



**UK ASSOCIATES OF BIOS**

Extending Frontiers for Early Career  
Marine Scientists in the UK

## **THE UNITED KINGDOM ASSOCIATES OF THE BERMUDA INSTITUTE OF OCEAN SCIENCES**

Reg No 290729

**ANNUAL REPORT AND ACCOUNTS  
FOR THE YEAR ENDED 31 DECEMBER 2021**

## **CHAIRMAN'S STATEMENT**

Despite the challenges that 2021 threw at our charity, we were delighted and proud to have given scholarship support to eleven outstanding UK University students, enabling them to extend their marine science studies at the Bermuda Institute of Ocean Sciences and continue to work towards careers in environmental science. It was also a year when two of our recent alumni had peer review papers published, both highly relevant to the better understanding of Climate Change. Furthermore, two recent alumni moved into professional roles in the environmental sector, one of whom is now a technical assistant at BIOS working on the oceanographic glider research program.

My fellow Trustees and I are convinced that all are testament to the value of our scholarship programmes, which make enormous differences to the careers of the undergraduate and graduate students we support. As COP26 showed, the need for new and enthusiastic, highly trained scientists has never been greater and we take great pleasure, with the generous support of our donors, in making this modest contribution to expanding our knowledge of the oceans and our marine environments.

On behalf of the Board of Trustees I wish to thank our donors for their continued support, notably AXA XL, The Fishmongers' Company Charitable Trust, Julian and Fiona Cusack, Maggie Mills and others. All their contributions allow us to open BIOS's world class training facilities to a broad cross-section of students, increasing both innovation and diversity in scientific study.

Operationally, the year was extremely challenging for our students and the staff at BIOS. Bermuda entry and vaccination requirements did not become clear until the late Spring of 2021, flights were very limited and extensive on-campus Covid safe procedures had to be developed. However, Dr Andrew Peters and his Universities Program colleagues rose to the challenges and our students managed to clear the travel hurdles. We are enormously grateful to all involved in successfully contributing to our 2021 BIOS Student Program.

### **Courses and internships**

We were delighted to be able to support four internships this year, three fully funded and one partially funded, providing our students the opportunity to work side-by-side with leading marine scientists investigating contemporary scientific questions.

We are enormously grateful to The Fishmongers' Company Charitable Trust and AXA XL who fully funded two of our internships and which were awarded to two Masters Degree students from the University of Southampton. They both focused on the ecology of coral reef systems



**CHAIRMAN'S STATEMENT continued**

with the use of in-water and remote sensing techniques. Our third fully funded internship took the form of a novel 8-week distance-learning internship for a student from the University of the Highlands and Islands on differential gene expression in sea urchins. Completing our internship programme, we were delighted to contribute to a scholarship awarded to an outstanding Bermudian marine biology undergraduate from Bangor University who undertook a 12-week research internship to assess the fish biodiversity of Bermuda's deep seas. This was part of a project funded by the Bermuda and UK Government's strategic biodiversity conservation priorities and BIOS's Darwin Plus award from the UK Government, which offers training opportunities for nationals of UK overseas territories.

In addition to funding internships, we were also delighted to support seven leading students take part in BIOS's three-week 'Coral Reef Ecology: Reef Response to environmental Change (CRE)' Summer Courses. Coral reefs are critical to the health of the oceans and their sensitivity to environmental changes make them an ideal natural laboratory for researchers to further understand how a changing climate impacts the sustainability of ocean life. Our students from across the UK joined students from Belgium, Brazil, Chile, Germany, Italy and the US. Through lectures, laboratory exercises and complementary field components, our students learned about how the natural environment impacts reef benthic communities and the fundamental processes of photosynthesis and calcification.

**Alumni news**

We take considerable pride in keeping in touch with our alumni and following their careers. 2021 was a tough year for young scientists, as Covid severely curtailed access to laboratories and marine environment field study. As such we were delighted when PhD candidates Samantha Hallam, University of Southampton (2019) and Naomi Villiot, Herriot-Watt University (2020) published their first peer reviewed papers. We were also pleased to congratulate Graduate Maisie Smith, University of Exeter (2020) who took up her first professional role with Adler & Allan environmental consultants and Graduate Jonathan Chapman, University of Liverpool (2019) who joined the staff at BIOS in 2020 as technical assistant on the Mid-Atlantic Glider initiative Collaboration Programme. Bristol University's Jonathan Teague (2019) completed his hyperspectral coral reef researcher PhD programme in 2021, a subject on which he will continue to work, on a Post-Doctoral programme at Bristol, with potential to return to Bermuda in 2023.

**Merger announcement – October 2021**

The major organisational news for 2021 came in October with the announced partnership between The Bermuda Institute of Ocean Sciences and Arizona State University and its Global Futures Lab, within which BIOS will become the critical marine component focusing upon ocean health and sustainability. The merger is expected to significantly expand marine science research and education of both organisations, with activities in both Atlantic and Pacific Oceans.

This partnership offers a rare opportunity for the combined organisation to undertake expanded and holistic studies of our

Dr Bill Curry,  
President and  
CEO Bermuda  
Institute of  
Ocean  
Sciences

Peter Schlosser,  
ASU Vice President  
& Vice Provost  
Julie Ann Wrigley  
Global Futures  
Laboratory



**CHAIRMAN'S STATEMENT continued**

planet's oceans and atmosphere. BIOS will extend its major time-series studies of the Atlantic, unique in global ocean observation in the Western Hemisphere, and ASU will advance its expertise in engineering and sensor research required for robotic exploration and investigation of deep ocean environments. BIOS and ASU will be working to ensure that the merger enriches both natural science and engineering faculties and encourages and expands the combined international student body.

The merger is very positive news for the UK Associates of BIOS and the students we support. We expect much wider opportunities for study, research and skill development and we are looking forward to exploring these new opportunities in 2022. The UK Associates of BIOS will continue to be an independent UK registered charity and we look forward to working with the much larger combined BIOS and ASU.

**Sir Crispin Tickell GCMG, KCVO – Trustee Emeritus**

The Trustees of the UK Associates of BIOS were enormously saddened to learn of the death of our Trustee Emeritus, Sir Crispin Tickell, who passed away on 25 January 2022. Sir Crispin was a career diplomat and prominent longstanding advocate for international governmental agreement on climate change and the environment.

He had an extraordinary life, spanning diplomatic roles around the world from the British Antarctic Territory to the United Nations, to which he added environmental advisory roles with Prime Ministers Margaret Thatcher, John Major and Tony Blair.

In 1977 his seminal work, Climatic Change and World Affairs, set out immensely influential scientific arguments and ideas that continue to be as relevant today as they were ground-breaking in 1977.



**Sir Crispin Tickell  
GCMG, KCVO**

**25 August 1930 – 25 January 2022**

Sir Crispin served as UK Associates of BIOS Trustee and subsequently Trustee Emeritus for over 30 years and we are hugely honoured to have enjoyed his service and wise counsel. His environmental legacy will be very much continued through the marine science students supported by the UK Associates of BIOS.

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After a rather daunting start to 2021 the final outcome for our students very much exceeded our expectations. Our eleven outstanding 2021 students are continuing their scientific careers, our alumni are expanding their professional standing and BIOS enters 2022 with an immensely strong partner that will help it maintain its position as a globally renowned centre of excellence in marine science research and teaching.

My thanks go out to my Board of Trustees and our Advisors who continued their support throughout 2021, our students who worked so hard on courses and projects and the staff at BIOS who found solutions to Covid challenges and made the 2021 teaching and research programme such a success.

**Christopher Day**  
**Chairman of the Board of Trustees**

  
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**26 January 2022**

## **TRUSTEES' ANNUAL REPORT**

The Trustees have pleasure in presenting their report together with the accounts and the independent examiner's report for the year ended 31 December 2021.

### **Reference and administrative information**

<b>Charity Name</b>	The United Kingdom Associates of the Bermuda Institute of Ocean Sciences ("UK Associates of BIOS")
<b>Charity Number</b>	290729
<b>Address</b>	Fishmongers' Hall, London Bridge, London EC4R 9EL
<b>Trustees</b>	Christopher Day - Chairman Lady Vereker – Vice Chair Christopher Cunliffe Diana Viscountess Dunrossil Suzanne Ferlic Johnson Professor Richard Lampitt Nick Pewter
<b>Hon Secretary</b>	Lorraine Andrews
<b>Hon Treasurer</b>	Ian Arnold

### **Structure, Governance and Management**

#### **Constitution**

The Charity is an unincorporated association. It is governed by a Trust, which was established by deed on 27 November 1984 and last amended on 28 September 2015. The Association was granted charitable status by the Charity Commission on 11 January 1985.

#### **Trustees**

The Trustees, the majority of whom must be UK resident, normally meet once a quarter and they form the management committee. The Board of Trustees appoints new trustees and decisions can be made by a majority vote with a minimum of three trustees present. There is no requirement for Trustees to be reappointed on a rotational or any other basis. The Trustees are aware of the Charity Commission's public benefit guidance and take this into account when making decisions to which the guidance is relevant.

## **TRUSTEES' ANNUAL REPORT continued**

### **Management**

The Trustees are responsible for the strategic direction and governance of the Charity, whilst some day to day running is delegated to the Hon Secretary and Hon Treasurer. There are no staff and volunteers do all work. The Hon Secretary and Hon Treasurer attend the Trustee meetings to discuss progress and development. The Charity's Trustees consider that an audit is not required for this year under section 144 of the Charities Act 2011 (the "2011 Act") and that an independent examination is needed.

### **Advisors and Trustee Emeritus**

The Trustees are further supported and assisted by the Advisors and Trustee Emeritus who provide insightful and multi-disciplinary guidance and expertise on all aspects of the Charity's operations and activities. During the year the following persons served in these roles:

Advisors:                      Professor Michael Depledge CBE  
                                     Dr Christopher Carbone  
                                     Christopher Leftwich

Trustee Emeritus:        Sir Crispin Tickell GCMG, KCVO (deceased 25 January 2022)

These persons are invited to attend the Trustees Meetings but are not entitled to, and do not vote at these meetings.

### **Objectives and Activities**

#### **Charitable purposes**

The UK Associates of BIOS provides a valuable donation to the Bermuda Institute of Ocean Sciences ("BIOS") education program for partial and full scholarships to UK university students to participate in courses and internships in Bermuda. BIOS has an international reputation for research and education in marine and atmospheric science. Full details can be found on [www.bios.edu/education/uk-associates-of-bios/](http://www.bios.edu/education/uk-associates-of-bios/).

#### **Activities**

Bermuda is located in the middle of the North Atlantic Gyre and on the most northerly Atlantic coral reef system. This makes it an ideal location for studying the Open Ocean and sub-tropical near shore environments. BIOS is home to Hydrostation S, established in 1954, the longest running year-round data collection program for any single location in the open ocean, and the Bermuda Atlantic Time-series Study (BATS). These studies are improving mankind's understanding of global ocean circulation, ocean chemistry and biology, and how the oceans and atmosphere interact and respond to a changing climate.

The Mid-Atlantic Glider Initiative and Collaboration (MAGIC) was launched at BIOS in 2014 to enhance and leverage BIOS's long-standing ocean measurement programs southeast of Bermuda through the use of autonomous underwater vehicles. The overarching goal of MAGIC is to acquire new high-resolution measurements from underwater gliders to assess the contribution of small-scale processes that sustain the ocean's biological productivity, and to make those assessments over several years to build a statistically meaningful understanding of them.



## **TRUSTEES' ANNUAL REPORT continued**

BIOS expertise also lies in marine microbiology, risk prediction, coral reef ecology and resilience, and fish ecology. Recent highlights of research activities include the use of Baited Remote Underwater Video Stations (BRUVS) and eDNA coding to further our understanding of native reef fish and invasive Lionfish populations.

BIOS believes that ocean science for human good involves not only research with tangible benefits for communities and the environment, but also education programs that highlight the many ways our lives are connected with the ocean. BIOS views education as a crucial part of global ocean science research, helping to translate the work of its faculty into meaningful experiences for students to better understand the importance of oceanography in the study of fish stock management, climate change and risk prediction, pollution and human health.

The mission of the UK Associates of BIOS is for the advancement of experiential education through scholarship and grant funding for both undergraduate and post-graduate UK university scientists, to enable them to study and carry out research at the Bermuda Institute of Ocean Sciences in an international student and faculty community. Without scholarships of this nature they would not have access to summer courses or longer internships, which provide hands-on educational opportunities to study Bermuda's unique marine ecosystems and geology, as they explore coastal and open ocean environments. Under the supervision of, and in collaboration with BIOS scientists, they gain field methods and unparalleled insight into the logistics required to plan and execute research activities. This experience affords a unique opportunity not readily available to UK students, and is often one that could support their career decisions as future scientists and educators.

### **Achievements and Performance**

With the generosity of our donors, £32,225 (2020- £29,980) of funding was provided for BIOS internships and summer courses.

Many BIOS alumni have found the experience invaluable to support career decisions in marine science. Some return to BIOS at a more senior level to further their skills in collaborating, communicating and analysing scientific problems; making them strong candidates for future academic endeavours.

Long-term success will be measured by leveraging shared knowledge gained by a better understanding of our oceans and the impact of climate change and how that relates to the health of our oceans, fisheries, marine environment, risk prediction and ultimately human health. This demands the survival of oceanographic research and educational institutes to equip new generations of scientists with life-skills and technology to achieve academically as future scientists at the cutting-edge of discovery.

## **TRUSTEES' ANNUAL REPORT continued**

### **Financial Review**

The main source of funding continues to be from donations received.

Receipts from donations and associated gift-aid were £30,753 (2020 - £28,705), a small increase on the previous year. Payments were £32,346 (2020 - £31,040), of which £32,225 (2020 - £29,980) was spent towards our charitable causes. This represents 99.6% (2020 – 96.6%) of total payments, the balance in 2021 being incurred on bank charges. Due to the Covid pandemic throughout the year, there was no annual reception for students and alumni to meet and, as meetings were held via Zoom throughout the year, there were no Governance costs. The deficit for the year was £1,593 (2020 – deficit of £2,329).

The Trustees' policy is to maintain cash reserves above £1,000 in order to meet commitments and cover any unexpected expenditure. Cash at bank and in hand at the end of the year was £1,173 (2020 - £2,766), which is within the target range.

The Trustees are responsible for safeguarding the assets of the Charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

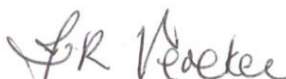
### **Plans for Future periods**

The Trustees intend to continue and develop the education program for the benefit of UK university students.

**Approved by the Trustees on 26 January 2022 and signed on their behalf by:**



.....  
**Christopher Day**  
**Chairman**



.....  
**Lady Vereker**  
**Vice Chair**



.....  
**Lorraine Andrews**  
**Hon Secretary**



**INDEPENDENT EXAMINER'S REPORT TO THE TRUSTEES OF THE UNITED  
KINGDOM ASSOCIATES OF THE BERMUDA INSTITUTE OF OCEAN SCIENCES FOR  
THE YEAR ENDED 31 DECEMBER 2021**

I report to the Trustees on my examination of the accounts of the United Kingdom Associates of the Bermuda Institute of Ocean Sciences ('The Trust') for the year ended 31 December 2021, which are set out on pages 9 to 10.

**Responsibilities and basis of report**

As the Charity Trustees of the Trust you are responsible for the preparation of the accounts in accordance with the requirements of the Charities Act 2011 ('the Act').

I report in respect of my examination of the Trust's accounts carried out under section 145 of the 2011 Act and in carrying out my examination I have followed all the applicable Directions given by the Charity Commission under section 145(5)(b) of the Act.

**Independent Examiner's Statement**

I have completed my examination. I confirm that no material matters have come to my attention in connection with the examination giving me cause to believe that in any material respect:

1. accounting records were not kept in respect of the Trust as required by section 130 of the Act; or
2. the accounts do not accord with those records.

I have no concerns and have come across no other matters in connection with the examination to which attention should be drawn in this report in order to enable a proper understanding of the accounts to be reached.

**Richard Beckett FCA**  
**6 Foundry House**  
**Walton Well Road**  
**Oxford**  
**OX2 6AQ**



**26 January 2022**

**STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED  
31 DECEMBER 2021**

		2021		2020	
	Notes	£	£	£	£
<b>Receipts</b>	1				
Voluntary receipts					
<i>Donations and Gift Aid</i>	3	<b>30,753</b>		28,705	
<i>Legacies</i>		-		-	
			<b>30,753</b>		28,705
Unrestricted bank interest			-		6
			<b>30,753</b>		<b>28,711</b>
<b>Payments</b>	1				
Charitable activities	3	<b>(32,225)</b>		(29,980)	
Fundraising costs		-		(880)	
Governance costs		-		(100)	
Bank charges		<b>(121)</b>		(80)	
			<b>(32,346)</b>		(31,040)
<b>Net (payment)/receipt</b>			<b>(1,593)</b>		<b>(2,329)</b>

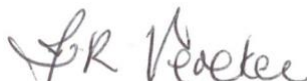
**STATEMENT OF ASSETS & LIABILITIES AND BALANCES AS AT 31 DECEMBER  
2021**

	Unrestricted funds	Unrestricted funds
	2021	2020
	£	£
<b><u>Bank and cash balances</u></b>		
Bank deposit account	<b>500</b>	1,355
Bank current account	<b>673</b>	1,411
	<b>1,173</b>	<b>2,766</b>
There are no liabilities as at 31 December 2021 or 31 December 2020		
<b><u>Funds reconciliation</u></b>	<b>£</b>	<b>£</b>
Cash at bank and in hand – Dec 2020	<b>2,766</b>	5,095
Net receipt/(payment) for the year	<b>(1,593)</b>	(2,329)
Cash at bank and in hand – Dec 2021	<b>1,173</b>	<b>2,766</b>

Approved by the Trustees on 26 January 2022 and signed on their behalf by:



Christopher Day - Chair



Lady Vereker – Vice Chair



Ian Arnold – Hon Treasurer

## NOTES TO THE ACCOUNTS

### 1. Basis of Accounting

These accounts have been prepared on the Receipts & Payments basis in accordance with Section 133 of the Charities Act 2011.

### 2. Nature and purpose of funds

**Unrestricted funds** are those that may be used at the discretion of the Trustees in furtherance of the objects of the Charity. The Trustees maintain a single unrestricted fund for the day-to-day running of the Charity.

**Restricted funds** are those funds that the Trustees are obliged to spend only on particular purposes set out by the donor or in an appeal document and these particular purposes are narrower than the Charity's objectives.

**Endowment funds** are funds that the Charity is prohibited by the governing document from spending as income. Normally these will be investments but may also be property held as endowment for use by the Charity. The investment receipts must be spent for the purposes indicated by the governing document.

**Designated funds** are part of unrestricted funds, which the Trustees have set aside or earmarked to be used for a particular purpose. They are not legally distinct funds and Trustees can at any time re-designate them for other purposes.

There were no restricted, endowment or designated funds at the beginning or the end of the year.

### 3. Donations and Charitable activities

	2021	2020
	£	£
<b>Donations and gift aid</b>		
Unrestricted funds - General	1,542	12,705
- Designated	14,711	16,000
- Total	16,253	28,705
Restricted funds	14,500	-
	30,753	28,705
<b>Charitable activity</b>	£	£
Unrestricted funds - General	3,014	13,980
- Designated	14,711	16,000
- Total	17,725	29,980
Restricted funds	14,500	-
	32,225	29,980