
Amount deferred in the year	57,257	43,859
	<u>57,257</u>	<u>43,859</u>

Deferred income consists of 2024 subscription income paid in advance.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2023

16a Analysis of net assets between funds (current year)

	Unrestricted £	Restricted £	Total funds £
Tangible fixed assets	214,137	–	214,137
Intangible fixed assets	12,500	–	12,500
Investments	1,821,091	–	1,821,091
Net current assets	167,700	99,246	266,946
Net assets at 31 December 2023	2,215,428	99,246	2,314,674

16b Analysis of net assets between funds (prior year)

	Unrestricted £	Restricted £	Total funds £
Tangible fixed assets	216,835	–	216,835
Intangible fixed assets	–	–	–
Investments	1,696,976	65,560	1,762,536
Net current assets	398,302	–	398,302
Net assets at 31 December 2022	2,312,113	65,560	2,377,673

17a Movements in funds (current year)

	At 1 January 2023 £	Income & gains £	Expenditure & losses £	Transfers £	At 31 December 2023 £
Restricted Funds	–	–	–	–	–
ISMOR	14,600	–	–	–	14,600
May Hicks	47,856	536	–	–	48,392
MISTA	–	36,254	–	–	36,254
Total Restricted Funds	62,456	36,790	–	–	99,246
Unrestricted Funds	2,315,217	1,458,053	(1,557,842)	–	2,215,428
Total funds	2,377,673	1,494,843	(1,557,842)	–	2,314,674

The narrative to explain the purpose of the restricted fund is given at the foot of the note below.

Operational Research Society

Notes to the financial statements

For the year ended 31 December 2023

17b Movements in funds (prior year)

	At 1 January 2022 £	Income & gains £	Expenditure & losses £	Transfers £	At 31 December 2022 £
Restricted Funds	73,348	2,565	(13,457)	–	62,456
Unrestricted Funds	2,577,965	1,251,040	(1,513,788)	–	2,315,217
Total funds	2,651,313	1,253,605	(1,527,245)	–	2,377,673

Restricted Funds

Consists of a legacy received in 2002. The Legator, Mrs May Hicks, expressed a non-binding wish that the Society uses its bequest to fund an annual award to be determined by the Council of the Society. It also includes an amount received from the ISMOR (International Symposium on Military OR) trust of £14,600 to be used to fund ISMOR scholarships and an amount of £36,254 transferred from Multidisciplinary in Scheduling: Theory and Applications (MISTA) to be used for scheduling MISTA activity into ORS events and conferences.

18 Operating lease commitments payable as a lessee

The charity's total future minimum lease payments under operating leases is as follows for each of the following periods

	Leasehold Property Service		Equipment	
	Charge 2023 £	2022 £	2023 £	2022 £
Less than one year	3,030	3,030	5,435	5,548
One to five years	12,120	12,120	11,224	8,390
Over five years	245,430	248,460	–	–
	260,580	263,610	16,659	13,938

19 Legal status of the charity

The Society is a company limited by guarantee, has no share capital and is a registered charity. The objectives of the Society are the advancement of knowledge and education in operational research.

The liability of each member in the event of a winding-up is limited to £1.

OPERATIONAL RESEARCH SOCIETY LIMITED

England & Wales - Charity number 313713

Accounts



THE
OPERATIONAL
RESEARCH
SOCIETY

Annual Report and Accounts

for the year ended 31 December 2022

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A registered charity No 313713. A company limited by guarantee No 00663819

Foreword from the President

It is a great pleasure to introduce this report, which describes The Operational Research Society's achievements during 2022 and sets out our future plans.

Last year's foreword talked about how both the Society and the wider community can start to turn our thoughts to our role in the recovery towards some form of normality following the COVID pandemic. At the moment, it seems we're heading from one worldwide crisis to another, with the impact of the war in Ukraine and the cost-of-living crisis continuing to keep our operating environment very fluid. The Society is still considering how to combine the best of the online world with face-to-face elements. It's clear that many of our governance meetings will continue to take place via tools like Zoom and Teams, saving the cost, time and environmental impact of travelling to meetings, but the balance for our other events is still shifting, and the equilibrium point is some way of being found.

This report describes some of The OR Society's key achievements during 2022 in responding to the opportunities and challenges presented by the operating environment. These have included: building the scope and reach of our online delivery of services, the move towards becoming an End Point Assessment Organisation for the level 7 apprenticeship for an Operational Research Specialist; and our continued contribution to the Royal Society inspired Alliance for Data Science Professionals.

The end of 2022 is also a time of change for personnel at the Society. My term as President began in January; I'd like to thank my predecessor, Edmund Burke, for all his efforts in helping to guide the Society through the challenges of the COVID pandemic. The end of the year was also spent in preparation for a change at the head of the Society's staff, with Seb Hargreaves lined up to replace Gavin Blackett as Executive Director.

Later in this report I'll be listing some of the objectives for 2023. This will be a significant year for the Society as we launch celebrations for our 75th anniversary. We'll be looking at the past, present and future for the Society, and aim to capitalise on this opportunity to raise the profile of operational research and the Society.

Gilbert Owusu
OR Society President 2023-2024
May 2023

Introduction

The Operational Research Society is a charity set up to advance knowledge, interest and education in operational research (OR). Our vision is of a world improved by rigorous analysis and better, evidence-based decision-making: "OR providing world class analysis for world class decisions". In this world OR would be seen as indispensable – not just a 'nice to have' but a 'must have' – and be used and acknowledged widely in all areas of industry, business, government and the third sector.

As a charity, we must work for the public benefit, but we also aim to work for the good of our members, because without active, able and well-supported researchers and practitioners, students and supporters, OR would not exist. We disseminate learning; promote awareness of OR; support OR professionals and standards; and aim to ensure that UK OR has a 'voice at the table', both in the international OR world and in wider UK arenas. This represents a broad programme of activities and services, that has been growing year on year and that we continue to maintain and develop.

With the continuing dramatic changes in the world around us – the global coronavirus pandemic – our activities and services have had to adapt accordingly. These changes present great challenges for the whole world, but offer great opportunities for the OR discipline, OR professionals and The OR Society.

Review of the Year 2022

2022 was the third year of our 3 to 5-year strategic planning cycle, for which we adapted our main priorities on top of the 'Business as Usual' services and activities. The strategic pillars are: raising awareness of the importance of OR; supporting OR knowledge development; supporting OR education; growing membership and wider reach; ensuring financial sustainability of the Society; and embedding good diversity practice in OR and the ORS. Whilst we aim to put EDI considerations at the heart of everything we do, we felt its importance deserves highlighting as a separate strategic strand.

Highlights of the Year

This has been another year of highlights which, along with our full range of activities, support our charitable aims to advance knowledge, interest and education in OR.

Advancing knowledge

The Society's portfolio of academic journals continued to make a substantial contribution to both advancing and sharing knowledge. The publishing landscape is evolving, and the move towards Open Access has meant our content has become more widely available through the increasing number of 'read and publish' deals that are being signed across the world. More than one million downloads of academic papers were made during the year.

Operational research apprenticeships took further steps towards becoming a serious route to training the analysts of the future, with the Society looking to establish itself at the heart of the quality assurance processes core to that route.

The Society continues to work with Council for Mathematical Sciences on the next steps towards the establishment of the Academy for Mathematical Sciences. Decisions on the format of the proto-academy are advancing quickly with the help of volunteers from across the whole of the mathematical sciences community. This will play a key role in the future advancement of knowledge in OR. Other activities to advance knowledge are covered below in the Events, Publications and Research sections.

Advancing interest

The Society's strategic goal of advancing interest in OR returned to a more normal footing with the return of some of its in-person events. The opportunity to expand its global reach through a complementary programme of online events was grasped wholeheartedly.

The Society continued to implement the recommendations of its Artificial Intelligence (AI) task and finish group, especially through its links to the work of the ValidateAI group (validateai.org). The Society continues to be at the heart of the Alliance for Data Science Professionals, establishing standards for both practitioners and degree courses. The first cohort of awardees were recognised as Advanced Data Science Professionals. Other activities to advance interest are covered below in the Events, OR in Education and Pro Bono OR sections.

Advancing education

The Society is continuing pursuit for approval as an End Point Assessment Organisation. The first cohort of apprentices commenced in early 2022. This represents an exciting new route into the profession. Other activities to advance education are covered below in the Education, Training and OR in Education sections.

Other highlights

Some of our 2022 highlights made contributions to all our charitable aims. These included the continuing growth of our Women in OR and Analytics Network (WORAN), both in terms of the number of participants and its activities during the year. It held its first Land lecture, named after one of the early female pioneers in the field. The network provides a key focus for addressing issues facing women in our profession.

Finally, the Society is actively involved in an alliance of learned societies (BCS, IMA, and RSS) to implement recommendations in the Royal Society report *Dynamics of data science skills*, including shaping professional standards for data science. This has the potential to be pivotal in improving trust in data analysis across all sectors of the economy. Its first cohort of candidates had their professional status recognised.

Achievements during the year

Equality, Equity, Diversity & Inclusion

EDI pervades all we do at the OR Society and, as such, you will see details of some of our efforts in the individual sections of this report.

Our feedback from the Science Council EDI framework was positive and we have made much progress since our last assessment with more still to be made. A key piece of feedback was to grow the number of voices within the Society who embrace diversity. An example of working towards this is the increasing number of the EDI celebration days that were highlighted by OR society members, rather than the Society staff or the Diversity champion.

The OR Society EDI committee was established, and meetings have representatives from across all committees. In line with increasing the number of voices, this is evident in the ownership different areas, including committees, are taking for EDI in general and, specifically, the part of the Framework they are responsible for progressing.

We have made progress on the EDI data capture front (thank you to the Society members for this) and we were invited to share insights on our progress at a Science Council EDI workshop on collecting diversity data. The Society continues to be part of the Science Council EDI steering group and held discussions with the Engineering & Physical Sciences Research Council (EPSRC), specifically on the EDI area of the Mathematics

Theme. The Society submitted formal responses into a number of EDI consultations, including the UK Research & Innovation EDI Strategy. The Society has held a number of discussions with INFORMS on EDI also – watch this space for initiatives to follow.

Example areas of focus, include:

Menopause- WORAN continues to be successful and participation across all genders at their frequent events is growing. A popular virtual event was held on the menopause and a recording of the session is available (<https://www.youtube.com/watch?v=-dYopMZXWc>). More activities related to the menopause are planned.

Social Mobility – The Society continues to provide funds to In2Science a charity focussed on improving social mobility in STEM. The funds help to sponsor a student. This is in addition to work related to social mobility different committee areas undertake.

Neurodiversity- The Board EDI Champion attended training and is now an Autism Ambassador for Hampshire. The Society, provided, via Autism Hampshire, a brief (with the recording available to watch) on Autism to society members. The EDI Champion led a discussion of the Science Council EDI group on neurodiversity and some resources were shared as part of this from other professional societies.

Conferences and Events

The return to physical, in-person events has been gradual and started with the 2022 Analytics Summit at the beginning of July at the Institute for Engineering and Technology in London. This event had just over a hundred attendees, of whom a quarter were virtual. Later in the same month, ISMOR returned to Royal Holloway with a similar number of attendees but where almost everyone was present in person. These events both had a mixture of some virtual activities and some physical though it still seems to be difficult to manage events in such a way as to produce a single experience which is equally enjoyable and involving whether you are attending in person or virtually. We are continuing to pursue this, however, and we would be very interested in hearing from any members who have experience of successful models for fully blended events. Many thanks are due to the committees of these conferences for leading the way on the return to in-person events and for their success.

The critical point for this return to physical events was the annual conference at the University of Warwick in September. By conscious decision of the OR64 committee and the Society this was an entirely face-to-face conference. The annual conference is one of those things that binds together the various disciplines, specialities and communities that constitute Operational Research in the UK, and it was felt that it was important for us all to have the chance to come together in person and renew these connections. We are aware however that for some people the risks involved in meeting face-to-face are still too great and we hope that the continuing programme of virtual events and options provide an effective alternative.

For those able to attend, OR64 was a fun-packed conference, with all the buzz and excitement of face-to-face interaction. There were sessions full of pertinent questions and sometimes animated discussion, including a full Making an Impact workshop programme and a set of plenaries with a strong practical focus, together with a full social programme. Finally, and for the first time in three years, there was a Gala Dinner, with food, wine, and dancing. OR64 had 275 registered delegates giving 165 presentations and 170 delegates attended the Gala Dinner. The committee is to be congratulated on the way in which it met the challenge of our first fully physical conference since 2019.

Another important step forward for the Events offered by the Society this year is the establishment of a new, named annual lecture – the WORAN Land Lecture, named in honour of Ailsa Land, the first female professor of Operational Research in the UK. The first Land Lecture was held on Ada Lovelace Day – 11 October 2022,

with Professor Carole Blundell of the University of Bath as the speaker. This is the first of the OR Society's named lectures to honour a female pioneer of OR.

Events have continued in 2023 with an online Beale Lecture delivered by Robert Dyson looking at a career in Operational Research over seven decades – a theme that we will return to later in 2023 as we commence a year of events and activities commemorating 75 years of the OR Society.

We have also been thinking about the strategy for Events for the Society and their future direction. The last few years have provided an opportunity to stop and think about what we are doing and whether the events we are providing meet the needs of our audience. This includes the question of the right balance of virtual and live events but is more fundamental than that.

We would like to know what it is that Events do for you and your organisation. What is it that you value most about our events and how can we improve? We are interested in hearing from academics, practitioners, and retired members and from those involved in all areas of OR, whether hard or soft.

Finally, it is important to recognise that all of this would not have happened without the many volunteers and hard-working OR Society staff members who work on our events – the Annual Report gives me the opportunity to say a big thank you from me personally to all of them.

Publications

The OR Society has six academic journals. These are the *Journal of The Operational Research Society* (JORS), *European Journal of Information Systems* (EJIS), *Knowledge Management Research & Practice* (KMRP), *Journal of Simulation* (JOS), *Health Systems* (HS) and the *Journal of Business Analytics* (JBA).

Statistics relating to the usage of the Society's journals show year-on-year increases across all titles continuing the upward trend observed in recent years. The number of article downloads in 2022 exceeded 1 million, an increase of 10% compared to 2021. There was a very slight increase in the number of citations to articles in the Society's journals in 2022. However, this consolidated the substantial 19% increase in citations recorded in 2021. The total number of mentions of the journals on Twitter in 2022 was 40% higher than in 2021 and 334% higher than in 2019. This reflects the considerable efforts of the Editorial Teams, the Society and Taylor & Francis to promote the journals on social media.

The 2021 Impact Factors (published in June 2022) for *JORS*, *EJIS*, *KMRP* and *JOS* all showed increases compared to the 2020 data. In particular, *EJIS* continued its remarkable progress. Having increased from 2.6 in 2019 to 4.3 in 2020, the Impact Factor of *EJIS* more than doubled to 9.0 in 2021. *HS* and *JBA* are expected to receive Impact Factors for the first time when the 2022 figures are released. A CiteScore (a performance measure similar to Impact Factor derived from the Scopus database) is available for all six journals. The CiteScores published in 2022 showed improvements for all journals compared to the previous year, with the highest increases for *EJIS* and *JOS*.

The journals are led by hard working editorial teams who strive to provide submitting authors with timely and constructive feedback. In 2022, Claudia Szabo (University of Adelaide) replaced John Fowler on the editorial team for *JOS* and Ann Fruhling (University of Nebraska Omaha) was appointed to replace Nelson King on the editorial team for *HS*. The Society is currently recruiting to fill a vacancy for *JOS* following the untimely death of Loo Hay Lee in 2022.

The diversity of the editorial boards for each of our journals continues to be monitored and managed. Although some progress was made to increase diversity through appointments in the past year, at the end of

2022 the members of the editorial boards are predominantly male (72%) from North America (41%) or Europe (38%).

Taylor & Francis has changed the way in which volumes are compiled so that 2022 will be the last year in which the journals will be constrained by strict page budgets. All the journals have accumulated a stock of accepted papers waiting to be published in an issue. These papers are published online immediately, but there can be a delay of more than a year before publication in an issue. Going forward, editors will have discretion to increase the size of a volume to ensure more timely publication of papers.

Editors rely on the voluntary contributions of reviewers who provide reports on articles submitted for publication. Acknowledging these valuable contributions is an important element of the Society's strategy for recruiting and retaining reviewers. Reviewers can choose to have their efforts recognised via Publons. In 2022, for the second year, the Society awarded certificates to reviewers who had made particularly helpful contributions to the reviewing process.

The Society continues to develop its strategy for open access and open data with advice and support from Taylor & Francis. In line with Taylor & Francis's basic data sharing policy, all journals encourage authors to share or make open the data supporting the results or analyses presented in their paper where possible. All journals also offer authors the opportunity to publish open access via Taylor & Francis's Open Select publishing program. Of the papers published in the Society's journals in 2022, approximately 15% were published open access. A proposal to convert *HS* to a fully open access journal from 2024 has been developed with the editorial team and is expected to receive final approval early in 2023.

The Society also publishes two magazines: *Impact* and *InsideOR*.

Impact is published biannually and is aimed at practitioners and potential users of OR. The magazine is freely available in print or electronic versions. The founding editor, Graham Rand, has indicated that after eight years in charge, the Autumn 2022 issue will be the last that he edits. A process to appoint a new editor for *Impact* is underway.

InsideOR is the news magazine for Society members and is published monthly. Despite a long-standing wish to stand down, John Crocker continued to edit *InsideOR* throughout 2022 and will continue as editor until a suitable replacement has been found.

Carol McLaughlin from the OR Society office and Richard Goodman from Taylor & Francis continue to work with the Editorial Teams to monitor and update our joint publications strategy. Our thanks go to all those involved over the past year in supporting and promoting the OR Society's publications.

Education

The key activities for the Education committee are laid out below under its various areas of influence.

Training Working Group (TWG)

During the year, our most popular courses have been offered both online and face-to-face while the remaining courses have been offered only online.

The work to develop a training programme in AI/ML with the Alan Turing Institute continues although it has slowed substantially following Eve Hardy's departure as Education manager. Equally, we are still planning to develop the directory of Business Analytics degrees and programme directors as mentioned previously. In particular, we will focus on the developing a potential Pro Bono OR project to build a web scraper or similar software to help collect data.

TWG have been thinking about an increased number of KPIs to measure and report. Six potential KPIs are under discussion, some of which are new while others are currently used. Some of them will be aimed at measuring EDI metrics, while others are harder to pinpoint – for example the quality of courses is not straightforward to measure. TWG would ultimately like a measure of quality to extend into accrediting courses, but there are challenges around who reviews the course, and funding the reviews.

OR in Education (ORIE)

ORiE volunteers have attended a variety of events during the year. These have included:

- British Science Fair
- New Scientist Live
- Brunel University Career Fair
- Oxford University Career Fair
- Birmingham University Maths Fair
- Essex University Career Fair
- Bristol University Career Fair

The ORiE taskforce have identified their aims and objectives for 2023 and want to align them with the Society's EDI policy. Due to costs of attending the larger events, and the potential blockers for public to attend (cost of tickets, transport, location), ORiE is investigating which of the large-scale events will best align with its objectives. The taskforce is also developing a volunteer strategy which will be a joint effort with the Pro Bono scheme so that the same strategy sits across the whole organisation.

While the slow return to normality is welcome, it is worth highlighting that a growing number of face-to-face events increases the pressure on the available resources. This is particularly true for ORiE. The number of registered volunteers has increased over the years, but this has not been accompanied by an increase in active volunteers; as a result, volunteer availability is the largest barrier to carrying out more outreach work. For instance, lack of volunteers was the main reason for missing events in the year. This is a shame considering that feedback from volunteers and participants on the ORiE events is generally positive.

The Career Open Day took place on 16 November at the ThinkTank in Birmingham. 397 students were booked with 15 exhibitors. Early numbers show that just over 100 students attended, which is more than the 50% drop off rate expected for a free event. Online survey links have been sent to exhibitors, students who attended and students who didn't attend to try to understand any blockers. ORiE have suggested that for 2023 another location is chosen as then event has been held in Birmingham for a number of years. A decision will be taken on this once survey results have been collated.

The Taskforce has recently asked teachers to join to provide some valuable perspective on outreach work with schools that it currently lacks. ORiE is still in the process of setting up a formal risk register and reviewing the theory of change document in order to set new KPIs to better capture the work done and challenge us to achieve new targets.

Apprenticeships

The OR Society is planning to apply to become an "End Point Assessment Organisation" (EPAO) for the Level 7 (L7) postgraduate apprenticeship in the occupation of "OR Specialist". The Education Manager has explained the intricacies of the application process and the paperwork that needs to be submitted to Ofqual.

The Education committee has also discussed how the role of the Education manager will evolve once the Society becomes an EPAO and the impact it will have on staffing and eventually financial resources. We have asked for information on the role of the Education committee in advising/supervising the assessment procedures. At the moment, it is not clear, and more clarity will be needed so that the committee can receive

the right training. Following further investigation and discussion, a comprehensive picture of amount of work involved to submit the application and carry out the day-to-day management has been formed. A meeting has taken place with a specialist EPAO consultant, who has agreed to submit a formal proposal of the options available to the Society at this point.

An L6 (degree level) apprenticeship trailblazer group is almost set up as had been done previously in the case of the L7 apprenticeship.

Joint Mathematical Council (JMC)

JMC met in February to discuss the plans for a national Academy for Mathematical Sciences. JMC are currently exploring ways they can support/get involved in planning the educational elements of the academy, including sharing their experience in similar past projects. The timing of this involvement is also likely to be important.

JMC also discussed the maths education pipeline. Mid-range universities are increasingly asking for higher grades when students apply, creating a surplus of university places being offered to high achieving students and fewer universities offering places to students achieving B and C grades at A Level. This has the potential to make maths a more elite subject which could reduce the number of students going on to study maths and reducing the diversity of potential hires with maths degrees. As a solution for this will need to be a large-scale effort, rather than at individual universities, JMC will continue to discuss potential solutions.

Data science degrees standards

Degree accreditation is important to universities, students and employers, and this could be an important area of growth for the Society. There is an opportunity for the ORS to be involved in the data science degree accreditation, however, this poses a risk that we make accredited data science degrees more appealing than unaccredited OR degrees. It may be worth developing OR degree accreditation alongside participation in the data science degree accreditation scheme. More research needs to be done into the costs for this and how thorough the accreditation process should be. There is also the possibility of accrediting degrees or business schools or both.

The process could also be linked to personal accreditation schemes, such that students taking certain degrees are automatically given credits towards personal accreditation such as ACAP/CAP. This is currently unpopular in the UK, but there is an issue of low awareness amongst students and low demand from employers. Both of these would need to be tackled to see a successful accreditation scheme. It was suggested employers would be easier to approach at first as there is no cost barrier to asking for the qualification.

Research

The Research committee aims to support the development of operational research (OR) knowledge and increase the scale and impact of OR research in the UK. In 2022 the committee underwent a change in leadership as Professor Kevin Glazebrook stepped down as chair after completing two terms. The Society is grateful to Kevin for establishing the committee and creating the framework that has helped the Society influence OR research. The baton was passed to Professor Christine Currie, who previously served on the committee.

During 2022, the committee was busy with two major initiatives: the Academy of Mathematical Science and the development of the Knowledge Exchange Hub for Mathematical Sciences (previously called the Connected Centres Network). The Academy aims to be an authoritative and persuasive voice for the whole of the mathematical sciences, incorporating academia, practice and mathematics education. The OR Society has a unique position among the learned societies given the relatively high percentage of practitioners

among its members. This allows it to represent both university academics and practitioners applying maths in real-world situations, making it well-placed to contribute to these initiatives. Several members of the Research committee were involved in the Advisory Boards and working groups led by the Council of Mathematical Sciences (CMS) following the publication of Green Papers in 2021. In June, members were recruited to the Academy's Executive Committee, with Christine Currie covering Practitioner Affairs and Knowledge Exchange, subsequently renamed Implementation of Mathematical Sciences; and Professor Miguel Anjos as an advisory board member. Outside of the committee, Ruth Kaufman has been appointed to the Executive, Covering Governance and Fellowships. A major consultation on the Academy is planned for Spring 2023, and the Society hopes to involve members across the OR community to make a contribution.

In 2022 the Research Framework Excellence 2021 was published. OR research is assessed under three panels: Mathematical Sciences, Computer Science and Business and Management. Members of the committee hold positions on these panels (Paul Harper, Mathematical Sciences; Tom Archibald, Business and Management) and provide feedback on outputs relevant to the OR community. One area of concern was, based on current data, mathematical sciences research income had barely changed since 2014; this is something the Committee plans to investigate further with EPSRC during 2023.

The committee has continued to work closely with EPSRC and has a healthy representation of ORS members involved in all the EPSRC's key committees, including the Peer Review College. The committee contributed to the development of EPSRC's EDI Strategy which was published in 2022 and looks forward to working with EPSRC to facilitate and develop a more diverse and inclusive OR research infrastructure.

In 2022, the committee also reviewed its priorities to achieve its aims. These include ensuring that the Society is fully informed about the research landscape and using its knowledge to respond to issues, threats, and opportunities; ensuring that the Society's voice is heard in relevant national bodies and consultations with respect to OR research and its impact; enabling the OR research community to access funding and achieve impact, and enabling the OR practice community to benefit from research and academic expertise; and ensuring that the Society makes research-related information accessible via the website or other routes. To support these priorities, additional members will be recruited during 2023 to sit on the committee and will be assigned specific roles on behalf of the Society. This will include representing the ORS community with external organisations and relevant national bodies.

Finally, the committee set an objective to develop an OR Early Career Network, which has now been established and developed into a Special Interest Group (SIG) to allow for a more formal structure and continuity. Both the current Chair (Laura Boyle) and Secretary (Luke Rhodes-Leader) are key members of the Research Committee and provide an important communication platform for early career researchers to voice their thoughts with the Society.

Training

During 2022, the Society delivered 32 courses covering a range of OR topics, attracting a total of 210 delegates. The ongoing impact of the coronavirus pandemic continued to affect take up of the training offer, and as a result, all courses were run virtually. We thank our pool of excellent tutors for the continuing adoption of virtual delivery methods.

A new administration platform for our training programme went live shortly before the end of the 2021 and we continue to benefit from the improvements this brings to the delegate journey from discovery through to booking.

Publicity and Membership

We held our first focus group with members early in the year, and used the output to inform the survey. This went live, but the response rate was disappointingly low at of 155 (4.5% of members). From the responses, we could see that academics largely valued journals. For practitioners, the range was broader, but the common themes were keeping up to date and making connections with other people. There was low value placed on supporting charitable aims, which may be an area for greater consideration. For the first time we also followed up by interviewing a small number of 'detractors', but the main point of note here was that they were sole workers who did not have a wider group to recommend the society to.

Our fees have been reviewed again. Given our relatively low rates vs similar societies and the unusually high rates of inflation, we have considered higher increases than previously, whilst keeping us below inflation. Discussion around the frequency of Inside OR is ongoing, with a proposal to reduce this to every two months under consideration. We are seeking to find a balance between the relatively low readership numbers and high cost, but the high value that those readers do place on the magazine.

Work on the overall membership strategy has been on hold with the departure of the Head of Membership Experience and the changeover of the Executive Director. We plan to have a strategy reset in 2023, agreeing on a set of more focussed actions that will deliver the most value, with clear accountability, prioritisation for staff and alignment to the OR Society strategy. The various ideas and suggestions that have been collated over the last year will be assessed on this basis.

Pro Bono OR

Pro Bono OR's dedicated volunteers worked on 15 projects throughout the year, using a variety of OR, analytics and data science methods to help third sector organisations tackle issues such as preventing homelessness, preventing child abuse, and supporting food banks and children experiencing bereavement. Feedback from the organisations and volunteer analysts has remained positive.

Feedback from our volunteer prize draw winner:

"For me personally, I got a great deal of satisfaction from knowing that I was able to lend my skills and knowledge to a small charity that increasingly needs to find ways to make their funding go further. By helping Porchlight to improve the efficiency of their call centre and understand which services use the most resource, I have been able to equip them with information that will help them bid for funding, and know what services they can offer to Kent's homeless and vulnerable people."

Feedback from some of the organisations Pro Bono volunteers supported in 2022:

"This has given us the groundwork and the impetus to begin implementing a demand and capacity management programme for our Crisis Response services."

"The consultant was focused, speedy, responsive and very helpful."

"With grateful thanks to Louise for your excellent account management and support throughout."

15 projects in 2022 is in line with our 2021 achievements, but is below pre-pandemic figures. The Pro Bono Manager has heard from several charities that they are interested in working with us but don't have capacity at this time to undertake a Pro Bono OR project. While COVID-19 is having a smaller impact on organisations than in previous years, the cost-of-living crisis / sharp rise of inflation in 2022 has continued to put pressure on third sector organisations and their end users.

The Pro Bono OR scheme was managed by Louise Allison until November 2022 when she resigned. Louise was replaced by Eve Hardy in late January 2023. Eve has previously worked for The OR Society as Education Manager and is very happy to have returned.

The Steering Group is chaired by Ruth Kaufman and at the end of 2022 the group consisted of: Jane Parkin, Graham Rand, Ian Seath, Shamim Rahman, Mike Boyles, Owen Bowden, Kate Hammond, John Lincoln, Ashleigh Monks and Hugo Herrera. Hugo was recruited as a representative of The OR Society's General Council to increase the range of perspectives and ideas on the Steering Group.

In 2022, Louise worked with the Steering Group to amend Pro Bono OR admin processes, and the information we collect from both volunteers and third sector organisations working with us. This improves both sides of the Pro Bono OR 'user experience' and will also provide better insights and data for the Steering Group to make use of in future. There are a number of other initiatives and ideas put forwards by the Steering Group in 2022 that we are currently taking forward and aim to implement in 2023 or early 2024.

Pro Bono OR participated in the annual Volunteers' Week (1-7 June). It's an opportunity to celebrate the work that volunteers do and to thank them. In doing so, we showcase projects that volunteers have worked on, share quotes from third sector organisations and volunteers, and promote the benefits of the Pro Bono OR scheme for both volunteers and third sector organisations.

Members, Affiliates and Fellows

At the end of the year, The OR Society had 3,731 members. The Analytics Network boasted 2,148 members, the Society's LinkedIn group had 6,012 members and we had 6,207 Twitter followers. In addition, there were 17 corporate partners – CORDA (part of BAe Systems), Natwest Group, Ministry of Justice, Home Office, Dept for Work & Pensions, AWE, Office for National Statistics, Ministry of Defence, NHS Wales, The Smith Institute, TP Group, Linnaeus University (Sweden), HM Land Registry, HMRC, Scottish Government, Dept for Digital Culture Media and Sport, and Dept for Levelling Up Housing and Communities– representing 835 affiliates.

There were 375 accreditees, comprising 164 Fellows, 73 Associate Fellows, 52 Associates and 86 Candidate Associates. There were 26 members accredited as Chartered Scientists and one as a Registered Scientist.

Awards

- **Goodeve Medal** (awarded for best paper published in *JORS* in 2021): Awarded to Giuseppe Bruno, Manuel Cavola, Antonio Diglio, Gilbert Laporte and Carmela Piccolo "Reorganizing postal collection operations in urban areas as a result of declining mail volumes – A case study in Bologna.", *Journal of The Operational Research Society* (2021) 72, 1591-1606.
- **Stafford Beer Medal** (awarded for best paper published in *EJIS* in 2021): Awarded to Andre Hanelt, Sebastian Firk, Bjoern Hilebrant and Lutz M. Kolbe "Digital M&A, digital innovation, and firm performance: an empirical investigation.", *European Journal of Information Systems*, 30 3-26.
- **Cook Medal** (awarded for best paper published in *KMRP* in 2020/2021): Awarded to Cameron Guthrie "Knowledge worker fitness in the workspace: self-managing at the edge of chaos.", *Knowledge Management Research & Practice* 19 181-196.
- **Ranyard Medal** (awarded for best paper published in *JBA* in 2020/2021): Awarded to Shylu John, Bhavin Shah, Varun Dixit and Amol Wani "An integrated approach to renew software contract using machine learning.", *Journal of Business Analytics*, 4 14-25.
- **Doctoral Award** (awarded for the most distinguished body of research leading to the award of a doctorate in the field of OR in 2021): Awarded to Glory Alozie, University of Strathclyde, "The Distance-Based Critical Node Detection Problem: Models and Algorithms".
- **President's Medal** (awarded for the best practical application of OR): Awarded to Ekaterina Arafailova, Francesco Bucci, Tim Butler, George Dikas, Sivaji Doguparthi, Ramon Fuentes, Ross Hart, Akshay Kishan, Can Kocer, Aleksandar Kolev, Sebastian Lautz, Stephen Logan, Fabio Milano, Edwin Reynolds, Himanshu Singh, Stephen Spurri, Hamish Teagle, Benjamin White and Da Wei Wong (Tesco) for "Clearance Pricing Optimisation for UK's Largest Supermarket".
- **Lyn Thomas Impact Medal** (awarded annually for the academic OR research which best demonstrates both novelty and real-world impact): Awarded to Navonil Mustafee, John H. Powell, Alison Harper, Todd R Kaplan, Surajeet Chakravarty, Susan Martin and Andrew Fordyce (University of Exeter Business School and South Devon & Torbay NHS Foundation Trust).
- **Companionship of OR** (awarded for sustained support and encouragement for the development of operational research or for those in influential positions who are in broad sympathy with the subject area): Awarded to Janet Williams.

Structure of the Funds

The Society presents its funds as split between unrestricted and restricted funds.

The unrestricted elements make up the majority of its funds and covers:

- ongoing operations (previously categorised as the General fund); and
- the Seymour House property together with investments and cash on deposit to cover potential risks of a general nature, the most significant of which would arise if the Society were forced to move quickly to a financial regime in which its publications income was significantly reduced (previously labelled the Reserve Fund).

The restricted funds represent a bequest received from Mrs May Hicks in 2002 and which is used for purposes consistent with her wishes, by providing awards for the best student OR projects undertaken for a client organisation.

Review of Operations

The Society's income and expenditure account showed a small surplus (before any net gains or losses on investments) of £17k during the year, on a turnover of £1.53m. This compares with a surplus of £79k in 2021.

The performance is gratifying considering the ongoing global turmoil caused by the war in Ukraine. Income for the year was up over £150k compared to 2021, getting back to pre-pandemic levels. Events and Conferences income rose by £20k, with a return to in-person activity, although delegates numbers were still suppressed with some COVID concerns or restrictions still evident. The transition to the 'new normal' is certainly taking longer than anticipated. The success of the annual conference does give some hope that face-to-face meetings and events are on the upward path.

Training income held up well despite the first cohort commencing on the OR Specialist apprenticeship scheme. The vast majority of course were delivered online. The Society continued to benefit from the cost savings associated with the staff working from home for a significant proportion of the week and holding all meetings virtually.

The publications income reached record levels, with our publishing partners, Taylor & Francis, continuing to build the strength of our journal portfolio. Two significant milestones were reached in the year: downloads of papers from the portfolio exceed 1 million, and that resulted in income breaking the £1m barrier too. The existing contract with Taylor & Francis came to an end in 2022 but a contract extension was signed through until 2026. The conclusion of negotiations of the contract extension was a good outcome for both parties. The rise of open access publishing is certainly increasing the uncertainty and risk for both the Society and its publisher. The Society is not only working on converting its existing journals to open access, but considering adding a new OA title to its portfolio.

Most operations to support the charitable aims of the Society – such as conferences, special events, regional societies, special interest groups, education, publicity and outreach initiatives, the monthly *Inside OR* magazine and special charitable projects – result in deficits to the Society. To support them the Society relies primarily on subscriptions and income from its academic journals – particularly the latter which in 2022 contributed over £800k net of all associated costs. This serves as a reminder of the Society's current financial dependence on the academic publication system; see the section on 'Risk' below.

The Society employed 17.7 members of staff during 2022 (averaged over the year, 16.6 full-time-equivalents), compared to 18.3 (16.8 FTE) during 2021.

Assets, Reserves and Investments

The total net assets of the Society fell by almost £275k to £2.38m over the year, with the small surplus on income and expenditure being dwarfed by a substantial decrease in investment values and a net £290k capital loss (realised and unrealised) on our investment funds. This reflects the markets' continued turbulence due to global events such as the war in Ukraine. Prudent financial management of its cash resources meant the Society did not need to draw down any of its investment funds during the year, allowing the recovery to take begin.

It is important that the Society maintains an appropriate level of reserves in relation to perceived financial risks. Based on the usual annual costs of running the Society, one year's costs of £900k should be a minimum value for the reserves and the maximum value would then be three years' costs giving a value of £2.7 million. This would cover any growth of the Society over the next few years and release funds to further the Society's aims.

The Society's reserves, with a definition slightly widened from previous years, cover funds which are neither restricted nor designated, less illiquid assets (such as tangible fixed assets). At 31 December 2022, this amounted to £2.1m. The reserves are therefore within their prescribed limits. The Board will bear this in mind when considering opportunities for spending on worthwhile one-off projects that further the Society's objectives.

The Society's investments and their performance are kept under review by the Investment Committee in accordance with policies decided by the Board. The Committee is chaired by the Treasurer and, in addition to other members of the Society, includes representatives from the Society's investment managers.

Principal Risks and Uncertainties

The Society's dependency on journal income is the most significant material risk. Our new contract with Taylor & Francis to a large extent mitigates this risk for the Society, for the four years of the contract (finishing in December 2026), by transferring some of it to the publisher. The risk has not disappeared though, and we could never be wholly insulated from any impact that might result from this risk on our publisher. The publications market will be rapidly adapting to the demands of open access over the course of the new contract and this element of income remains at risk.

Work on diversification of revenue streams continues. Apprentices have started work towards the Operational Research specialist level 7 standard which will provide a new source of income from 2024 onwards. However, the costs associated with applying for and subsequently acting as an End Point Assessment Organisation are higher than anticipated since the requirements have tightened considerably under the switch to Ofqual's oversight. Education committee are progressing with options for offering degree course accreditation.

The key strategic risk that OR could be seen as less relevant in the competitive analytics, data science and AI space remains. We have been mitigating this through a number of initiatives led by our Analytics Development Group and are also actively promoting the relevance of OR to data science, robotics and artificial intelligence as well as other overlapping fields. The Government and society's attitude towards mathematical education, understanding statistics and probabilities seem to be in our favour. More generally, we aim to raise the visibility of OR and support outward-looking practice and membership through outreach to other professional societies and to organisations and businesses who may benefit from what OR has to bring and through the variety of topics and speakers at our events.

A further key risk is that The OR Society could be seen as less relevant to OR professionals. We have been mitigating this through the whole range of activities addressing our strategic goals and described elsewhere in this report.

The cost-of-living crisis is an issue for our members (their ability to afford membership, training, events etc.) and the Society's operations itself. A full assessment of the susceptibility of our operations and each P&L line item to inflationary pressures. The modelling ensured that the Board understood the risks and sensitivity of revenue and costs, enabling better informed decisions.

The Board regularly reviews the risk register covering a wide range of operational risks, including IT risks, and, where feasible, puts mitigating action in place.

Key Management Personnel

The Key Management Personnel for the Society comprise the trustees (its Board of Directors) and the Executive Director. No remuneration is payable to trustees for service on the Board.

Basis for Remuneration

The Society's Finance committee agree and implement the policy for salary increases at its meeting in November each year. Price inflation, indicated primarily by the Consumer Prices Index (CPI), is the key factor. The committee use the figure released in September each year as its benchmark. In addition, they also consider national and regional statistics on movements in average earnings, together with the specific market rates for roles similar to those undertaken in the office. The financial situation of the Society is another important factor.

The President, Treasurer and President Elect or Immediate Past President review the Executive Director's salary and, when agreed by Finance Committee, a written recommendation is made to Board. The Executive Director leads the process for other staff which is again initially discussed by Finance Committee before the recommendations go to Board for final approval.

Voluntary Contributions

The Society's work in 2022 benefited from voluntary contributions of time, from members and others, through these principal lines of work: refereeing of journal papers; editing of journals; conference organisation; authorship and delivery of talks to regional societies and special interest groups; organisation of regional societies and special interest groups; the work of the Society's officers; contributions to the administration of the Society, its Awards and its accreditations through service on Board and the Society's committees.

The coronavirus pandemic has meant that some of the usual volunteering opportunities have been unable to take place. The Society is delighted in the way its pool of volunteers has responded to the switch to online activities where this has been possible, especially with our two main outreach projects, OR in Schools and Pro Bono OR. Their work benefits the OR community, the future development of the profession and the wider society and is a fine contribution to The OR Society's charitable objectives.

It is estimated that a total of 4,000 person-days were contributed in 2022. If this time is valued at £500 per day, its value is £2M. The Society is most grateful to all who contributed voluntary effort, without which the Society could not accomplish its goals.

Fundraising

The OR Society does not engage in public fundraising activities by professional fundraisers or commercial participators. The charity has not received any fundraising complaints in the year.

Related Parties

The Society is a member of EURO, the Association of European Operational Research Societies, and IFORS, the International Federation of Operational Research Societies. It shares information and works closely with other operational research societies around the world, particularly its counterpart in the USA, INFORMS. The Society pays membership fees to both EURO and IFORS.

The Society is also a member of the Council for Mathematical Sciences, CMS. It works with the other member bodies (Institute for Mathematics & its Applications, London Mathematical Society, Royal Statistical Society and Edinburgh Mathematical Society) on relationships to research funding bodies, relevant consultations and various other initiatives. Currently this includes the development of plans for a national academy for mathematical sciences.

The Society's related party transactions for the year ended 31 December 2022 have been disclosed in note 8 of the financial statements.

Objectives for 2023

At the start of 2021, Board produced a revised version of its 3-5 year goals and priorities. These build on those in place for the previous strategic planning phase and represent exciting opportunities for the Society and the wider OR community. The revised strategic pillars are to: raise awareness of the **importance of OR**; support **OR knowledge development**; support **OR education**; grow **membership and wider reach**; ensure **financial sustainability** of the Society; and address **diversity and inclusion challenges** in OR and the OR Society.

Work has already started on many of the initiatives that we hope will come to fruition in the next year or so:

- launch celebrations for the Society's 75th anniversary, capitalising on the opportunities to raise awareness of both the Society and operational research;
- working with Taylor & Francis to capitalise on its strategy to maximise the value of our current publications contract, develop robust publishing models to deal with opportunities and challenges presented by open access publishing and Plan S;
- ensuring that OR continues to be fully involved in the establishment of the Academy for Mathematical Sciences;
- building policy influence with key Government contacts and connect with other key decision makers;
- implementing an engagement plan for the analytics / artificial Intelligence /data science community, and specifically implementing the recommendations of the artificial intelligence task-and-finish group;
- supporting the continued growth of the Women in OR and Early Careers networks;
- maximising benefit from the website, social media campaigns and other marketing activity to raise the brand profile of OR itself;
- capitalising on its museum-based travelling exhibition to raise public awareness of OR;
- progress its bid to come an End point Assessment Organisation and further support the uptake of the level 7 OR apprenticeship scheme for OR Specialist;
- strengthening relationship with key bodies such UKRI, Royal Society, Science Council and other learned societies;
- investigating diversification of income, including exploring new streams (accrediting University courses, fundraising / donations, sponsorship);
- implementing our diversity plan based on recommendations from the diversity champion;
- creating and disseminating thought leadership pieces (with the initial focus on ethics);
- demonstrating the relevance of OR to complex problems and big issues.

These developments will be on top of our existing broad sweep of services: conferences, events, lectures and training; publications; Pro Bono OR and OR in Schools; representing The OR Society on bodies including The Council for Mathematical Sciences, the Science Council, EURO and IFORS; and our more inward-looking activities to improve sustainability, efficiency and effectiveness.

For a relatively small professional body in an uncertain world, there are many challenges to overcome. By undertaking these activities, we aim not just to meet the challenges, but to grow the profession and The OR Society's contribution and make the most of the opportunities awaiting us.

Information about the Society

- (1) The Operational Research Society is a company limited by guarantee (no. 663819). It is also a charity registered in accordance with the provisions of the Charities Act 2011 (registration no. 313713)
- (2) The objects of the Society are given in its Memorandum and Articles and can be summarised as:
 - (a) the advancement of knowledge by fostering, promoting and furthering interest in operational research; and
 - (b) the advancement of education by providing facilities for and, by subsidising it, endowing, organising or supporting scholarships or educational or training schemes; and conducting examinations or advising on their content.
- (3) The Society is empowered to do all proper things in pursuit of these objectives.
- (4) The affairs of the Society were managed during 2022 by the elected officers and members of the Board listed below. Together they constitute the Board of Directors of the limited company and Trustees of the charity and the members of its management committee. Specific matters are delegated to particular committees of the Society by resolution of the Board and in accordance with the Society's Articles.

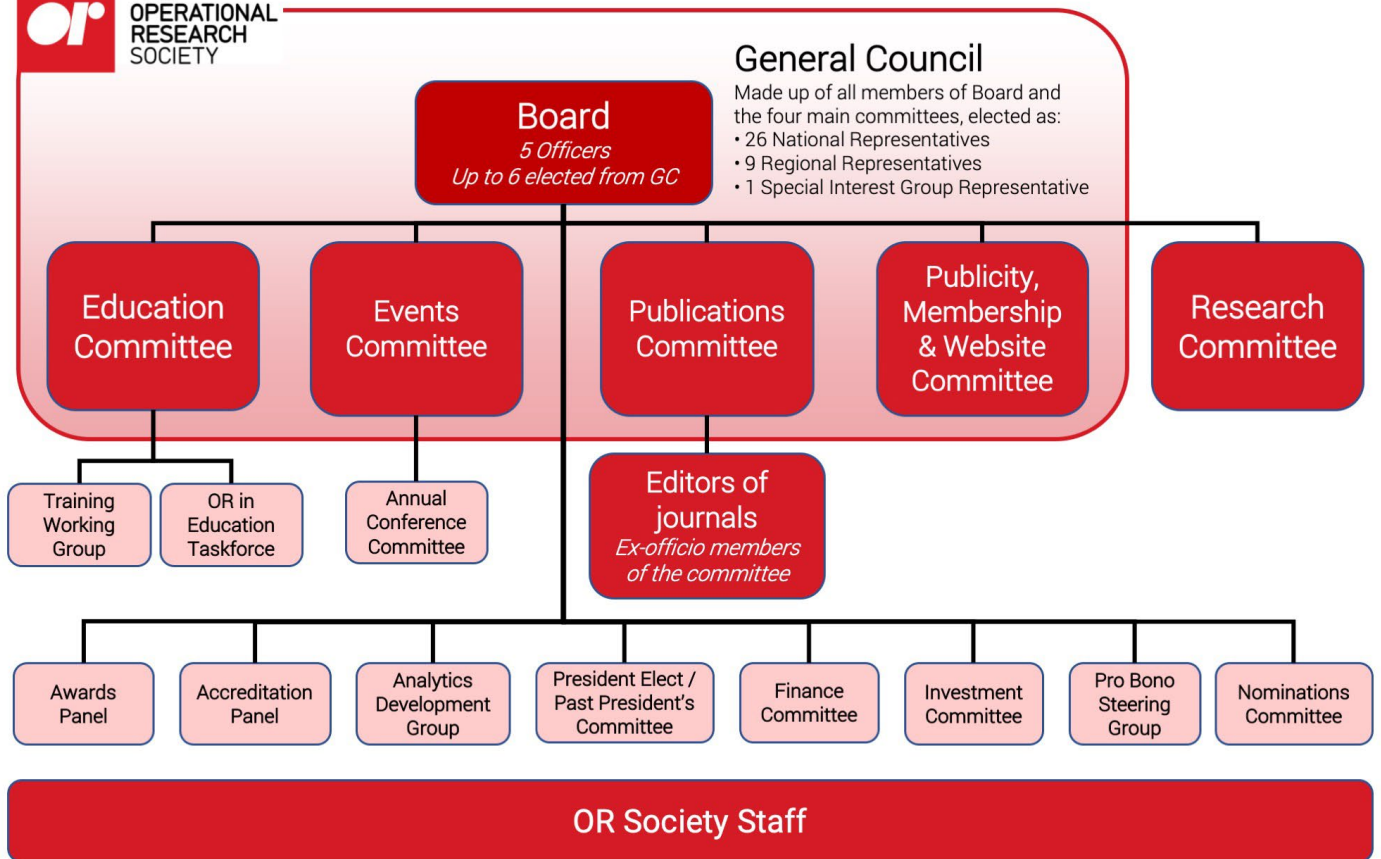
The following served as members of the Board in 2022

E K BURKE President	T W ARCHIBALD	V SENA
G OWUSU President Elect	R BYDE	
A C PAGEL Vice President	J MEDHURST	
A P ROBINSON Vice President	N MORRILL	
R A SCOTT Hon. Treasurer	C J PHILLIPS	

Unless otherwise stated, changes in the membership of the Board occur at the end of a calendar year.

The Board is supported by a General Council with a maximum membership of thirty-six. These two bodies assist the Society in its ongoing commitment to involve as many members as possible in its affairs. The Board of Directors is responsible for governance and strategy and the General Council, with its wide representation, provides advice, feedback and challenge and monitors the Board's activity. Members of General Council have also, in all cases, been assigned to one of the Society's four main committees: Publications; Publicity, Membership and Website; Education and Research; and Events and the Chairs of those committees are currently Board members.

The structure is set out in the diagram below.



(5) The committees are established to implement policies of Board & General Council with respect to meeting the Society's objectives and to controlling expenditure. The names of the committees are set out as follows, together with the object ((a) or (b) as above) towards the achievement of which they contribute:

Accreditation Panel	(a)
Analytics Development Group	(a)
Awards Panel	(a)
Education	(b)
Events	(a), (b)
Finance	Management of financial aspects
Investment	Management of investments
Nominations	Volunteer recruitment to governance roles
Past President's/President Elect's	Elections, planning & administrative reviews
Pro Bono Steering Group	(a)
Publications	(a)
Publicity, Membership & Website	(a)
Research	(a)
Training Working Group	(b)

(6) Other Committees are set up from time to time for specific purposes, but they are given no delegated powers. In addition, the Society has a large number of active Special Interest Groups which are listed in the Journal of the Society. They contribute particularly to object (a).

(7) The registered address of the Society is:

Seymour House
12 Edward Street
BIRMINGHAM
B1 2RX

Its Executive Director is:

I G Blackett
The OR Society
12 Edward Street
BIRMINGHAM
B1 2RX

Its Bankers are:

The Co-operative Bank
Delf House
Southway
SKELMERSDALE
WN8 6WT

Its Solicitors are:

Sydney Mitchell and Co
Cavendish House
Waterloo Street
BIRMINGHAM
B2 5PU

Its Auditors are:

Sayer Vincent LLP
Invicta House
108-114 Golden Lane
LONDON
EC1Y 0TL

Its Investment Adviser is:

Tom Quicke
Investec
30 Gresham Street
LONDON
EC2V 7QN

Its Stockbrokers are:

Investec
30 Gresham Street
LONDON
EC2V 7QN

(8) The Society's investment policy is governed by the legislative provisions relating to charity investments, but the Society is not otherwise restricted in the way in which it can invest. However, it is the Society's policy not to invest in tobacco shares.

(9) These particulars are published in compliance 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).

Appointment of trustees

The officers and other members of the Board are elected by secret ballot of the Society's membership and the members of General Council respectively, to serve for a three-year term (except for the President, who serves one year as President-Elect, two years as President and a further year as Immediate Past-President). A member of the Board, other than the President, whose first term of office has expired may stand for election for one further term. At the end of 2022, one member of the Board completed his term of office: A P ROBINSON.

Induction of new trustees

New trustees receive a comprehensive information pack, setting out details of their role and responsibilities as both trustees and company directors, the nature of a charity, the Society's constitution, its policies on members' interests and expense claims and including the Charity Commission's 'welcome' leaflet.

Public Benefit

The OR Society is a charity and meets the public benefit test as set out in the Charities Act 2011 in various ways:

Advancement of education:

Through the OR in Schools initiative, its many networking, training and conferencing activities in schools, universities and workplaces and extensive on-line resources, The OR Society promotes the understanding of OR and how it can be applied for the wider benefit. The OR Society is a participating society (with voting rights) on the Joint Mathematical Council of the UK.

Advancement of science:

Through its publications, conferences and networking activities; representation on the Council for Mathematical Sciences, Science Council, funding bodies and international federations; and on-line materials and facilities, The OR Society supports, promotes and publicises research; raises standards of research and practice; and promotes the effective application of OR for wider social benefit. Through its accreditation and awards schemes, The OR Society recognises and promotes engagement, effectiveness and development in its members, further raising standards.

Advancement of community development:

The OR Society encourages volunteering and involvement through its Pro Bono OR initiative, involvement of members in outreach to schools and universities and networks of Regional and Special Interest Groups.

The OR Society funds educational, development and research projects that are in line with its charitable aims of advancing knowledge and education through fostering OR

All OR Society events and training are open to all who may be interested. In addition, it minimises barriers to access by:

- (1) ensuring that many of its on-line resources are publicly and freely available;
- (2) keeping membership fees low and offering reduced fees for unwaged groups; and
- (3) supporting Regional and Special Interest Group networks which offer free meetings.

In governing The OR Society, the Trustees have had regard to the Charity Commission's public benefit guidance.

Statement of responsibilities of the elected officers and members of the Board

The trustees (who are also directors of The Operational Research Society for the purposes of company law) are responsible for preparing the trustees' annual report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the trustees to prepare financial statements for each financial year which 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 trustees are required to:

- Select suitable accounting policies and then apply them consistently;

- Observe the methods and principles in the Charities SORP;
- Make judgements and estimates that are reasonable and prudent;
- State whether applicable UK Accounting Standards and statements of recommended practice 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 charity will continue in operation.

The trustees are responsible for keeping adequate accounting records that 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.

In so far as the trustees are 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 trustees are responsible for the maintenance and integrity of the corporate and financial information included on the charitable company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Members' interests

In accordance with Article 46 of its constitution, the Society requires that members of Board or committees having an interest in a matter to be debated should declare that interest and leave the room whilst the matter is discussed and decided. Members of the Training Working Group are drawn from organisations which have no interest in bidding for courses and wherever appropriate, recommendations on major charitable projects are made by a special expert committee comprised entirely of disinterested parties.

Approval of report

We approve this report and the audited accounts for the year 1 January to 31 December 2022 and recommend their adoption by the Society at its Annual General Meeting.

G OWUSU President

R A SCOTT Hon Treasurer

T W ARCHIBALD

E K BURKE

R BYDE

S LORRIMER

J MEDHURST

N MORRILL

A C PAGEL

C J PHILLIPS

V SENA

Being the elected officers and members of the Board of The Operational Research Society as at 18 May 2023.

S Hargreaves

Executive Director

18 May 2023

Accounts

for the year ended 31 December 2022

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF OPERATIONAL RESEARCH SOCIETY

Opinion

We have audited the financial statements of Operational Research Society (the 'charitable company') for the year ended 31 December 2022 which comprise the statement of financial activities, balance sheet, statement of cash flows and notes to the financial statements, including significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

In our opinion, the financial statements:

- Give a true and fair view of the state of the charitable company's affairs as at 31 December 2022 and of its incoming resources and application of resources, including its income and expenditure for the year then ended
- Have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice
- Have been prepared in accordance with the requirements of the Companies Act 2006

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 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. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating 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 Operational Research Society'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 other information comprises the information included in the trustees' annual report, other than the financial statements and our auditor's report thereon. The trustees are responsible for the other information contained within the annual 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.

Opinions on other matters prescribed by the Companies Act 2006

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

- The information given in the trustees' annual report, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- The trustees' annual report has been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

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 misstatements in the trustees' annual 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 trustees' remuneration specified by law are not made; or
- We have not received all the information and explanations we require for our audit; or
- The directors were not entitled to prepare the financial statements in accordance with the small companies' regime and take advantage of the small companies' exemptions in preparing the trustees' annual report and from the requirement to prepare a strategic report.

Responsibilities of Trustees

As explained more fully in the statement of trustees' responsibilities set out in the trustees' annual report, 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

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.

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 are set out below.

Capability of the audit in detecting irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, our procedures included the following:

- We enquired of management and the finance committee, which included obtaining and reviewing supporting documentation, concerning the charity's policies and procedures relating to:
 - Identifying, evaluating, and complying with laws and regulations and whether they were aware of any instances of non-compliance;
 - Detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected, or alleged fraud;
 - The internal controls established to mitigate risks related to fraud or non-compliance with laws and regulations.
- We inspected the minutes of meetings of those charged with governance.
- We obtained an understanding of the legal and regulatory framework that the charity operates in, focusing on those laws and regulations that had a material effect on the financial statements or that had a fundamental effect on the operations of the charity from our professional and sector experience.
- We communicated applicable laws and regulations throughout the audit team and remained alert to any indications of non-compliance throughout the audit.
- We reviewed any reports made to regulators.
- We reviewed the financial statement disclosures and tested these to supporting documentation to assess compliance with applicable laws and regulations.
- We performed analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud.
- In addressing the risk of fraud through management override of controls, we tested the appropriateness of journal entries and other adjustments, assessed whether the judgements made in making accounting estimates are indicative of a potential bias and tested significant transactions that are unusual or those outside the normal course of business.

Because of the inherent limitations of an audit, there is a risk that we will not detect all irregularities, including those leading to a material misstatement in the financial statements or non-compliance with regulation. This risk increases the more that compliance with a law or regulation is removed from the events and transactions reflected in the financial statements, as we will be less likely to become aware of instances of non-compliance. The risk is also greater regarding irregularities occurring due to fraud rather than error, as fraud involves intentional concealment, forgery, collusion, omission or misrepresentation.

A further description of our responsibilities is available on the Financial Reporting Council's website at: 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.

Fleur Holdon
Senior statutory auditor

Date

for and on behalf of
Sayer Vincent LLP
Statutory Auditor
Invicta House
108-114 Golden Lane
LONDON
EC1Y 0TL

The Operational Research Society

Statement of financial activities (incorporating an income and expenditure account)

For the year ended 31 December 2022

	Note	Unrestricted £	Restricted £	2022 Total £	Unrestricted £	Restricted £	2021 Total £
Income from:							
Charitable activities							
Subscriptions	2	147,613	–	147,613	147,642	–	147,642
Events and Conferences	2	155,501	–	155,501	131,120	–	131,120
Training	2	107,753	–	107,753	105,192	–	105,192
Publications	2	1,060,539	–	1,060,539	941,755	–	941,755
Accreditation	2	8,803	–	8,803	8,679	–	8,679
Websites / Digital Services	2	6,271	–	6,271	1,080	–	1,080
Investments	3	41,585	2,565	44,150	42,082	2,130	44,212
Total income		1,528,065	2,565	1,530,630	1,377,550	2,130	1,379,680
Expenditure on:							
Raising funds	4	12,439	–	12,439	13,145	–	13,145
Charitable activities							
Subscriptions	4	143,682	–	143,682	137,599	–	137,599
Events and Conferences	4	358,719	–	358,719	227,392	–	227,392
Training	4	113,932	–	113,932	105,501	–	105,501
Apprenticeships	4	3,186	–	3,186	2,000	–	2,000
Publications	4	297,509	–	297,509	280,778	–	280,778
Accreditation	4	16,793	–	16,793	15,598	–	15,598
Websites / Digital Services	4	186,898	–	186,898	182,215	–	182,215
Other Charitable expenditure	4	380,630	–	380,630	334,506	1,500	336,006
Total expenditure		1,513,788	–	1,513,788	1,298,733	1,500	1,300,233
Net income / (expenditure) before net gains / (losses) on investments		14,277	2,565	16,842	78,817	630	79,447
Net gains / (losses) on investments		(277,025)	(13,457)	(290,482)	180,088	(3,604)	176,484
Net income / (expenditure) for the year		(262,748)	(10,892)	(273,640)	258,905	(2,974)	255,931
Transfers between funds		–	–	–	(14,600)	14,600	–
Net movement in funds		(262,748)	(10,892)	(273,640)	244,305	11,626	255,931
Reconciliation of funds:							
Total funds brought forward		2,577,965	73,348	2,651,313	2,333,660	61,722	2,395,382
Total funds carried forward		2,315,217	62,456	2,377,673	2,577,965	73,348	2,651,313

All of the above results are derived from continuing activities. There were no other recognised gains or losses other than those stated above. Movements in funds are disclosed in Note 18 to the financial statements.

The Operational Research Society

Balance sheet

Company no. 00663819

As at 31 December 2022

	Note	£	2022 £	£	2021 £
Fixed assets:					
Tangible assets	10		216,835		238,365
Intangible assets	11		–		43,097
Investments	12		1,762,536		2,024,494
			<u>1,979,371</u>		<u>2,305,956</u>
Current assets:					
Debtors	13	380,303		212,295	
Cash at bank and in hand		224,469		305,327	
			<u>604,772</u>	<u>517,622</u>	
Liabilities:					
Creditors: amounts falling due within one year	14	(206,470)		(172,265)	
Net current assets			<u>398,302</u>		<u>345,357</u>
Total net assets			<u>2,377,673</u>		<u>2,651,313</u>
The funds of the charity:	17				
Restricted Funds		62,456		73,348	
Unrestricted Funds		2,315,217		2,577,965	
			<u>2,377,673</u>	<u>2,651,313</u>	
Total unrestricted and restricted funds			<u>2,377,673</u>	<u>2,651,313</u>	
Total charity funds			<u>2,377,673</u>	<u>2,651,313</u>	

Approved by the trustees on XXXX and signed on their behalf by

R. A. Scott
Honorary Treasurer

E. K. Burke
President

The Operational Research Society

Statement of cash flows

For the year ended 31 December 2022

	2022 £	£	2021 £	£
Cash flows from operating activities				
Net (expenditure)/income for the reporting period (as per the statement of financial activities)	(273,640)		255,931	
Depreciation and amortisation charges	68,962		72,252	
Losses/(gains) on investments	290,482		(176,484)	
Dividends and interest from investments	(44,150)		(44,212)	
(Increase)/decrease in debtors	(168,008)		9,184	
Increase/(decrease) in creditors	34,205		(213,810)	
Net cash used in operating activities		(92,149)		(97,139)
Cash flows from investing activities:				
Dividends and interest from investments	44,150		44,212	
Purchase of fixed assets	(4,335)		(3,184)	
Proceeds from sale of investments	436,292		238,320	
Purchase of investments	(419,180)		(257,451)	
Net cash provided by investing activities		56,927		21,897
Change in cash and cash equivalents in the year		(35,222)		(75,242)
Cash and cash equivalents at the beginning of the year		335,003		410,245
Cash and cash equivalents at the end of the year		299,781		335,003
Analysis of cash and cash equivalents and of net debt				
	At 1 January 2022 £	Cash flows £	At 31 December 2022 £	
Cash at bank and in hand	305,327	(80,858)	224,469	
Cash deposited with investment brokers	29,676	45,636	75,312	
Total cash and cash equivalents	335,003	(35,222)	299,781	

1 Accounting policies

a) Statutory information

The Operational Research Society is a charitable company limited by guarantee and is incorporated in England and Wales.

The registered office address is 12 Edward Street, Birmingham, B1 2RX, UK

b) Basis of preparation

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) – (Charities SORP FRS 102), The Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

c) Public benefit entity

The charity meets the definition of a public benefit entity under FRS 102.

d) Preparation of the accounts on a going concern basis

The Operational Research Society operates as a going concern. The trustees consider there are no material uncertainties about the charity's ability to continue as a going concern.

The Society operates a reserves policy that reflects its critical dependence on journal income.

The policy sets the minimum level of reserves at one year's fixed running costs of £900k to keep the charity viable whilst alternative funding is found.

The maximum level is to be set at three years' running costs or £2.7 million. The charity is currently meeting its reserves target.

e) Key estimates and judgements

When preparing the financial statements, management makes a number of judgements, estimates and assumptions about the recognition and measurement of assets, liabilities, income and expenses. The company amortises fixed assets over their estimated useful lives. The estimation of the useful lives of assets is based on historic performance as well as expectations about future use and therefore requires estimates and assumptions to be applied by management. The actual lives of these assets can vary depending on a number of factors, including the maintenance and level of upkeep of the software systems.

f) Income

Income is recognised when the charity has entitlement to the funds, any performance conditions attached to the income have been met, it is probable that the income will be received and that the amount can be measured reliably. Income from government and other grants, whether 'capital' grants or 'revenue' grants, is recognised when the charity has entitlement to the funds, any performance conditions attached to the grants have been met, it is probable that the income will be received and the amount can be measured reliably and is not deferred. Income received in advance of the provision of a specified service is deferred until the criteria for income recognition are met.

g) Dividends and investment income

Interest and dividends on funds held on deposit or invested is included when receivable and the amount can be measured reliably by the charity; this is normally upon notification of the interest or dividend paid or payable by the relevant institution.

h) Expenditure

Expenditure is recognised once there is a legal or constructive obligation to make a payment to a third party, it is probable that settlement will be required and the amount of the obligation can be measured reliably. Expenditure is classified under the following activity headings:

Costs of raising funds relate to the costs incurred by the charity in inducing third parties to make voluntary contributions to it, as well as the cost of any activities with a fundraising purpose.

Expenditure on charitable activities includes the costs of delivering services, exhibitions and other educational activities undertaken to further the purposes of the charity and their associated support costs.

Other expenditure represents those items not falling into any other heading.

i) Value added tax

The Society has partial exemption status for Value Added Tax and Value Added Tax on apportionable costs which cannot be reclaimed is disclosed separately within administration costs.

1 Accounting policies (continued)

j) Allocation of costs

Salaries, depreciation, websites / digital services expenditure and other central and establishment overheads are allocated to appropriate cost categories using consistently applied ratios based on estimates of actual time and costs expended in each area.

Allocation of support and governance costs:

Raising funds	0%
Subscriptions	13%
Events and Conferences	19%
Training	6%
Apprenticeships	0%
Publications	14%
Accreditation	2%
Websites / Digital Services	18%
Other Charitable expenditure	28%

k) Tangible and Intangible fixed assets

Tangible and intangible fixed assets costing more than £1,000 and with a useful economic life in excess of 3 years are capitalised and included at cost including any incidental expenses of acquisition.

Depreciation of tangible fixed assets is charged on a straight line basis at the following rates:

Long leasehold building	2%
Office machines and computer equipment	25%
Fixtures and fittings	10%

Amortisation of Intangible fixed assets is charged on a straight line basis at the following rate:

Software systems	25%
------------------	-----

The amortisation rate charged is based on management's best estimate of the useful life of the software systems.

l) Investments

Investments are a form of basic financial instrument and are initially recognised at their transaction value and subsequently measured at their fair value as at the balance sheet date using the closing quoted market price. Any change in fair value will be recognised in the statement of financial activities. Investment gains and losses, whether realised or unrealised, are combined and shown in the heading "Net gains/(losses) on investments" in the statement of financial activities. The charity does not acquire put options, derivatives or other complex financial instruments.

m) Debtors

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

n) Cash at bank and in hand

Cash at bank and cash in hand includes cash and short term highly liquid investments.

o) Creditors and provisions

Creditors and provisions are recognised where the charity has a present obligation resulting from a past event that will 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 after allowing for any trade discounts due.

p) Pensions

The Society contributes to individual pension schemes established for each eligible employee.

q) Financial instruments

The Society 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.

The Operational Research Society

Notes to the financial statements

For the year ended 31 December 2022

2 Income from charitable activities

	Unrestricted £	Restricted £	2022 Total £	Unrestricted £	Restricted £	2021 Total £
Journal of The OR Society / Knowledge Management Research & Practice / Journal of Simulation	759,963	-	759,963	729,968	-	729,968
Inside OR	2,021	-	2,021	1,096	-	1,096
European Journal of Information Systems / Health Systems / Journal of Business Analytics	295,273	-	295,273	206,735	-	206,735
Other publications	3,282	-	3,282	3,956	-	3,956
Sub-total for Publications	1,060,539	-	1,060,539	941,755	-	941,755
Subscriptions	147,613	-	147,613	147,642	-	147,642
Events and Conferences	155,501	-	155,501	131,120	-	131,120
Training	107,753	-	107,753	105,192	-	105,192
Accreditation	8,803	-	8,803	8,679	-	8,679
Websites / Digital Services	6,271	-	6,271	1,080	-	1,080
Total income from charitable activities	1,486,480	-	1,486,480	1,335,468	-	1,335,468

3 Income from investments

	Unrestricted £	Restricted £	2022 Total £	Unrestricted £	Restricted £	2021 Total £
Income from Listed Investments	41,071	-	41,071	42,058	-	42,058
Interest on Bank Deposits	514	-	514	24	-	24
Distributions - CAF	-	2,565	2,565	-	2,130	2,130
	41,585	2,565	44,150	42,082	2,130	44,212

4a Analysis of expenditure (current year)

	Charitable activities										2022 Total £	2021 Total £
	Raising funds £	Subscriptions £	Events and Conferences £	Training £	Apprentice- ships £	Publications £	Accreditation £	Website / Digital Services £	Other Charitable Activities £	Support and governance costs £		
Staff costs (Note 6)	-	94,028	138,280	43,456	-	99,904	12,179	81,065	220,728	82,991	772,631	758,939
Recruitment costs	-	4,218	6,203	1,949	-	4,482	546	3,636	9,902	3,723	34,659	
Establishment Costs	-	2,518	3,703	1,164	-	2,676	326	2,171	5,912	2,223	20,693	22,217
Postage and phones	-	1,216	2,298	1,141	-	3,861	15	149	1,445	533	10,658	8,402
Office Costs	-	4,990	7,338	4,990	-	5,284	293	-	4,990	1,468	29,353	24,872
Computer s/ware and maintenance	-	7,656	5,104	2,552	-	7,145	-	17,863	10,718	-	51,038	45,780
Website	-	5,326	3,551	1,775	-	4,971	-	12,427	7,456	-	35,506	32,834
Bank Charges	-	2,210	3,025	1,724	-	-	-	-	-	-	6,959	7,330
Legal and Professional Fees	12,439	-	-	-	-	-	-	-	-	21,767	34,206	42,934
Other Direct costs	-	4,217	162,431	47,739	3,186	150,430	-	-	81,120	-	449,123	284,674
Depreciation & Amortisation	-	2,428	5,046	577	-	2,737	1,146	48,991	6,321	1,716	68,962	72,251
											-	
	12,439	128,807	336,979	107,067	3,186	281,490	14,505	166,302	348,592	114,421	1,513,788	1,300,233
Support and governance costs	-	14,875	21,740	6,865	-	16,019	2,288	20,596	32,038	(114,421)	-	
Total expenditure 2022	12,439	143,682	358,719	113,932	3,186	297,509	16,793	186,898	380,630	-	1,513,788	
Total expenditure 2021	13,145	137,599	227,392	105,501	2,000	280,778	15,598	182,215	336,006	-		1,300,233

Other Charitable Activities covers the remaining non-revenue earning activities carried out in pursuit of the Society's charitable aims. It includes: library, public information about OR, third sector pro bono, research support, strategic initiatives, regional societies, special interest groups, awards and scholarships.

The Operational Research Society

Notes to the financial statements

For the year ended 31 December 2022

4b Analysis of expenditure (prior year)

	Charitable activities										2021 Total £
	Raising funds £	Subscriptions £	Events and Conferences £	Training £	Apprentice- ships £	Publications £	Accreditation £	Website / Digital Services £	Other Charitable Activities £	Support and governance costs £	
Staff costs (Note 6)	-	92,363	135,829	42,686	-	98,134	11,963	79,628	216,817	81,519	758,939
Establishment Costs	-	2,704	3,976	1,250	-	2,873	350	2,331	6,347	2,386	22,217
Postage and phones	-	959	1,811	900	-	3,043	12	118	1,139	420	8,402
Office Costs	-	4,228	6,218	4,228	-	4,476	249	-	4,228	1,245	24,872
Computer s/ware and maintenance	-	6,867	4,578	2,289	-	6,409	-	16,023	9,614	-	45,780
Website	-	4,925	3,283	1,642	-	4,597	-	11,492	6,895	-	32,834
Bank Charges	-	2,328	3,186	1,816	-	-	-	-	-	-	7,330
Legal and Professional Fees	13,145	-	-	-	-	-	-	-	-	29,789	42,934
Other Direct costs	-	5,208	41,497	42,752	2,000	142,180	-	-	51,037	-	284,674
Depreciation & Amortisation	-	2,544	5,287	604	-	2,867	1,201	51,327	6,623	1,798	72,251
	13,145	122,126	205,665	98,167	2,000	264,579	13,775	160,919	302,700	117,157	1,300,233
Support and governance costs	-	15,473	21,727	7,334	-	16,199	1,823	21,296	33,306	(117,157)	-
Total expenditure 2021	13,145	137,599	227,392	105,501	2,000	280,778	15,598	182,215	336,006	-	1,300,233
Total expenditure 2020	11,672	132,952	181,894	92,004	-	271,107	8,898	179,606	329,281	-	

Other Charitable Activities covers the remaining non-revenue earning activities carried out in pursuit of the Society's charitable aims. It includes: library, public information about OR, third sector pro bono, research support, strategic initiatives, regional societies, special interest groups, awards and scholarships.

5 Net income / (expenditure) for the year

This is stated after charging / (crediting):

	2022 £	2021 £
Depreciation and amortisation	68,962	72,252
Auditor's remuneration (excluding VAT): Audit	9,750	8,850
	<u>68,962</u>	<u>72,252</u>

6 Analysis of staff costs, trustee remuneration and expenses, and the cost of key management personnel

Staff costs were as follows:

	2022 £	2021 £
Salaries and wages	642,043	634,379
Social security costs	64,489	58,847
Pension costs	66,099	65,713
	<u>772,631</u>	<u>758,939</u>

The following number of employees received employee benefits (excluding employer pension costs and employer's national insurance) during the year between:

	2022 No.	2021 No.
£60,000 – £69,999	1	–
£80,000 – £89,999	–	1
£90,000 – £99,999	1	–
	<u>1</u>	<u>–</u>

The key management personnel of the Society comprise the Executive Director. The total employee benefits (including pension contributions and employer's national insurance) of the key management personnel were £111,308 (2021: £109,557).

No remuneration was paid or is payable to Trustees for service on the Board for the year (2021: £nil).

Trustees' expenses represents the payment or reimbursement of travel and subsistence costs totalling £544 (2021: £nil) incurred by 8 (2021: nil) members relating to attendance at meetings of the trustees.

7 Staff numbers

The average number of employees (head count based on number of staff employed) during the year was 17.7 (2021: 18.3).

Staff are split across the activities of the charity as follows:

	2022		2021	
	Headcount	FTE	Headcount	FTE
Charitable activities	14.7	13.6	14.3	13.7
Management and administration	3.0	3.0	4.0	3.1
	<u>17.7</u>	<u>16.6</u>	<u>18.3</u>	<u>16.8</u>

8 Related party transactions

Gavin Blackett, as part of his Society role as Executive Director, is also a Director of Edward Street Management Limited, the company that manages the Society's buildings car park. During the year the Society paid rent to the company of £3,030 (2021: £3,030).

Amanda Blackett, the wife of Gavin Blackett, the Society's Executive Director, is employed by the Society. Amanda receives an appropriate salary for the role undertaken, in line with market rates.

9 Taxation

The charity is exempt from corporation tax as all its income is charitable and is applied for charitable purposes.

10 Tangible fixed assets

Cost	Long leasehold land and buildings £	Office equipment £	Fixtures and fittings £	Total £
At the start of the year	314,306	56,658	127,168	498,132
Additions in year	–	1,085	3,250	4,335
At the end of the year	314,306	57,743	130,418	502,467
Depreciation				
At the start of the year	176,008	48,511	35,248	259,767
Charge for the year	6,286	6,537	13,042	25,865
At the end of the year	182,294	55,048	48,290	285,632
Net book value				
At the end of the year	132,012	2,695	82,128	216,835
At the start of the year	138,298	8,147	91,920	238,365

The Trustees consider the market value of the Long Leasehold Land and Buildings to be materially in excess of the book written down value shown above.

11 Intangible fixed assets

	Software systems £	Total £
Cost		
At the start of the year	206,672	206,672
At the end of the year	206,672	206,672
Amortisation		
At the start of the year	163,575	163,575
Charge for the year	43,097	43,097
At the end of the year	206,672	206,672
Net book value		
At the end of the year	-	-
At the start of the year	43,097	43,097

12 Listed investments

	2022 £	2021 £
Fair value at the start of the year	1,994,818	1,799,203
Additions at cost	419,180	257,451
Disposal proceeds	(436,292)	(238,320)
Net (loss)/gain on change in fair value	(290,482)	176,484
	1,687,224	1,994,818
Cash held by investment broker pending reinvestment	75,312	29,676
Fair value at the end of the year	1,762,536	2,024,494
Investments comprise:		
	2022 £	2021 £
UK Common investment funds	158,566	226,151
Shares listed on the London Stock Exchange	504,289	727,745
UK Property and assets	306,021	336,838
Overseas Investment funds	181,510	48,786
Overseas Shares	536,838	655,298
	1,687,224	1,994,818

The Operational Research Society

Notes to the financial statements

For the year ended 31 December 2022

13 Debtors

	2022 £	2021 £
Trade debtors	63,838	31,456
Prepayments	68,470	67,502
Accrued income	223,522	111,102
Recoverable VAT	24,473	2,235
	<u>380,303</u>	<u>212,295</u>

14 Creditors: amounts falling due within one year

	2022 £	2021 £
Trade creditors	35,041	29,532
Taxation and social security	28,783	22,534
Other creditors	4,238	14,092
Accruals	94,549	75,056
Deferred income (note 15)	43,859	31,051
	<u>206,470</u>	<u>172,265</u>

15 Deferred income

	2022 £	2021 £
Balance at the beginning of the year	31,051	67,298
Amount released to income in the year	(31,051)	(67,298)
Amount deferred in the year	43,859	31,051
	<u>43,859</u>	<u>31,051</u>

Deferred income consists of 2023 subscription income paid in advance.

The Operational Research Society

Notes to the financial statements

For the year ended 31 December 2022

16a Analysis of net assets between funds (current year)

	Unrestricted £	Restricted £	Total funds £
Tangible fixed assets	216,835	–	216,835
Intangible fixed assets	–	–	–
Investments	1,696,976	65,560	1,762,536
Net current assets	398,302	–	398,302
Net assets at 31 December 2022	2,312,113	65,560	2,377,673

16b Analysis of net assets between funds (prior year)

	Unrestricted £	Restricted £	Total funds £
Tangible fixed assets	238,365	–	238,365
Intangible fixed assets	43,097	–	43,097
Investments	1,951,146	73,348	2,024,494
Net current assets	345,357	–	345,357
Net assets at 31 December 2021	2,577,965	73,348	2,651,313

17a Movements in funds (current year)

	At 1 January 2022 £	Income & gains £	Expenditure & losses £	Transfers £	At 31 December 2022 £
Restricted Funds	73,348	2,565	(13,457)	–	62,456
Unrestricted Funds	2,577,965	1,251,040	(1,513,788)	–	2,315,217
Total funds	2,651,313	1,253,605	(1,527,245)	–	2,377,673

The narrative to explain the purpose of the restricted fund is given at the foot of the note below.

17b Movements in funds (prior year)

	At 1 January 2021 £	Income & gains £	Expenditure & losses £	Transfers £	At 31 December 2021 £
Restricted Funds	61,722	2,130	(5,104)	14,600	73,348
Unrestricted Funds	2,333,660	1,557,638	(1,298,733)	(14,600)	2,577,965
Total funds	2,395,382	1,559,768	(1,303,837)	–	2,651,313

Restricted Funds

Consists of a legacy received in 2002. The Legator, Mrs May Hicks, expressed a non-binding wish that the Society uses its bequest to fund an annual award to be determined by the Council of the Society. The legacy is currently invested in the Charities Aid Foundation Fixed Interest B Accumulation Fund. It also includes an amount received from the ISMOR trust of £14,600 to be used to fund ISMOR scholarships.

18 Operating lease commitments payable as a lessee

The charity's total future minimum lease payments under non-cancellable operating leases is as follows for each of the following periods

	Leasehold Property Service Charge		Equipment	
	2022 £	2021 £	2022 £	2021 £
Less than one year	3,030	3,030	5,435	5,548
One to five years	12,120	12,120	11,224	8,390
Over five years	245,430	248,460	-	-
	260,580	263,610	16,659	13,938

19 Post balance sheet events

20 Legal status of the charity

The Society is a company limited by guarantee, has no share capital and is a registered charity. The objectives of the Society are the advancement of knowledge and education in operational research.

The liability of each member in the event of a winding-up is limited to £1.

History

In the autumn of 1947, at a dinner discussion convened at the Athenaeum Club in London, it was decided to form the Operational Research Club. The club was inaugurated in April 1948 with an initial membership of 50, under the chairmanship of Sir Charles Goodeve and with Mr J A Jukes as the first secretary. The exclusivity associated with the word “club” was deliberately chosen for the initial period, to ensure clarification of what was meant by operational research and to attempt to develop a wholeness in what was otherwise a somewhat vague field. The club met regularly in the rooms at the Royal Society for technical discussions. By 1953 the initial objectives had been achieved and the pressure to form a normal “learned and professional” society had become strong. Therefore, the club was transformed into The Operational Research Society and its first president was Sir Owen Wansbrough-Jones and the hon secretary Mr B H P Rivett.

Presidents of the Society

Sir Owen Wansbrough-Jones	1954/55	Dr G Owusu	2023/24
Sir William K Slater	1956/57		
Professor M G Kendall	1958/59		
The Earl of Halsbury	1960/61		
Professor B H P Rivett	1962/63		
Professor G A Barnard	1964/65		
Professor R T Eddison	1966/67		
Mr E C Williams	1968/69		
Mr S Beer	1970/71		
Professor K D Tocher	1972/73		
Mr R C Tomlinson	1974/75		
Mr A M Lee	1976/77		
Professor M G Simpson	1978/79		
Mr G H Mitchell	1980/81		
Professor K B Haley	1982/83		
Dr R S Stainton	1984/85		
Professor J V Rosenhead	1986/87		
Dr J C Ranyard	1988/89		
Mr P N Thornton	1990/91		
Professor C B Chapman	1992/93		
Professor L C Thomas	1994/95		
Mr I J Disley	1996/97		
Professor R G Dyson	1998/99		
Professor M Pidd	2000/01		
Mr J Gibb	2002/03		
Professor V Belton	2004/05		
Professor J D Griffiths	2006/07		
Mrs S M Merchant	2008/09		
Professor R W Eglese	2010/11		
Dr G H Royston	2012/13		
Professor S L Robinson	2014/15		
Ms R A Kaufman OBE	2016/17		
Mr J R Hopes	2018/19		
Professor E K Burke	2020/22		

OR Society Awards

Companion of Operational Research

Sir Hermann Bondi	1983	Professor R G Dyson	2007
Mr D Hicks	1983	Mr E K G James	2007
Professor R V Jones	1983	Professor J Friend	2008
Professor B H P Rivett	1983	Dr G Royston	2008
Mr H R W Watkins	1984	Professor R J Paul	2009
Professor Sir David Cox	1985	Professor A Mercer	2010
Lord Ezra	1985	Mr T O'Connor	2010
Mr P Hughes	1985	Professor V Belton	2011
Lord Zuckerman	1985	Ms R A Kaufman	2011
Sir John Kingman	1986	Professor M Pidd	2011
Sir Dennis Rooke	1986	Professor P H Millard	2012
Sir Charles Carter	1987	Professor D M Ryan	2013
Mr T P Frost	1987	Professor R M Davies	2014
Professor H.Muller-Merbach	1988	Mr C R Humby	2014
Mr D A Quarmby	1989	Mrs S M Merchant	2015
Professor R C Tomlinson	1990	Professor S C Brailsford	2016
Mr R A Showell	1991	Professor J D Griffiths	2016
Mr G H Mitchell	1992	Professor E K Burke	2017
Professor P Whittle	1994	Professor P R Harper	2018
Mr J Plymen	1994	Professor R W Eglese	2019
Professor S Vajda	1995	Mr A Waterhouse	2020
Professor K B Haley	1996	Professor A C Pagel	2021
Professor M F Shutler	1996	Dr J E Williams	2022
Professor D J White	2001		
Professor K C Bowen	2001		
Dr R A Forder	2005		
Professor F Kelly	2005		
Mr G K Rand	2005		
Dr J C Ranyard	2005		
Professor J V Rosenhead	2005		
Dr J F Miles	2006		

Beale Medal

J V Rosenhead	1992	J D Griffiths	2009	R Cheng	2018
D J White	1993	K H Haley	2010	A Land	2019
A H Christer	1995	F Kelly	2011	V Belton	2020
G H Mitchell	1998	M D Elder	2012	C Potts	2021
H P Williams	1999	K D Glazebrook	2013		
R C Tomlinson	2005	R Fildes	2014		
P Checkland	2006	J Friend	2015		
C Eden	2007	R Ormerod	2016		
L C Thomas	2008	M Jackson	2017		

Silver Medal

C F Goodeve	1964	A M Lee	1970	S Eilon	1982
P M Morse	1965	R L Ackoff	1971	G Dantzig	1986
K D Tocher	1967	C G Vickers	1975	L V Kantorovich	1986
B H P Rivett	1968	E.K.G.James	1979		
R T Eddison	1969	E M L Beale	1980		

Bronze Medal

R M Adelson	1965	A R Wild	1967	F K Lyness	1970
J Stringer	1967	D J Chambers	1968	A M Duguid	1972
T A Burgin	1967	M F Cantley	1969	C G Moss	1972

Goodeve Medal

B H Mahon	1976	P Kloprogge	2001	S Crowe	2015
R J M Bailey	1976	R Dekker	2001	P Bennett	2015
N R Tobin	1977	S Howick	2002	M Daraktchiev	2015
I Sanderson	1979	C Eden	2002	M Utley	2015
A J Williams	1980	J E Beasley	2003	S C Brailsford	2016
J G Shepherd	1981	H Howells	2003	D De Silva	2016
F K Lyness	1982	J Sonander	2003	A Backiel	2017
L P Fatti	1984	R Hartley	2004	B Baesens	2017
A H Christer	1985	G Lanot	2004	G Claeskens	2017
W M Waller	1985	S C Brailsford	2005	A I Ali	2018
G Best	1987	V Lattimer	2005	G Ince	2018
G Parston	1987	P Tarnaras	2005	A Brice	2019
J V Rosenhead	1987	J Turnbull	2005	R Bye	2019
D Rowland	1988	K Taylor	2006	J Oppen	2019
I R Turner	1989	B Dangerfield	2006	J Royset	2019
R Bandyopadhyay	1990	S C Brailsford	2007	E Adiyeye	2020
S Datta	1990	D Evenden	2007	S Agrali	2020
D Schradly	1992	V Harinda	2007	E Canakoglu	2020
D Wadsworth	1992	P Harper	2007	G Gehret	2021
A Bouzاهر	1993	A Medina-Borja	2008	J Weir	2021
S Offutt	1993	K S Pasupathy	2008	A Johnson	2021
D W Bunn	1994	K Triantis	2008	D Jacques	2021
E R Larsen	1994	D Ronen	2009	G Bruno	2022
K Vlahos	1994	C A Goodhart	2009	M Cavola	2022
G M Campbell	1995	S Kumar	2010	A Diglio	2022
C F Davis	1995	D A Nottestad	2010	G Laporte	2022
M Carey	1996	E E Murphy	2010	C Piccolo	2022
D Lockwood	1996	L C Thomas	2011		
C M Yeats	1997	F R Johnston	2012		
T Rehman	1997	E A Shale	2012		
D-W Tcha	1998	S Kapoor	2012		
T-J Choi	1998	A Sheth	2012		
Y-S Myung	1998	R True	2012		
F Duckworth	1999	P Kemmer	2013		
A J Lewis	1999	A Strauss	2013		
J Banasik	2000	T Winter	2013		
J N Crook	2000	J Bengtsson	2014		
L C Thomas	2000	D Bredstrom	2014		
R Korporaal	2001	P Flisberg	2014		
A Ridder	2001	M Ronnqvist	2014		

Stafford Beer Medal

JJ Jahng	2003	R Lederman	2012	N Hikmet	2019
H Jain	2003	R Johnston	2012	A Connolly	2019
K Ramamurthy	2003	H Koch	2013	C Davis	2019
R Lindgren	2004	E Gonzalez	2013	A Bhattacharjee	2019
D Stenmark	2004	D Leidner	2013	F Brachten	2020
J Ljungberg	2004	D Denyer	2014	B Cabrera	2020
S Sarker	2005	M Hall	2014	G Neubaum	2020
S Sahay	2005	E Kutsch	2014	L Pilz	2020
S Madon	2006	E Lee-Kelley	2014	B Ross	2020
C Middleton	2007	P Tallon	2015	S Stieglitz	2020
W Cukier	2007	J Gerow	2016	A Baiyere	2021
S K Sia	2008	J Thatcher	2016	H Salmela	2021
C Soh	2008	V Grover	2016	T Tapanainen	2021
C Ashurst	2009	A Utesheva	2017	A Hanelt	2022
N Doherty	2009	J Simpson	2017	S Firk	2022
J Peppard	2009	D Cecez-	2017	B Hilebrant	2022
F Thiesse	2010	Kecmanovic		L Kolbe	2022
J Al-Kassab	2010	R Parks	2018		
E Fleisch	2010	H Xu	2018		
P O'Reilly	2011	C-H Chu	2018		
P Flanagan	2011	P Lowry	2018		

Tocher Medal

K Kotiadis	2009	J Xu	2017	E Nino-Perez	2019
T Pitana	2011	E Huang	2017	Y M Mendez-	2019
E Kobayashii	2011	L Hsieh	2017	Vazquez	
C Boer	2013	L H Lee	2017	E Applegate	2021
Y Saanen	2013	Q Jia	2017	G Feldman	2021
K-H Chang	2015	C Chen	2017	S Hunter	2021
A-L Chang	2015	M Cabrera-Rios	2019	R Pasupathy	2021
C-Y Kuo	2015	D E Arias	2019		
		Gonzalez			

Cook Medal

P Jackson	2014	M Walsh	2016	D Apostolou	2020
J Klobas	2014	R Murray	2016	E Kalogeraki	2020
D Pentland	2016	L Irvine	2016	S Papastergiou	2020
K Forsyth	2016	F Di Vincenzo	2018	N Polemi	2020
D Maclver	2016	D Mascia	2018	C Guthrie	2022

Griffiths Medal

H Witteman	2015	V Mabin	2019	J Wilkerson	2021
J Stahl	2015	J Yee	2019	L Millburg	2021
M Mihaylow	2017	S Babington	2019	T Robberts	2021
P Smet	2017	R Moore	2019	D Morgareidge	2021
W Van Den Noortgate	2017	V Caldwell	2019		
		T Young	2021		
G Vanden Berghe	2017	S Soorapanth	2021		

Ranyard Medal

A Jeyaraj	2020	B Shah	2022
A Zadeh	2020	V Dixit	2022
S John	2022	A Wani	2022

Lyn Thomas Impact Medal

S Crowe	2019	D Behrens	2021	A Harper	2022
C Pagel	2019	V Knight	2021	T Kaplan	2022
M Utley	2019	G Palmer	2021	S Chakravarty	2022
P Harper	2021	M Tuson	2021	S Martin	2022
I Spernaes	2021	S Bale	2021	A Fordyce	2022
D Gartner	2021	N Mustafee	2022		
T England	2021	J Powell	2022		

Doctoral Award

K Kaparis	2008	T Lidbetter	2013	G Palmer	2018
A Strauss	2009	M Takac	2014	M Bedenek	2019 †
F Liberatore	2010	C Koc	2015	L Morgan	2019 †
R Wood	2011	I Megiddo	2016	J Clarkson	2020
K Rustogi	2012	J F Sze	2017	G Alozie	2021

† Joint winners

President's Medal

D R Corkindale	1976	P Loader	2004	M Wauben	2019
M L Chambers	1977	M Bryant	2004	P Macdent	2019
R G Dyson	1977	P Bates	2004	B Marshall	2019
M Sloman	1978	C McGuckin	2004	E Baggot	2020
J V Rosenhead	1979	D Kelly	2004	K Brett	2020
P Doyle	1980	P Loucopoulos	2005	J Low	2020
J Fenwick	1980	KG Zagafos	2005	H Mann	2020
G P Savage	1980	Y Pyrgiotis	2005	M McKee	2020
D B Gilding	1981	D Beis	2005	S Rose	2020
C Lock	1981	A Swain	2006	S Smith	2020
B Fokkens	1982	A Ross	2006	A Tako	2021
M Puylaert	1982	A Lewins	2007	S Robinson	2021
R S Hambleton	1983	M Sykes	2007	A Gogi	2021
A W Nimmo	1984	A Moon	2007	Z Radnor	2021
C B Chapman	1985	M Allwright	2008	E Arafailova	2022
D F Cooper	1985	J Ball	2008	F Bucci	2022
A B Cammaert	1985	D Pankhurst	2008	T Butler	2022
P Doyle	1987	I Wright	2008	G Dikas	2022
J Saunders	1987	P Frangos	2010	S Doguparthi	2022
M Pidd	1988	S Hughes	2010	R Fuentes	2022
S R Clarke	1989	S Hammond	2011	R Hart	2022
A H Christer	1990	K Slater	2011	A Kishan	2022
K A H Kobbacy	1990	C Marston	2012	C Kocer	2022
B C Dangerfield	1991	P Rose	2012	A Kolev	2022
C A Roberts	1991	S Mardle	2013	S Lautz	2022
M B Wright	1992	L Fildes	2013	S Logan	2022
C P Thunhurst	1993	A Lewins	2013	F Milano	2022
C J Ritchie	1993	E Husemann	2014	E Reynolds	2022
A Khakee	1994	D Lane	2014	H Singh	2022
K Stromberg	1994	E Munro	2014	S Spurri	2022
J J Glen	1996	G Owusu	2016	H Teagle	2022
H Tsoukas	1997	S Shakya	2016	B White	2022
D B Papoulias	1997	R Dorne	2016	D Wong	2022
J H Powell	1998	A Mohamed	2016		
G Laporte	1999	A McCormick	2016		
F Semet	1999	A Liret	2016		
V V Dadeshidze	1999	O Buhlinger	2017		
L J Olsson	1999	C Henzel	2017		
F Vasko	2000	M Clocherty	2017		
H Gilles	2000	M Knapton	2017		
D Bright	2000	H Papachristou	2017		
V Kocatulum	2000	C Legge	2017		
E Wolf	2000	R Leese	2018		
J Moffat	2000	J Blaavand	2018		
J J Race	2001	C Centazzo	2018		
D Burnell	2001	A Bejan	2018		
M Neighbour	2002	P Munday	2018		
M Acutt	2003	A Booker	2019		



Produced by The OR Society

OPERATIONAL RESEARCH SOCIETY LIMITED

England & Wales - Charity number 313713

Accounts



THE
OPERATIONAL
RESEARCH
SOCIETY

Annual Report and Accounts

for the year ended 31 December 2021

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Foreword from the President

It is a great pleasure to introduce this report, which describes The Operational Research Society's achievements during 2021 and sets out our future plans.

Last year I described 2020 as a 'year like no other'. Unfortunately, 2021 was very much like its predecessor, with UK and the rest of the world still under restrictions imposed to limit the impact and spread of COVID-19. The Society was able to continue with the virtual delivery of nearly all of its services. The wider OR community also continued with its significant contribution to tackling the global crisis.

As we emerge from the pandemic, both the Society and the wider community can start to turn our thoughts to our role in the recovery towards some form of normality. The Society is considering how to combine the best of the online world with some return to face-to-face elements. However, many of our governance meetings will continue to take place via tools like Zoom and Teams, saving the cost, time and environmental impact of travelling to meetings.

This report describes some of The OR Society's key achievements during 2021 in responding to the opportunities and challenges presented by the 'new normal'. These have included: building the scope and reach of our online delivery of services, the move towards becoming an End Point Assessment Organisation for the level 7 apprenticeship for an Operational Research Specialist; and our continued contribution to the Royal Society inspired Alliance for Data Science Professionals.

Edmund Burke
OR Society President 2020-2023
May 2022

Introduction

The Operational Research Society is a charity set up to advance knowledge, interest and education in operational research (OR). Our vision is of a world improved by rigorous analysis and better, evidence-based decision-making: "OR providing world class analysis for world class decisions". In this world OR would be seen as indispensable – not just a 'nice to have' but a 'must have' – and be used and acknowledged widely in all areas of industry, business, government and the third sector.

As a charity, we must work for the public benefit, but we also aim to work for the good of our members, because without active, able and well-supported researchers and practitioners, students and supporters, OR would not exist. We disseminate learning; promote awareness of OR; support OR professionals and standards; and aim to ensure that UK OR has a 'voice at the table', both in the international OR world and in wider UK arenas. This represents a broad programme of activities and services, that has been growing year on year and that we continue to maintain and develop.

With the continuing dramatic changes in the world around us – the global coronavirus pandemic – our activities and services have had to adapt accordingly. These changes present great challenges for the whole world, but offer great opportunities for the OR discipline, OR professionals and The OR Society.

Review of the Year 2021

2021 was the first year of a new 3 to 5-year strategic planning cycle, for which we adapted our main priorities on top of the 'Business as Usual' services and activities. The strategic pillars are: raising awareness of the importance of OR; supporting OR knowledge development; supporting OR education; growing membership and wider reach; ensuring financial sustainability of the Society; and embedding good diversity practice in OR and the ORS. Whilst we aim to put EDI considerations at the heart of everything we do, we felt its importance deserves highlighting as a separate strategic strand.

Highlights of the Year

This has been another year of highlights which, along with our full range of activities, support our charitable aims to advance knowledge, interest and education in OR.

Advancing knowledge

The Society's portfolio of academic journals continued to make a substantial contribution to both advancing and sharing knowledge specifically related to COVID-19. All of our relevant content was made free to access and a significant volume of new research material was published in much condensed time frames.

Operational research apprenticeships took further steps towards becoming a serious route to training the analysts of the future, with the Society looking to establish itself at the heart of the quality assurance processes core to that route.

The Society continues to work with Council for Mathematical Sciences on the next steps towards the establishment of a national Mathematical Sciences academy. This could play a key role in the future advancement of knowledge in OR. Other activities to advance knowledge are covered below in the Events, Publications and Research sections.

Advancing interest

Again, the Society's strategic goal of advancing interest in OR was both hindered and helped by the global pandemic. Its usual programme of face-to-face activities was unable to resume during the year, but the opportunity to expand its global reach through the expanded programme of online events was grasped

wholeheartedly. This year's annual conference returned to its usual breadth and depth and still drew worldwide participation.

The Society continued to implement the recommendations of its Artificial Intelligence (AI) task and finish group. One such activity was the delivery of an extensive workshop at the BCS AI conference, highlighting how OR can contribute to AI projects. Other activities to advance interest are covered below in the Events, OR in Education and Pro Bono OR sections.

Advancing education

The Society is now pursuing approval as an End Point Assessment Organisation. It is hoped that the first cohort of apprentices will commence in early 2022. Other activities to advance education are covered below in the Education, Training and OR in Education sections.

Other highlights

Some of our 2021 highlights made contributions to all our charitable aims. These included the expansion of our Women in OR and Analytics Network (WORAN) with a number of virtual events held during the year. This network provides a key focus for addressing issues facing women in our profession.

Finally, the Society is actively involved in an alliance of learned societies (BCS, IMA, and RSS) to implement recommendations in the Royal Society report *Dynamics of data science skills*, including shaping professional standards for data science. This has the potential to be pivotal in improving trust in data analysis across all sectors of the economy.

Achievements during the year

Equality, Equity, Diversity & Inclusion

Part of the OR Society's vision is to have a vibrant and active membership drawn from diverse areas. In support of this, the Society has been active over the past year in the Equality, Equity, Diversity & Inclusion (EEDI) area. In line with its commitment to the Science Council declaration, the Society has a Board level Diversity Champion and a member of the Society's permanent staff working together to drive the realisation of our EEDI ambitions.

The major milestone for the year was the submission of our response to the Science Council's Diversity Framework exercise. We were pleased to be able to record progress in all areas since the last submission / exercise in 2017. All of the Society's committees have taken ownership of the relevant areas and programmes of work to continue the progress have been put in place. An EDI steering group was set up to oversee this work. Further to this, Board agreed the statement of our strategy and ambition for EEDI.

Four EDI training modules plus an autism awareness session were delivered for staff and volunteers. Take-up of the sessions was excellent. The Society also marked several celebration days throughout 2021 including International Women's Day, International Men's Day, Black History Month, International Day of Persons with disabilities and LGBTQ in STEM.

Improved data collection allowed us to target particular areas for action. Our Publications committee was successful in improving the gender diversity of the editorial boards of its portfolio of academic journals, and other initiatives included using inclusive language and images in all our publications, including the website.

Finally, we were delighted that our Women in OR & Analytics Network (WORAN) continued to be very active and to build its engagement with a wide range of participants.

Conferences and Events

Events and Conferences remain an important part of what the OR Society contributes to the membership and the wider OR Community. The continuing and unpredictable influence of the pandemic has continued to make the organising and delivery of events a challenge.

The move to online events has continued, with the OR63 conference in September being virtual, along with most of the events during the year. This now being the second year of this kind of disruption our experience with delivering engaging and interesting content through online platforms had greatly increased. Thus, the OR63 conference was conducted online as a virtual version of the normal conference, with 11 parallel sessions, plenaries, a pub quiz and even a virtual Titanic tour. There were 24 streams, a full Making an Impact programme and a pre-day of activities.

Unlike OR62 Online, this was a paid-for event using a professional events platform and succeeded in turning a useful surplus, with almost 400 attendees. As before, our online offering allowed delegates to attend from all over the world, with one MAI workshop being delivered simultaneously from India and the Pacific coast of Canada. Many thanks must go to Martin Kunc and Christine Currie of the University of Southampton who were the academic co-chairs, and Sham Musthapha of Boeing who served as the practitioner co-chair.

All our other major events in 2021 were online, starting with the Analytics Summit in February – this covered a wide range of topics in Analytics, AI and OR, with particularly popular talks covering themes such as making fairer decisions with AI and how to make use of softer skills when developing a business. The Beale Lecture also took place in February, starting with Geraint Palmer, winner of the 2018 Doctoral Award, talking about modelling deadlock in queuing systems. This was followed by an expert panel discussion on the use of optimisation models.

March saw Simulation Workshop 2021, a celebration of 20 years of the biannual simulation workshop, with contributions from distinguished international plenary speakers and a comprehensive programme of talks. The paper 'Celebrating 20 years: the story of the simulation workshop' by Professor Stewart Robinson and Professor Simon Taylor gave an overview of the evolution of the conference from the earliest days. April was the 3rd joint conference between the OR Society and the Institute for Mathematics and its Applications (IMA). This conference was led by the IMA and covered a wide range of topics, with an engaging plenary from Kevin Glazebrook and Jake Carlson on Multi-Armed Bandits (look it up, I didn't know). The experience of the OR Society team in conducting online events proved invaluable in overcoming last-minute difficulties, supporting this conference, and making it a success.

The AGM in June included a talk on Soft OR and Practice by Robert Dyson and Frances O'Brien, looking back at the links between the founders of OR and the history of Soft OR within the OR community. This was followed by the usual opportunity to review the activities of the Society and vote on its business.

Following its cancellation in 2020, July 2021 saw ISMOR 38 held online, with a plenary on Emerging and Disruptive technology by Jason Field and a series of talks covering historical analysis, artificial intelligence, and COVID-19 vaccine response. The international nature of the conference was maintained with presentations from researchers in Brazil, Canada, Norway, Belgium, and the UK.

The Blakett lecture in November was given by Professor Anthony Finkelstein, who gave an overview of his work in national security. The talk, entitled 'A Systems View of National Security' gave an interesting insight into a world often concealed behind a cloak of mystery.

Our final conference of 2021 was the Validate AI conference in December, with contributions from not just those in OR but also medicine, banking and policing, including a talk on transforming healthcare with AI by Dr Hutan Ashrafian of Imperial College, with an introduction given by Lord Darzi of Denham, the Labour peer, surgeon and researcher.

Our Webinar Wednesdays continued as a popular means of developing professional knowledge and seeing what other techniques and approaches were available to those working in the world of OR. Webinars for 2021 included several sessions on Data Envelopment Analysis (DEA), talks on different soft OR approaches and how the UN Sustainable Development Goals can be realised in a post-COVID world. As always, these talks are all available to members on the OR Society website.

Our Special Interest Groups (SIG) and Regions continue to provide a chance for members to meet to pursue their interests and make local connections. Groups have made use of the Society's online zoom platform to meet up during the year, with over 30 separate online meetings, in addition to those directly arranged through the groups themselves.

It is our intention that 2022 should be the year in which we return to physical events, with OR64 at the University of Warwick marking our first physical annual conference since OR61 at Kent. We are already preparing for our first physical conference since the Beale lecture in early 2020 – the Analytics Summit at the IET in London on 5 July.

We also intend to ensure that the lessons of the pandemic are not forgotten, both by ensuring that physical events are carried out in a way that prioritises the safety and health of our members and through making sure that the long-term potential of online events to extend our reach and encourage diversity is exploited. Our experience with delivering online events has led the OR Society to introduce a new events platform. This will be more efficient in terms of the management of events and will allow us to swiftly move an event from physical to virtual if we need to.

We are also looking forward to the OR Society's 70th anniversary – which is also the 75th anniversary of the founding of the OR Club, its predecessor organisation. We are looking for ideas from the membership as to how we can commemorate this occasion as part of our Events programme – suggestions are welcomed.

Nothing from this programme of events would be possible without the dedication and efforts of the OR HQ team, committee members and volunteers. We greatly appreciate the time they give and their ongoing support in what have been very difficult and challenging times.

Publications

The OR Society has six academic journals. These are the *Journal of The Operational Research Society* (JORS), *European Journal of Information Systems* (EJIS), *Knowledge Management Research & Practice* (KMRP), *Journal of Simulation* (JOS), *Health Systems* (HS) and the *Journal of Business Analytics* (JBA).

The statistics on downloads are again very encouraging. Following the increase in the number of papers downloaded from our journals in 2020, there was a further increase in 2021 with about 230k more downloads than in 2020. In total, there were 952,078 downloads from our academic journals in 2021.

The number of citations to articles in each of our academic journals also increased in 2021 compared to 2020, indicating the value and relevance of our publications. JORS, EJIS, KMRP and JOS are indexed and their Impact Factors for 2020 (published in June 2021) showed significant increases compared to those published in the previous year, even when allowances were made for a different method of calculation.

The page budget for JORS increased in 2021 and the page budgets for KMRP and JOS will both be increased in 2022.

The editorial teams continued to work hard to ensure that their journals were published according to plan and to give timely feedback to those submitting papers. In 2021, Samir Chatterjee replaced Cynthia LeRouge, and Daniel Gartner replaced Paul Harper as members of the editorial team for HS, while Richard Vidgen joined the editorial team for JBA and Nav Mustafee for JOS.

The Society and the editors of the journals greatly value the contribution of reviewers who provide reports on articles submitted for publication. These reports are vital to maintaining the quality of the papers published. In 2021, as well as thanking all reviewers, certificates were awarded to reviewers who had made particularly helpful contributions to the reviewing process, some at an outstanding level. Responses from reviewers suggest that the certificates were much appreciated, and it is planned to continue the award process for reviewers in 2022.

The diversity of the editorial boards for each of our journals continues to be monitored and managed. In 2021, steps were taken to start to monitor the diversity of authors and reviewers by geographical location and gender. The results of this exercise will be considered by the Publications Committee in 2022.

Developments in Open Access continue to be considered. UKRI announced their Open Access policy in 2021, following a wide consultation. In the calendar year 2021, all the Society's academic journals included some Open Access articles, and the overall proportion of Open Access articles is increasing.

In addition to our academic journals, the Society also publishes two editions of *Impact* magazine every year aimed at practitioners and potential users of OR. It is freely available in print or electronic versions. The editor, Graham Rand, has continued to find informative and entertaining articles that showcase ways in which OR can make a difference in practice.

Inside OR is the Society's newsletter and magazine for members which is published at the beginning of each month. Despite a wish to stand down, John Crocker has continued to edit *Inside OR* throughout 2021 and will continue as editor until the Society is able to recruit a suitable replacement.

Carol McLaughlin from the OR Society office and Richard Goodman from Taylor & Francis have worked hard to monitor and update our joint publications strategy and provided support to all the editorial teams. Our thanks go to all those involved over the past year in supporting and promoting the OR Society publications.

Education

We would like to start by thanking Eve Hardy, our Education Officer, who has ensured the continuation of our OR in Education (ORiE) programme during another challenging year. Our appreciative thanks go to Matthew Robinson, the ORiE Taskforce chair, and to all volunteers who have participated in online events.

Apprenticeships continue to be a focus for the committee. The committee proposed that the Society become an End Point Assessment Organisation to further support the take-up and operation of the level 7 standard for 'Operational Research Specialist'. The business case was accepted by Board, and the application process for Ofqual recognition got underway. The Society is also supporting the establishment of a trailblazer group to consider the options for level 6 standards.

The Training Working Group (TWG) continues under the remit of the Education committee. TWG recruited a number of new members during the year and began work to expand the scope of the training programme. It is particularly keen to widen the coverage offered for AI, analytics and data science. It is holding discussions with a number of relevant bodies, including the Alan Turing Institute.

Like many of the other committees, Education committee consider the proposals for a National Academy for Mathematical Sciences. Education will be a key area of an academy's remit.

The committee also started to consider whether the Society could offer some form of degree course accreditation, covering operational research and analytics courses. This is closely linked to the Society's involvement in the Alliance for Data Science Professionals, through which data science degree course accreditation standards are being developed.

Research

The Research committee members continued to play an essential role in supporting OR researchers and ensuring the Society's and the OR community's voice was heard in relevant national bodies throughout 2021.

The year started with further discussion on the themes raised in Chris Skidmore MP's Blakett Lecture (from November 2020). These themes included the importance of operational research to government, the role of OR in national priority areas, and how we might address the people pipeline of OR and expand it. The pandemic has only served to strengthen the case for a strong OR voice accessible to government. These ongoing discussions may result in an Institute for OR; indeed, the discussions also informed other areas of development for the OR community.

The most significant of these has been the proposal to develop a National Academy of Mathematics. The Academy proposal originated from the Bond review, published in 2020. Several Research committee members were involved in the strategic advisory and working groups, which subsequently led to the drafting of a Green Paper. A discussion of the latter by the Research Committee was led by Christine Currie, one of the Green Paper's authors. The Council for Mathematical Sciences (CMS) will now lead on this following the Green Paper's publication.

The committee has also been proactive in our relationship with UKRI and, in particular, EPSRC. Following a recruitment drive to increase OR Society's membership of the EPSRC College in the early part of the year, fifteen ORS members joined the College. This means that more OR experts are available to review EPSRC funding applications. EPSRC received an additional £300m in government funds for Mathematical Science and an increase in their forecasted 2021/22 budget. Frustratingly for many researchers, the release of funds from the 2021/22 review has been delayed, but we are in a stronger position as funding becomes available.

Other areas we have worked with EPSRC include contributions toward their strategic plan, which included the future of doctoral training, the development of an EDI policy, and the development of funding impact measures. Updates of EPSRC and other new funding opportunities continue to be available on the OR Society Research webpages and social media. The committee has also ensured OR has a place on the scoping group for a potential new funding platform to replace J-eS in the future.

The ECR Network, launched last year, continued its Spring and Autumn events online. The events covered guidelines on creating impact case studies and forging successful collaborations with industry. In 2021, eighty ECRs registered to attend the events and/or receive further updates on ECR activity.

The proposal to introduce discussion papers to the *Journal of the OR Society* was presented to the committee by John Boylan. In the subsequent discussion, strong support was expressed.

Training

During 2021, the Society delivered 32 courses covering a range of OR topics, attracting a total of 168 delegates. The coronavirus pandemic continued to impact take up of the training offer, and as a result, all courses were run virtually. We thank our pool of excellent tutors for the continuing adoption of virtual delivery methods.

A new administration platform for our training programme went live shortly before the end of the year. We're excited about the improvements this brings to the delegate journey from discovery through to booking.

Publicity and Membership

Our activity to promote the Society and improve the membership journey has continued throughout the year. This has included some paid advertising. We have seen membership numbers slowly increase, with a particularly good outcome signing up members when the registered for the annual conference. We have also made some changes to the accreditation scheme to keep it relevant and up to date.

We reviewed the fees and increased them in line with inflation – this was the previously agreed longer term strategy. This is now due for review, so we are considering a number of options, taking into account factors such as; the membership offer including our publications, what other societies charge, the role of accreditation and our corporate offer. To help us do this, we want to be very clear what value The OR Society brings to our members and to this end we have done a lot of work to redesign the member survey and conduct a focus group. This will go live in March 2022 and the results will inform our strategy.

Along with the other groups, our Terms of Reference were updated to reflect some recent changes, and to make sure we included a focus on Equality, Diversity and Inclusion. Work in this area also included a full review of relevant sections to contribute to the Science Council Diversity Framework review that took place this year.

Finally, we have started a review of the membership and publicity KPIs that will help measure progress against the Society's broader strategic objectives.

OR in Education

In 2020-21 there was a total of 24 individual visits and events. The COVID-19 pandemic and continued working/learning from home impacted the entire academic year. This allowed for more outreach work aimed at teachers and volunteers than usual, but the irregular learning conditions and increased pressures on teachers meant we worked with school students less than in previous years.

There was one school visit, five extracurricular visits (such as online science fairs/careers panels) and 18 university events. Other headline results include:

- running eight volunteer training sessions for nine STEM Hubs
- running two combined teacher and volunteer training events for five STEM Hubs
- delivering five teacher events – a mix of training courses and conferences
- exhibiting at four maths teacher conferences
- revamping an old YouTube channel and producing two new YouTube video resources

Although COVID-19 limited our work, volunteer availability remained the largest barrier to carrying out more outreach work.

Teachers and volunteers gave lots of positive feedback from ORiE events.

Volunteer feedback:

- *It was a nice feeling, giving the students some advice and recommending them to join the OR Society, and I think they found it useful.*
- *I thought the whole process went very smoothly. Maybe send a calendar invite to remind/help people feel confident in the exact timings of the event? Definitely not necessary though.*
- *It was good talking to students about how great OR is! A thank you for all the support from ORiE!*

Teacher feedback (from Teacher CPD webinars):

- *Really good thank you Eve, I can see applications for encouraging STEM into maths*
- *Really interesting and thought-provoking presentation. Thank you for your time and enthusiasm!*
- *Thank you. Very useful for a Science teacher involved in STEM and Careers. Will pass specific resources to Maths colleagues.*

Student feedback has been limited this year due to the change from in person to online events.

Pro Bono OR

Pro Bono OR's dedicated volunteers worked on 15 projects throughout the year, using a variety of OR, analytics and data science methods to help third sector organisations tackle issues such as food poverty, preventing child abuse, creating impactful social procurement and supporting families with young children. Feedback from the organisations and volunteer analysts has remained positive.

Feedback from our volunteer prize draw winner: *"The experience that I'm getting as a junior analyst is invaluable, whether it is in the spheres of project management or building stakeholder relationships or implementing OR techniques. This is a win-win situation for both me and the organisation I'm working with, they get access to data analysis expertise and I get the opportunity to lead on a project."*

Feedback from the organisation that they volunteered with: *"Our matched pro bono volunteer was very helpful and provided a set of skills we do not have within the organisation. She also provided mapping data and tools so that we could build upon this work independently ourselves moving forward. We would highly recommend any organisation to seek opportunity to work with The OR Society."*

The aftermath of the pandemic is still forcing the majority of the third sector to focus on simply keeping their doors open and supporting their ever-increasing number of service users. For the Pro Bono OR scheme, this

means a reduced number of expressions of interest from third sector organisations and consequently a reduced number of pro bono projects. We hope 2022 will be a more positive year.

The Pro Bono OR scheme was managed by Amy Hughes until May 2021 when she resigned and was replaced by Louise Allison. Louise has previously worked for The OR Society (as Education Officer and Strategic Projects Manager) and returned to take up this role following a career break.

The Steering Group is chaired by Ruth Kaufman and at the end of 2021 the group consisted of: Jane Parkin, Graham Rand, Ian Seath, Shamim Rahman, Mike Boyles, Owen Bowden, Kate Hammond, John Lincoln, Ashleigh Monks and Felicity McLeister. The group was enlarged in winter 2020/21 to include the user perspective, increase capacity, and strengthen succession management. There are plans to recruit a further member representing The OR Society's General Council.

In 2021, we held our first series of webinars for third sector organisations to help them “build back better” post COVID-19. Our series of webinars was designed to help charity and not-for-profit organisations, big or small, understand where to start with complex problems. We hosted five webinars, all delivered by our volunteers who were able to relay first-hand experience to showcase how OR, analytics and data science can help with: Making sense of data – top tips to get you started; Measuring the impact of charitable investment; How to use modelling to improve efficiency and effectiveness; How to use simulation modelling to perform better; and Strategic planning in uncertain times. As a result of attending the webinars or seeing promotional emails, six organisations have initiated pro bono projects.

Pro Bono OR participated in the annual Volunteers' Week (1-7 June). It's an opportunity to celebrate the work that volunteers do and to thank them. In doing so, we showcase projects that volunteers have worked on, share quotes from third sector organisations and volunteers, and promote the benefits of the Pro Bono OR scheme for both volunteers and third sector organisations.

Members, Affiliates and Fellows

At the end of the year, The OR Society had 3,625 members. The Analytics Network boasted 2,153 members, the Society's LinkedIn group had 5,750 members and we had 5,791 Twitter followers. In addition, there were 14 corporate partners – CORDA (part of BAe Systems), Natwest Group, Ministry of Justice, Home Office, Dept for Work & Pensions, AWE, Office for National Statistics, Ministry of Defence, NHS Wales, The Smith Institute, TP Group, Linnaeus University (Sweden), HM Land Registry and HMRC – representing 776 affiliates.

There were 358 accreditees, comprising 169 Fellows, 75 Associate Fellows, 52 Associates and 62 Candidate Associates. There were 22 members accredited as Chartered Scientists and one as a Registered Scientist.

Awards

- **Goodeve Medal** (awarded for best paper published in *JORS* in 2020): Awarded to Greg Gehret, Jeffrey Weir, Alan Johnson and David Jacques "Advancing stock policy on repairable, intermittently-demanded service parts.", *Journal of The Operational Research Society* (2020) 71, 1437-1447.
- **Stafford Beer Medal** (awarded for best paper published in *EJIS* in 2020): Awarded to Abayomi Baiyere, Hannu Salmela and Tommi Tapanainen "Digital transformation and the new logics of business process management.", *European Journal of Information Systems*, 29 238-259.
- **Tocher Medal** (awarded for best paper published in *JOS* in 2019/2020): Awarded to Eric Applegate, Guy Feldman, Susan Hunter and Raghu Pasupathy "Multi-objective ranking and selection: Optimal sampling laws and tractable approximations via SCORE.", *Journal of Simulation*, 14 21-40.
- **Griffiths Medal** (awarded for best paper published in *Health Systems* in 2019/2020): Awarded to Terry Young, Sada Soorapanth, Jim Wilkerson, Lance Millburg, Todd Robberts and David Morgareidge "The costs and value of modelling-based design in healthcare delivery: five case studies from the US.", *Health Systems*, 9 253-262.
- **Doctoral Award** (awarded for the most distinguished body of research leading to the award of a doctorate in the field of OR in 2020): Awarded to Jake Clarkson, University of Lancaster, " Optimal Search in Discrete Locations: Extensions and New Findings".
- **President's Medal** (awarded for the best practical application of OR): Awarded to Antuela Tako, Stewart Robinson, Anastasia Gogi and Zoe Radnor (Loughborough University) for "'The SIMTEGR8 project: Helping the Lightbulb Service Deliver improved housing support services to the Frail and Vulnerable in Leicestershire and Rutland".
- **Lyn Thomas Impact Medal** (awarded annually for the academic OR research which best demonstrates both novelty and real-world impact): Awarded to Paul Harper, Izabela Spernaes, Daniel Gartner, Tracy England, Doris Behrens, Vincent Knight, Geraint Palmer, Mark Tuson and Sue Bale (Cardiff University and Aneurin Bevan University Health Board).
- **Beale Medal** (awarded for a sustained contribution to the theory, practice, or philosophy of OR): Awarded to Chris Potts.
- **Companionship of OR** (awarded for sustained support and encouragement for the development of operational research or for those in influential positions who are in broad sympathy with the subject area): Awarded to Christina Pagel.

Structure of the Funds

The Society revised the presentation of its funds for 2020. It now shows the split between unrestricted and restricted funds.

The unrestricted elements make up the majority of its funds and covers:

- ongoing operations (previously categorised as the General fund); and
- the Seymour House property together with investments and cash on deposit to cover potential risks of a general nature, the most significant of which would arise if the Society were forced to move quickly to a financial regime in which its publications income was significantly reduced (previously labelled the Reserve Fund).

The restricted funds represent a bequest received from Mrs May Hicks in 2002 and which is used for purposes consistent with her wishes, by providing awards for the best student OR projects undertaken for a client organisation.

Review of Operations

The Society's income and expenditure account showed a healthy surplus of £79k during the year, on a turnover of £1.38m. This compares with a small surplus of £15k in 2020.

The performance is gratifying considering the ongoing impact the coronavirus pandemic had on much of the Society's normal operations. Income for the year was up over £136k compared to 2020, but still not back to pre-pandemic levels. The biggest increase, almost £120k, was for Events and Conferences, with fees being reintroduced for key events. Training income recovered well (up more than £30k) as a result of a full year of courses held online. The Society continued to benefit from the cost savings associated with the staff working from home and holding all meetings virtually.

The publications income was almost £28k below the 2020 level, with our publishing partners, Taylor & Francis, continuing to build the strength of our journal portfolio. The outcome for the year was slightly short of expectations, with much of the shortfall attributable to exchange rate pressures. The existing contract with Taylor & Francis comes to an end in 2022 and discussions on a contract extension are essentially complete.

The execution of a previously approved membership recruitment and retention project remained on hold during the year. Work on internal processes proved beneficial, with improved membership numbers being reflected in the financial returns; income from membership subscriptions was up £11k on 2020.

Most operations to support the charitable aims of the Society – such as conferences, special events, regional societies, special interest groups, education, publicity and outreach initiatives, the monthly *Inside OR* magazine and special charitable projects – result in deficits to the Society. To support them the Society relies primarily on subscriptions and income from its academic journals – particularly the latter which in 2021 contributed over £810k net of all associated costs. This serves as a reminder of the Society's current financial dependence on the academic publication system; see the section on 'Risk' below.

The Society employed 18.3 members of staff during 2021 (averaged over the year, 16.85 full-time-equivalents), compared to 16.7 (16.5 FTE) during 2020.

Assets, Reserves and Investments

The total net assets of the Society increased by over £255k to £2.65m over the year, with the small surplus on income and expenditure being boosted by an increase in investment values and a net £176k capital gain (realised and unrealised) on our investment funds. This reflects the markets' continued recovery from the losses due the coronavirus pandemic in 2020, but masks ongoing turbulence. Prudent financial management

of its cash resources meant the Society did not need to draw down any of its investment funds during the year, allowing the recovery to take place.

It is important that the Society maintains an appropriate level of reserves in relation to perceived financial risks. During the year the Board reviewed the Society's reserves policy. In setting its reserve policy, the Board was keen to ensure that the Society can continue long-term operations in the event of financial risks materialising. The policy review considered the minimum and maximum levels for the amount required as reserves. It was agreed to increase the maximum level to be based on three years' costs rather than two. This would give the Board more flexibility in setting its future policies to guard against the impact of open access and further turbulence in the financial markets.

Based on the usual annual costs of running the Society, one year's costs of £900k should be a minimum value for the reserves and the maximum value would then be three years' costs giving a value of £2.7 million. This would cover any growth of the Society over the next few years and release funds to further the Society's aims.

The Society's reserves, with a definition slightly widened from previous years, cover funds which are neither restricted nor designated, less illiquid assets (such as tangible fixed assets). At 31 December 2021, this amounted to £2.3m. The reserves are therefore within their prescribed limits. The Board will bear this in mind when considering opportunities for spending on worthwhile one-off projects that further the Society's objectives, and may be more inclined to do so on finalising the extension to its publications contract.

The Society's investments and their performance are kept under review by the Investment Committee in accordance with policies decided by the Board. The Committee is chaired by the Treasurer and, in addition to other members of the Society, includes representatives from the Society's investment managers.

Risk

The Society's dependency on journal income is the most significant material risk. Our contract with Taylor & Francis to a large extent mitigates this risk for the Society, for the five years of the contract (finishing in December 2022), by transferring much of it to the publisher. The risk has not disappeared though, and we could never be wholly insulated from any impact that might result from this risk on our publisher. Discussions on an extension to the contract have concluded, with the contract expected to be signed during the first half of 2022, and while this does reduce the risk, the publications market will be rapidly adapting to the demands of open access over the course of the extension and this element of income remains at risk.

A key strategic risk is that OR could be seen as less relevant in the rapidly changing environment, as big data and increasing computing power drive technical developments and as new discipline descriptions compete for attention and funding. We have been mitigating this through a number of initiatives led by our Analytics Development Group and are also actively promoting the relevance of OR to data science, robotics and artificial intelligence as well as other overlapping fields. More generally, we aim to raise the visibility of OR and support outward-looking practice and membership through outreach to other professional societies and to organisations and businesses who may benefit from what OR has to bring and through the variety of topics and speakers at our events.

A further key risk is that The OR Society could be seen as less relevant to OR professionals. We have been mitigating this through the whole range of activities addressing our strategic goals and described elsewhere in this report.

The Board regularly reviews the risk register covering a wide range of operational risks, including IT risks, and, where feasible, puts mitigating action in place.

Key Management Personnel

The Key Management Personnel for the Society comprise the trustees (its Board of Directors) and the Executive Director. No remuneration is payable to trustees for service on the Board.

Basis for Remuneration

The President, Treasurer and President Elect or Immediate Past President review the Executive Director's salary and, when agreed by Finance Committee, a written recommendation is made to Board. The Executive Director leads the process for other staff which is again initially discussed by Finance Committee before the recommendations go to Board for final approval.

Voluntary Contributions

The Society's work in 2021 benefited from voluntary contributions of time, from members and others, through these principal lines of work: refereeing of journal papers; editing of journals; conference organisation; authorship and delivery of talks to regional societies and special interest groups; organisation of regional societies and special interest groups; the work of the Society's officers; contributions to the administration of the Society, its Awards and its accreditations through service on Board and the Society's committees.

The coronavirus pandemic has meant that some of the usual volunteering opportunities have been unable to take place. The Society is delighted in the way its pool of volunteers has responded to the switch to online activities where this has been possible, especially with our two main outreach projects, OR in Schools and Pro Bono OR. Their work benefits the OR community, the future development of the profession and the wider society and is a fine contribution to The OR Society's charitable objectives.

It is estimated that a total of 4,000 person-days were contributed in 2021. If this time is valued at £500 per day, its value is £2M. The Society is most grateful to all who contributed voluntary effort, without which the Society could not accomplish its goals.

Fundraising

The OR Society does not engage in public fundraising activities by professional fundraisers or commercial participators. The charity has not received any fundraising complaints in the year.

Related Parties

The Society is a member of EURO, the Association of European Operational Research Societies, and IFORS, the International Federation of Operational Research Societies. It shares information and works closely with other operational research societies around the world, particularly its counterpart in the USA, INFORMS. The Society pays membership fees to both EURO and IFORS.

The Society is also a member of the Council for Mathematical Sciences, CMS. It works with the other member bodies (Institute for Mathematics & its Applications, London Mathematical Society, Royal Statistical Society and Edinburgh Mathematical Society) on relationships to research funding bodies, relevant consultations and various other initiatives. Currently this includes the development of plans for a national academy for mathematical sciences.

The Society's related party transactions for the year ended 31 December 2021 have been disclosed in note 8 of the financial statements.

Objectives for 2022

At the start of 2021, Board produced a revised version of its 3-5 year goals and priorities. These build on those in place for the previous strategic planning phase and represent exciting opportunities for the Society and the wider OR community. The revised strategic pillars are to: raise awareness of the **importance of OR**; support **OR knowledge development**; support **OR education**; grow **membership and wider reach**; ensure **financial sustainability** of the Society; and address **diversity and inclusion challenges** in OR and the OR Society.

Work has already started on many of the initiatives that we hope will come to fruition in the next year or so:

- working with Taylor & Francis to capitalise on its strategy to maximise the value of our current publications contract, develop robust publishing models to deal with opportunities and challenges presented by open access publishing and Plan S;
- ensuring that OR is fully involved in the establishment of a National Academy for Mathematical Sciences (following up the recommendations of the Bond review of knowledge exchange in the mathematical sciences);
- building policy influence with key Government contacts and connect with other key decision makers;
- implementing an engagement plan for the analytics / artificial Intelligence /data science community, and specifically implementing the recommendations of the artificial intelligence task-and-finish group;
- supporting the continued growth of the Women in OR and Early Careers networks;
- maximising benefit from the website, social media campaigns and other marketing activity to raise the brand profile of OR itself;
- launching its museum-based travelling exhibition to raise public awareness of OR;
- progress its bid to come an End point Assessment Organisation and further support the uptake of the level 7 OR apprenticeship scheme for OR Specialist;
- strengthening relationship with key bodies such UKRI, Royal Society, Science Council and other learned societies;
- investigating diversification of income, including exploring new streams (accrediting University courses, fundraising / donations, sponsorship);
- implementing our diversity plan based on recommendations from the diversity champion;
- creating and disseminating thought leadership pieces (with the initial focus on ethics);
- demonstrating the relevance of OR to complex problems and big issues.

These developments will be on top of our existing broad sweep of services: conferences, events, lectures and training; publications; Pro Bono OR and OR in Schools; representing The OR Society on bodies including The Council for Mathematical Sciences, the Science Council, EURO and IFORS; and our more inward-looking activities to improve sustainability, efficiency and effectiveness.

For a relatively small professional body in an uncertain world, there are many challenges to overcome. By undertaking these activities, we aim not just to meet the challenges, but to grow the profession and The OR Society's contribution and make the most of the opportunities awaiting us.

Information about the Society

- (1) The Operational Research Society is a company limited by guarantee (no. 663819). It is also a charity registered in accordance with the provisions of the Charities Act 2011 (registration no. 313713)
- (2) The objects of the Society are given in its Memorandum and Articles and can be summarised as:
 - (a) the advancement of knowledge by fostering, promoting and furthering interest in operational research; and
 - (b) the advancement of education by providing facilities for and, by subsidising it, endowing, organising or supporting scholarships or educational or training schemes; and conducting examinations or advising on their content.
- (3) The Society is empowered to do all proper things in pursuit of these objectives.
- (4) The affairs of the Society were managed during 2021 by the elected officers and members of the Board listed below. Together they constitute the Board of Directors of the limited company and Trustees of the charity and the members of its management committee. Specific matters are delegated to particular committees of the Society by resolution of the Board and in accordance with the Society's Articles.

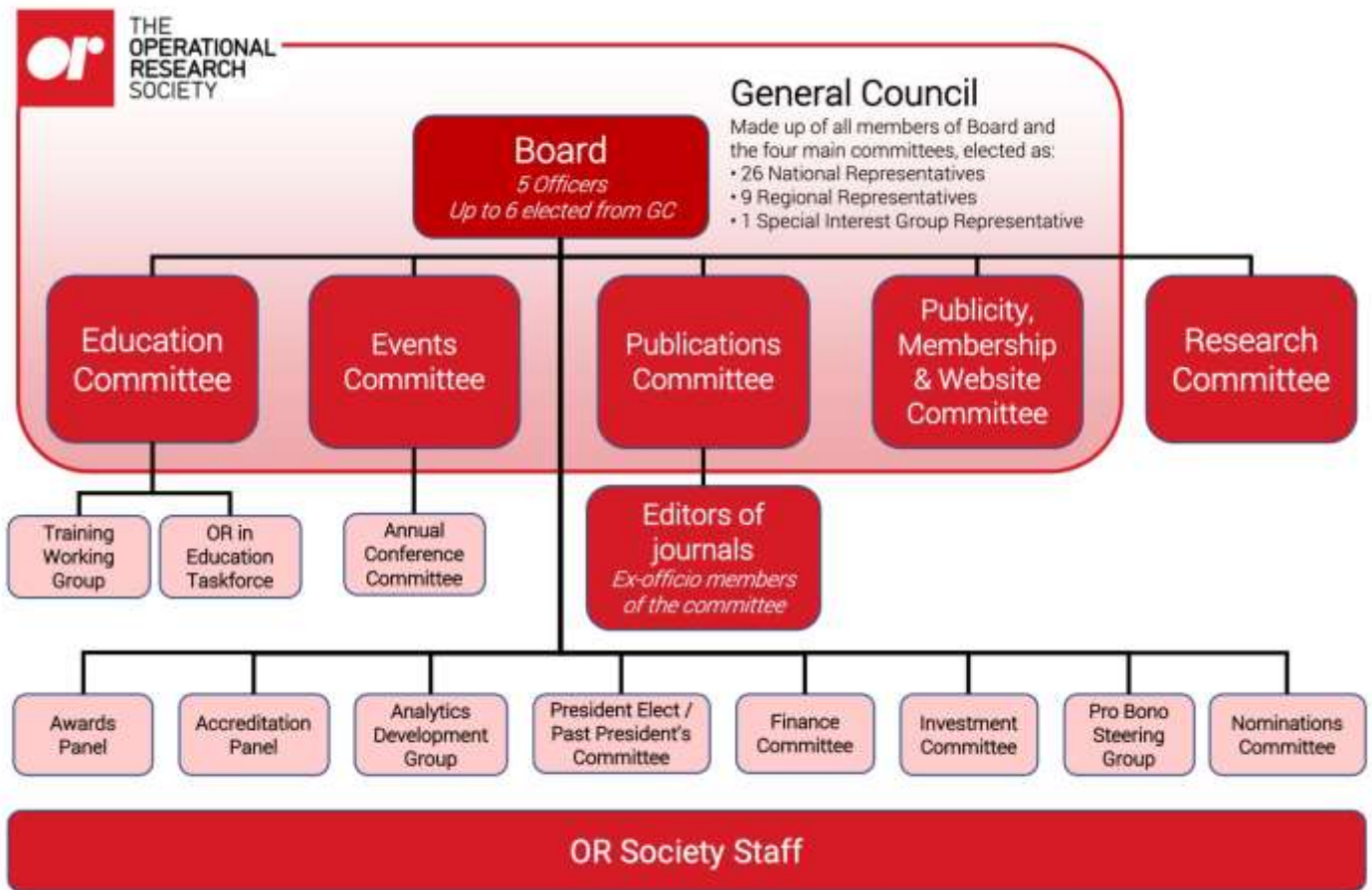
The following served as members of the Board in 2021

E K BURKE President	R BYDE	V SENA
J R HOPES Immediate Past President	R W EGGLESE	
S HOWICK Vice President	J MEDHURST	
A P ROBINSON Vice President	N MORRILL	
J E WILLIAMS Hon. Treasurer	R A SCOTT	

Unless otherwise stated, changes in the membership of the Board occur at the end of a calendar year.

The Board is supported by a General Council with a maximum membership of thirty-six. These two bodies assist the Society in its ongoing commitment to involve as many members as possible in its affairs. The Board of Directors is responsible for governance and strategy and the General Council, with its wide representation, provides advice, feedback and challenge and monitors the Board's activity. Members of General Council have also, in all cases, been assigned to one of the Society's four main committees: Publications; Publicity, Membership and Website; Education and Research; and Events and the Chairs of those committees are currently Board members.

The structure is set out in the diagram below.



(5) The committees are established to implement policies of Board & General Council with respect to meeting the Society's objectives and to controlling expenditure. The names of the committees are set out as follows, together with the object ((a) or (b) as above) towards the achievement of which they contribute:

Accreditation Panel	(a)
Analytics Development Group	(a)
Awards Panel	(a)
Education	(b)
Events	(a), (b)
Finance	Management of financial aspects
Investment	Management of investments
Nominations	Volunteer recruitment to governance roles
Past President's/President Elect's	Elections, planning & administrative reviews
Pro Bono Steering Group	(a)
Publications	(a)
Publicity, Membership & Website	(a)
Research	(a)
Training Working Group	(b)

(6) Other Committees are set up from time to time for specific purposes, but they are given no delegated powers. In addition, the Society has a large number of active Special Interest Groups which are listed in the Journal of the Society. They contribute particularly to object (a).

(7) The registered address of the Society is:

Seymour House
12 Edward Street
BIRMINGHAM
B1 2RX

Its Executive Director is:

I G Blackett
The OR Society
12 Edward Street
BIRMINGHAM
B1 2RX

Its Bankers are:

The Co-operative Bank
Delf House
Southway
SKELMERSDALE
WN8 6WT

Its Solicitors are:

Sydney Mitchell and Co
Cavendish House
Waterloo Street
BIRMINGHAM
B2 5PU

Its Auditors are:

Sayer Vincent LLP
Invicta House
108-114 Golden Lane
LONDON
EC1Y 0TL

Its Investment Adviser is:

Tom Quicke
Investec
30 Gresham Street
LONDON
EC2V 7QN

Its Stockbrokers are:

Investec
30 Gresham Street
LONDON
EC2V 7QN

(8) The Society's investment policy is governed by the legislative provisions relating to charity investments, but the Society is not otherwise restricted in the way in which it can invest. However, it is the Society's policy not to invest in tobacco shares.

(9) These particulars are published in compliance 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).

Public Benefit

The OR Society is a charity and meets the public benefit test as set out in the Charities Act 2011 in various ways:

Advancement of education:

Through the OR in Schools initiative, its many networking, training and conferencing activities in schools, universities and workplaces and extensive on-line resources, The OR Society promotes the understanding of OR and how it can be applied for the wider benefit. The OR Society is a participating society (with voting rights) on the Joint Mathematical Council of the UK.

Advancement of science:

Through its publications, conferences and networking activities; representation on the Council for Mathematical Sciences, Science Council, funding bodies and international federations; and on-line materials and facilities, The OR Society supports, promotes and publicises research; raises standards of research and practice; and promotes the effective application of OR for wider social benefit. Through its accreditation and awards schemes, The OR Society recognises and promotes engagement, effectiveness and development in its members, further raising standards.

Advancement of community development:

The OR Society encourages volunteering and involvement through its Pro Bono OR initiative, involvement of members in outreach to schools and universities and networks of Regional and Special Interest Groups.

The OR Society funds educational, development and research projects that are in line with its charitable aims of advancing knowledge and education through fostering OR

All OR Society events and training are open to all who may be interested. In addition, it minimises barriers to access by:

- (1) ensuring that many of its on-line resources are publicly and freely available;
- (2) keeping membership fees low and offering reduced fees for unwaged groups; and
- (3) supporting Regional and Special Interest Group networks which offer free meetings.

In governing The OR Society, the Trustees have had regard to the Charity Commission's public benefit guidance.

Statement of responsibilities of the elected officers and members of the Board

The trustees (who are also directors of The Operational Research Society for the purposes of company law) are responsible for preparing the trustees' annual report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the trustees to prepare financial statements for each financial year which 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 trustees are required to:

- Select suitable accounting policies and then apply them consistently;
- Observe the methods and principles in the Charities SORP;
- Make judgements and estimates that are reasonable and prudent;
- State whether applicable UK Accounting Standards and statements of recommended practice 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 charity will continue in operation.

The trustees are responsible for keeping adequate accounting records that 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.

In so far as the trustees are 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 trustees are responsible for the maintenance and integrity of the corporate and financial information included on the charitable company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Appointment of trustees

The officers and other members of the Board are elected by secret ballot of the Society's membership and the members of General Council respectively, to serve for a three-year term (except for the President, who serves one year as President-Elect, two years as President and a further year as Immediate Past-President). A member of the Board, other than the President, whose first term of office has expired may stand for election for one further term. At the end of 2021, three members of the Board completed their terms of office: R W EGGLESE, J R HOPES and S HOWICK.

Induction of new trustees

New trustees receive a comprehensive information pack, setting out details of their role and responsibilities as both trustees and company directors, the nature of a charity, the Society's constitution, its policies on members' interests and expense claims and including the Charity Commission's 'welcome' leaflet.

Members' interests

In accordance with Article 46 of its constitution, the Society requires that members of Board or committees having an interest in a matter to be debated should declare that interest and leave the room whilst the matter is discussed and decided. Members of the Training Working Group are drawn from organisations which have no interest in bidding for courses and wherever appropriate, recommendations on major charitable projects are made by a special expert committee comprised entirely of disinterested parties.

Approval of report

We approve this report and the audited accounts for the year 1 January to 31 December 2021 and recommend their adoption by the Society at its Annual General Meeting.

E K BURKE President

R A SCOTT Hon Treasurer

T W ARCHIBALD

R BYDE

J MEDHURST

N MORRILL

G OWUSU

A C PAGEL

C J PHILLIPS

A P ROBINSON

V SENA

Being the elected officers and members of the Board of The Operational Research Society as at 19 May 2022.

I G Blakett
Executive Director
19 May 2022

Accounts

for the year ended 31 December 2021

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF OPERATIONAL RESEARCH SOCIETY

Opinion

We have audited the financial statements of Operational Research Society (the 'charitable company') for the year ended 31 December 2021 which comprise the statement of financial activities, balance sheet, statement of cash flows and notes to the financial statements, including significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

In our opinion, the financial statements:

- Give a true and fair view of the state of the charitable company's affairs as at 31 December 2021 and of its incoming resources and application of resources, including its income and expenditure for the year then ended
- Have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice
- Have been prepared in accordance with the requirements of the Companies Act 2006

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 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. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating 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 Operational Research Society'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 other information comprises the information included in the trustees' annual report, other than the financial statements and our auditor's report thereon. The trustees are responsible for the other information contained within the annual 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.

Opinions on other matters prescribed by the Companies Act 2006

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

- The information given in the trustees' annual report, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- The trustees' annual report has been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

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 misstatements in the trustees' annual 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 trustees' remuneration specified by law are not made; or
- We have not received all the information and explanations we require for our audit; or
- The directors were not entitled to prepare the financial statements in accordance with the small companies' regime and take advantage of the small companies' exemptions in preparing the trustees' annual report and from the requirement to prepare a strategic report.

Responsibilities of Trustees

As explained more fully in the statement of trustees' responsibilities set out in the trustees' annual report, 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

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.

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 are set out below.

Capability of the audit in detecting irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, our procedures included the following:

- We enquired of management and the finance committee, which included obtaining and reviewing supporting documentation, concerning the charity's policies and procedures relating to:

- Identifying, evaluating, and complying with laws and regulations and whether they were aware of any instances of non-compliance;
 - Detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected, or alleged fraud;
 - The internal controls established to mitigate risks related to fraud or non-compliance with laws and regulations.
- We inspected the minutes of meetings of those charged with governance.
 - We obtained an understanding of the legal and regulatory framework that the charity operates in, focusing on those laws and regulations that had a material effect on the financial statements or that had a fundamental effect on the operations of the charity from our professional and sector experience.
 - We communicated applicable laws and regulations throughout the audit team and remained alert to any indications of non-compliance throughout the audit.
 - We reviewed any reports made to regulators.
 - We reviewed the financial statement disclosures and tested these to supporting documentation to assess compliance with applicable laws and regulations.
 - We performed analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud.
 - In addressing the risk of fraud through management override of controls, we tested the appropriateness of journal entries and other adjustments, assessed whether the judgements made in making accounting estimates are indicative of a potential bias and tested significant transactions that are unusual or those outside the normal course of business.

Because of the inherent limitations of an audit, there is a risk that we will not detect all irregularities, including those leading to a material misstatement in the financial statements or non-compliance with regulation. This risk increases the more that compliance with a law or regulation is removed from the events and transactions reflected in the financial statements, as we will be less likely to become aware of instances of non-compliance. The risk is also greater regarding irregularities occurring due to fraud rather than error, as fraud involves intentional concealment, forgery, collusion, omission or misrepresentation.

A further description of our responsibilities is available on the Financial Reporting Council's website at: 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.

Fleur Holdon
Senior statutory auditor

Date

for and on behalf of

Sayer Vincent LLP

Statutory Auditor

Invicta House

108-114 Golden Lane

LONDON

EC1Y 0TL

The Operational Research Society

Statement of financial activities (incorporating an income and expenditure account)

For the year ended 31 December 2021

	Note	Unrestricted £	Restricted £	2021 Total £	Unrestricted £	Restricted £	2020 Total £
Income from:							
Charitable activities							
Subscriptions	2	147,642	-	147,642	136,390	-	136,390
Events and Conferences	2	131,120	-	131,120	11,641	-	11,641
Training	2	105,192	-	105,192	73,084	-	73,084
Publications	2	941,755	-	941,755	969,653	-	969,653
Accreditation	2	8,679	-	8,679	8,315	-	8,315
Websites / Digital Services	2	1,080	-	1,080	1,900	-	1,900
Investments	3	42,082	2,130	44,212	39,891	2,249	42,140
Total income		1,377,550	2,130	1,379,680	1,240,874	2,249	1,243,123
Expenditure on:							
Raising funds							
	4	13,145	-	13,145	11,672	-	11,672
Charitable activities							
Subscriptions	4	137,599	-	137,599	132,952	-	132,952
Events and Conferences	4	227,392	-	227,392	181,894	-	181,894
Training	4	105,501	-	105,501	92,004	-	92,004
Apprenticeships	4	2,000	-	2,000	-	-	-
Publications	4	280,778	-	280,778	271,107	-	271,107
Accreditation	4	15,598	-	15,598	8,898	-	8,898
Websites / Digital Services	4	182,215	-	182,215	179,606	-	179,606
Other Charitable expenditure	4	334,506	1,500	336,006	327,781	1,500	329,281
Total expenditure		1,298,733	1,500	1,300,233	1,205,914	1,500	1,207,414
Net income / (expenditure) before net gains / (losses) on investments		78,817	630	79,447	34,960	749	35,709
Net gains / (losses) on investments		180,088	(3,604)	176,484	(46,426)	2,078	(44,348)
Net income / (expenditure) for the year		258,905	(2,974)	255,931	(11,466)	2,827	(8,639)
Transfers between funds		(14,600)	14,600	-	-	-	-
Net movement in funds		244,305	11,626	255,931	(11,466)	2,827	(8,639)
Reconciliation of funds:							
Total funds brought forward		2,333,660	61,722	2,395,382	2,345,126	58,895	2,404,021
Total funds carried forward		2,577,965	73,348	2,651,313	2,333,660	61,722	2,395,382

All of the above results are derived from continuing activities. There were no other recognised gains or losses other than those stated above. Movements in funds are disclosed in Note 18 to the financial statements.

The Operational Research Society

Balance sheet

Company no. 00663819

As at 31 December 2021

	Note	£	2021 £	£	2020 £
Fixed assets:					
Tangible assets	10		238,365		262,922
Intangible assets	11		43,097		87,608
Investments	12		2,024,494		1,819,211
			<u>2,305,956</u>		<u>2,169,741</u>
Current assets:					
Debtors	13	212,295		221,479	
Cash at bank and in hand		305,327		390,237	
		<u>517,622</u>		<u>611,716</u>	
Liabilities:					
Creditors: amounts falling due within one year	14	(172,265)		(386,075)	
			<u>345,357</u>		<u>225,641</u>
Net current assets			<u>345,357</u>		<u>225,641</u>
Total net assets			<u><u>2,651,313</u></u>		<u><u>2,395,382</u></u>
The funds of the charity:					
Unrestricted income funds:	18				
Restricted Funds		73,348		61,722	
Unrestricted Funds		2,577,965		2,333,660	
		<u>2,651,313</u>		<u>2,395,382</u>	
Total unrestricted funds			<u>2,651,313</u>		<u>2,395,382</u>
Total charity funds			<u><u>2,651,313</u></u>		<u><u>2,395,382</u></u>

Approved by the trustees on 19 May 2022 and signed on their behalf by

R. A. Scott
Honorary Treasurer

E. K. Burke
President

The Operational Research Society

Statement of cash flows

For the year ended 31 December 2021

	2021 £	£	2020 £	£
Cash flows from operating activities				
Net income / (expenditure) for the reporting period (as per the statement of financial activities)	255,931		(8,639)	
Depreciation and amortisation charges	72,252		77,766	
(Gains)/losses on investments	(176,484)		44,348	
Dividends and interest from investments	(44,212)		(42,140)	
Decrease in debtors	9,184		39,961	
(Decrease)/increase in creditors	(213,810)		188,417	
Net cash (used in) / provided by operating activities		(97,139)		299,713
Cash flows from investing activities:				
Dividends and interest from investments	44,212		39,891	
Purchase of fixed assets	(3,184)		(72,710)	
Proceeds from sale of investments	238,320		427,838	
Purchase of investments	(257,451)		(462,712)	
Net cash provided by / (used in) investing activities		21,897		(67,693)
Change in cash and cash equivalents in the year		(75,242)		232,020
Cash and cash equivalents at the beginning of the year		410,245		178,225
Cash and cash equivalents at the end of the year		335,003		410,245
Analysis of cash and cash equivalents and of net debt				
	At 1 January 2021 £	Cash flows £	At 31 December 2021 £	
Cash at bank and in hand	390,237	(84,910)	305,327	
Cash deposited with investment brokers	20,008	9,668	29,676	
Total cash and cash equivalents	410,245	(75,242)	335,003	

1 Accounting policies

a) Statutory information

The Operational Research Society is a charitable company limited by guarantee and is incorporated in England and Wales.

The registered office address is 12 Edward Street, Birmingham, B1 2RX, UK

b) Basis of preparation

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) – (Charities SORP FRS 102), The Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006.

c) Public benefit entity

The charity meets the definition of a public benefit entity under FRS 102.

d) Preparation of the accounts on a going concern basis

The Operational Research Society operates as a going concern. The trustees consider there are no material uncertainties about the charity's ability to continue as a going concern.

The Society operates a reserves policy that reflects its critical dependence on journal income.

The policy sets the minimum level of reserves at one year's fixed running costs of £900k to keep the charity viable whilst alternative funding is found.

The maximum level is to be set at three years' running costs or £2.7 million. The charity is currently meeting its reserves target.

e) Key estimates and judgements

When preparing the financial statements, management makes a number of judgements, estimates and assumptions about the recognition and measurement of assets, liabilities, income and expenses. The estimate that has the most significant effect relates to intangible fixed assets. The company amortises fixed assets over their estimated useful lives. The estimation of the useful lives of assets is based on historic performance as well as expectations about future use and therefore requires estimates and assumptions to be applied by management. The actual lives of these assets can vary depending on a number of factors, including the maintenance and level of upkeep of the software systems.

f) Income

Income is recognised when the charity has entitlement to the funds, any performance conditions attached to the income have been met, it is probable that the income will be received and that the amount can be measured reliably. Income from government and other grants, whether 'capital' grants or 'revenue' grants, is recognised when the charity has entitlement to the funds, any performance conditions attached to the grants have been met, it is probable that the income will be received and the amount can be measured reliably and is not deferred. Income received in advance of the provision of a specified service is deferred until the criteria for income recognition are met.

g) Dividends and investment income

Interest and dividends on funds held on deposit or invested is included when receivable and the amount can be measured reliably by the charity; this is normally upon notification of the interest or dividend paid or payable by the relevant institution.

h) Expenditure

Expenditure is recognised once there is a legal or constructive obligation to make a payment to a third party, it is probable that settlement will be required and the amount of the obligation can be measured reliably. Expenditure is classified under the following activity headings:

Costs of raising funds relate to the costs incurred by the charity in inducing third parties to make voluntary contributions to it, as well as the cost of any activities with a fundraising purpose.

Expenditure on charitable activities includes the costs of delivering services, exhibitions and other educational activities undertaken to further the purposes of the charity and their associated support costs.

Other expenditure represents those items not falling into any other heading.

i) Value added tax

The Society has partial exemption status for Value Added Tax and Value Added Tax on apportionable costs which cannot be reclaimed is disclosed separately within administration costs.

1 Accounting policies (continued)

j) Allocation of costs

Salaries, depreciation, websites / digital services expenditure and other central and establishment overheads are allocated to appropriate cost categories using consistently applied ratios based on estimates of actual time and costs expended in each area.

Allocation of support and governance costs:

Raising funds	0%
Subscriptions	13%
Events and Conferences	19%
Training	6%
Apprenticeships	0%
Publications	14%
Accreditation	2%
Websites / Digital Services	18%
Other Charitable expenditure	28%

k) Tangible and Intangible fixed assets

Tangible and intangible fixed assets costing more than £1,000 and with a useful economic life in excess of 3 years are capitalised and included at cost including any incidental expenses of acquisition.

Depreciation of tangible fixed assets is charged on a straight line basis at the following rates:

Long leasehold building	2%
Office machines and computer equipment	25%
Fixtures and fittings	10%

Amortisation of Intangible fixed assets is charged on a straight line basis at the following rate:

Software systems	25%
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The amortisation rate charged is based on management's best estimate of the useful life of the software systems.

l) Investments

Investments are a form of basic financial instrument and are initially recognised at their transaction value and subsequently measured at their fair value as at the balance sheet date using the closing quoted market price. Any change in fair value will be recognised in the statement of financial activities. Investment gains and losses, whether realised or unrealised, are combined and shown in the heading "Net gains/(losses) on investments" in the statement of financial activities. The charity does not acquire put options, derivatives or other complex financial instruments.

m) Debtors

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

n) Cash at bank and in hand

Cash at bank and cash in hand includes cash and short term highly liquid investments.

o) Creditors and provisions

Creditors and provisions are recognised where the charity has a present obligation resulting from a past event that will 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 after allowing for any trade discounts due.

p) Pensions

The Society contributes to individual pension schemes established for each eligible employee.

q) Financial instruments

The Society 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.

2 Income from charitable activities

	Unrestricted £	Restricted £	2021 Total £	Unrestricted £	Restricted £	2020 Total £
Journal of The OR Society / Knowledge Management Research & Practice / Journal of Simulation	729,968	-	729,968	661,494	-	661,494
Inside OR	1,096	-	1,096	1,728	-	1,728
European Journal of Information Systems / Health Systems / Journal of Business Analytics	206,735	-	206,735	301,944	-	301,944
Other publications	3,956	-	3,956	4,487	-	4,487
Sub-total for Publications	941,755	-	941,755	969,653	-	969,653
Subscriptions	147,642	-	147,642	136,390	-	136,390
Events and Conferences	131,120	-	131,120	11,641	-	11,641
Training	105,192	-	105,192	73,084	-	73,084
Accreditation	8,679	-	8,679	8,315	-	8,315
Websites / Digital Services	1,080	-	1,080	1,900	-	1,900
Total income from charitable activities	1,335,468	-	1,335,468	1,200,983	-	1,200,983

3 Income from investments

	Unrestricted £	Restricted £	2021 Total £	Unrestricted £	Restricted £	2020 Total £
Income from Listed Investments	42,058	-	42,058	39,888	-	39,888
Interest on Bank Deposits	24	-	24	3	-	3
Distributions – CAF	-	2,130	2,130	-	2,249	2,249
	42,082	2,130	44,212	39,891	2,249	42,140

4a Analysis of expenditure (current year)

	Charitable activities										2021 Total £	2020 Total £
	Raising funds £	Subscriptions £	Events and Conferences £	Training £	Apprentice- ships £	Publications £	Accreditation £	Website / Digital Services £	Other Charitable Activities £	Support and governance costs £		
Staff costs (Note 6)	-	92,363	135,829	42,686	-	98,134	11,963	79,628	216,817	81,519	758,939	692,914
Establishment Costs	-	2,704	3,976	1,250	-	2,873	350	2,331	6,347	2,386	22,217	23,490
Postage and phones	-	959	1,811	900	-	3,043	12	118	1,139	420	8,402	11,691
Office Costs	-	4,228	6,218	4,228	-	4,476	249	-	4,228	1,245	24,872	20,593
Computer s/ware and maintenance	-	6,867	4,578	2,289	-	6,409	-	16,023	9,614	-	45,780	37,254
Website	-	4,925	3,283	1,642	-	4,597	-	11,492	6,895	-	32,834	39,694
Bank Charges	-	2,328	3,186	1,816	-	-	-	-	-	-	7,330	5,717
Legal and Professional Fees	13,145	-	-	-	-	-	-	-	-	29,789	42,934	33,079
Other Direct costs	-	5,208	41,497	42,752	2,000	142,180	-	-	51,037	-	284,674	265,218
Depreciation & Amortisation	-	2,544	5,287	604	-	2,867	1,201	51,327	6,623	1,798	72,251	77,764
	13,145	122,126	205,665	98,167	2,000	264,579	13,775	160,919	302,700	117,157	1,300,233	1,207,414
Support and governance costs	-	15,473	21,727	7,334	-	16,199	1,823	21,296	33,306	(117,157)	-	
Total expenditure 2021	13,145	137,599	227,392	105,501	2,000	280,778	15,598	182,215	336,006	-	1,300,233	
Total expenditure 2020	11,672	132,952	181,894	92,004	-	271,107	8,898	179,606	329,281	-		1,207,414

Other Charitable Activities covers the remaining non-revenue earning activities carried out in pursuit of the Society's charitable aims. It includes: library, public information about OR, third sector pro bono, research support, strategic initiatives, regional societies, special interest groups, awards and scholarships.

The Operational Research Society

Notes to the financial statements

For the year ended 31 December 2021

4b Analysis of expenditure (prior year)

	Charitable activities										2020 Total
	Raising funds £	Subscriptions £	Events and Conferences £	Training £	Apprentice-ships £	Publications £	Accreditation £	Website / Digital Services £	Other Charitable Activities £	Support and governance costs £	
Staff costs (Note 6)	-	90,768	123,075	32,988	-	82,327	5,838	78,846	202,532	76,540	692,914
Establishment Costs	-	3,077	4,172	1,118	-	2,791	198	2,673	6,866	2,595	23,490
Postage and phones	-	1,334	2,521	1,252	-	4,250	16	164	1,544	610	11,691
Office Costs	-	3,500	5,148	3,501	-	3,707	206	-	3,501	1,030	20,593
Computer Software and maintenance	-	5,588	3,725	1,863	-	5,216	-	13,039	7,823	-	37,254
Website	-	5,954	3,969	1,985	-	5,557	-	13,893	8,336	-	39,694
Bank Charges	-	1,816	2,485	1,416	-	-	-	-	-	-	5,717
Legal and Professional Fees	11,672	-	-	-	-	-	-	-	-	21,407	33,079
Direct costs	-	6,346	11,924	38,591	-	141,505	-	-	62,939	3,913	265,218
Depreciation & Amortisation	-	2,738	5,691	650	-	3,085	1,292	55,245	7,128	1,935	77,764
	11,672	121,121	162,710	83,364	-	248,438	7,550	163,860	300,669	108,030	1,207,414
Support and governance costs	-	11,831	19,184	8,640	-	22,669	1,348	15,746	28,612	(108,030)	-
Total expenditure 2020	11,672	132,952	181,894	92,004	-	271,107	8,898	179,606	329,281	-	1,207,414

Other Charitable Activities covers the remaining non-revenue earning activities carried out in pursuit of the Society's charitable aims. It includes: library, public information about OR, third sector pro bono, research support, strategic initiatives, regional societies, special interest groups, awards and scholarships.

5 Net income / (expenditure) for the year

This is stated after charging / (crediting):

	2021 £	2020 £
Depreciation and amortisation	72,252	77,766
Auditor's remuneration (excluding VAT):		
Audit	8,850	8,000
Other services	-	1,449
	<u>72,252</u>	<u>87,215</u>

6 Analysis of staff costs, trustee remuneration and expenses, and the cost of key management personnel

Staff costs were as follows:

	2021 £	2020 £
Salaries and wages	634,379	574,088
Social security costs	58,847	56,051
Pension costs	65,713	62,775
	<u>758,939</u>	<u>692,914</u>

The following number of employees received employee benefits (excluding employer pension costs and employer's national insurance) during the year between:

	2021 No.	2020 No.
£80,000 – £89,999	1	1

The key management personnel of the Society comprise the Executive Director. The total employee benefits (including pension contributions and employer's national insurance) of the key management personnel were £109,557 (2020: £94,686).

No remuneration was paid or is payable to Trustees for service on the Board for the year (2020: £Nil).

Trustees' expenses represents the payment or reimbursement of travel and subsistence costs totalling £0 (2020: £2,204) incurred by 0 (2020: 11) members relating to attendance at meetings of the trustees.

7 Staff numbers

The average number of employees (head count based on number of staff employed) during the year was 18.3 (2020: 16.7).

Staff are split across the activities of the charity as follows:

	2021		2020	
	Headcount	FTE	Headcount	FTE
Charitable activities	14.3	13.7	12.6	13.2
Management and administration	4.0	3.1	4.1	3.3
	<u>18.3</u>	<u>16.8</u>	<u>16.7</u>	<u>16.5</u>

8 Related party transactions

Gavin Blackett, as part of his Society role as Executive Director, is also a Director of Edward Street Management Limited, the company that manages the Society's buildings car park. During the year the Society paid rent to the company of £3,030 (2020: £3,030).

Amanda Blackett, the wife of Gavin Blackett, the Society's Executive Director, is employed by the Society. Amanda receives an appropriate salary for the role undertaken, in line with market rates.

9 Taxation

The charity is exempt from corporation tax as all its income is charitable and is applied for charitable purposes.

10 Tangible fixed assets

Cost	Long leasehold land and buildings £	Office equipment £	Fixtures and fittings £	Total £
At the start of the year	314,306	146,354	161,742	622,402
Additions in year	–	3,184	–	3,184
Disposals in year	–	(92,880)	(34,574)	(127,454)
At the end of the year	314,306	56,658	127,168	498,132
Depreciation				
At the start of the year	169,722	132,653	57,105	359,480
Charge for the year	6,286	8,738	12,717	27,741
Eliminated on disposal	–	(92,880)	(34,574)	(127,454)
At the end of the year	176,008	48,511	35,248	259,767
Net book value				
At the end of the year	138,298	8,147	91,920	238,365
At the start of the year	144,584	13,701	104,637	262,922

The Trustees consider the market value of the Long Leasehold Land and Buildings to be materially in excess of the book written down value shown above.

11 Intangible fixed assets

	Software systems £	Total £
Cost		
At the start of the year	206,672	206,672
At the end of the year	206,672	206,672
Amortisation		
At the start of the year	119,064	119,064
Charge for the year	44,511	44,511
At the end of the year	163,575	163,575
Net book value		
At the end of the year	43,097	43,097
At the start of the year	87,608	87,608

12 Listed investments

	2021 £	2020 £
Fair value at the start of the year	1,799,203	1,806,428
Additions at cost	257,451	464,961
Disposal proceeds	(238,320)	(427,838)
Net gain / (loss) on change in fair value	176,484	(44,348)
	1,994,818	1,799,203
Cash held by investment broker pending reinvestment	29,676	20,008
Fair value at the end of the year	2,024,494	1,819,211
Investments comprise:		
	2021 £	2020 £
UK Common investment funds	226,151	242,278
Shares listed on the London Stock Exchange	727,745	683,351
UK Property and assets	336,838	285,218
Overseas Investment funds	48,786	25,594
Overseas Shares	655,298	562,762
	1,994,818	1,799,203

All the above investments are either listed on a recognised stock exchange in Great Britain or are represented by unit trusts which are traded on a daily basis in the UK, and fall within the wider range of investments as defined by the Trustees Act 1961.

The Society's narrower range of investments as defined by the Trustees Act 1961 is covered by deposits held at Investec.

13 Debtors

	2021 £	2020 £
Trade debtors	31,456	39,741
Prepayments	67,502	42,853
Accrued income	111,102	138,885
Recoverable VAT	2,235	-
	<u>212,295</u>	<u>221,479</u>

14 Creditors: amounts falling due within one year

	2021 £	2020 £
Trade creditors	29,532	22,724
Taxation and social security	22,534	177,634
Other creditors	14,092	24,985
Accruals	75,056	93,434
Deferred income (note 15)	31,051	67,298
	<u>172,265</u>	<u>386,075</u>

15 Deferred income

	2021 £	2020 £
Balance at the beginning of the year	67,298	35,548
Amount released to income in the year	(67,298)	(35,548)
Amount deferred in the year	31,051	67,298
	<u>31,051</u>	<u>67,298</u>

Deferred income consists of 2022 subscription income paid in advance.

16 Pension scheme

The Society contributes to individual pension schemes established for each individual employee. The assets of these schemes are held separately from those of the Society in independently administered funds. The pension charge represents contributions payable by the Society to the schemes and amounted to £65,713 (2020: £62,755).

Pension payments outstanding at the end of the year were £1,670 (2020: £7,577).

The Operational Research Society

Notes to the financial statements

For the year ended 31 December 2021

17a Analysis of net assets between funds (current year)

	Unrestricted £	Restricted £	Total funds £
Tangible fixed assets	238,365	–	238,365
Intangible fixed assets	43,097	–	43,097
Investments	1,951,146	73,348	2,024,494
Net current assets	345,357	–	345,357
Net assets at 31 December 2021	2,577,965	73,348	2,651,313

17b Analysis of net assets between funds (prior year)

	Unrestricted £	Restricted £	Total funds £
Tangible fixed assets	262,922	–	262,922
Intangible fixed assets	87,608	–	87,608
Investments	1,741,284	77,927	1,819,211
Net current assets/liabilities	241,846	(16,205)	225,641
Net assets at 31 December 2020	2,333,660	61,722	2,395,382

18a Movements in funds (current year)

	At 1 January 2021 £	Income & gains £	Expenditure & losses £	Transfers £	At 31 December 2021 £
Restricted Funds	61,722	2,130	(5,104)	14,600	73,348
Unrestricted Funds	2,333,660	1,557,638	(1,298,733)	(14,600)	2,577,965
Total funds	2,395,382	1,559,768	(1,303,837)	-	2,651,313

The narrative to explain the purpose of the restricted fund is given at the foot of the note below.

18b Movements in funds (prior year)

	At 1 January 2020 £	Income & gains £	Expenditure & losses £	Transfers £	At 31 December 2020 £
Restricted Funds	58,895	4,327	(1,500)	-	61,722
Unrestricted Funds	2,345,126	1,240,874	(1,252,340)	-	2,333,660
Total funds	2,404,021	1,245,201	(1,253,840)	-	2,395,382

Restricted Funds

Consists of a legacy received in 2002. The Legator, Mrs May Hicks, expressed a non-binding wish that the Society uses its bequest to fund an annual award to be determined by the Council of the Society. The legacy is currently invested in the Charities Aid Foundation Fixed Interest B Accumulation Fund. It also includes an amount received from the ISMOR trust of £14,600 to be used to fund ISMOR scholarships.

19 Operating lease commitments payable as a lessee

The charity's total future minimum lease payments under non-cancellable operating leases is as follows for each of the following periods

	Equipment 2021	2020
	£	£
Less than one year	5,548	7,783
One to five years	8,390	13,436
	<u>13,938</u>	<u>21,219</u>

The Society has a commitment to a service charge on the car park of the leasehold property over the next 90 years estimated at £263,610 (Under one year £3,030; Two-five years £12,120; Over five years £248,460).

20 Post balance sheet events

The value of the Society's investments fell in the first quarter of 2022, due to turbulence in the markets primarily caused by the conflict in Ukraine. Their value at 30 April 2022 was £1.8m. The trustees have no current plans to draw down from the investments and expect the investments to get back to balance sheet value in due course.

21 Legal status of the charity

The Society is a company limited by guarantee, has no share capital and is a registered charity. The objectives of the Society are the advancement of knowledge and education in operational research.

The liability of each member in the event of a winding-up is limited to £1.

History

In the autumn of 1947, at a dinner discussion convened at the Athenaeum Club in London, it was decided to form the Operational Research Club. The club was inaugurated in April 1948 with an initial membership of 50, under the chairmanship of Sir Charles Goodeve and with Mr J A Jukes as the first secretary. The exclusivity associated with the word “club” was deliberately chosen for the initial period, to ensure clarification of what was meant by operational research and to attempt to develop a wholeness in what was otherwise a somewhat vague field. The club met regularly in the rooms at the Royal Society for technical discussions. By 1953 the initial objectives had been achieved and the pressure to form a normal “learned and professional” society had become strong. Therefore, the club was transformed into The Operational Research Society and its first president was Sir Owen Wansbrough-Jones and the hon secretary Mr B H P Rivett.

Presidents of the Society

Sir Owen Wansbrough-Jones	1954/55
Sir William K Slater	1956/57
Professor M G Kendall	1958/59
The Earl of Halsbury	1960/61
Professor B H P Rivett	1962/63
Professor G A Barnard	1964/65
Professor R T Eddison	1966/67
Mr E C Williams	1968/69
Mr S Beer	1970/71
Professor K D Tocher	1972/73
Mr R C Tomlinson	1974/75
Mr A M Lee	1976/77
Professor M G Simpson	1978/79
Mr G H Mitchell	1980/81
Professor K B Haley	1982/83
Dr R S Stainton	1984/85
Professor J V Rosenhead	1986/87
Dr J C Ranyard	1988/89
Mr P N Thornton	1990/91
Professor C B Chapman	1992/93
Professor L C Thomas	1994/95
Mr I J Disley	1996/97
Professor R G Dyson	1998/99
Professor M Pidd	2000/01
Mr J Gibb	2002/03
Professor V Belton	2004/05
Professor J D Griffiths	2006/07
Mrs S M Merchant	2008/09
Professor R W Eglese	2010/11
Dr G H Royston	2012/13
Professor S L Robinson	2014/15
Ms R A Kaufman OBE	2016/17
Mr J R Hopes	2018/19
Professor E K Burke	2020/22

OR Society Awards

Companion of Operational Research

Sir Hermann Bondi	1983	Professor R G Dyson	2007
Mr D Hicks	1983	Mr E K G James	2007
Professor R V Jones	1983	Professor J Friend	2008
Professor B H P Rivett	1983	Dr G Royston	2008
Mr H R W Watkins	1984	Professor R J Paul	2009
Professor Sir David Cox	1985	Professor A Mercer	2010
Lord Ezra	1985	Mr T O'Connor	2010
Mr P Hughes	1985	Professor V Belton	2011
Lord Zuckerman	1985	Ms R A Kaufman	2011
Sir John Kingman	1986	Professor M Pidd	2011
Sir Dennis Rooke	1986	Professor P H Millard	2012
Sir Charles Carter	1987	Professor D M Ryan	2013
Mr T P Frost	1987	Professor R M Davies	2014
Professor H.Muller-Merbach	1988	Mr C R Humby	2014
Mr D A Quarmby	1989	Mrs S M Merchant	2015
Professor R C Tomlinson	1990	Professor S C Brailsford	2016
Mr R A Showell	1991	Professor J D Griffiths	2016
Mr G H Mitchell	1992	Professor E K Burke	2017
Professor P Whittle	1994	Professor P R Harper	2018
Mr J Plymen	1994	Professor R W Eglese	2019
Professor S Vajda	1995	Mr A Waterhouse	2020
Professor K B Haley	1996	Professor A C Pagel	2021
Professor M F Shutler	1996		
Professor D J White	2001		
Professor K C Bowen	2001		
Dr R A Forder	2005		
Professor F Kelly	2005		
Mr G K Rand	2005		
Dr J C Ranyard	2005		
Professor J V Rosenhead	2005		
Dr J F Miles	2006		

Beale Medal

J V Rosenhead	1992	J D Griffiths	2009	R Cheng	2018
D J White	1993	K H Haley	2010	A Land	2019
A H Christer	1995	F Kelly	2011	V Belton	2020
G H Mitchell	1998	M D Elder	2012	C Potts	2021
H P Williams	1999	K D Glazebrook	2013		
R C Tomlinson	2005	R Fildes	2014		
P Checkland	2006	J Friend	2015		
C Eden	2007	R Ormerod	2016		
L C Thomas	2008	M Jackson	2017		

Silver Medal

C F Goodeve	1964	A M Lee	1970	S Eilon	1982
P M Morse	1965	R L Ackoff	1971	G Dantzig	1986
K D Tocher	1967	C G Vickers	1975	L V Kantorovich	1986
B H P Rivett	1968	E.K.G.James	1979		
R T Eddison	1969	E M L Beale	1980		

Bronze Medal

R M Adelson	1965	A R Wild	1967	F K Lyness	1970
J Stringer	1967	D J Chambers	1968	A M Duguid	1972
T A Burgin	1967	M F Cantley	1969	C G Moss	1972

Goodeve Medal

B H Mahon	1976	J Banasik	2000	S Kapoor	2012
R J M Bailey	1976	J N Crook	2000	A Sheth	2012
N R Tobin	1977	L C Thomas	2000	R True	2012
I Sanderson	1979	R Korporaal	2001	P Kemmer	2013
A J Williams	1980	A Ridder	2001	A Strauss	2013
J G Shepherd	1981	P Kloprogge	2001	T Winter	2013
F K Lyness	1982	R Dekker	2001	J Bengtsson	2014
L P Fatti	1984	S Howick	2002	D Bredstrom	2014
A H Christer	1985	C Eden	2002	P Flisberg	2014
W M Waller	1985	J E Beasley	2003	M Ronnqvist	2014
G Best	1987	H Howells	2003	S Crowe	2015
G Parston	1987	J Sonander	2003	P Bennett	2015
J V Rosenhead	1987	R Hartley	2004	M Daraktchiev	2015
D Rowland	1988	G Lanot	2004	M Utley	2015
I R Turner	1989	S C Brailsford	2005	S C Brailsford	2016
R Bandyopadhyay	1990	V Lattimer	2005	D De Silva	2016
S Datta	1990	P Tarnaras	2005	A Backiel	2017
D Schrady	1992	J Turnbull	2005	B Baesens	2017
D Wadsworth	1992	K Taylor	2006	G Claeskens	2017
A Bouzaher	1993	B Dangerfield	2006	A I Ali	2018
S Offutt	1993	S C Brailsford	2007	G Ince	2018
D W Bunn	1994	D Evenden	2007	A Brice	2019
E R Larsen	1994	V Harinda	2007	R Bye	2019
K Vlahos	1994	P Harper	2007	J Oppen	2019
G M Campbell	1995	A Medina-Borja	2008	J Royset	2019
C F Davis	1995	K S Pasupathy	2008	E Adiyeye	2020
M Carey	1996	K Triantis	2008	S Agrali	2020
D Lockwood	1996	D Ronen	2009	E Canakoglu	2020
C M Yeats	1997	C A Goodhart	2009	G Gehret	2021
T Rehman	1997	S Kumar	2010	J Weir	2021
D-W Tcha	1998	D A Nottestad	2010	A Johnson	2021
T-J Choi	1998	E E Murphy	2010	D Jacques	2021
Y-S Myung	1998	L C Thomas	2011		
F Duckworth	1999	F R Johnston	2012		
A J Lewis	1999	E A Shale	2012		

Stafford Beer Medal

JJ Jahng	2003	P O'Reilly	2011	R Parks	2018
H Jain	2003	P Flanagan	2011	H Xu	2018
K Ramamurthy	2003	R Lederman	2012	C-H Chu	2018
R Lindgren	2004	R Johnston	2012	P Lowry	2018
D Stenmark	2004	H Koch	2013	N Hikmet	2019
J Ljungberg	2004	E Gonzalez	2013	A Connolly	2019
S Sarker	2005	D Leidner	2013	C Davis	2019
S Sahay	2005	D Denyer	2014	A Bhattacharjee	2019
S Madon	2006	M Hall	2014	F Brachten	2020
C Middleton	2007	E Kutsch	2014	B Cabrera	2020
W Cukier	2007	E Lee-Kelley	2014	G Neubaum	2020
S K Sia	2008	P Tallon	2015	L Pilz	2020
C Soh	2008	J Gerow	2016	B Ross	2020
C Ashurst	2009	J Thatcher	2016	S Stieglitz	2020
N Doherty	2009	V Grover	2016	A Baiyere	2021
J Peppard	2009	A Utesheva	2017	H Salmela	2021
F Thiesse	2010	J Simpson	2017	T Tapanainen	2021
J Al-Kassab	2010	D Cecez-	2017		
E Fleisch	2010	Kecmanovic			

Tocher Medal

K Kotiadis	2009	J Xu	2017	E Nino-Perez	2019
T Pitana	2011	E Huang	2017	Y M Mendez-	2019
E Kobayashii	2011	L Hsieh	2017	Vazquez	
C Boer	2013	L H Lee	2017	E Applegate	2021
Y Saanen	2013	Q Jia	2017	G Feldman	2021
K-H Chang	2015	C Chen	2017	S Hunter	2021
A-L Chang	2015	M Cabrera-Rios	2019	R Pasupathy	2021
C-Y Kuo	2015	D E Arias	2019		
		Gonzalez			

Cook Medal

P Jackson	2014	M Walsh	2016	D Apostolou	2020
J Klobas	2014	R Murray	2016	E Kalogeraki	2020
D Pentland	2016	L Irvine	2016	S Papastergiou	2020
K Forsyth	2016	F Di Vincenzo	2018	N Polemi	2020
D MacIver	2016	D Mascia	2018		

Griffiths Medal

H Witteman	2015	V Mabin	2019	J Wilkerson	2021
J Stahl	2015	J Yee	2019	L Millburg	2021
M Mihaylow	2017	S Babington	2019	T Robberts	2021
P Smet	2017	R Moore	2019	D Morgareidge	2021
W Van Den	2017	V Caldwell	2019		
Noortgate		T Young	2021		
G Vanden Berghe	2017	S Soorapanth	2021		

Ranyard Medal

A Jeyaraj	2020
A Zadeh	2020

Lyn Thomas Impact Medal

S Crowe	2019	I Spernaes	2021	V Knight	2021
C Pagel	2019	D Gartner	2021	G Palmer	2021
M Utley	2019	T England	2021	M Tuson	2021
P Harper	2021	D Behrens	2021	S Bale	2021

Doctoral Award

K Kaparis	2008	T Lidbetter	2013	G Palmer	2018
A Strauss	2009	M Takac	2014	M Bedenek	2019 †
F Liberatore	2010	C Koc	2015	L Morgan	2019 †
R Wood	2011	I Megiddo	2016	J Clarkson	2020
K Rustogi	2012	J F Sze	2017		

† Joint winners

President's Medal

D R Corkindale	1976	P Loader	2004	M Wauben	2019
M L Chambers	1977	M Bryant	2004	P Macdent	2019
R G Dyson	1977	P Bates	2004	B Marshall	2019
M Sloman	1978	C McGuckin	2004	E Baggot	2020
J V Rosenhead	1979	D Kelly	2004	K Brett	2020
P Doyle	1980	P Loucopoulos	2005	J Low	2020
J Fenwick	1980	KG Zagafos	2005	H Mann	2020
G P Savage	1980	Y Pyrgiotis	2005	M McKee	2020
D B Gilding	1981	D Beis	2005	S Rose	2020
C Lock	1981	A Swain	2006	S Smith	2020
B Fokkens	1982	A Ross	2006	A Tako	2021
M Puylaert	1982	A Lewins	2007	S Robinson	2021
R S Hambleton	1983	M Sykes	2007	A Gogi	2021
A W Nimmo	1984	A Moon	2007	Z Radnor	2021
C B Chapman	1985	M Allwright	2008		
D F Cooper	1985	J Ball	2008		
A B Cammaert	1985	D Pankhurst	2008		
P Doyle	1987	I Wright	2008		
J Saunders	1987	P Frangos	2010		
M Pidd	1988	S Hughes	2010		
S R Clarke	1989	S Hammond	2011		
A H Christer	1990	K Slater	2011		
K A H Kobbacy	1990	C Marston	2012		
B C Dangerfield	1991	P Rose	2012		
C A Roberts	1991	S Mardle	2013		
M B Wright	1992	L Fildes	2013		
C P Thunhurst	1993	A Lewins	2013		
C J Ritchie	1993	E Husemann	2014		
A Khakee	1994	D Lane	2014		
K Stromberg	1994	E Munro	2014		
J J Glen	1996	G Owusu	2016		
H Tsoukas	1997	S Shakya	2016		
D B Papoulias	1997	R Dorne	2016		
J H Powell	1998	A Mohamed	2016		
G Laporte	1999	A McCormick	2016		
F Semet	1999	A Liret	2016		
V V Dadeshidze	1999	O Buhlinger	2017		
L J Olsson	1999	C Henzel	2017		
F Vasko	2000	M Clocherty	2017		
H Gilles	2000	M Knapton	2017		
D Bright	2000	H Papachristou	2017		
V Kocatulum	2000	C Legge	2017		
E Wolf	2000	R Leese	2018		
J Moffat	2000	J Blaavand	2018		
J J Race	2001	C Centazzo	2018		
D Burnell	2001	A Bejan	2018		
M Neighbour	2002	P Munday	2018		
M Acutt	2003	A Booker	2019		

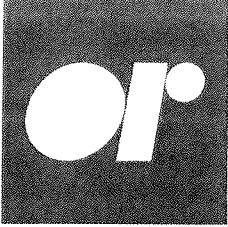


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OPERATIONAL RESEARCH SOCIETY LIMITED

England & Wales - Charity number 313713

Accounts



THE
OPERATIONAL
RESEARCH
SOCIETY

Annual Report and Accounts

for the year ended 31 December 2020

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Foreword from the President

It is a great pleasure to introduce this report, which describes The Operational Research Society's achievements during 2020 and sets out our plans for the future.

2020 has been a year like no other for the Society, nor indeed for the whole country and the rest of the world. The coronavirus crisis had its origins at the end of 2019 and swiftly progress to a global pandemic early in the 2020. From mid-March, the UK, like much of the rest of the world, has faced a series of restrictive measures aimed at combating the spread of the virus. At the time of writing, these measures are still in place and likely to continue to impact the Society's activities through much of 2021. Since these measures were first introduced, the Society's staff have been working from home and all of its usual face-to-face activities have been unable to take place. The Society's transition to offering virtual alternatives has been swift and very successful.

The crisis has been a challenge for the entire operational research community, but OR thrives in times of change, albeit enforced in this case. I remain hugely proud of the contribution our community has made to the world-wide response, despite much of this effort being behind the scenes and not visible to the general public.

This emphasises a point that I made at this point in the 2019 annual report, that there's huge potential for a step change in the visibility and influence of Operational Research, and for growth in our practice and research communities. Despite the pandemic, the programme of engaging more with government and policy-makers has progressed, with the most visible result to-date being the Blakett Memorial Lecture in November. The Society will continue its key co-ordinating role and hopes to build on the momentum generated by the lecture.

This report describes some of The OR Society's key achievements during 2020 in responding to the opportunities and challenges presented by the 'new normal'. These have included: fast transition to virtual delivery of many of our services, the approval of the level 7 apprenticeship for an Operational Research Specialist; and involvement in a Royal Society inspired alliance to look at the professionalisation of data science.

Edmund Burke
OR Society President 2020-2022
May 2021

Introduction

The Operational Research Society is a charity set up to advance knowledge, interest and education in operational research (OR). Our vision is of a world improved by rigorous analysis and better, evidence-based decision-making: "OR providing world class analysis for world class decisions". In this world OR would be seen as indispensable – not just a 'nice to have' but a 'must have' – and be used and acknowledged widely in all areas of industry, business, government and the third sector.

As a charity, we must work for the public benefit, but we also aim to work for the good of our members, because without active, able and well-supported researchers and practitioners, students and supporters, OR would not exist. We disseminate learning; promote awareness of OR; support OR professionals and standards; and aim to ensure that UK OR has a 'voice at the table', both in the international OR world and in wider UK arenas. This represents a broad programme of activities and services, that has been growing year on year and that we continue to maintain and develop.

With the continuing dramatic changes in the world around us – the global coronavirus pandemic – our activities and services have had to adapt accordingly. These changes present great challenges for the whole world, but offer great opportunities for the OR discipline, OR professionals and The OR Society.

Review of the Year 2020

2020 was the final year of our 3 to 5-year strategic planning period, during which we adapted our main priorities on top of the 'Business as Usual' services and activities. These are: raising awareness of the importance of OR; supporting OR knowledge development; supporting OR education; growing membership and wider reach; ensuring financial sustainability of the Society; and embedding good diversity practice in OR and the ORS. Whilst we aim to put EDI considerations at the heart of everything we do, we felt its importance deserves highlighting as a separate strategic strand.

Highlights of the Year

This has been another year of highlights which, along with our full range of activities, support our charitable aims to advance knowledge, interest and education in OR.

Advancing knowledge

The Society's portfolio of academic journals was able to make a substantial contribution to both advancing and sharing knowledge specifically related to COVID-19. All of our relevant content was made free to access and a significant volume of new research material was published in much condensed time-frames.

The Society continues to work with Council for Mathematical Sciences on the next steps of the Big Maths Initiative, a possible outcome of which could be the establishment of a national Mathematical Sciences academy. This could play a key role in the future advancement of knowledge in OR. Other activities to advance knowledge are covered below in the Events, Publications and Research sections.

Advancing interest

The Society's strategic goal of advancing interest in OR was both hindered and helped by the global pandemic. Its usual programme of face-to-face activities completely ground to a halt, but was soon up and running in a virtual format. While this did mean some limitation to networking opportunities, the global reach achievable through the revised online events was impressive. This year's annual conference reached its biggest ever audience, and one that covered all corners of the globe.

The Society continued to implement the recommendations of its Artificial Intelligence (AI) task and finish group. One such activity was the delivery of an extensive workshop at the BCS AI conference, highlighting how OR can contribute to AI projects. Other activities to advance interest are covered below in the Events, OR in Education and Pro Bono OR sections.

Advancing education

A major highlight of the year was the Institute for Apprenticeships' approval of the standard and assessment plan of the level 7 (Masters) apprenticeship for Operational Research specialist. The Society is now pursuing approval as an End Point Assessment Organisation. It is hoped that the first cohort of apprentices will commence in late 2021. Other activities to advance education are covered below in the Education, Training and OR in Education sections.

Other highlights

Some of our 2020 highlights made contributions to all our charitable aims. These included the expansion of our Women in OR and Analytics Network (WORAN) with a number of virtual events held during the year. This network provides a key focus for addressing issues facing women in our profession.

Finally, the Society is actively involved in an alliance of learned societies (BCS, IMA, and RSS) to implement recommendations in the Royal Society report *Dynamics of data science skills*, including shaping professional standards for data science. This has the potential to be pivotal in improving trust in data analysis across all sectors of the economy.

Achievements during the year

Equality, Equity, Diversity & Inclusion

Part of the OR Society's vision is to have a vibrant and active membership drawn from diverse areas. In support of this, the Society has been active over the past year in the Equality, Equity, Diversity & Inclusion (EEDI) area. In line with its commitment to the Science Council declaration, the Society has a Board level Diversity Champion and a member of the Society's permanent staff working together to drive the realisation of our EEDI ambitions. Key achievements over the past year include the launch of our first Diversity and Inclusion survey where 65% of respondents felt we were an inclusive Society. A key focus area moving forward, amongst others, will be supporting social mobility within the OR profession. In support of this, the Society is working with In2Science, which is a charity focused on social mobility in STEM and we are exploring how to broaden the reach of our OR in education work. On our ambitions in the BAME area, the Society attended a Parliamentary & Science meeting on Racial Inequality in UK Science, and we are exploring some of the issues raised from an OR perspective. We are also engaging with BB STEM to promote their University Alliance work and to identify ways to work together on education outreach. Finally, in the gender equality area, our Women in OR and Analytics Network had a very active programme of, well attended, on-line events. Moving into the next year, our EEDI work is focused on delivering our strategy and supporting programme to cohere all the wonderful work, spread across the Society, related to EEDI, ensuring we live up to our inclusive value: a vibrant community united by a common passion and purpose.

Conferences and Events

Events and Conferences remain a key focus for both our membership and our target market for future members, this is clear from the feedback from our member surveys and post event communications. Upfront we must recognise that 2020 however, proved to be a year where the global pandemic tipped our planned schedule of events on its head, where many events were unfortunately but understandably cancelled and where we went Virtual with the rest. Zoom became our new Conference venue. Our prior experience of

running online events and seminars was not extensive, but we were able to draw on the knowledge we had and from some new team members who joined during the year. The Events Committee, all the staff at ORHQ, our generous volunteers, all rallied to the cause and with their energy and undaunted commitment “the show went on”. Our thanks to everyone who assisted, spoke and attended our events during the year.

Despite the extraordinary circumstances, with a degree of creativity and stubbornness, we have delivered an extensive and varied programme of high-quality events again in 2020. In some respects, the inability to travel to specific meeting venues, meant that our events became more accessible to all our members and to an increased audience of non-members too. With people locked down, sometimes shielding at home, the opportunity to join an online meeting or event was no longer an inconvenience, but a great outlet to listen, learn, share and meet up with kindred spirits.

Annual Conference, on with the show...

Our Annual Conference was once again the flagship event. The planning started before the Covid-19 restrictions came into force and the Conference Committee were planning for a physical event at Warwick University. Anyone who has ever been involved in this event previously, will understand the hard work required to make it a success. Well, this year was extraordinary. Our thanks must be given to Co-Chairs Frances O'Brien and Juergen Branke for all the hard work they and their committee put in to making it such a success. Initial disappointment of not having an opportunity to meet physically were short lived and it was all hands to the pumps to completely rebuild the conference to an online model. Three excellent keynote plenaries from Internationally acclaimed Professor Dimitris Bertsimas from MIT, professional consultant Dr Ellen Lewis and Cornell University Professor Patrick Reed headlined each day perfectly. The numbers registering, 1375 and attending the event 704, were indeed a record in the history of the conference. Whilst our decision to follow similar conferences in making the event free of charge, would have no doubt contributed to this increased attendance, the content was at our usual high quality with some sessions attended by over 150 people and a peak of 357 for the first plenary. We were able to accommodate the different time zones of our speakers and attendees, with the online model also allowing for recording of sessions so that these could be watched at the convenience of attendees. Despite the constraints, the attendees were able to enjoy a rich programme of parallel streams, across a broad range of topic areas. As part of the pre-Conference activity, we held a very successful Early Careers Research Network launch event. Speakers drawn from Universities (Edinburgh, Loughborough, Bath, Southampton), UKRI EPSRC and ESRC were joined by 70 live attendees and many watching the recording of the event. We further explored online networking and workshop sessions thru The Making an Impact programme, to offer a varied content-rich opportunity for everyone to share in best practices, successful implementation of projects and research. The normally wonderful social calendar, conference dinner, etc however, proved to be more difficult to deliver. We did manage an evening social Pub Quiz, which was well attended and as fiercely competitive as usual. Thanks to all the speakers and contributors for making this most unusual Annual Conference such a rewarding experience for all attendees. We look forward to a similarly great online event, OR63 in September 2021, organised by the team at CORMSIS in Southampton. We plan to resume our physical model at the University of Warwick in September 2022.

Before things went virtual...

Our last physical event was in late February, with the Annual Half Day, Beale Lecture. Held at the Royal Society in London, our speaker, Professor Russell Cheng presented “The Enigma of Choice - When is a good decision possible?” Russell’s work in the development of Simulation and the theoretical contributions to the use of statistics therein were recognised by President Edmund Burke. The event was particularly special this year as we welcomed Martin Beale’s children Rachel, Marcus and Nicholas, to the audience.

Sadly, many of our regularly planned events were cancelled in the wake of Covid-19 restrictions namely, Simulation Workshop 20, Analytics Summit 2020, ISMOR 37 and a number of Regional and Special Interest Group (SIG) events.

The launch of Webinar Wednesdays...

In an effort to continue our commitment to our members and enhance their professional development, the launch of a regular webinar programme proved to be a great initiative. One which was both popular with members and non-members alike. An opportunity to explore new subject areas across both academic research and practical examples in multiple industry sectors. Registrations of between 250 - 350 people, were beyond expectations. Meghan Crawford's talk on using Behavioural Science to improve our response to pandemics was the most popular to date, with just short of 300 people joining live. The lessons learned from these events was extremely useful in the planning and execution of the earlier mentioned Annual Conference.

Other online events have included:

Our Women in OR and Analytics Network (WORAN) continues to grow and develop and have frequently met online during the course of the year. Sophie Carr's Webinar on the subject of Trust: Teams, numbers and data was especially pertinent, given the remote working we all found ourselves doing during the lockdown periods. The Pre-Conference Panel discussion chaired by Sally Brailsford, comprised Julia Bennett from Leeds University Business School, Hiroko Plant from the Land Registry, Leila Seith Hassan, Hd of Data Science and Analytics at Digitas and Noel-Ann Bradshaw from London Metropolitan University. These occasions represent great opportunities to meet such inspirational women, to share and discuss experiences. The final event was in November hosted by Dr Nadia Papamichail, University of Manchester and Dr Nunzia Esposito-Amideo, University College Dublin. With a plenary, entitled "Never a dull moment: My life in Academia, from Professor Julia Buckingham CBE, Vice Chancellor and President of Brunel University and Chair of the Athena SWAN Steering Group. The event welcomed Laura Reid, CEO of SIMUL8 to share her "how to network guide". A perfect Kickstarter to the concluding group networking sessions. This series of meetings continues our celebration of the achievements and impacts of female colleagues, the events are recorded and remain open to all members.

Our Special Interest Groups (SIG) and Regions continue to provide specialist / expert subject matter and local support and networking opportunities to our members. Groups have enjoyed the online zoom platform to meet up during the year. The SIGs in particular actively engaged with the main Conference organising committee in helping coordinate stream activities.

Our AGM, preceded by a thought-provoking talk, was held online on 30 July. It has been noticeable at many events, just how much the OR community have contributed to the understanding and decision making to reduce the impact of the COVID-19 pandemic. This was no exception. Christine Currie, Director of CORMSIS, University of Southampton presented a recent article from the Journal of Simulation. The paper covered the use of OR methods to tackle operational problems, such as distribution of resources and societal issues.

Despite the circumstances and the impact on the economy our Annual Careers Open Day was held in November. We would usually welcome over 300 students and 20 exhibitors to this event presenting a challenge to the organising team, seeking to transform into an online model. The support from employers was superb and the feedback from the students likewise. The one-to-one appointments set up after the event going above and beyond the expectations of all involved.

And finally, virtually...

Our Blakett Memorial Lecture was a rousing session from Rt Hon Chris Skidmore, MP for Kingswood and former U.K. Science, Research and Innovation Minister. Under the umbrella of "Superforecasters and Moon Shots" Chris spoke about the future of R&D and the ambition for the U.K. to be a "global science superpower". On the question of how to prioritise resources to meet this goal, he "believed" that Operational Research was needed more than ever, to play a central role in planning this vision. The gauntlet has been thrown down, do we have the appetite to step forward to fulfil this role. A very animated Q&A and networking discussion followed.

Nothing from this programme of events would be possible without the dedication and efforts of the ORHQ team, committee members and volunteers. We greatly appreciate the time they give and their ongoing support.

Publications

The OR Society has six academic journals. These are the *Journal of The Operational Research Society (JORS)*, *European Journal of Information Systems (EJIS)*, *Knowledge Management Research & Practice (KMRP)*, *Journal of Simulation (JOS)*, *Health Systems (HS)* and the *Journal of Business Analytics (JBA)*. All of the academic journals experienced an increase in submissions during 2020 compared with 2019. It is encouraging to see this evidence of the popularity of our journals among contributing authors. In 2020, Health Systems grew from three to four issues and in 2021, JORS will have an increased page budget, while maintaining twelve issues per year.

2020 was also an excellent year for our Society's journals in terms of the number of papers downloaded. In 2020 there were 332k more downloads than in 2019. In total, there were 719,730 downloads from our academic journals. In addition to our academic journals, the Society publishes Impact magazine aimed at practitioners and potential users of OR. It saw a doubling in downloads in 2020 compared to 2019 with the 2020 total reaching over 18k.

JORS and EJIS are now live on the Taylor & Francis EPUB pilot. This means that as well as being able to download articles in HTML and PDF formats, the EPUB format allows papers to be read more easily on a mobile device or e-reader.

Authors are now being encouraged to publicise their research papers using social media. Comparing 2020 to 2019, there is a marked increase in the number of downloads coming directly from Twitter increasing from 603 to 2,554 and the number of downloads coming directly from LinkedIn increasing from 472 to 4,200.

Driven by the restrictions on physical meetings due to the Covid-19 pandemic, 2020 saw a shift from physical to virtual editorial board meetings for the first time and it generally proved very successful. The virtual format allowed for much greater attendance than usual from board members, some of whom may be located thousands of miles apart.

The Society monitors our journals' services to authors, particularly in terms of turnaround times for dealing with papers. The mean time to a first decision has been reduced by 15% overall for journals when comparing 2020 to 2019, with most journals showing some reduction.

2020 was a year in which the whole world has been impacted by the effects of the Covid-19 pandemic and the efforts to contain it. Papers have been published in our journals and promoted elsewhere that aim to contribute to dealing with the crisis.

We are continuing to monitor developments in Open Access (OA). The Society responded to the consultation launched in 2020 by UKRI, but are still awaiting to hear details of their OA policy.

The Society's newsletter for members, *Inside OR*, is normally published at the beginning of each month. However, the Board decided to make the publication bi-monthly for the last six months of 2020, in response to budget pressures. Its publication has been reinstated to a monthly basis from the beginning of 2021. During 2020, John Crocker, who has been ably editing *Inside OR* for the last ten years, expressed his wish to stand down and the Society is looking to recruit a replacement for him.

Our thanks go to all the editorial teams, the staff in the OR Society office and Taylor & Francis for their work over the past year in supporting and promoting the OR Society publications.

Education

The meetings of the Education Committee (EC) transitioned to an online format during 2020, in line with the rest of the Society. The change has not been detrimental to performance of EC which has achieved a lot.

We would like to start by thanking Eve Hardy, our Education Officer, who has taken forward the continuing work of our OR in Education (ORiE) programme during a very challenging year. Our appreciative thanks go to Matthew Robinson, the ORiE Taskforce chair, and to all volunteers who have participated in online events.

The major achievement in 2020 was the final development and approval of the Level 7 postgraduate Apprenticeship Standard in the occupation of "OR Specialist". Apprenticeships at all levels, not just Level 7, enable employers to leverage their Apprenticeship Levy payments to provide employees with education and training. For the OR Society, an OR Apprenticeship at the postgraduate level is a strategic project to compensate for the drop in the number of UK-based graduates from UK MSc courses, many of which are composed mainly of international students. The MSc route into the OR profession used to account for over 75% of new UK entrants into the UK OR workforce, but nowadays accounts for under 10%.

EC worked closely with the Trailblazer Group of OR employers that was formed in 2019 to develop an "occupational standard" for a postgraduate Level 7 Apprenticeship for an "OR Specialist". The standard was approved in 2020 and the roll out of the apprenticeship is being led by GORS, the Government OR Service, building on the interest shown by several UK universities in becoming providers of teaching for apprentices in partnership with the employers. In addition, the OR Board approved an EC proposal that the Society should become an EPAO, an "End Point Assessment Organisation", to provide assessment services to all apprenticeship employers. A concern in 2020 was that no Russell group universities seemed interested in being a provider, maybe because such universities see no financial or political need to participate. This was fortunately counter-balanced to some extent by some highly respected OR-oriented white-tile / beige-brick / post-92 universities who showed active interest in being providers.

The committee also welcomed Nicola Morrill, the OR Society's diversity champion, to its September meeting. A diversity survey indicated most ORS members have parents with degree-level or equivalent education and suggests people from lower-income backgrounds are under-represented in both the OR Society and wider OR community. Nicola proposed focusing on social mobility to address this. Ensuring that people are aware that there are a variety of routes into OR is critical. This will require reaching students at a pre-university level and working with Alliance universities as well as Russell Group universities. The new Apprenticeship is also a vehicle for social mobility in that it provided postgraduate level education for OR employees who might not be able to afford MSc fees.

The Training Working Group (TWG) is now under the remit of EC. David Halsall, the new TWG chair, participated in the March EC meeting where it was agreed that a closer working relationship between EC and TWG would be beneficial. TWG has successfully run online courses and all the feedback has all been positive.

There is a lot of interest in the 2021 online course calendar. TWG is working with the Marketing department to increase bookings for 2021.

Finally, we would like to thank Alistair Clark for all his work during his spell as the chair of EC and his outstanding contribution to the Society.

Research

The Research committee has continued to drive the Society's engagement with research issues. Its work has been enhanced by recruiting four additional senior academics who have excellent networks with research councils, the Council for Mathematical Sciences, and businesses. The committee has also been strengthened by a representative from the early researcher community.

We have made significant progress in understanding our early career researchers' geographical spread and demographics through a survey undertaken for the 2019/20 academic year. The survey has highlighted areas that we need to investigate further, such as fewer women in OR than men at the ECR stage, and fewer UK nationals in OR than people born overseas at the same stage. These differences become greater at later stages of an ECR career, so there is work to be done.

One of the outputs of the survey was that the committee launched an Early Career Researcher network. This launch took place at our ECR bi-annual event held before the annual conference, OR62. The network is now a lively community of over 80 ECRs.

We also started a new initiative to encourage members to join the EPSRC Peer Review College. It is essential that OR is represented and engages with the Council, particularly given the government's additional £300m funds made available to mathematics. These new funds will be available for research that delivers real impact, and OR is well placed to deliver on this. Some of the new funds were made available at the end of the year via Small and Programme grants opportunities, and we were able to give members advance notice. Committee members have played an active role in developing the new EPSRC Fellowship Scheme and participated in the EPSRC Strategic Advisory Council, REF, and the Big Mathematics Initiative. This means we have been able to update the community on critical developments.

Training

During 2020, the Society delivered 19 courses covering a range of OR topics, attracting a total of 150 delegates. Take up of courses was strong in the first quarter of the year before the onset of the coronavirus pandemic. All face-to-face courses were cancelled for the remainder of the year, but the Society was able to rapidly transition to online versions, running second courses late in the year. These courses were extremely well-received by participants with the average score being over 8.98 out of 10. It is anticipated that all courses will be run virtually during 2021. We thank our pool of excellent tutors for the rapid switch to the virtual delivery.

Publicity and Membership

The Society website and other communications have been updated throughout the Covid pandemic. As well as informing members of the status of events and training, we have made sure that we have shared wider resources and opportunities to a broad audience. This has helped get OR people involved in responding to the crisis and demonstrating purpose in action.

We also developed 'With OR Without' campaign material to help encourage people to see the value in OR for decision-making and the opportunities to come together as community. With changes to website navigation and enhanced membership landing pages, we're trying to make it as easy as possible for people to join the Society and further their engagement with OR as a profession.

Despite the pandemic, our membership levels have stayed fairly flat as we continue to offer valued services and create a sense of community. We have also been sensitive to increased workload for many of our members, combined with the financial difficulties others may have faced. We put on hold our plans to push membership and a revised approach will be developed and implemented in 2021. This will include a focus on making sure we are inclusive and tackle potential barriers to diverse membership and participation.

OR in Education

In the academic year 2019-20 there was a total of 29 individual visits and events nationally. There were seven individual visits to schools, five extracurricular visits (such as New Scientist Live) and 17 university events. Other headline results include running two volunteer training sessions, five teacher CPD events and attending one Enterprise Network meeting. Enterprise Networks consist of businesses that deliver careers services and advice in their community.

Outreach efforts from March - August 2020 were severely impacted by COVID-19 as many events were cancelled or postponed.

Prior to the impact of COVID, volunteer availability remained the main barrier to attending more events.

Teachers and volunteers gave lots of positive feedback from ORiE events.

Volunteer feedback:

- *The stand was very busy. Raised awareness of the OR Society as a lot of students didn't know what you do. Students were keen to take the graduate opportunities booklet and the new trifold. The new trifold was good because it gave scenarios of how OR helps in the real world which students found interesting.*
- *The stand was popular, considering it was competing with more high-tech stands, I think that demonstrates there is an interest in OR.*

Teacher feedback (from Teacher CPD webinars):

- *I thought that the presentation and the support OR in Education have to offer were well thought out and of a high standard. I'll be investigating further into how our maths department could use the resources and/or run a workshop.*
- *You have just made teaching Discrete maths next year much less daunting- thank you!*

Student feedback has been limited this year due to the change from in person to online events.

This period saw ORiE volunteers attend online events for the first time, which brought a unique set of challenges and opportunities. This provided an opportunity to review the materials made available to volunteers, with an updated handbook and a new guide to virtual volunteering.

The first ORiE video resources were also created and have been used at several online science fairs. At one science fair, the ORiE video was the most popular video of the whole event.

Pro Bono OR

Pro Bono OR's fantastic volunteers worked on 24 projects throughout the year, using a variety of OR methods to help organisations tackle food poverty, reduce and solve crimes, safeguard children in Ghana and promote social justice and human rights.

Despite the difficulties caused by coronavirus, Pro Bono OR volunteers completed 12 projects in 2020, helping organisations to create business plans, develop simulation computer models, improve data analysis

and collection, understand their strengths, and implement measurement tools (to name but a few). Feedback from third sector organisations and volunteer analysts has remained positive.

During 2020, COVID forced the majority of the Third Sector to focus less on seeking external aid to improve their processes and to instead focus on simply keeping their doors open and supporting their ever-increasing number of service users. For the PBOR scheme, this manifested in a reduced number of expressions of interest from Third Sector organisations and consequently a reduced number of PBOR projects. The Pro Bono steering group understands that these difficulties are likely to continue well into 2021, and as such are focused on creating new initiatives to both help the struggling Third Sector and engage the scheme's under-utilised volunteer base.

The Pro Bono OR scheme has been managed by Amy Hughes since summer 2018 and the Steering Group is chaired by Ruth Kaufman. In 2020 five new members were invited to join the group, in order to bolster its capacity and improve succession planning. At the end of 2020 the group consisted of: Jane Parkin, Shamim Rahman, Graham Rand, Ian Seath, Mike Boyles, Owen Bowden, Kate Hammond, John Lincoln, Ashleigh Monks and Felicity McLeister.

The steering group began work on a series of white papers for struggling Third Sector organisations, who may not have the internal capacity to commit to a PBOR project but could still use OR techniques to their advantage. These white papers aim to introduce a Third Sector audience to the different ways in which OR can help them. We have so far produced three examples and will now be developing those with the ORS marketing team and some third sector employees, to test their value and adapt before launching if these steps are successful. These white papers will be finalised and published in 2021 and will also be used by the PBOR volunteer base as examples as a reference when creating their own white papers, drawing on their OR experience expertise. The steering group hopes to engage a few volunteers to create these white papers, which will be reviewed, and ultimately published on the PBOR website.

In addition to the white papers, the steering group also began planning a series of webinars to start in March 2021. These webinars will be aimed at those who work in the Third Sector with the aim of helping them to improve their operations, efficiency, and decision making. The first series of webinars will initially be devised and run by members of the steering group and volunteers. It is hoped that the volunteer base will be encouraged to contribute further webinars following this first series, either by showcasing their PBOR project case studies or outlining how their particular OR expertise could be used to aid the Third Sector. PBOR hopes to capitalise on the success The OR Society has had in running and publicising the Webinar Wednesday programme and the Society's current expertise with online events.

As always, PBOR took part in UK Volunteers week, this time working closely with The OR Society's inhouse graphic designer to refine the quality and quantity of posts shared with the social media campaign. The scheme's involvement resulted in two organisations citing the Twitter campaign as the way they heard about the scheme's offering.

Throughout 2020 Pro Bono OR continued to make new contacts and worked well with both new and familiar organisations. Pro Bono OR was once again a part of the OR annual conference, this time collaborating with the University of Warwick's Data Science for Social Good (DSSG) initiative to host a successful workshop focused on providing third sector organisations with knowledge of the scheme itself as well as an opportunity to talk with OR consultants to search for an answer to their organisation's issues. As the event was held online for the first time, attendance was the highest ever recorded for a PBOR involvement with the annual conference and the event was well received by those who attended. On the day, the workshop was joined by 12 charities with eight Pro Bono OR expressions of interest generated following the event. It is hoped that these will turn into projects in 2021.

The aim of raising awareness in the third sector has also been facilitated through attendance at external events. In November, PBOR hosted an online event 'Data, Decisions and Impact' alongside The Royal Statistical Society. The event was aimed at helping the third sector appreciate the need for a better understanding of data, its collection and analysis. Other organisations involved in the event included The National Lottery Fund, Red Cross and Social Investment business group. The session had over 90 attendees from a variety of Third sector organisations and resulted in three expressions of interest.

Organisations registering for the PBOR scheme have also identified discovering Pro Bono OR through publicity in similar organisations' and voluntary services' newsletters, referrals through Small Charities Coalition, via a Google and website search, via Twitter due to our involvement in UK volunteers' week, via recommendations from previous project contacts and through our online presence as an official partner of UK charity week.

Members, Affiliates and Fellows

At the end of the year, The OR Society had 3,121 members. The Analytics Network boasted 2,105 members, the Society's LinkedIn group had 5,189 members and we had 5,118 Twitter followers. In addition, there were ten corporate partners – CORDA (part of BAe Systems), Natwest Group, Ministry of Justice, Home Office, Dept for Work & Pensions, AWE, Office for National Statistics, Ministry of Defence, NHS Wales and The Smith Institute – representing 567 affiliates.

There were 344 accreditees, comprising 160 Fellows, 74 Associate Fellows, 49 Associates and 61 Candidate Associates. There were 22 members accredited as Chartered Scientists and one as a Registered Scientist.

Awards

- **Goodeve Medal** (awarded for best paper published in *JORS* in 2019): Awarded to Esra Adiyke, Semra Agrali and Ethem Canakoglu "Risk Averse Investment Strategies for a Private Electricity Generating Company in a Carbon Constrained Environment.", *Journal of The Operational Research Society* (2019) 70, 2056–2068.
- **Stafford Beer Medal** (awarded for best paper published in *EJIS* in 2019): Awarded to Bjorn Ross, Laura Pilz, Benjamin Cabrera, Florian Brachten, German Neubaum and Stefan Stieglitz "Are social bots a real threat? An agent-based model of the spiral of silence to analyse the impact of manipulative actors in social.", *European Journal of Information Systems*, 28 394-412.
- **Cook Medal** (awarded for best paper published in *KMRP* in 2018/2019): Awarded to Eleni-Maria Kalegeraki, Dimitrios Apostolou, Nineta Polemi and Spyridon Papastergiou "Knowledge management methodology for identifying threats in maritime/logistics supply chains.", *Knowledge Management Research & Practice*, 16 508-524.
- **Ranyard Medal** (awarded for best paper published in *Journal of Business Analytics* in 2018/2019): Awarded to Amir Hassan Zadeh and Anand Jeyaraj "Alignment of business and social media strategies: insights from a text mining analysis.", *Journal of Business Analytics*, 1 117-134.
- **Doctoral Award** (awarded for the most distinguished body of research leading to the award of a doctorate in the field of OR in 2019): Awarded jointly to Marton Benedek, University of Southampton, "Computing the nucleolus of cooperative games" and Lucy Morgan, Lancaster University, "Quantifying and Reducing Input Modelling Error in Simulation".
- **President's Medal** (awarded for the best practical application of OR): Awarded to Harminder Mann, Jordan Low, Kim Brett, Lizzie Baggot, Mary McKee, Sara Smith and Sam Rose (Department for Transport) for "Creating new population movement insight to shape the UK Government's response to the Coronavirus pandemic".
- **Beale Medal** (awarded for a sustained contribution to the theory, practice, or philosophy of OR): Awarded to Val Belton.
- **Companionship of OR** (awarded for sustained support and encouragement for the development of operational research or for those in influential positions who are in broad sympathy with the subject area): Awarded to Alec Waterhouse.

Structure of the Funds

The Society's funds are unrestricted but are organised into:

- the General Fund, through which the ongoing operations of the Society are conducted;
- the Reserve Fund, comprising the Seymour House property together with investments and cash on deposit to cover potential risks of a general nature, the most significant of which would arise if the Society were forced to move quickly to a financial regime in which its publications income was significantly reduced; and
- the Designated Award Fund which represents a bequest received from Mrs May Hicks in 2002 and which is used for purposes consistent with her wishes, by providing awards for the best student OR projects undertaken for a client organisation.

Review of Operations

The Society's income and expenditure account showed a surplus of £15k during the year, on a turnover of £1.2m. This compares with a deficit of £234k in 2019. Whilst much of that deficit was planned, financial management processes were reviewed and tightened to prevent a repeat of the disappointing performance of 2019, and the 2020 outcome is very pleasing.

The performance is particularly gratifying considering the impact the coronavirus pandemic had on much of the Society's normal operations. Income for the year was down over £300k compared to 2019, with conferences and events taking the biggest hit (£270k). Training income also suffered, but a good start to the year (prior to the first lockdown) and a switch to online delivery later in the year, minimised the impact. The Society implemented a package of cost-saving measures to ensure its financial health.

Nearly all bookings for face-to-face events were either cancelled or rescheduled for 2021. Whilst we were able to replace many of these events in a virtual format, Board decided to waive delegate fees to enable the community to continue to benefit from the opportunities despite the difficulties of the pandemic. We anticipate much of our conferencing activity will remain online in 2021 but delegate fees will be re-introduced.

The publications income was almost £30k above the 2019 level, with our publishing partners, Taylor & Francis, continuing to realise the full potential of our journal portfolio. It is anticipated that in 2021 publications income will improve further under the partnership. The existing contract with Taylor & Francis comes to an end in 2022 and discussions on a contract extension are underway.

In 2019, Board approved a significant budget (£30k) for a membership recruitment and retention project for 2020. A proportion of this funding was used to create the supporting assets, but the balance for paid promotion was not deployed. It was agreed that the coronavirus pandemic would impact it adversely. The campaign will go ahead in 2021. Income from membership subscriptions was almost £11k down on 2019. Almost £6k of this was as a result of a timing issue on payment from one of our larger corporate partners; the rest is due primarily to a loss of 'full' members.

Most operations to support the charitable aims of the Society – such as conferences, special events, regional societies, special interest groups, education, publicity and outreach initiatives, the monthly Inside OR magazine and special charitable projects – result in deficits to the Society. To support them the Society relies primarily on subscriptions and income from its academic journals – particularly the latter which in 2020 contributed over £810k net of all associated costs. This serves as a reminder of the Society's current financial dependence on the academic publication system; see the section on 'Risk' below.

The Society employed 16.8 members of staff during 2020 (averaged over the year, 16.5 full-time-equivalents), compared to 17.8 (16.6 FTE) during 2019.

Assets, Reserves and Investments

The total net assets of the Society decreased slightly to £2.395m over the year, with the small surplus on income and expenditure being counter-balanced by a decrease in investment values and a net £46k capital loss (realised and unrealised) on our investment funds. This relatively small decrease masks an extremely turbulent year for the markets as a result of the coronavirus pandemic. The value of the Society's investments fell by almost £300k in the first quarter of the year, but staged a remarkable recovery over the year to finish just below the 2019 level. Prudent financial management meant the Society did not need to draw down any of its investment funds during the year, allowing the recovery to take place.

It is important that the Society maintains an appropriate level of reserves in relation to perceived financial risks. During the year the Board reviewed the Society's reserves policy. In setting its reserve policy, the Board distinguished between the funds held in the General Fund, which arise from the normal operating activities of the Society, and the Reserve Fund held to ensure that the Society can continue long-term operations in the event of financial risks materialising. The policy review considered the minimum and maximum levels for the amount required in the Reserve Fund. It was agreed that this steadier approach to reserves, based on the costs of the Society rather than the (publications) income, remained valid.

Based on the usual annual costs of running the Society, one year's costs of £900k should be a minimum value for the reserves and the maximum value would then be two years' costs giving a value of £1.8 million. This would cover any growth of the Society over the next few years and release funds to further the Society's aims. Fixed costs in 2020 were £831k, slightly lower than normal as a result of cost-cutting measures in place during the pandemic.

At 31 December 2020, the Society's reserves – its investments and cash held within the Reserve Fund – amounted to £1.74m. The reserves are therefore within their prescribed limits. The Board will bear this in mind when considering opportunities for spending on worthwhile one-off projects that further the Society's objectives, and may be more inclined to do so on securing an extension to its publications contract.

The Society's investments and their performance are kept under review by the Investment Committee in accordance with policies decided by the Board. The Committee is chaired by the Treasurer and, in addition to other members of the Society, includes representatives from the Society's investment managers.

Risk

The Society's dependency on journal income is the most significant material risk. Our contract with Taylor & Francis to a large extent mitigates this risk for the Society, for the five years of the contract (finishing in December 2022), by transferring much of it to the publisher. The risk has not disappeared though, and we could never be wholly insulated from any impact that might result from this risk on our publisher. In addition, beyond the contract period our exposure to the risk is unchanged and the risk may in fact have increased following moves to ensure that EU-funded research is, in future, made available via the open-access business model.

A key strategic risk is that OR could be seen as less relevant in the rapidly changing environment, as big data and increasing computing power drive technical developments and as new discipline descriptions compete for attention and funding. We have been mitigating this through a number of initiatives led by our Analytics Development Group and are also actively promoting the relevance of OR to data science, robotics and artificial intelligence as well as other overlapping fields. More generally, we aim to raise the visibility of OR and support outward-looking practice and membership through outreach to other professional societies and to

organisations and businesses who may benefit from what OR has to bring and through the variety of topics and speakers at our events.

A further key risk is that The OR Society could be seen as less relevant to OR professionals. We have been mitigating this through the whole range of activities addressing our strategic goals and described elsewhere in this report.

The Board regularly reviews the risk register covering a wide range of operational risks, including IT risks, and, where feasible, puts mitigating action in place.

Brexit Position

The impact of the exit from the EU by the UK remains under consideration. Whilst the trustees expect the likely direct impact on the Society to be low, the greatest threat would be that of a UK recession brought on trading difficulties. This could impact all sources of income as might happen during any period of economic downturn. The terms of its current publications contract give it considerable protection from such risks. It faces no threat in terms of the origin of its employees.

The threats to the community could be more widespread, from the number of EU citizens working in the field through to access to funding and collaboration on EU research projects.

COVID-19 Position

The COVID-19 pandemic has had an impact on businesses across the world, and in this respect the Society is no different. During, the Society has had to cancel its face-to-face meetings, networking events, training courses and conferences. Online alternatives continue to fill the void and are expected to be in place through the whole of 2021. The Society updated its IT infrastructure during 2019 and this has enabled its staff to all switch to homeworking without disruption. Budgets and cashflow forecasts for 2021 have been revised to account for the loss of income from events, and surplus budget is still planned. The overall cashflow situation remains healthy. In this case, the Society's publishing contract provides protection from such disruption. The Society does not foresee the need to lay off or furlough any of its staff during 2021.

Our investment portfolio value has all-but recovered from its initial losses as a result of the crisis, and fortunately the Society is able to take a long-term position during which the investments can fully recover their value.

In the longer term, the biggest threat will be the impact of the subsequent worldwide economic difficulties.

In summary, the Society's accounting status as a 'going concern' is not changed.

Key Management Personnel

The Key Management Personnel for the Society comprise the trustees (its Board of Directors) and the Executive Director. No remuneration is payable to trustees for service on the Board.

Basis for Remuneration

The President, Treasurer and President Elect or Immediate Past President review the Executive Director's salary and, when agreed by Finance Committee, a written recommendation is made to Board. The Executive Director leads the process for other staff which is again initially discussed by Finance Committee before the recommendations go to Board for final approval.

Voluntary Contributions

The Society's work in 2020 benefited from voluntary contributions of time, from members and others, through these principal lines of work: refereeing of journal papers; editing of journals; conference organisation; authorship and delivery of talks to regional societies and special interest groups; organisation of regional societies and special interest groups; the work of the Society's officers; contributions to the administration of the Society, its Awards and its accreditations through service on Board and the Society's committees.

The coronavirus pandemic has meant that some of the usual volunteering opportunities have been unable to take place. The Society is delighted in the way its pool of volunteers has responded to the switch to online activities where this has been possible, especially with our two main outreach projects, OR in Schools and Pro Bono OR. Their work benefits the OR community, the future development of the profession and the wider society and is a fine contribution to The OR Society's charitable objectives.

It is estimated that a total of 4,000 person-days were contributed in 2020. If this time is valued at £500 per day, its value is £2M. The Society is most grateful to all who contributed voluntary effort, without which the Society could not accomplish its goals.

Objectives for 2021

At the start of 20, Board produced a revised version of its 3-5 year goals and priorities. These build on those in place for the previous strategic planning phase and represent exciting opportunities for the Society and the wider OR community. The revised strategic pillars are to: raise awareness of the **importance of OR**; support **OR knowledge development**; support **OR education**; grow **membership and wider reach**; ensure **financial sustainability** of the Society; and address **diversity and inclusion challenges** in OR and the OR Society.

Work has already started on many of the initiatives that we hope will come to fruition in the next year or so:

- working with Taylor & Francis to capitalise on its strategy to maximise the value of our current publications contract, develop robust publishing models to deal with opportunities and challenges presented by open access publishing and Plan S;
- ensuring that OR is fully involved in the Big Mathematics Initiative (following up the recommendations of the Bond review of knowledge exchange in the mathematical sciences);
- building policy influence with key Government contacts and connect with other key decision makers;
- implementing an engagement plan for the analytics / artificial intelligence /data science community, and specifically implementing the recommendations of the artificial intelligence task-and-finish group;
- supporting the full establishment and growth of the Women in OR and Early Careers networks;
- maximising benefit from the new website, social media campaigns and other marketing activity to raise the brand profile of OR itself;
- once coronavirus restrictions are lifted, launching its museum-based travelling exhibition to raise public awareness of OR;
- progress its bid to come an End point Assessment Organisation and further support the launch of the level 7 OR apprenticeship scheme for OR Specialist;
- strengthening relationship with key bodies such UKRI, Royal Society, Science Council and other learned societies;
- investigating diversification of income, including exploring new streams (accrediting University courses, fundraising / donations, sponsorship);
- implementing our diversity plan based on recommendations from the diversity champion;
- creating and disseminating thought leadership pieces (with the initial focus on ethics);
- demonstrating the relevance of OR to complex problems and big issues.

These developments will be on top of our existing broad sweep of services: conferences, events, lectures and training; publications; Pro Bono OR and OR in Schools; representing The OR Society on bodies including The Council for Mathematical Sciences, the Science Council, EURO and IFORS; and our more inward-looking activities to improve sustainability, efficiency and effectiveness.

For a relatively small professional body in an uncertain world, there are many challenges to overcome. By undertaking these activities, we aim not just to meet the challenges, but to grow the profession and The OR Society's contribution and make the most of the opportunities awaiting us.

Information about the Society

- (1) The Operational Research Society is a company limited by guarantee (no. 663819). It is also a charity registered in accordance with the provisions of the Charities Act 2011 (registration no. 313713)
- (2) The objects of the Society are given in its Memorandum and Articles and can be summarised as:
 - (a) the advancement of knowledge by fostering, promoting and furthering interest in operational research; and
 - (b) the advancement of education by providing facilities for and, by subsidising it, endowing, organising or supporting scholarships or educational or training schemes; and conducting examinations or advising on their content.
- (3) The Society is empowered to do all proper things in pursuit of these objectives.
- (4) The affairs of the Society were managed during 2020 by the elected officers and members of the Board listed below. Together they constitute the Board of Directors of the limited company and Trustees of the charity and the members of its management committee. Specific matters are delegated to particular committees of the Society by resolution of the Board and in accordance with the Society's Articles.

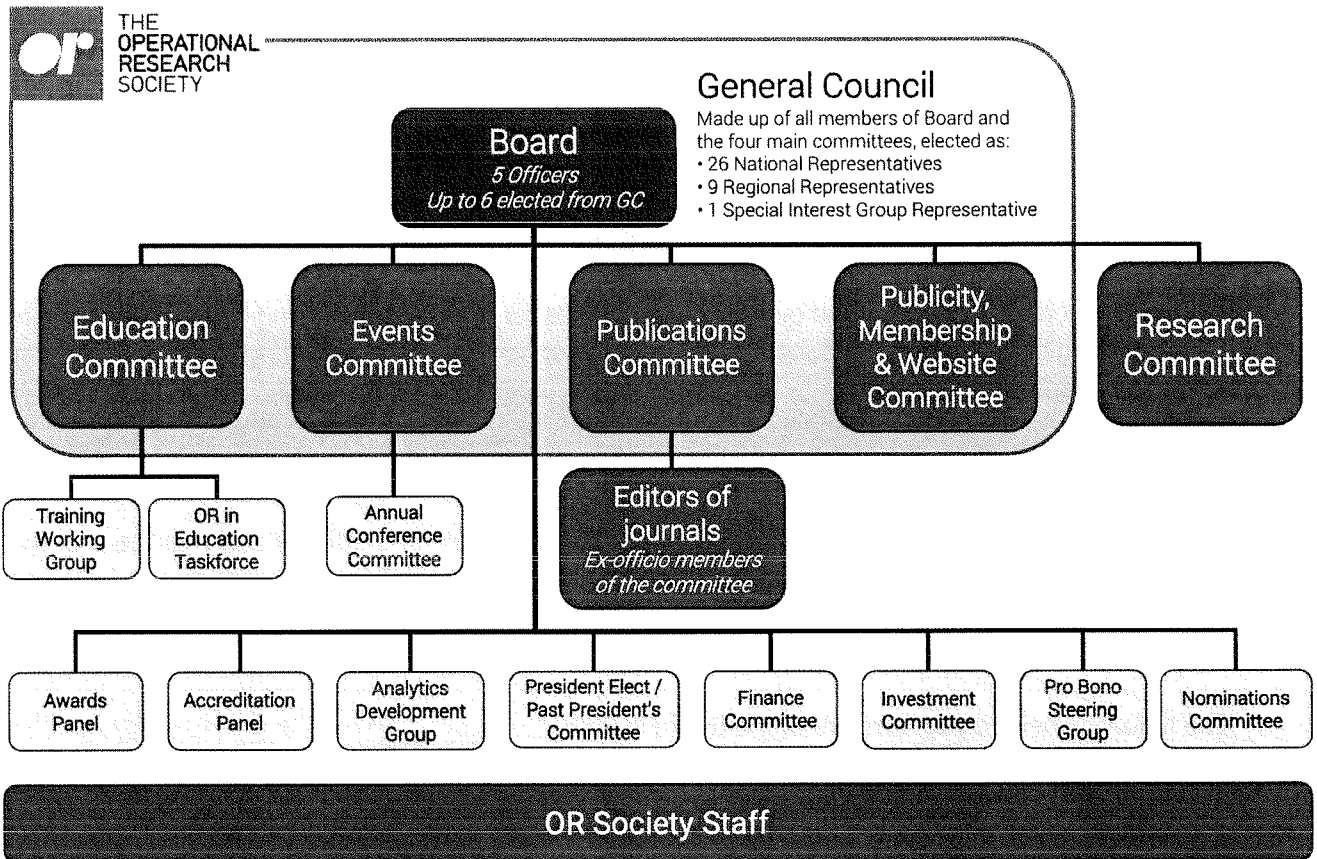
The following served as members of the Board in 2020

E K BURKE President	J BATSON	R A SCOTT
J R HOPES Immediate Past President	A R CLARK	
S HOWICK Vice President	R W EGGLESE	
A P ROBINSON Vice President	J MEDHURST	
J E WILLIAMS Hon. Treasurer	N MORRILL	

Unless otherwise stated, changes in the membership of the Board occur at the end of a calendar year.

The Board is supported by a General Council with a maximum membership of thirty-six. These two bodies assist the Society in its ongoing commitment to involve as many members as possible in its affairs. The Board of Directors is responsible for governance and strategy and the General Council, with its wide representation, provides advice, feedback and challenge and monitors the Board's activity. Members of General Council have also, in all cases, been assigned to one of the Society's four main committees: Publications; Publicity, Membership and Website; Education and Research; and Events and the Chairs of those committees are currently Board members.

The structure is set out in the diagram below.



(5) The committees are established to implement policies of Board & General Council with respect to meeting the Society's objectives and to controlling expenditure. The names of the committees are set out as follows, together with the object ((a) or (b) as above) towards the achievement of which they contribute:

Accreditation Panel	(a)
Analytics Development Group	(a)
Awards Panel	(a)
Education	(b)
Events	(a), (b)
Finance	Management of financial aspects
Investment	Management of investments
Nominations	Volunteer recruitment to governance roles
Past President's/President Elect's	Elections, planning & administrative reviews
Pro Bono Steering Group	(a)
Publications	(a)
Publicity, Membership & Website	(a)
Research	(a)
Training Working Group	(b)

(6) Other Committees are set up from time to time for specific purposes, but they are given no delegated powers. In addition, the Society has a large number of active Special Interest Groups which are listed in the Journal of the Society. They contribute particularly to object (a).

(7) The registered address of the Society is:

Seymour House
12 Edward Street
BIRMINGHAM
B1 2RX

Its Executive Director is:

I G Blackett
The OR Society
12 Edward Street
BIRMINGHAM
B1 2RX

Its Bankers are:

The Co-operative Bank
Delf House
Southway
SKELMERSDALE
WN8 6WT

Its Solicitors are:

Sydney Mitchell and Co
Cavendish House
Waterloo Street
BIRMINGHAM
B2 5PU

Its Auditors are:

Mazars LLP
45 Church Street
BIRMINGHAM
B3 2RT

Its Investment Adviser is:

Tom Quicke
Investec
30 Gresham Street
LONDON
EC2V 7QN

Its Stockbrokers are:

Investec
30 Gresham Street
LONDON
EC2V 7QN

(8) The Society's investment policy is governed by the legislative provisions relating to charity investments, but the Society is not otherwise restricted in the way in which it can invest. However, it is the Society's policy not to invest in tobacco shares.

(9) These particulars are published in compliance 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).

Public Benefit

The OR Society is a charity and meets the public benefit test as set out in the Charities Act 2011 in various ways:

Advancement of education:

Through the OR in Schools initiative, its many networking, training and conferencing activities in schools, universities and workplaces and extensive on-line resources, The OR Society promotes the understanding of OR and how it can be applied for the wider benefit. The OR Society is a participating society (with voting rights) on the Joint Mathematical Council of the UK.

Advancement of science:

Through its publications, conferences and networking activities; representation on the Council for Mathematical Sciences, Science Council, funding bodies and international federations; and on-line materials and facilities, The OR Society supports, promotes and publicises research; raises standards of research and practice; and promotes the effective application of OR for wider social benefit. Through its accreditation and awards schemes, The OR Society recognises and promotes engagement, effectiveness and development in its members, further raising standards.

Advancement of community development:

The OR Society encourages volunteering and involvement through its Pro Bono OR initiative, involvement of members in outreach to schools and universities and networks of Regional and Special Interest Groups.

The OR Society funds educational, development and research projects that are in line with its charitable aims of advancing knowledge and education through fostering OR

All OR Society events and training are open to all who may be interested. In addition, it minimises barriers to access by:

- (1) ensuring that many of its on-line resources are publicly and freely available;
- (2) keeping membership fees low and offering reduced fees for unwaged groups; and
- (3) supporting Regional and Special Interest Group networks which offer free meetings.

In governing The OR Society, the Trustees have had regard to the Charity Commission's public benefit guidance.

Statements as to disclosure of information to auditors

In accordance with Company Law, as the charity's trustees, we certify that:

- so far as we are aware, there is no relevant audit information of which the Charity's Auditor is unaware; and
- we have taken all the steps that we ought to have taken in order to make ourselves aware of any relevant audit information and to establish that the Charity's Auditor is aware of that information.

Statement of responsibilities of the elected officers and members of the Board

Company law requires the elected officers and members of the Board to prepare financial statements for each year which give a true and fair view of the state of affairs of the Society and of the surplus or deficit of the Society for that period. In preparing those financial statements, the elected officers and members of the Board are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable 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 assume that the Society will continue in business.

The elected officers and members of the Board are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Society and to enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Society and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Appointment of trustees

The officers and other members of the Board are elected by secret ballot of the Society's membership and the members of General Council respectively, to serve for a three-year term (except for the President, who serves one year as President-Elect, two years as President and a further year as Immediate Past-President). A member of the Board, other than the President, whose first term of office has expired may stand for election for one further term. At the end of 2020, two members of the Board completed their terms of office: J BATSON and A R CLARK.

Induction of new trustees

New trustees receive a comprehensive information pack, setting out details of their role and responsibilities as both trustees and company directors, the nature of a charity, the Society's constitution, its policies on members' interests and expense claims and including the Charity Commission's 'welcome' leaflet.

Members' interests

In accordance with Article 46 of its constitution, the Society requires that members of Board or committees having an interest in a matter to be debated should declare that interest and leave the room whilst the matter is discussed and decided. Members of the Training Working Group are drawn from organisations which have no interest in bidding for courses and wherever appropriate, recommendations on major charitable projects are made by a special expert committee comprised entirely of disinterested parties.

Approval of report

We approve this report and the audited accounts for the year 1 January to 31 December 2020 and recommend their adoption by the Society at its Annual General Meeting.

E K BURKE President

J E WILLIAMS Hon Treasurer

R BYDE

R W EGGLESE

J R HOPES

S HOWICK

J MEDHURST

N MORRILL

A P ROBINSON

R A SCOTT

V SENA

Being the elected officers and members of the Board of The Operational Research Society as at 18 May 2021.



I G Blakett
Executive Director
18 May 2021

Accounts

for the year ended 31 December 2020

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF OPERATIONAL RESEARCH SOCIETY

Opinion

We have audited the financial statements of Operational Research Society (the 'charity') for the year ended 31 December 2020 which comprise the Statement of Financial Activities, the Balance Sheet, the Statement of Cash Flows 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 FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" (United Kingdom Generally Accepted Accounting Practice).

In our opinion, the financial statements:

- give a true and fair view of the state of the charity's affairs as at 31 December 2020 and of its income and expenditure 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.

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 charity 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. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating 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 charity'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 other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. The trustees are responsible for the other information. 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.

In connection with our audit of the financial statements, 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 there is a material misstatement in the financial statements or a material misstatement of the other information. 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.

Opinions on other matters prescribed by the Companies Act 2006

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 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 Directors' Report included within the Trustees' Report has been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In light of the knowledge and understanding of the charity and its environment obtained in the course of the audit, we have not identified material misstatements in the Directors' Report included within 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 and proper 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 trustees' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit; or
- the trustees were not entitled to prepare the financial statements in accordance with the small companies regime and take advantage of the small companies' exemption in preparing the Trustees' Report and from the requirement to prepare a Strategic Report.

Responsibilities of Trustees

As explained more fully in the trustees' responsibilities statement set out on page [X], 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 charity'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 charity or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

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 the financial statements.

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. Based on our understanding of the charity and its activities, we identified that the principal risks of non-compliance with laws and regulations related to the Charities Act 2011, the Charities Statement of Recommended Practice, employment regulation and fraud, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the preparation of the financial statements, such as the Companies Act 2006.

We evaluated the trustees' and 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 manual journal entries to manipulate financial performance, management bias through judgements and assumptions in significant accounting estimates, in particular in relation to use of restricted funds, and income cut off at year end.

Our audit procedures were designed to respond to those identified risks, including non-compliance with laws and regulations (irregularities) and fraud that are material to the financial statements. Our audit procedures included but were not limited to:

- Discussing with the trustees and management their policies and procedures regarding compliance with laws and regulations;
- Communicating identified laws and regulations throughout our engagement team and remaining alert to any indications of non-compliance throughout our audit; and
- Considering the risk of acts by the charity which were contrary to applicable laws and regulations, including fraud.

Our audit procedures in relation to fraud included but were not limited to:

- Making enquiries of the trustees and management on whether they had knowledge of any actual, suspected or alleged fraud;
- Gaining an understanding of the internal controls established to mitigate risks related to fraud;
- Discussing amongst the engagement team the risks of fraud; and
- Addressing the risks of fraud through management override of controls by performing journal entry testing.

There are inherent limitations in the audit procedures described above and the primary responsibility for the prevention and detection of irregularities including fraud rests with management. As with any audit, there remained a risk of non-detection of irregularities, as these may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal controls.

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

Use of the audit report

This report is made solely to the charity'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 charity'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 charity and the

charity's members as a body for our audit work, for this report, or for the opinions we have formed.

Signed:

Ian Holder

Ian Holder (Jul 13, 2021 16:11 GMT+1)

Ian Holder
(Senior Statutory Auditor)
for and on behalf of Mazars LLP
Chartered Accountants and Statutory Auditor
First Floor
Two Chamberlain Square
Birmingham
B3 3AX

Jul 13, 2021

OPERATIONAL RESEARCH SOCIETY

STATEMENT OF FINANCIAL ACTIVITIES FOR THE YEAR ENDED 31 DECEMBER 2020

		-----Unrestricted Funds-----			2020 £	2019 £
	Note	General Fund £	Reserve Fund £	Designated Award Fund £	Total Funds £	Total Funds
INCOME FROM :						
Charitable activities :						
Subscriptions		136,390	-	-	136,390	146,995
Events and Conferences		11,641	-	-	11,641	283,219
Training		73,084	-	-	73,084	115,140
Publications	3	969,653	-	-	969,653	939,057
Accreditation		8,315	-	-	8,315	8,710
Websites / Digital Services		1,900	-	-	1,900	1,580
		<u>1,200,983</u>	<u>-</u>	<u>-</u>	<u>1,200,983</u>	<u>1,494,701</u>
Investment Income	7	3	39,888	2,249	42,140	54,903
Total Income		<u>1,200,986</u>	<u>39,888</u>	<u>2,249</u>	<u>1,243,123</u>	<u>1,549,604</u>
EXPENDITURE ON :						
Raising Funds						
Investment Management Costs		-	11,672	-	11,672	12,192
Direct charitable expenditure :						
Subscriptions		120,430	691	-	121,121	149,728
Events and Conferences		162,037	673	-	162,710	382,179
Training		83,144	220	-	83,364	102,068
Publications	3	247,533	904	-	248,437	346,689
Accreditation		7,523	28	-	7,551	7,774
Websites / Digital Services		162,653	1,207	-	163,860	195,762
Other Charitable Expenditure	4	297,289	1,880	1,500	300,669	422,462
Governance and Support Costs	5	105,002	3,028	-	108,030	131,986
		<u>1,185,611</u>	<u>8,631</u>	<u>1,500</u>	<u>1,195,742</u>	<u>1,738,648</u>
Total Expenditure	6	<u>1,185,611</u>	<u>20,303</u>	<u>1,500</u>	<u>1,207,414</u>	<u>1,750,840</u>
Net gains/(losses) on Investments	18	-	(46,426)	2,078	(44,348)	192,098
NET INCOME/(EXPENDITURE) and NET MOVEMENT IN FUNDS FOR THE YEAR						
		15,375	(26,841)	2,827	(8,639)	(9,138)
Reconciliation of funds :						
Total funds brought forward		435,729	1,909,397	58,895	2,404,021	2,413,159
Total funds carried forward		<u>451,104</u>	<u>1,882,556</u>	<u>61,722</u>	<u>2,395,382</u>	<u>2,404,021</u>

The notes on pages 32 to 41 form part of these accounts.

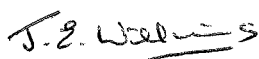
The statement of financial activities includes all gains and losses recognised in the year. All income and expenditure derive from continuing activities.

OPERATIONAL RESEARCH SOCIETY
(A company limited by guarantee. No. 663819)

BALANCE SHEET - 31 DECEMBER 2020

	<u>Note</u>	<u>2020</u> £	<u>2019</u> £
FIXED ASSETS			
Fixed Assets : Tangible	8	262,922	217,181
Intangible	8	87,608	138,405
Investments :			
Listed at Market Value	9	1,721,276	1,732,828
Cash Deposited with Investment Brokers		20,008	29,047
Charities Aid Foundation	10	77,927	73,600
		<u>2,169,741</u>	<u>2,191,061</u>
CURRENT ASSETS			
Debtors	11	221,479	261,440
Cash at Bank and In Hand		390,237	149,178
		<u>611,716</u>	<u>410,618</u>
CREDITORS (amounts falling due within one year)	12	386,075	197,658
NET CURRENT ASSETS		<u>225,641</u>	<u>212,960</u>
TOTAL ASSETS LESS CURRENT LIABILITIES		<u>2,395,382</u>	<u>2,404,021</u>
FUNDS			
General Fund		451,104	435,729
Reserve Fund	15(1)	1,882,556	1,909,397
Designated Award Fund	15(2)	61,722	58,895
TOTAL FUNDS		<u>2,395,382</u>	<u>2,404,021</u>

These financial statements have been prepared in accordance with the special provisions relating to companies subject to the small companies regime within Part 15 of the Companies Act 2006.



J. E. WILLIAMS
Honorary Treasurer



E. K. BURKE
President

18 May 2021

The notes on pages 32 to 41 form part of these accounts.

OPERATIONAL RESEARCH SOCIETY

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2020

	<u>2020</u>	<u>2019</u>
	£	£
Reconciliation of net incoming resources to net cashflow from operating activities :		
Net Movement in Funds	(8,639)	(9,138)
Depreciation Charge - Tangible Assets	26,969	24,366
Depreciation Charge - Intangible Assets	50,797	51,717
Loss on Disposal of Fixed Assets	-	-
Decrease/(Increase) in Debtors	39,961	856,826
Increase/(Decrease) in Creditors	188,417	(910,223)
(Gains)/Losses on Investments	44,348	(192,098)
Investment Income	(42,140)	(54,903)
Cash Flows from Operating Activities	<u>299,713</u>	<u>(233,453)</u>
Investment Income	39,891	52,941
Purchase of Tangible Assets	(72,710)	(20,718)
Purchase of Intangible Assets	-	(17,536)
Purchase of Investments	(462,712)	(172,771)
Proceeds on Disposal of Investments	427,838	108,588
Cash Flows from Investing Activities	<u>(67,693)</u>	<u>(49,496)</u>
Increase/(Decrease) in Cash and Cash Equivalents in the Year	232,020	(282,949)
Cash and Cash Equivalents at the Beginning of the Year	178,225	461,174
Cash and Cash Equivalents at the End of the Year	<u>* 410,245</u>	<u>178,225</u>

* Balance includes £178,382 of VAT deferred from March 2020 to be paid by March 2021.

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020

1 ACCOUNTING POLICIES

(1) **Basis of preparation**

The accounts have been prepared in accordance with the Companies Act 2006, the Charities Act 2011, the Charities Statement of Recommended Practice (FRS 102), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and under the historical cost convention in accordance with applicable Accounting Standards as modified by the accounting policy for investments quoted on a recognised stock exchange, which are stated at market value (see 1(8) below).

The Operational Research Society meets the definition of a public benefit society under FRS 102.

(2) **Preparation of the accounts on a going concern basis**

The Operational Research Society operates as a going concern and the trustees are of the view that it will continue to do so for the foreseeable future.

(3) **Key estimates and judgements**

When preparing the financial statements, management makes a number of judgements, estimates and assumptions about the recognition and measurement of assets, liabilities, income and expenses. The estimate that has the most significant effect relates to intangible fixed assets. The company amortises fixed assets over their estimated useful lives. The estimation of the useful lives of assets is based on historic performance as well as expectations about future use and therefore requires estimates and assumptions to be applied by management. The actual lives of these assets can vary depending on a number of factors, including the maintenance and level of upkeep of the software systems.

(4) **Designation of funds**

Income and expenditure arising from the normal charitable activities of the Society is included within the General Fund.

The Reserve Fund consists of resources of the Society which are represented by land and buildings, fixed asset investments and cash deposited with the Society's investment brokers. The Designated Award Fund represents a legacy received in 2002 which will be used to fund an annual award.

The Society operates a reserves policy that reflects its critical dependence on journal income. The policy sets the minimum level of reserves at one year's fixed running costs of £831k to keep the charity viable whilst alternative funding is found.

The maximum level is to be set at 2 years running costs or £1.7 million

(5) **Dividends and investment income**

Dividends and investment income are recognised when receivable.

(6) **Other income and expenditure**

Income and expenditure other than dividends are accounted for on an accruals basis.

(7) **Value added tax**

The Society has partial exemption status for Value Added Tax and Value Added Tax on apportionable costs which cannot be reclaimed is disclosed separately within administration costs. This item was £Nil in 2020 (2019 - £Nil).

(8) **Investments**

Investments quoted on a recognised stock exchange are included in the accounts at their market value.

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020

1 ACCOUNTING POLICIES (continued)

(9) Tangible and Intangible fixed assets

Tangible and intangible fixed assets costing more than £1,000 and with a useful economic life in excess of 3 years are capitalised and included at cost including any incidental expenses of acquisition.

Depreciation of tangible fixed assets is charged on a straight line basis at the following rates :

Long leasehold building	-	2%
Office machines and computer equipment	-	25%
Fixtures and fittings	-	10%

Amortisation of Intangible fixed assets is charged on a straight line basis at the following rate :

Software systems	-	25%
------------------	---	-----

The amortisation rate charged is based on management's best estimate of the useful life of the software systems.

(10) Debtors

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

(11) Cash at bank and in hand

Cash at bank and cash in hand includes cash and short term highly liquid investments.

(12) Creditors and provisions

Creditors and provisions are recognised where the charity has a present obligation resulting from a past event that will 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 after allowing for any trade discounts due.

(13) Pensions

The Society contributes to individual pension schemes established for each eligible employee.

(14) Allocation of costs

Salaries, depreciation, websites / digital services expenditure and other central and establishment overheads are allocated to appropriate cost categories using consistently applied ratios based on estimates of actual time and costs expended in each area.

(15) Financial instruments

The Society 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.

2 LEGAL STATUS OF THE SOCIETY

The Society is a company limited by guarantee, has no share capital and is a registered charity. The objectives of the Society are the advancement of knowledge and education in operational research.

The liability of each member in the event of a winding-up is limited to £1.

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020 (continued)

3 PUBLICATIONS	<u>2020</u>	<u>2019</u>
	£	£
Incoming resources :		
Journal / KMRP / JOS	661,494	707,487
Inside OR	1,728	2,822
EJIS / Health Systems / JBA	301,944	225,688
Other Publications	4,487	3,060
	<u>969,653</u>	<u>939,057</u>
Resources used :		
Journal / KMRP / JOS	103,420	146,495
Inside OR	87,396	110,802
EJIS / Health Systems / JBA	48,159	72,722
Impact Magazine	5,392	11,680
Other Publications	4,070	4,990
	<u>248,437</u>	<u>346,689</u>
4 OTHER DIRECT CHARITABLE EXPENDITURE		
Non-revenue earning activities in pursuit of charitable aims		
IAOR Online - Members access	7,871	10,115
Library	975	-
Foreign Affairs Expenses	17,992	11,841
Regional Societies	14,293	10,370
Special Interest Groups	16,821	16,661
Public Information about OR :		
Science of Better	-	16,824
Learn about OR	52,056	76,383
General Publicity	58,044	63,931
Third Sector Pro Bono	31,839	31,530
Sponsorship of OR Conferences	-	-
Medals, Awards and Scholarships	20,883	28,601
Strategic Initiatives	55,173	148,015
Research Support	19,073	-
Other Costs	5,649	8,191
Total	<u>300,669</u>	<u>422,462</u>
5 GOVERNANCE AND SUPPORT COSTS		
Board and Committees	86,623	108,683
Auditors' Fees :		
for audit	8,000	7,450
for other services	1,449	850
Other Legal and Professional Fees	11,958	15,003
	<u>108,030</u>	<u>131,986</u>

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020 (continued)

6 TOTAL RESOURCES EXPENDED

Expenditure analysed by type of cost :

	<u>Staff Costs</u>	<u>Other Costs</u>	<u>Depreciation &Amortisation</u>	<u>Total 2020</u>	<u>Total 2019</u>
	£	£	£	£	£
Investment Management Costs	-	11,672	-	11,672	12,192
Subscriptions	90,767	27,616	2,738	121,121	149,728
Events and Conferences	123,075	33,944	5,691	162,710	382,179
Training	32,988	49,725	651	83,364	102,068
Publications	82,327	163,024	3,086	248,437	346,689
Accreditation	5,838	420	1,293	7,551	7,774
Websites	78,846	29,769	55,245	163,860	195,762
Other Charitable Expenditure	202,532	91,010	7,127	300,669	422,462
Governance and Support Costs	76,541	29,554	1,935	108,030	131,986
	<u>692,914</u>	<u>436,734</u>	<u>77,766</u>	<u>1,207,414</u>	<u>1,750,840</u>

Staff costs :

Wages and Salaries	574,088	609,069
Social Security Costs	56,051	58,189
Pension Costs	62,775	63,623
	<u>692,914</u>	<u>730,881</u>

The average number of employees of the Society, calculated on a full time equivalent basis, during the year was :

	<u>2020</u>		<u>2019</u>	
	FTE	Headcount	FTE	Headcount
Charitable activities	13.2	12.6	13.3	13.7
Management and administration	3.3	4.1	3.3	4.1
	<u>16.5</u>	<u>16.7</u>	<u>16.6</u>	<u>17.8</u>

During this and the previous year one employee of the Society earned between £80,000 and £90,000, excluding pension contributions. Contributions of £9,217 were paid to their pension scheme (2019 - £9,063).

The key management personnel of the Society comprise the trustees and the Executive Director
The total employee benefits of the key management personnel of the Society were £94,686
(2019 - £93,102)

No remuneration was paid or is payable to Trustees for service on the Board for the year (2019 - £Nil)

During the year 11 Trustees (2019 - 10 Trustees) received a total of £2,204 (2019 - £6,965) in reimbursement of expenses incurred on Society business .

Other external costs include :	<u>2020</u>	<u>2019</u>
	£	£
Other Operating Leases	<u>8,771</u>	<u>3,655</u>

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020 (continued)

7 INTEREST RECEIVABLE AND SIMILAR INCOME

	<u>2020</u>	<u>2019</u>
	£	£
Income from Listed Investments	39,888	52,941
Interest on Bank Deposits	3	-
Distributions - CAF	2,249	1,962
	<u>42,140</u>	<u>54,903</u>

8 FIXED ASSETS

	-----Tangible-----				Intangible
	Long Leasehold Land and Buildings	Office Equipment	Fixtures & Fittings	Total	Software Systems
	£	£	£	£	£
Cost					Cost
At 31 December 2019	314,306	145,194	90,192	549,692	206,672
Additions	-	1,160	71,550	72,710	-
Disposals	-			-	
At 31 December 2020	<u>314,306</u>	<u>146,354</u>	<u>161,742</u>	<u>622,402</u>	<u>206,672</u>
Depreciation					Amortisation
At 31 December 2019	163,436	124,687	44,388	332,511	68,267
Charge for the Year	6,286	7,966	12,717	26,969	50,797
Disposals	-			-	
Write offs					
At 31 December 2020	<u>169,722</u>	<u>132,653</u>	<u>57,105</u>	<u>359,480</u>	<u>119,064</u>
Net Book Value					Net Book Value
At 31 December 2020	<u>144,584</u>	<u>13,701</u>	<u>104,637</u>	<u>262,922</u>	<u>87,608</u>
At 31 December 2019	<u>150,870</u>	<u>20,507</u>	<u>45,804</u>	<u>217,181</u>	<u>138,405</u>

Capital expenditure authorised but not contracted for at 31 December 2020 and not provided for in the accounts amounted to £0 (2019 - £70,050).

The Trustees consider the market value of the Long Leasehold Land and Buildings to be materially in excess of the book written down value shown above.

The Trustees do not consider that the difference can be accurately defined without the benefit of a professional valuation.

Amortisation is allocated across the various expenditure categories within the Statement of Financial Activities. Please see Note 6 for further information.

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020 (continued)

9 LISTED INVESTMENTS AT MARKET VALUE

	<u>2020</u> £	<u>2019</u> £
Market Value at 1st January	1,732,828	1,480,746
Additions at Cost	462,712	172,771
Proceeds on Disposal	(427,838)	(108,588)
Net Investment Gain /(Loss)	(46,426)	187,899
Market Value at 31st December	<u>1,721,276</u>	<u>1,732,828</u>
Cost	<u>1,323,634</u>	<u>1,324,699</u>

All the above investments are either listed on a recognised stock exchange in Great Britain or are represented by unit trusts which are traded on a daily basis in the UK, and fall within the wider range of investments as defined by the Trustees Act 1961.

The Society's narrower range of investments as defined by the Trustees Act 1961 is covered by deposits held at Investec.

10 CHARITIES AID FOUNDATION

At 31 December 2019 this investment is represented by 56,058 (2018 - 56,058) shares in the FP CAF Fixed Interest B Accumulation Fund, having a market value of £73,600 (2018 - £67,437).

	<u>2020</u> £	<u>2019</u> £
Market Value at 1st January	73,600	67,439
Net Investment Gain /(Loss)	2,078	
Distributions not remitted	<u>2,249</u>	
	4,327	6,161
Market Value at 31st December	<u>77,927</u>	<u>73,600</u>
Cost	<u>56,060</u>	<u>56,060</u>

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020 (continued)

11 DEBTORS

	<u>2020</u>	<u>2019</u>
	£	£
Trade Debtors	39,741	72,316
Taxation Recoverable	-	32,534
Prepayments	42,853	59,741
Accrued Income	138,885	96,849
	<u>221,479</u>	<u>261,440</u>

12 CREDITORS

	<u>2020</u>	<u>2019</u>
	£	£
Trade Creditors	22,724	51,185
Other Creditors	24,985	16,718
Taxation and Social Security	177,634	-
Accruals	93,434	94,207
Deferred Income	67,298	35,548
	<u>386,075</u>	<u>197,658</u>

<i>Deferred income brought forward</i>	35,548
<i>Released to incoming resources during the year</i>	(35,548)
<i>Deferred income arising in the year</i>	<u>67,298</u>
<i>Deferred income carried forward</i>	<u>67,298</u>

Deferred income consists of 2020 subscription income paid in advance and income relating to 2021.

13 FINANCIAL COMMITMENTS

At 31st December 2020 the Society had commitments under other non-cancellable operating leases as follows :

	<u>2020</u>	<u>2019</u>
	£	£
Expiry date :		
Under one year	7,783	8,527
Two to five years	13,436	20,656
Over five years	-	563
	<u>21,219</u>	<u>29,746</u>

The Society has a commitment to a service charge on the car park of the leasehold property over the next 90 years estimated at £263,610 (Under one year £3,030; Two-five years £12,120; Over five years £248,460). These items are not shown in the above table.

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020 (continued)

14 RELATED PARTY TRANSACTIONS

A member of Key Management Personnel is a Director of Edward Street Management Limited, the company that manages the Society's buildings car park. During the year the Society paid rent to the company of £3,030 (2019 - £3,030). As at 31 December 2020 there was a creditor balance owing to Edward Street Management Limited of £Nil (2019 - Nil).

The wife of a member of key management personnel is employed by the Society. This employee received remuneration of £27,214 (2019 - £25,981) (including employers pension contributions) during the financial year.

15 DESIGNATED FUNDS

The funds of the charity include the following designated funds which have been set aside out of unrestricted funds by the trustees for specific purposes :

(1) Reserve Fund

The reserve fund consists of resources of the Society which are represented by land and buildings, fixed asset investments and a cash deposit with the Society's investment brokers, The Society operates a reserves policy that reflects its critical dependence on journal income.

(2) Designated Award Fund

The Designated Award Fund represents a legacy received in 2002. The Legator, Mrs May Hicks, expressed a non-binding wish that the Society uses its bequest to fund an annual award to be determined by the Council of the Society. The legacy is currently invested in the Charities Aid Foundation Fixed Interest B Accumulation Fund.

16 STATEMENT OF FINANCIAL ACTIVITIES :
COMPARATIVE FIGURES BY INDIVIDUAL FUND

	<u>General Fund</u>		<u>Reserve Fund</u>		<u>Designated Award Fund</u>	
	<u>2020</u> £	<u>2019</u> £	<u>2020</u> £	<u>2019</u> £	<u>2020</u> £	<u>2019</u> £
INCOME FROM :						
Charitable activities	1,200,983	1,494,701	-	-	-	-
Investment income	3	-	39,888	52,941	2,249	1,962
Total	<u>1,200,986</u>	<u>1,494,701</u>	<u>39,888</u>	<u>52,941</u>	<u>2,249</u>	<u>1,962</u>
EXPENDITURE ON :						
Raising funds	-	-	11,672	12,192	-	-
Direct charitable expenditure	1,185,611	1,728,512	8,631	8,636	1,500	1,500
Total	<u>1,185,611</u>	<u>1,728,512</u>	<u>20,303</u>	<u>20,828</u>	<u>1,500</u>	<u>1,500</u>
Investment Gains/(Losses)	-	-	(46,426)	187,899	2,078	4,199
Net Income/(Expenditure)	<u>15,375</u>	<u>(233,811)</u>	<u>(26,841)</u>	<u>220,012</u>	<u>2,827</u>	<u>4,661</u>

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020 (continued)

17 ANALYSIS OF NET ASSETS BETWEEN FUNDS

	General Fund £	Reserve Fund £	Designated Award Fund £	Total £
Tangible Fixed Assets	118,338	144,584	-	262,922
Intangible Fixed Assets	87,608	-	-	87,608
Investments	-	1,721,276	77,927	1,799,203
Cash Deposited with Investment Brokers	-	20,008	-	20,008
Net Current Assets/Liabilities	245,158	(3,312)	(16,205)	225,641
Total Net Assets	<u>451,104</u>	<u>1,882,556</u>	<u>61,722</u>	<u>2,395,382</u>

18 RECONCILIATION OF MOVEMENTS IN UNREALISED (GAINS)/LOSSES ON INVESTMENT ASSETS

	Reserve Fund	Designated Award Fund £	Total £
Unrealised gains at 31 Dec 2019	408,129	1,454	409,583
Realised investment (gains) / losses during the year	76,526	-	76,526
Net unrealised investment gains/ (losses) arising during the year	(87,013)	2,078	(84,935)
Unrealised (losses)/gains included in net assets at 31 Dec 2020	<u>397,642</u>	<u>3,532</u>	<u>401,174</u>

DISPOSAL OF INVESTMENTS

	Cost £	Proceeds £	Book Gain/(Loss) on Disposal £	Realised Revaluation Gain/(loss) £
Reserve Fund	<u>463,777</u>	<u>427,838</u>	40,587	<u>(76,526)</u>
Net unrealised investment gains/ (losses) arising during the year as above			(87,013)	
Per Statement of Financial Activities			<u>(46,426)</u>	

OPERATIONAL RESEARCH SOCIETY

NOTES TO THE ACCOUNTS FOR THE YEAR ENDED 31 DECEMBER 2020 (continued)

19 PENSION FUND

The Society contributes to individual pension schemes established for each individual employee. The assets of these schemes are held separately from those of the Society in independently administered funds. The pension charge represents contributions payable by the Society to the schemes and amounted to £62,755 (2019 - £63,623).

Pension payments outstanding at the end of the year were £7,577 (2019 - £142).

History

In the autumn of 1947, at a dinner discussion convened at the Athenaeum Club in London, it was decided to form the Operational Research Club. The club was inaugurated in April 1948 with an initial membership of 50, under the chairmanship of Sir Charles Goodeve and with Mr J A Jukes as the first secretary. The exclusivity associated with the word “club” was deliberately chosen for the initial period, to ensure clarification of what was meant by operational research and to attempt to develop a wholeness in what was otherwise a somewhat vague field. The club met regularly in the rooms at the Royal Society for technical discussions. By 1953 the initial objectives had been achieved and the pressure to form a normal “learned and professional” society had become strong. Therefore, the club was transformed into The Operational Research Society and its first president was Sir Owen Wansbrough-Jones and the hon secretary Mr B H P Rivett.

Presidents of the Society

Sir Owen Wansbrough-Jones	1954/55
Sir William K Slater	1956/57
Professor M G Kendall	1958/59
The Earl of Halsbury	1960/61
Professor B H P Rivett	1962/63
Professor G A Barnard	1964/65
Professor R T Eddison	1966/67
Mr E C Williams	1968/69
Mr S Beer	1970/71
Professor K D Tocher	1972/73
Mr R C Tomlinson	1974/75
Mr A M Lee	1976/77
Professor M G Simpson	1978/79
Mr G H Mitchell	1980/81
Professor K B Haley	1982/83
Dr R S Stainton	1984/85
Professor J V Rosenhead	1986/87
Dr J C Ranyard	1988/89
Mr P N Thornton	1990/91
Professor C B Chapman	1992/93
Professor L C Thomas	1994/95
Mr I J Disley	1996/97
Professor R G Dyson	1998/99
Professor M Pidd	2000/01
Mr J Gibb	2002/03
Professor V Belton	2004/05
Professor J D Griffiths	2006/07
Mrs S M Merchant	2008/09
Professor R W Eglese	2010/11
Dr G H Royston	2012/13
Professor S L Robinson	2014/15
Ms R A Kaufman OBE	2016/17
Mr J R Hopes	2018/19
Professor E K Burke	2020/22

OR Society Awards

Companion of Operational Research

Sir Hermann Bondi	1983	Professor R G Dyson	2007
Mr D Hicks	1983	Mr E K G James	2007
Professor R V Jones	1983	Professor J Friend	2008
Professor B H P Rivett	1983	Dr G Royston	2008
Mr H R W Watkins	1984	Professor R J Paul	2009
Professor Sir David Cox	1985	Professor A Mercer	2010
Lord Ezra	1985	Mr T O'Connor	2010
Mr P Hughes	1985	Professor V Belton	2011
Lord Zuckerman	1985	Ms R A Kaufman	2011
Sir John Kingman	1986	Professor M Pidd	2011
Sir Dennis Rooke	1986	Professor P H Millard	2012
Sir Charles Carter	1987	Professor D M Ryan	2013
Mr T P Frost	1987	Professor R M Davies	2014
Professor H.Muller-Merbach	1988	Mr C R Humby	2014
Mr D A Quarmby	1989	Mrs S M Merchant	2015
Professor R C Tomlinson	1990	Professor S C Brailsford	2016
Mr R A Showell	1991	Professor J D Griffiths	2016
Mr G H Mitchell	1992	Professor E K Burke	2017
Professor P Whittle	1994	Professor P R Harper	2018
Mr J Plymen	1994	Professor R W Eglese	2019
Professor S Vajda	1995	Mr A Waterhouse	2020
Professor K B Haley	1996		
Professor M F Shutler	1996		
Professor D J White	2001		
Professor K C Bowen	2001		
Dr R A Forder	2005		
Professor F Kelly	2005		
Mr G K Rand	2005		
Dr J C Ranyard	2005		
Professor J V Rosenhead	2005		
Dr J F Miles	2006		

Beale Medal

J V Rosenhead	1992	J D Griffiths	2009	R Cheng	2018
D J White	1993	K H Haley	2010	A Land	2019
A H Christer	1995	F Kelly	2011	V Belton	2020
G H Mitchell	1998	M D Elder	2012		
H P Williams	1999	K D Glazebrook	2013		
R C Tomlinson	2005	R Fildes	2014		
P Checkland	2006	J Friend	2015		
C Eden	2007	R Ormerod	2016		
L C Thomas	2008	M Jackson	2017		

Silver Medal

C F Goodeve	1964	A M Lee	1970	S Eilon	1982
P M Morse	1965	R L Ackoff	1971	G DanLzig	1986
K D Tocher	1967	C G Vickers	1975	L V Kantorovich	1986
B H P Rivett	1968	E.K.G.James	1979		
R T Eddison	1969	E M L Beale	1980		

Bronze Medal

R M Adelson	1965	A R Wild	1967	F K Lyness	1970
J Stringer	1967	D J Chambers	1968	A M Duguid	1972
T A Burgin	1967	M F Cantley	1969	C G Moss	1972

Goodeve Medal

B H Mahon	1976	J Banasik	2000	S Kapoor	2012
R J M Bailey	1976	J N Crook	2000	A Sheth	2012
N R Tobin	1977	L C Thomas	2000	R True	2012
I Sanderson	1979	R Korporaal	2001	P Kemmer	2013
A J Williams	1980	A Ridder	2001	A Strauss	2013
J G Shepherd	1981	P Kloprogge	2001	T Winter	2013
F K Lyness	1982	R Dekker	2001	J Bengtsson	2014
L P Fatti	1984	S Howick	2002	D Bredstrom	2014
A H Christer	1985	C Eden	2002	P Flisberg	2014
W M Waller	1985	J E Beasley	2003	M Ronnqvist	2014
G Best	1987	H Howells	2003	S Crowe	2015
G Parston	1987	J Sonander	2003	P Bennett	2015
J V Rosenhead	1987	R Hartley	2004	M Daraktchiev	2015
D Rowland	1988	G Lanot	2004	M Utley	2015
I R Turner	1989	S C Brailsford	2005	S C Brailsford	2016
R Bandyopadhyay	1990	V Lattimer	2005	D De Silva	2016
S Datta	1990	P Tarnaras	2005	A Backiel	2017
D Schrady	1992	J Turnbull	2005	B Baesens	2017
D Wadsworth	1992	K Taylor	2006	G Claeskens	2017
A Bouzاهر	1993	B Dangerfield	2006	A I Ali	2018
S Offutt	1993	S C Brailsford	2007	G Ince	2018
D W Bunn	1994	D Evenden	2007	A Brice	2019
E R Larsen	1994	V Harinda	2007	R Bye	2019
K Vlahos	1994	P Harper	2007	J Oppen	2019
G M Campbell	1995	A Medina-Borja	2008	J Royset	2019
C F Davis	1995	K S Pasupathy	2008	E Adiyeke	2020
M Carey	1996	K Triantis	2008	S Agrali	2020
D Lockwood	1996	D Ronen	2009	E Canakoglu	2020
C M Yeats	1997	C A Goodhart	2009		
T Rehman	1997	S Kumar	2010		
D-W Tcha	1998	D A Nottestad	2010		
T-J Choi	1998	E E Murphy	2010		
Y-S Myung	1998	L C Thomas	2011		
F Duckworth	1999	F R Johnston	2012		
A J Lewis	1999	E A Shale	2012		

Stafford Beer Medal

JJ Jahng	2003	P O'Reilly	2011	R Parks	2018
H Jain	2003	P Flanagan	2011	H Xu	2018
K Ramamurthy	2003	R Lederman	2012	C-H Chu	2018
R Lindgren	2004	R Johnston	2012	P Lowry	2018
D Stenmark	2004	H Koch	2013	N Hikmet	2019
J Ljungberg	2004	E Gonzalez	2013	A Connolly	2019
S Sarker	2005	D Leidner	2013	C Davis	2019
S Sahay	2005	D Denyer	2014	A Bhattacharjee	2019
S Madon	2006	M Hall	2014	F Brachten	2020
C Middleton	2007	E Kutsch	2014	B Cabrera	2020
W Cukier	2007	E Lee-Kelley	2014	G Neubaum	2020
S K Sia	2008	P Tallon	2015	L Pilz	2020
C Soh	2008	J Gerow	2016	B Ross	2020
C Ashurst	2009	J Thatcher	2016	S Stieglitz	2020
N Doherty	2009	V Grover	2016		
J Peppard	2009	A Utesheva	2017		
F Thiesse	2010	J Simpson	2017		
J Al-Kassab	2010	D Cecez-	2017		
E Fleisch	2010	Kecmanovic			

Tocher Medal

K Kotiadis	2009	C-Y Kuo	2015	M Cabrera-Rios	2019
T Pitana	2011	J Xu	2017	D E Arias	2019
E Kobayashii	2011	E Huang	2017	Gonzalez	
C Boer	2013	L Hsieh	2017	E Nino-Perez	2019
Y Saanen	2013	L H Lee	2017	Y M Mendez-	2019
K-H Chang	2015	Q Jia	2017	Vazquez	
A-L Chang	2015	C Chen	2017		

Cook Medal

P Jackson	2014	M Walsh	2016	D Apostolou	2020
J Klobas	2014	R Murray	2016	E Kalogeraki	2020
D Pentland	2016	L Irvine	2016	S Papastergiou	2020
K Forsyth	2016	F Di Vincenzo	2018	N Polemi	2020
D MacIver	2016	D Mascia	2018		

Griffiths Medal

H Witteman	2015	G Vanden Berghe	2017	V Caldwell	2019
J Stahl	2015	V Mabin	2019		
M Mihaylow	2017	J Yee	2019		
P Smet	2017	S Babington	2019		
W Van Den Noortgate	2017	R Moore	2019		

Ranyard Medal

A Jeyaraj 2020
A Zadeh 2020

Lyn Thomas Impact Medal

S Crowe 2019
C Pagel 2019
M Utley 2019

Doctoral Award

K Kaparis	2008	T Lidbetter	2013	G Palmer	2018
A Strauss	2009	M Takac	2014	M Bedenek	2019 †
F Liberatore	2010	C Koc	2015	L Morgan	2019 †
R Wood	2011	I Megiddo	2016		
K Rustogi	2012	J F Sze	2017		

† Joint winners

President's Medal

D R Corkindale	1976	P Loader	2004	M Wauben	2019
M L Chambers	1977	M Bryant	2004	P Macdent	2019
R G Dyson	1977	P Bates	2004	B Marshall	2019
M Sloman	1978	C McGuckin	2004	E Baggot	2020
J V Rosenhead	1979	D Kelly	2004	K Brett	2020
P Doyle	1980	P Loucopoulos	2005	J Low	2020
J Fenwick	1980	KG Zagrafos	2005	H Mann	2020
G P Savage	1980	Y Pyrgiotis	2005	M McKee	2020
D B Gilding	1981	D Beis	2005	S Rose	2020
C Lock	1981	A Swain	2006	S Smith	2020
B Fokkens	1982	A Ross	2006		
M Puylaert	1982	A Lewins	2007		
R S Hambleton	1983	M Sykes	2007		
A W Nimmo	1984	A Moon	2007		
C B Chapman	1985	M Allwright	2008		
D F Cooper	1985	J Ball	2008		
A B Cammaert	1985	D Pankhurst	2008		
P Doyle	1987	I Wright	2008		
J Saunders	1987	P Frangos	2010		
M Pidd	1988	S Hughes	2010		
S R Clarke	1989	S Hammond	2011		
A H Christer	1990	K Slater	2011		
K A H Kobbacy	1990	C Marston	2012		
B C Dangerfield	1991	P Rose	2012		
C A Roberts	1991	S Mardle	2013		
M B Wright	1992	L Fildes	2013		
C P Thunhurst	1993	A Lewins	2013		
C J Ritchie	1993	E Husemann	2014		
A Khakee	1994	D Lane	2014		
K Stromberg	1994	E Munro	2014		
J J Glen	1996	G Owusu	2016		
H Tsoukas	1997	S Shakya	2016		
D B Papoulias	1997	R Dorne	2016		
J H Powell	1998	A Mohamed	2016		
G Laporte	1999	A McCormick	2016		
F Semet	1999	A Liret	2016		
V V Dadashidze	1999	O Buhlinger	2017		
L J Olsson	1999	C Henzel	2017		
F Vasko	2000	M Clocherty	2017		
H Gilles	2000	M Knapton	2017		
D Bright	2000	H Papachristou	2017		
V Kocatulum	2000	C Legge	2017		
E Wolf	2000	R Leese	2018		
J Moffat	2000	J Blaavand	2018		
J J Race	2001	C Centazzo	2018		
D Burnell	2001	A Bejan	2018		
M Neighbour	2002	P Munday	2018		
M Acutt	2003	A Booker	2019		



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