Trustees' report and financial statements for the year ended 31 March 2021

# Science in a pandemic

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Adapting to the present and preparing for the future



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## About us

The Royal Society's fundamental purpose, reflected in its founding Charters of the 1660s, is to recognise, promote and support excellence in science and to encourage the development and use of science for the benefit of humanity.

The Society is a self-governing Fellowship of distinguished scientists drawn from all areas of science, technology, engineering, mathematics and medicine.

The Society has played a part in some of the most fundamental, significant and life-changing discoveries in history and Royal Society scientists - our Fellows and those people we fund – continue to make outstanding contributions to science and help to shape the world we live in.



Discover more online at: royalsociety.org

## Charity

As a registered charity, the Royal Society undertakes a range of activities that provide public benefit either directly or indirectly. These include providing financial support for scientists programmes that advance understanding of our world, organising scientific conferences to foster

The Society has three roles that are key to performing its purpose:

## National academy

As a national academy, the Society represents the UK and collaborates with international benefits. It provides authoritative and independent advice on matters of science that support the public good, including policies issues that inform public policy.

## Fellowship

As a fellowship of outstanding scientists embracing the entire scientific landscape, the Society recognises excellence and elects Fellows

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# Our heritage

The Royal Society is founded, following a lecture by Christopher Wren.

#### 1673

Dutch microscopist Antoni van Leeuwenhoek FRS, the first person to observe microbes through a lens, writes to the Royal Society. His letter begins a 50-year correspondence vital in establishing the new discipline of microbiology.

#### 1904

The Tropical Diseases Committee of the Royal Society, originally intended to assist the Government in the study of malaria and its prevention, is extended to investigate all diseases prevalent in tropical regions.

## 902

1941

Joseph Lister FRS, instrumental in developing practical applications of germ theory, is awarded the Copley Medal 'in recognition of the value of his physiological and pathological researches in regard to their influence on the modern practice of surgery'.

to demography and actuarial science,

1714

in Philosophical Transactions.

#### Howard Florey FRS, later President of the Royal Society, carries out the first clinical trials on penicillin. Four years later, he shares the Nobel Prize in Physiology or Medicine with Ernst Chain and Alexander Fleming.

Royal Society Wolfson Research

Professor Dorothy Hodgkin FRS

of penicillin.

becomes the UK's only female Nobel

Prize-winning scientist. She used X-ray

crystallography to solve the structure

1983

The Royal Society University

opportunities for early career

scientists with UK universities.

Research Fellowships

are established to create

Two vears after the election of the first women to the Royal Society, Muriel Robertson becomes a Fellow for her contributions to protozoology and immunology, including important research into the life cycles of trypanosomes.



A letter sent from Constantinople, written by

Emanuel Timonius FRS and giving an early

account of smallpox inoculation, is read to

the Royal Society. The practice becomes

widespread in Britain in the 1720s.

The Copley Medal is established from an endowment of £100 received from the estate of Sir Godfrey Copley FRS in 1709. It is the world's oldest scientific honour, a prestigious forerunner

of the Nobel Prize.

851

The UK Government

awards the Society its

grant of £1,000 to be

distributed for 'private

individual scientific

research'.

1897

2011

first annual Government

## 1797

Edward Jenner FRS unveils a new weapon in the fight against smallpox – vaccination. It will eventually lead to the eradication of the disease in humans.

The Royal Society's Buchanan Medal is first awarded 'in recognition of distinguished contribution to the medical sciences'. Sir Richard Doll FRS would go on to receive the medal in 1972 for his work in epidemiology and cancer prevention.

### Open Biology, its first fully open access journal.

The Society publishes

#### LOOKING FORWARD: 2022

The Royal Society will continue to promote science and its benefits through its roles as a charity, Fellowship and National Academy

# At a glance

£138.4m

total expenditure, 4% increase from 2019/20

participants from 31 countries joined the first virtual Commonwealth Science Conference

Papers from our journals were downloaded over **37**m

of published papers were open access



The Society's videos in partnership with BBC Ideas received more than 500,0u











new Fellows and Foreign Members elected, including 14 women



people watched our COVID-19 themed online panel discussion, The race for a vaccine, with Professor Brian Cox



researchers currently supported by the Royal Society through its research fellowships





downloads of our Nuclear cogeneration report



staff organised into programmes, services and trading sections

# **President's** foreword

The spectacular success in developing such effective vaccines, at speed, has been a testament to the strength of the UK science base."

"Scientists have also played a crucial part in helping public understanding of the pandemic through public events and media work."

I became President of the Royal Society in a year when the role of science in society has come into sharp focus. The pandemic has had terrible consequences in the UK and across the globe but it would have been worse were it not for the scientists who have done so much to understand COVID-19 and how to tackle it, and ultimately to produce effective vaccines. Many Fellows of the Royal Society and people funded by the Society have been involved in that work.

Some of those scientists have also played a crucial part in helping public understanding of the pandemic through public events and media work. The Royal Society's peer-reviewed journals have helped the sharing of information among scientists, feeding the spectacular level of international cooperation and collaboration.

The Society also convened a number of expert groups to help provide the evidence and the assessment of that evidence that has been central to policy-making. The independence of that advice, presented in an open manner and fully recognising the uncertainty involved in science and in particular in the science of a virus that no one had ever heard of two years ago, has been core to the Society's work over the last year.

Among a wide range of contributions, these expert groups have supported

the modelling community, shaped the debate on face coverings and the reopening of schools and provided reviews of the evidence on issues such as herd immunity and the genetics of the virus.

The spectacular success in developing such effective vaccines, at speed, has been a testament to the strength of the UK science base and international collaboration. We have also seen that in improvements in treatments and our ability to sequence genomes and identify variants. None of this happened by accident - it has been the result of decades of investment in people, ideas and facilities. That is why the Royal Society has continued to press for increased investment in science.

The past year has been difficult for those holding the public purse. However, the Government has remained committed to increasing funding in research, declaring the intention to ensure the UK is a global scientific superpower. That has seen a commitment to increase investment in research to £22 billion a year by 2025, meeting the Royal Society's call to increase investment to 2.4% of GDP as a step towards reaching a target of 3%.

Another goal of the Society was also achieved this year when, as part of the Brexit agreement announced on Christmas Eve, the Government committed to the UK associating to the EU research funding programme, Horizon Europe. The past year has highlighted the benefits of international scientific cooperation, and with science and innovation at the heart of rebuilding after the pandemic we need to be working together with European partners.

While this news showed a clear commitment to supporting international collaboration, there were also setbacks, the largest of which was devastating cuts to the UK's Official Development Assistance. This cut future funding for international research by around £400m, including a 70% reduction to the Royal Society's international

grants, including our Future Leaders – African Independent Research (FLAIR) programme. These cuts, which will impact the Society in 2021/22, have damaged the UK's reputation as an international partner.

A lack of diversity in the scientific workforce is another issue the Society has looked at this year by commissioning reports to examine racial inequalities in higher education and career progression in science, technology, engineering and maths. The data revealed that people from Black backgrounds have poorer degree outcomes and lower rates of career progression than other ethnic groups. They are more likely to drop out of university, more likely to get lower grades and more likely to drop out at all stages of career progression.

These differences are unacceptable and the Society will be bringing together people from across the higher education sector, science funders and diversity and inclusion groups to step up action to redress these inequalities.

Like many organisations the past year has presented many challenges for the Royal Society. In this report you will see all of the work that has been carried out, despite having to close our building and have everyone working remotely. We have

Science has delivered a huge amount but there is more to come as we build back after the pandemic."

SCIENCE IN A PANDEMIC: ADAPTING TO THE PRESENT AND PREPARING FOR THE FUTURE 7

continued to recognise and support excellence in science; support international scientific collaboration; and demonstrate the importance of science to everyone. I am immensely proud of all that has been achieved in these difficult circumstances.

The first year of my Presidency is also the last year of the Society's Strategic Plan for 2017 – 2022. Over the coming year we will not only be reflecting on the many successes over recent years but also looking forward to shaping a new path for the Society. A lot has changed over the past year and science has never been more central to the public consciousness. Science has delivered a huge amount but there is more to come as we build back after the pandemic. Challenges such as tackling climate change and the loss of biodiversity lie ahead and the science community and the Royal Society will once again have a huge role to play in finding solutions.

Sir Adrian Smith President of the Royal Society

# **Executive Director's report**



A large part of our work has been dedicated to supporting the response to the pandemic."

> "As a Society we have been able to adapt and change in order to continue with much of what we do from home."

This year has been marked by the severe disruption caused by the global pandemic, but has nevertheless been a busy and productive one for us. As a Society we have been able to adapt and change in order to continue with much of what we do from home. This has been a challenge, but one we have met thanks to our staff, who have been critical in ensuring a smooth transition to virtual working.

A large part of our work has been dedicated to supporting the response to the pandemic. We used our convening power to establish three independent groups to draw on expertise and respond to requests for rapid advice on

scientific topics relevant to the pandemic. You can read more about the work of these groups on page 32.

One of our key areas of work continues to be our Grants programme. In the past financial year the Society increased its grant expenditure by 12% to more than £115 million. The Society supported over 1,000 researchers, along with hundreds of PhD students, postdoctoral research assistants and technicians. Important, too, is our Entrepreneurs in Residence scheme, linking universities with industry.

We continue to elect exceptional scientists to the Fellowship with 14 women in this year's intake of 62

new Fellows and Foreign Members. Four of this year's Nobel Prize winners have links to the Society, and you can find out more on page 18.

Many of our Fellows and researchers have been working on areas linked to the pandemic, and you can read the details of their work on page 20.

We are continuing to make the transition to a sustainable open access publishing model for our journals, and our papers were downloaded over 37 million times during the past year.

The international nature of science runs through much of what we do. This year we hosted our first ever

virtual Commonwealth Science Conference, which saw attendees from 31 countries come together to explore how science can help the world build resilience in the face of global environmental crises. The conference helped to build new links between early career researchers and influence the Commonwealth policy agenda. You can read about it in more detail on page 26.

We also continued our international collaboration on the regulation of heritable human genome editing.

This year our scientific meetings programme has also been adapted to take account of the global pandemic and has continued virtually.

Alongside our pandemic response we have continued to increase scientific advice for policy-makers this year with, for example, a report on animate materials and other key reports focusing on climate change and biodiversity. We launched reports on digital technology and the planet, green ammonia and nuclear cogeneration, and a series of essays on biodiversity. This work is crucial to informing pathways to meeting the UK's commitment to net zero emissions by 2050 and to the UK providing leadership on climate change. We have also had 32 schools join our Tomorrow's Climate Scientists programme.

We have had two excellent winners in our book prizes. This year's Royal Society Insight Investment Book Prize was awarded to postdoctoral scientist and debut author Dr Camilla Pang for Explaining Humans: What Science Can Teach Us About Life. More than 13,000 young judges selected Izzi Howell's Cats react to Science Facts as the Young People's Book Prize winner.

With so many of our events moving online we were pleased to be able to evolve our Summer Science Exhibition into a virtual event this year. One highlight was the Big Summer Science Online Quiz, in which more than 2,600 people took part on the day.

We also ran a series of COVIDthemed online events which proved very popular with our audiences on social media and featured subjects such as communicating statistics in the time of COVID and the race for a COVID vaccine.

Our archives were key during this year's Black History Month in October. We launched a new online exhibition with Google Arts and Culture, A Celebration of Black Science, which explores the scientific contributions and achievements of people of African and African-Caribbean descent, drawing on the Royal Society archives.

We could never have foreseen how much the Society would have to change over the course of this year, but I am pleased with the way that we have adapted to the challenges and been able to continue with so much of our core work, albeit remotely.

As we look ahead to 2021, the Society will continue to play its part in supporting excellence in science and also maintaining and developing its international reach. It will seek to influence agendas on net zero and biodiversity at the G7 and COP26 meetings, both of which are to be held in the UK.



Dr Julie Maxton Executive Director of the Royal Society

#### Our strategic plan



#### Promoting excellence in science

the expertise of its Fellowship to

Read more on page 16.



#### Supporting international scientific collaboration

Science is an inherently international activity. The Society's aim is to reinforce the importance of science to build partnerships between nations and to promote international relations and science's role in culture and

Read more on page 22.



#### Demonstrating the importance of science to everyone

engages with different groups in society and with the public in general to find out about their views and to make science part of wider conversation.

Read more on page 28.

# Public benefit statement

The Society's mission is to recognise, promote and support excellence in science and to encourage the development and use of science for the benefit of humanity. Research and innovation advance our economic, social and cultural well-being, provide health benefits and are key to sustainable long-term economic growth. The Society is concerned with excellent science, wherever and by whomever it is done, and is committed to increasing diversity in science, technology, engineering and mathematics (STEM).

The Society furthers its mission through its three key roles: as a fellowship of the world's most eminent scientists; as the UK national academy of science; and as a registered charity.

#### The Society has a number of attributes that help to further its mission:

- the expertise of its Fellowship, which includes world leaders across all scientific fields:
- the breadth of its scientific disciplines; this removes barriers and enables leading scientists in different fields to come together;
- its independence from Government and other organisations allows the Society to provide science advice that is unfettered by other interests;
- its ability to convene groups of individuals in key roles and with relevant expertise to address major issues in science and wider society; and
- its history and the successes of the Society's Fellows act as a source of inspiration for what science can achieve.

#### The activities that the Society undertakes to promote science and its benefits, for the ultimate benefit of humanity, include:

- recognising scientific excellence;
- providing financial support for scientists at various stages of their careers in the UK and internationally;
- funding programmes and research that advance understanding of our world;
- organising discussion meetings to advance scientific collaboration and discovery;
- providing expert scientific advice to policy-makers;
- promoting excellence in the teaching of STEM subjects and supporting teachers to be part of the scientific community;
- promoting the importance of science internationally; and
- staging programmes to engage the public with science.



Above: A lab at Liverpool School of Tropical Medicine, carrying out experiments on SARS CoV-2 samples - the virus that causes COVID-19. The lab is now a focal point for COVID-19 research and includes looking at how wastewater, including sewage, can be used as an early warning system to spot outbreaks.

## Our strategy at a glance

	Strategic priori	ties		
ote and fits. a - take for it.	Read more on pages 16 – 19.	<ul> <li>Promoting excellence in science</li> <li>Elect exceptional scientists to the Fellowship.</li> <li>Advise on the research landscape.</li> <li>Demonstrate the economic impact of science investment.</li> <li>Fund outstanding researchers.</li> <li>Recognise scientific achievements.</li> <li>Encourage and support innovation.</li> <li>Publish scientific research.</li> </ul>	<ul> <li>What have we achieved?</li> <li>Increased spending on grants from £102.5 to £115.1 million and increased international collaborations.</li> <li>Shown the value of science investment, with the Government's budget for research and development increasing to £14.6 billion next year.</li> <li>Prioritised participation in science through the publication of two diversity reports using data to highlight inequalities in STEM.</li> <li>Delivered scientific events remotely, despite the pandemic.</li> <li>Implemented rapid peer review for COVID-19 research papers and made them immediately open access.</li> <li>Increased engagement with industry through our Entrepreneurs in Residence (EiR) scheme.</li> </ul>	G
lusion	Read more on pages 22 – 25.	<ul> <li>Supporting international scientific collaboration</li> <li>Proactive engagement on major issues.</li> <li>Address global challenges.</li> <li>Partner with leading scientific nations on new technologies.</li> <li>Implement Commonwealth programmes.</li> <li>Convene leading international meetings to advance science.</li> </ul>	<ul> <li>What have we achieved?</li> <li>Delivered the first virtual Commonwealth Science Conference with over 300 participants from 31 countries.</li> <li>Campaigned for the UK Government to associate to the EU's Horizon Europe programme and called for confirmation on funding.</li> <li>Launched an official values statement on academic freedom.</li> <li>Continued to work with international partners on the regulation of heritable human genome editing.</li> <li>Held the first joint Frontiers of Science meeting with the Chilean Academy of Science.</li> <li>Awarded Royal Society Yusuf Hamied Visiting Professorships to five UK-based scientists.</li> </ul>	G
<u>1y</u>	Read more on pages 28 – 31.	<ul> <li>Demonstrating the importance of science importance of science of science of everyone</li> <li>Increase scientific advice for policy-makers.</li> <li>New programme of public dialogue and engagement.</li> <li>Integrate science into public debate and culture.</li> <li>Promote the value of STEM education.</li> <li>Inspire through historic collections.</li> </ul>	<ul> <li>What have we achieved?</li> <li>Supported the response to the pandemic through the work of our RAMP, DELVE and SET-C groups.</li> <li>Partnered with <i>BBC Ideas</i> to produce a series of online educational films.</li> <li>Moved the Summer Science Exhibition online, reaching new UK and international audiences.</li> <li>Hosted a series of COVID-19 themed online discussions highlighting key topics, including vaccine development and communicating statistics.</li> <li>Published reports on soil structure, nuclear cogeneration and harnessing computing to achieve net zero, along with essays on biodiversity.</li> <li>Launched a digital version of Robert Hooke's <i>Micrographia</i>, after restoration</li> </ul>	G

#### Our mission

## To prom science its bene

#### Our motto

Nullius in verb nobody's word

#### Our principle

Independence

Integrity

**Diversity and inc** 

Collaboration

Inspiration

Our roles

Charity

Fellowship

National acade

#### Relationships

Government, parliament and key influencers and funders

Industry, academia, education and civil society

Resources

Royal Charter and strong governance framework

Robust systems, policies and procedures

Engaged Fellows, staff, volunteers and the science community

#### oals for 2021/22

- Continue to fund research fellowship schemes to attract and retain senior and early career researchers to the UK.
- Recognise scientists' achievements through election to the Society's Fellowship, and medals and awards programme. Encourage and support innovation through industry fellowship and EiR schemes.
- Deliver a programme of scientific events that foster collaboration and networking.
- Continue to broaden participation in science and increase the diversity of the scientific workforce.
- Continue to transition our publishing to a sustainable open access model.
- Advocate for increased investment in research and innovation.

#### oals for 2021/22

- Promote the three Science 7 (S7) statements to the UK Government in advance of the G7, G20, COP26, COP15 and
- Commonwealth Heads of Government (CHOGM) meetings.
- Work with the US National Academy of Sciences on a third international summit on human genome editing.
- Bring conclusions from the Commonwealth Science Conference to CHOGM.
- Hold international scientific meetings such as the UK-V4 Frontiers of Science virtual meeting.
- Develop our links with leading scientific nations through policy, workshops and meetings.
- Promote academic freedom, through advocacy work and as a member of the UK and international human rights committees.

#### oals for 2021/22

- Support the response to the pandemic and provide new scientific advice as it emerges.
- Provide evidence to policy-makers on climate, biodiversity and emerging technologies.
- Host our second virtual Summer Science Exhibition, with increased interactivity.
- Continue to host public engagement activities online, moving to hybrid and real-life events when possible.
- Support schools and students to act on climate and biodiversity issues through Partnership Grants and the Tomorrow's Climate Scientists scheme.
- Produce a further series of *People of Science* films.

The public, including children and young people

## Where our income comes from and how we spend it

#### Income

The Society receives income from a number of sources, including the Government, trusts, foundations, companies, individuals, trading activities and income from investments. Its income enables the Society to deliver a wide range of programmes in support of its strategic aims. Income for the year before exceptional items totalled £133.9 million.

#### Income and endowments from donations and legacies (£1.9 million)

The Society has relied on the generous support of philanthropists throughout its history. This year the Society received funding from trusts, foundations, companies and individuals in addition to the contributions made by Fellows. The Society is grateful to all its donors and their names can be found on the Society's website.

#### Grants for charitable activities (£119.0 million)

The Society receives the majority of its funding from the UK Government's Department for Business, Energy and Industrial Strategy (BEIS). In the year, a grant was also received from the Department for International Development. In addition to Government funding, the Society receives valuable contributions towards charitable activities from long-term partners such as the Wolfson Foundation and the Leverhulme Trust, as well as other external bodies.

#### Trading in furtherance of charitable activities (£8.0 million)

The Society undertakes trading activities in the form of publishing iournals and hosting conferences that further its charitable objectives. In March 2020, the Society's buildings were closed to Fellows, staff, conferencing clients and other visitors and there were no in-person conferencing activities in the 2020/21 year.

#### The Society acquired Chicheley Hall in 2008 with the aim of operating the property as a centre for scientific and academic conferences. In addition to its mission-related activities, the Hall hosted conferences and other

events, and Royal Society Trading Limited was established to process activities at the property. In line with Government advice, Chicheley Hall closed on 23 March 2020; it did not reopen in the year and the property was sold in March 2021.

Royal Society (London) Ltd was established to process other noncharitable trading activities including income from sponsorship agreements.

#### Income from investments (£4.9 million)

The Society holds a significant investment portfolio which was valued at £297.3 million at 31 March 2021. Many of these funds held were bequeathed to the Society as endowments or gifted as a restricted fund for a specific purpose. The investment objective of the Society is to at least maintain the real value of its investment assets while generating a stable and sustainable return to fund charitable activities, thus being even-handed between current and future beneficiaries.

#### Exceptional net income from property sale (£2.2 million)

The sale of Chicheley Hall was completed in March 2021. The net income from the sale is shown as an exceptional item in the statement of financial activities.

#### Expenditure

Expenditure for the year totalled £138.4 million. Expenditure is incurred on raising funds and charitable activities.

#### Expenditure on raising funds (£2.1 million)

Expenditure on raising funds includes the direct costs of raising funds, associated support costs, costs of trading and investment management fees.

#### Other trading activities (£0.1 million) Expenditure on charitable activities (£136.3 million)

The Society's charitable expenditure is categorised in the statement of financial activities as follows:

- promoting science and its benefits;
- supporting and recognising excellence in science;
- providing scientific advice for policy;
- fostering international and global cooperation; and
- · education and public engagement.

Each of the areas above supports the delivery of the three strategic objectives as set out in the current strategic plan. The expenditure chart on the following page illustrates expenditure by both strategic objective and expenditure category.

The expenditure to further the strategic objective of promoting excellence in science includes the majority of grant awards, the costs of the Society's publishing operation and the costs associated with lettings at Carlton House Terrace which are in furtherance of charitable objects. Expenditure in this area also includes costs arising from recognition of the excellence and creativity of scientists by election to the Fellowship and Foreign Membership and the awards to scientists to recognise excellence in science and technology.

Expenditure to further the objective of supporting international scientific collaboration mainly constitutes grant awards on international schemes, providing scientific advice for areas of international policy and expenditure on events convening scientists from across the world.

The majority of the Society's expenditure to demonstrate the importance of science to everyone is in the form of providing scientific advice for policy and education and public engagement work.

statement of financial activities in the inner ring.

Read more on page 40.



# Promoting excellence in science

#### Priorities:



Above: Dr Diego Altamirano is a University Research Fellow at the University of Southampton. Diego's research involves developing a network of stateof-the-art fast cameras to virtually 'slow down time' to allow astrophysical processes to be visualised. The technology will allow him to study how black holes and neutron stars devour nearby stars and what happens with the gas that is ripped from stars.

## By harnessing the expertise of its Fellowship, the Society's aim is to ensure that excellence in science is recognised and supported and that scientific work is of the highest quality.

#### **Fund outstanding researchers** In 2020/21 the Society awarded

£115.1 million to fund exceptional researchers and outstanding scientists. This is an increase in funding of 12% from last year, as we have continued to increase the scale of our grants programmes. The Society supports both early career and senior scientists through a range of schemes which include both discovery-led and applied research. We work with partners overseas to support international collaborations and are involved in industry and innovation schemes.

#### Number of grants awarded

Total value	£115.1 m	£102.5m	£84.7m	£73.3m	£61.2m	88% ↑
Total	798	776	883	1,300*	803	-1% 🗸
Equipment and infrastructure	-	_	_	6	8	-100% 🗸
Established researchers	25	52	48	67	64	-61% 🗸
Industry, innovation and translation	63	47	59	49	26	142% ↑
Capacity building	101	98	103	157	135	-25% 🗸
International collaborations and travel	347	292	328	394	280	24% ↑
Early career researchers	262	287	345	627	290	-10% 🗸
	2020/21	2019/20	2018/19	2017/18	2016/17	Change over four-year period

\* In 2017/18 270 one-off additional grants were awarded alongside a range of other new and one-off grants. From 2018/19 additional funding is largely incorporated into existing grants.

#### Some of the people we fund:



Dr Rucha Karnik is a University Research Fellow at the University of Glasgow. Rucha's research addresses the overarching mechanics of how plants coordinate growth with environmental cues. She investigates how the pathways underpinning shoot growth overlap with disease immunity. This research will inform future efforts to enhance crop productivity, safeguarding agriculture to cope with climate changes.

Priorities





Professor Adekunle Adeyeye is a Wolfson Fellow at Durham University. Adekunle works to understand the magnetic properties of 3D nanomagnets with applications in information processing and storage. When designing future high-density storage devices, it is essential to understand how altering the size of magnetic elements involved in the storage system affects the other properties of these magnets.

Priorities

The next generation of research leaders are supported with opportunities including training, mentoring and networking. These schemes are funded by the Government, in partnership with other funding organisations, philanthropic gifts and through the Society's own funds.



Professor Jenny Nelson FRS is a Royal Society Research Professor at Imperial College London. Jenny works to understand and improve the efficiency of solar energy conversion in different materials. In her research she will study the parallels between natural photosynthetic systems and solar cells based on molecular semiconductors. She aims to learn from nature to design better materials for solar energy conversion.



#### Strategy in action continued

#### Elect exceptional scientists to the Fellowship

The Royal Society elected 62 new Fellows and Foreign Members, including 14 women and one Honorary Fellow. New Fellows have been elected from institutions across the UK and around the world.

Four of the 2020 Nobel Prize winners have links to the Royal Society. Foreign Member and previous winner of the Croonian Medal and Prize, Jennifer A Doudna, was joint winner of the Nobel Prize in Chemistry for her work on the development of a method of genome editing which enables researchers to change the DNA of animals, plants and microorganisms with extremely high precision.

Fellow of the Royal Society, Sir Roger Penrose, was awarded the Nobel Prize in Physics along with Foreign Member Reinhard Genzel and Andrea Ghez. Ghez was previously awarded the Society's premier physical sciences prize, the Bakerian Medal and Lecture.

Read more: List of our new Fellows on pages 34 - 36.

**Priorities** 



#### Advise on research landscape

Supporting scientists from ethnic minority backgrounds is a key priority. This year the Society published two diversity reports using data highlighting inequalities in UK STEM higher education over the past 10 years, and in the pool of UK-based researchers eligible for the Society's own early career Fellowship grants.

The report on ethnic minority students and academic staff, and the Careers Research and Advisory Centre reports were published in March 2021, receiving widespread media coverage.

The Society is working to take forward the recommendations in the reports and has arranged the first in a proposed series of roundtables in conjunction with UK Research and Innovation to discuss the findings and identify next steps with key partners.



#### Demonstrate economic impact of science investment

This year the Government reaffirmed its commitment to increase investment in research and development to at least 2.4% of GDP by 2027, with £14.6 billion to be invested in the coming year.



The Chancellor also announced a focus on innovation, support for improving the UK visa offer and a proactive global outreach strategy to attract scientists to the UK. The Government confirmed that investing in science, while attracting science talent from research leaders to early career scientists and technicians, is going to be crucial this year as we recover from the pandemic. Innovation was also highlighted as key to the Government's focus on levelling up.

In addition to this, the UK's focus on climate change and biodiversity, through COP26 and green projects, reflects the importance of environmental sustainability and the transition to net zero.

#### **Priorities**



#### Encourage and support innovation

Sixty-four business leaders and senior industry scientists have been appointed as Royal Society Entrepreneurs in Residence (EiRs) since the scheme launched in 2017.

The BEIS-funded scheme aims to increase the knowledge and awareness in UK universities of cutting-edge industrial science, support the translation of ideas and build confidence in business and entrepreneurship.

In 2020, the Society conducted a review of outcomes from the first two cohorts of 34 award holders. EiRs have supported successful grant applications of £13.5 million, been directly involved in the launch of 15 companies developed from university research, advised on 133 commercially relevant projects and supported 57 students into industrial science roles.

## **Priorities** 3 6



Above: A selection of Royal Society journals from 2020/21.

#### Publish scientific research

The Society publishes high-quality, cutting-edge research and supports open access publishing as part of its commitment to the widest possible dissemination of research outputs.

In 2020/21, 45% of the papers published were open access (2019/20: 41%), which is well above the 26% of papers published globally that are open access.

Papers from our journals were downloaded over 37 million times (2019/20: 30 million).

The Society has worked with other science publishers to provide open access to any COVID-19 research, and to encourage authors to post preprints of their articles to make vital information available globally as soon as possible. These were made available in a special collection of COVID-19 articles.

The Society was also a founding partner of an innovative crosspublisher collaboration to expedite rapid peer review of COVID-19 articles. This was one of several measures which enabled us to publish such research more quickly.

#### **Priorities**



#### Recognise scientific achievements

Fellow Sir Alan Fersht was awarded the Copley Medal 2020 for developing and applying the methods of protein engineering to provide descriptions of protein folding pathways at atomic resolution, revolutionising our understanding of these processes.



Professor Alice Roberts (above) was awarded the inaugural Royal Society David Attenborough Award and Lecture 2020 for outstanding contributions to public engagement through lectures, television, books and other media, as well as her advocacy as Professor of Public Engagement at the University of Birmingham and as the President of the British Science Association.

**Priorities** 







## Looking forward 2021/22

The Society will:

- Continue to fund research fellowship schemes to attract and retain senior and early career researchers to the UK.
- Recognise scientists' election to the Society's Fellowship and medals and awards programme.
- Encourage and support innovation through industry fellowship and Entrepreneurs in Residence schemes, promoting interaction between academia and industry.
- Deliver a programme of scientific events that foster collaboration and networking.
- Continue to broaden participation in science and increase the diversity of the scientific workforce.
- Continue to transition our publishing to a sustainable open access model.
- Advocate for increased investment in research and innovation.

Strategy in action continued

## How researchers have responded to the pandemic

This year the scientists we fund have continued with the global effort for solutions to the pandemic, working in all areas of the response. These areas include research into the development of vaccines, identification of variants of the disease, the study of fluid mechanics to enable work on the production of ventilators and epidemiological modelling.



#### **Professor Eddie Holmes FRS**

Eddie is an evolutionary biologist, distinguished for his work on the emergence and evolution of viruses, which has helped to explain how viruses jump species and spread in new hosts. He co-authored the paper that described the first genome sequencing data from the SARS-CoV-2 virus, allowing scientists around the world to gain a greater understanding of the virus and how to tackle it. He is a Fellow of the Royal Society based at the University of Sydney and was previously a Royal Society University Research Fellow.





Dr Nicole Robb, Dorothy Hodgkin Fellow at the University of Warwick

Nicole's work combines traditional biology methods with single-molecule biophysics to study how viruses replicate, using influenza and coronaviruses as primary models. Since the start of the COVID-19 pandemic, Nicole has focused on developing a rapid test capable of diagnosing SARS-CoV-2 and other respiratory viruses in just one minute. The test uses a microscope to take images of throat swab samples and artificial intelligence to classify which viruses are present in the images. She is currently working with her team to raise investment to commercialise the test.



Dr Alfonso Castrejón-Pita University Research Fellow at the University of Oxford

Alfonso's research involves the study of fluid mechanics, and specifically the dynamics of drops and jets. Alfonso was involved in the UK Ventilator Challenge in March/April 2020. His ventilator was selected for production by the Cabinet Office and is being deployed for use in countries outside of the UK in need of low-cost ventilator technology.





#### Professor Dame Angela McLean DBE FRS

Angela works on understanding human infectious agents by using mathematical models to study and predict their evolution and spread. She investigates how infections spread both within and between individuals and has modelled the human immune system. As Chief Scientific Advisor to the Ministry of Defence she has played an important role in advising Government during the COVID-19 pandemic. She is a Fellow of the Royal Society, Professor of Mathematical Biology at the University of Oxford and Co-Director of the Institute for Emerging Infections.



#### Professor Sir David Stuart FRS

David works on the structure of viruses, structural vaccinology and anti-viral drug discovery. His group has been part of international collaborations studying the structures of the SARS-CoV-2 proteins and interactions with antibodies. The research provides better understanding of how antibodies work against the virus and how variant viruses escape some of these antibodies. He has also been involved in helping to identify existing drugs that could be repurposed in the fight against COVID-19. He is a Fellow of the Royal Society, Professor of Structural Biology at the University of Oxford, Life Science Director at Diamond Light Source, and Director of Instruct-ERIC.





**Dr Jon Agirre** Olga Kennard University Research Fellow at the University of York

Jon's research is about building accurate atomic models of carbohydrates using X-ray crystallography and electron cryomicroscopy. Jon's methods have been employed in the determination of atomic structures which have informed the development of the Pfizer-BioNtech. Moderna and Oxford-AstraZeneca COVID vaccines.



#### Professor Valerie O'Donnell Wolfson Research Merit Award holder at the University of Cardiff

Valerie's research involves the discovery of new lipids which regulate vascular disease and inflammation. Valerie has been involved in COVID-19 research looking at whether there is a way to disrupt lipid membranes of viruses, particularly of COVID-19, through non-toxic means in the oral cavity.



#### Dr Kurt Wibmer FLAIR Fellow at the National Institute of Communicable Diseases, South Africa

Kurt's FLAIR research involves isolating and redesigning monoclonal antibodies for use in snakebite anti-venoms. Kurt has been involved in identifying the B.1.351 SARS-CoV-2 variant (Beta) in South Africa. His work was the first to demonstrate the reduced efficacy of current therapeutics and vaccines in protecting from infection by the variant.

# Supporting international scientific collaboration



#### **Priorities:**

- Proactive engagement in naior issues.
- Address global challenges.
- <sup>3</sup> Partner with leading scientific nations on new technologies.
- Implement Commonwealth 4 programmes.
- Convene leading international 5 neetings to advance science.

The Society's aim is to reinforce the importance of science to build partnerships between nations and to promote international relations and science's role in culture and society.

#### **Proactive engagement** in major issues

In December 2020, as part of the Brexit deal, it was announced that the UK would associate to the EU's Horizon Europe programme. This was welcome news to the Society and scientific community, both of which had campaigned hard for this association to continue. The Government, however, failed to clarify where the cost of association would come from. Since then, the Royal Society has consistently called on the Government to explain how this will be funded.

The Government has a stated intention of the UK being a global science superpower and to achieve that we must strengthen our relationships with global partners. In early 2021, the Government made deep cuts to the Official Development Assistance's (ODA) R&D budget. This reduced the funding available to Royal Society programmes, such as FLAIR fellowships, by around 70%. Royal Society ODA funding was cut from £25.1 million to £8.1 million for the year ending 31 March 2022.

These grants amounted to investment in future leaders in science, who were carrying out research that could have had a global benefit. The Royal Society continues to make a strong case to the Government for continued investment in science.

The Society led the development of three S7 statements aimed at the G7 leadership with its sister academies in the other G7 countries. These were launched by the Presidents of the G7 science academies in March 2021. The topics were selected as



Above: Social media card to promote the Heritable human genome editing report.

areas where science could help provide solutions to the severe and urgent crises the world currently faces. The statements include policy recommendations on the three inter-related crises of climate change, biodiversity loss and health.

## **Priorities** 🛞 1 3 🍯 1

#### Address global challenges

The Society considers academic freedom to be central to the practice of science, and believes it is key to the Society's purpose. In December 2020, the Society launched its official values statement on academic freedom at a panel discussion co-hosted with the Council for At-Risk Academics (CARA) on the subject Are threats to academic freedom damaging global science?



Above: Biodiversity loss and climate change were two of the key issues highlighted in the three S7 statements published by the Society and launched by the Presidents of the G7 science academies in March 2021.



#### Partner with leading scientific nations on new technologies

The Society continued to work with the US National Academy of Medicine and US National Academy of Sciences regarding the regulation surrounding heritable human genome editing. In September 2020, the commission published its final report, which concluded that human embryos whose genomes have been edited should not be used to create a pregnancy until it is established that precise genomic changes can be made reliably without introducing undesired changes — a criterion that has not yet been met by any genome editing technology.

#### Strategy in action continued



In September 2020, the Royal Society and the Chinese Academy of Sciences held the third of their UK-China Policy Dialogues on Emerging Technologies. The meeting, which was chaired from the UK side by Professor Adrian Smith, was on artificial intelligence and was the first in the series of meetings to be held virtually.

Chile has become an increasingly important player in global science. It is one of the leading scientific nations in its region, regularly producing high-quality research across a diverse range of scientific disciplines. The Society delivered the first joint Frontiers of Science meeting with the Chilean Academy of Science. This meeting focused on innovative science and on bringing together scientific leaders of the future.

Five scientists, based in the UK, were awarded the Royal Society Yusuf Hamied Visiting

Professorships, which enabled them to collaborate with research institutions in India. Running since 2017, the Yusuf and Farida Hamied Foundation funds outstanding Fellows and Foreign Members of the Society to exchange knowledge and expertise with Indian scientists and build connections with India's science communities.

**Priorities** 



Society's first virtual Commonwealth Science Conference

Left: Participants at the

#### Implement Commonwealth programmes

Jointly organised by the Royal Society and the African Academy of Sciences, the first fully virtual Commonwealth Science Conference took place on 22 – 26 February 2021 with the objectives of building new links between early career researchers and influencing the Commonwealth policy agenda. The conference was held virtually because of the pandemic. You can read more about the conference on pages 26 - 27.



international grants awarded



international collaboration

countries represented in the Commonwealth Science Conference through our grant schemes

#### Convene leading international meetings to advance science

The Society runs a series of internationally renowned scientific meetings that bring together leading experts to discuss the latest research and to develop knowledge of their field. This year the meetings were adapted to take account of the global pandemic and became virtual events.

Meetings have included a two-day event – Scientific applications of high performance computing and machine learning and Understanding brain structure and function: from molecules to mind.

Other topics this year included: A cracking approach to inventing tough new materials: fracture stranger than friction; Understanding the endosomal network in neurodegeneration; T cell/B cell collaboration in autoimmunity; New perspectives on quantum many-body chaos; and Energyenvironment-society interactions.

Above: Social media card for the Science+ meeting, Energy-environment-society interactions.

meetings were held with

1,399

113 speakers, Chairs. panellists and organisers

**Priorities** 5



#### **Chicheley Hall**

The Kavli Royal Society International Centre at Chicheley Hall has been the venue for over 1,100 scientific meetings. These meetings have brought together experts from all over the world and advanced global scientific understanding. However, the Society's meetings are increasingly being held internationally and involve more virtual participation. Combined

with the fact that the venue has struggled financially, the Society took the decision to sell the property. The pandemic meant that Chicheley Hall was closed in March 2020 and a sale was completed this year.

#### **Priorities**









## Looking forward 2021/22

The Society will:

- Promote the three S7 statements to the UK Government in advance of the G7, G20, COP26, COP15 and CHOGM meetings in 2021.
- Work with the US National Academy of Sciences on a third international summit on human genome editing
- Bring conclusions from the Commonwealth Science Conference to CHOGM.
- Hold international scientific meetings such as the UK-V4 Frontiers of Science virtual meeting.
- Develop our links with leading scientific nations through policy, workshops and meetings.
- Promote academic freedom through advocacy work and as a member of the UK and international human rights committees.

Strategy in action continued

## COMMONWEALTH SCIENCE CONFERENCE 2021

Owing to COVID-19 restrictions, the Commonwealth Science Conference 2021 was transformed into a fully virtual event which included many scientists from around the world. It took place on 22 – 26 February and was organised by the Royal Society and the African Academy of Sciences.

Over 300 participants from 31 countries and across a wide range of scientific disciplines came together to explore how science can help the world build resilience in the face of the challenges posed by global environmental crises. Participants were primarily early career researchers, joined by eminent keynote speakers and panellists including Nobel Prize winners Donna Strickland and Peter Doherty, along with Nobel Peace Prize nominee Anote Tong and palaeoanthropologist Richard Leakey. The opening keynote address was given by HRH The Prince of Wales.

The overarching theme of the conference was 'Science for a resilient future' and the programme focused on three thematic areas of science:

 Developing resilient energy systems – climate resilient infrastructure; decarbonising energy systems; and a circular economy for the Commonwealth. • Nurturing resilient ecosystems challenges and opportunities for the blue economy; trajectories, challenges and solutions for biodiversity; and adaptation and mitigation challenges for coastal states in the era of climate change.

• Building resilient societal systems – pandemic preparedness before and after COVID-19; climate change adaptation and disaster risk reduction; and a 'just' transition to a sustainable Commonwealth.

Commonwealth researchers were able to showcase scientific expertise, develop new collaborative links and discuss ideas about how policies should be developed to build more resilient societies.

Following the conference, several exchange grants were awarded to enable participants to take their thinking about collaborative research forward. Sir Adrian Smith and Professor Felix Dakora, Presidents of the Royal Society and the African Academy of Sciences, joined with other Commonwealth Academy Presidents in bringing together some of the policy conclusions of the conference in a letter to the Commonwealth Secretary-General with a view to making recommendations to Commonwealth leaders. The Society also hopes to take forward other activities which support the development of links made at the Conference through regional, thematically focused, meetings.

Above: Map showing the number of

delegates attending the Commonwealth

Science Conference 2021 grouped by

the country they are affiliated with.



#### Notable speakers included:

#### Dr Gagandeep Kang

One of India's leading medical scientists known for her work on the development and prevention of enteric infections in children.

#### Professor Julie Makani FRS

Winner of the Royal Society Africa Award 2011 – Can Genomics Improve Health *in Africa?* She established gene therapy treatments for sickle cell disease in Tanzania.



#### Dr Agnes Kalibata

President of the Alliance for a Green Revolution in Africa spoke about building resilient food systems to achieve sustainable development goals.

#### His Excellency Anote Tong

The former President of Kiribati is well known for his efforts to raise global awareness on the threat posed by climate change.

# Demonstrating the importance of science to everyone



Above: The Society convened three groups to help inform decisions about the pandemic. Reports published by these groups have been key to influencing public policy in areas such as the benefits of wearing face coverings.

### Scientific thinking influences how people live their lives, never more so than now. The Society engages with the public in many different settings to hear their experiences and views and to make science part of the wider conversation.

#### Increase scientific advice for policy-makers

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During the past year, the Society has published a number of reports to influence policy-makers in some key areas of science, with a particular focus on biodiversity and climate change.

In April last year the Society published a report on soil structure, which focused on the delivery of four key benefits: biodiversity, agricultural productivity, clean water and flood prevention, and climate change mitigation. The report also provided illustrative examples of what a future policy on soil could look like.

October's report on nuclear cogeneration considered how a new generation of nuclear reactors could help the UK cut carbon emissions by harnessing surplus energy to heat homes, produce hydrogen and decarbonise industry. The policy briefing set out how planned and future nuclear projects can complement renewables and help the UK meet its net zero carbon emissions pledge by 2050.

The Society's report on harnessing computing to achieve net zero was launched in December. The report shows that digital technology, from smart meters to supercomputers, weather modelling and AI, is vital to unlocking net zero transition. It sets out a roadmap for how maximising digital technology could deliver nearly one-third of the carbon emission reductions required by 2030. The launch of the report was accompanied by an online event featuring a panel of experts

discussing how digital technologies can provide support in the fight against climate change and biodiversity loss.

The Society hosted an online panel event to support the launch of the Government-commissioned Dasgupta Review, Economics of biodiversity, published in February. The review presented a new economic framework, grounded in ecology and earth sciences, in order to understand the sustainability of our engagement with nature and identify the options humanity has to enhance biodiversity and prosperity.

A series of essays by leading international biodiversity researchers were published as part of a Royal Society project to explore the challenges and solutions to tackling global species loss, threatening ecosystems and the life that depends on them.

The essays included leading figures writing about different aspects of biodiversity loss, including the Amazon's hydrological cycle approaching a tipping point, where deforestation could irreparably damage the patterns of rainfall and evaporation that shape this unique ecosystem. Another of the essays examines the global food system and how marketing and behavioural science approaches can help mainstream biodiversity conservation in all areas of life.





The Society's report on animate materials – human-made materials that emulate the properties of living systems – outlines the potential of this technology to deliver major change in sectors from infrastructure to medicine and clothing. Animate materials could signal a future in which roads can self-heal and living buildings can harvest carbon dioxide to generate power and purified water. The report sets out a roadmap to make this technology a reality.





#### Strategy in action continued

#### Implement a programme of public dialogue and engagement

As a result of the pandemic, this year's Summer Science Exhibition went fully online for the first time with a weeklong digital programme premiering live video content streamed on social media channels.

One of the most popular events with virtual visitors was a family-friendly Summer Science guiz with special guests including Professor Brian Cox and former Blue Peter presenter Konnie Hug. More than 2.600 viewers joined the livestream to take part. Other popular sessions included an interactive Q&A with a panel of space experts and videos on the science of pets and Antarctica exploration.

This year's series of online COVID-19 themed events proved popular. December's lecture by Professor David Spiegelhalter, Communicating statistics in the time of COVID, had more than 16,800 views as of April 2021. Professor Brian Cox's discussion on the race for a COVID vaccine, which took place in January 2021, has now been watched by more than 68,500 people on our website or YouTube channel.

On social media we have increased our followers on Facebook and Twitter. Our website had 1.8 million users, down 1.8% on last year, but our YouTube channel was up 91% on last year with 101,000 subscribers.





Above: An image from the BBC Ideas video, What would a world without vaccines be like?

#### Integrate science into public debate and culture

This year the Society has been working in partnership with educational video platform BBC Ideas to produce a series of five videos focusing on different aspects of science.

The most popular video focuses on the eradication of smallpox and has received over 160,000 views on the BBC's website and the Society's social media channels.

Other videos in the series include A world without vaccines, which examines the history of vaccines and the impact they have had on eradicating disease, a look at the magic of soil and the digital traces we leave in everyday life. The series has received a total of 500,000 views so far.

In October 2020, actor, comedian and author Stephen Fry joined Nobel Prize-winning biologist and former President of the Royal Society Venki Ramakrishnan in an online event to explore establishing trust in science and how individuals can make rational and objective decisions. The event has received more than 26,000 views on our channels so far.



#### Promote the value of STEM education

The Partnership Grants scheme aims to offer students aged 5 - 18 a first glimpse of scientific research in the classroom. The grant offers up to £3,000 to UK schools or colleges to buy equipment to carry out research projects in partnership with a STEM professional.

The 2020 funding round was impacted by the pandemic and saw over 45% of applications unfinished or withdrawn as teachers coped with competing priorities. In total, 55 schools received funding, 32 of which are part of the Tomorrow's climate scientists programme, which supports students with climate change and biodiversity research projects.



#### **Book prizes**

More than 13,000 young judges from 500 schools selected Cats React to Science Facts by Izzi Howell to be the winner of this year's Royal Society Young People's Book Prize. The book offers children an opportunity to explore the scientific world with humorous meme-like felines and a stream of fascinating science facts.

The winner of this year's Royal Society Insight Investment Science Book prize was postdoctoral scientist and debut author Dr Camilla Pang (above) for her book Explaining Humans: What Science Can Teach Us about Life, Love and Relationships.

Dr Pang was diagnosed with autism spectrum disorder and attention deficit hyperactivity disorder. Her book set out to create a 'manual' for humans by showing readers how proteins, machine learning and molecular chemistry can teach us about the complexities of human behaviour and the world around us.



#### Inspire through historic collections

This year the Society launched the digital version of the first edition of Robert Hooke's 1665 work, *Micrographia*. The book contains detailed illustrations of some of the specimens Hooke viewed under the microscopes he designed. The blog and video sharing its history proved very popular with our online audiences.

The latest addition to the Society's portrait collection is a painting of astrophysicist Dame Jocelyn Bell Burnell (below). The portrait, by artist Stephen Shankland, was commissioned as part of an ongoing project to increase the number of female scientists represented in our art collection of Fellows. During Black History Month in October

we launched a new online exhibition with Google Arts and Culture, A Celebration of Black Science, which explores the scientific contributions and achievements of people of African and African-Caribbean descent, drawing on the Royal Society archives.









## Looking forward 2021/22

The Society will:

- Support the response to the pandemic and provide new scientific advice as it emerges.
- Provide evidence to policy-makers on climate, biodiversity and emerging technologies.
- Host our second virtual Summer Science Exhibition, with increased interactivity.
- Continue to host public engagement activities online, moving to online, hybrid and real-life events when possible.
- Support schools and students to act on climate and biodiversity issues through Partnership Grants and the Tomorrow's climate scientists scheme.
- Produce a further series of People of Science films.

Strategy in action continued

## **Pandemic** policy response

The Royal Society responded rapidly to COVID-19 by convening researchers to help inform policy decisions on managing the global pandemic. Fellows of the Royal Society and scientists funded by the Society also worked together with researchers across the globe to rapidly help us better understand the virus and discover the best ways to tackle it.

#### Rapid Assistance in Modelling the Pandemic (RAMP)

The Society issued a call for volunteers to support efforts to model the COVID-19 pandemic and guide the UK's response. The response was overwhelming with 1,800 individuals and teams offering to help.

The outcome was RAMP. An initiative that brought modelling expertise from a diverse range of disciplines, in businesses and academia, to support the pandemic modelling community, which was already working intensively to understand the pandemic.

The RAMP initiative was developed to enhance modelling capacity to create a clearer understanding of the impact of the pandemic and to help with the efficient flow of information to Government advisors. Many of the RAMP volunteers and projects are still providing expertise, and this has led to a range of longer-term research projects, from understanding aerosol transmission to modelling transport use and understanding its impact on infection patterns.

#### Data Evaluation and Learning for Viral Epidemics (DELVE)

It was critical to analyse emerging data from countries around the world to identify the most important factors that could help slow the spread of the virus and find long-term solutions.

DELVE was a multi-disciplinary group convened by the Society to support a data-driven approach to learning from the different ways countries are managing the pandemic. The group provided input to the Government's Scientific Advisory Group for Emergencies (SAGE).

Some of the areas the group published influential reports on included: the effectiveness of wearing face coverings; the spread of infection in hospitals; the risk of pupils returning to school; the economic impacts of lockdown; and how the test, trace and isolate strategy could be most effective. The DELVE team also looked at how data can be accessed and used in an emergency.

#### Science in Emergencies Tasking -COVID (SET-C)

SET-C was established to draw on the expertise of the Society's Fellows, and others, to respond to requests for rapid science advice on topics relevant to tackling the pandemic. The group was initially convened in response to a request from the Government Office for Science.

The initiative has published a range of rapid reviews of the latest evidence on topics including: vaccine passports; herd immunity; long COVID; vaccine deployment and behavioural influences on uptake; and the genetics of the virus.



# People

At the core of the Society are people, from Fellows and staff to generous donors and the scientists who are supported through the Society's funding programmes.

### Fellows of the Society elected in 2020

#### **Professor Timothy Behrens FRS**

Professor of Computational Neuroscience, Wellcome Centre for Integrative Neuroimaging, Nuffield Department of Clinical Neurosciences, University of Oxford and Honorary Principal Investigator, Wellcome Centre for Human Neuroimaging, University College London

#### Professor Yoshua Bengio OC FRS

Full Professor, Département d'informatique et de recherche opérationnelle. Université de Montréal. Canada

#### Professor Malcolm Bennett FRS

Professor of Plant Science, School of Biosciences, University of Nottingham

#### Professor Ben Berks FRS

Professor of Biochemistry, Department of Biochemistry, University of Oxford

#### Professor Zulfigar Bhutta FRS

Robert Harding Inaugural Chair in Global Child Health & Policy, Centre for Global Child Health, Toronto, Canada and Distinguished University Professor and Founding Director, Institute for Global Health & Development, Aga Khan University, South-Central Asia, East Africa and the UK

#### Professor Kevin Brindle FMedSci FRS

Professor. Department of Biochemistry and Senior Group Leader, Cancer Research UK Cambridge Institute, University of Cambridge

#### Professor Gordon Brown FMedSci FRS

Professor in Immunology, MRC Centre for Medical Mycology, University of Exeter

#### Professor William Campbell FRS Emeritus Fellow, Drew University (New Jersey), USA

**Professor Henry Chapman FRS** 

Director, Centre for Free-Electron Laser Science. Deutsches Elektronen-Synchrotron (DESY) and Universität Hamburg, Germany

#### Dr G Marius Clore FRS

NIH Distinguished Investigator and Chief of the Protein Nuclear Magnetic Resonance Section, Laboratory of Chemical Physics, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, USA

#### **Professor Vikram Deshpande FRS**

Professor of Materials Engineering, Department of Engineering, University of Cambridge

#### Professor John Endler FRS

Emeritus Professor. School of Life and Environmental Sciences, Deakin University, Australia

#### Professor Adam Eyre-Walker FRS

Professor of Biology, School of Life Sciences, University of Sussex

#### **Professor Daniel Frost FRS**

Professor and Deputy Director, Bayerisches Geoinstitut, Universität Bayreuth, Germany

#### Dr Francois Guillemot FMedSci FRS

Senior Group Leader, The Francis Crick Institute

#### Professor David Harel FRS

Professor, Department of Computer Science and Applied Mathematics, Weizmann Institute of Science, Israel

**Professor Marian Holness FRS** Professor, Department of Earth Sciences, University of Cambridge

#### Professor Ehud Hrushovski FRS

Professor of Mathematical Logic, Mathematical Institute, University of Oxford

#### Professor Andrew Jackson FRS

Professor of Human Genetics. MRC Human Genetics Unit, Institute of Genetics and Molecular Medicine, University of Edinburgh

#### Professor George Jackson FRS

Professor of Chemical Physics, Department of Chemical Engineering, Imperial College London

#### Professor Xin Lu FMedSci FRS

Director, Ludwig Institute for Cancer Research, Nuffield Department of Medicine, University of Oxford

#### Dr Alexander Makarov FRS

Director of Global Research, Thermo Fisher Scientific, Germany and Professor of High Resolution Mass Spectrometry, Utrecht University, Netherlands

#### Professor Keith Matthews FMedSci FRS

Professor of Parasite Biology, Institute of Immunology and Infection Research, University of Edinburgh

#### Professor Jain McCulloch FRS

Professor of Polymer Materials, Department of Chemistry, Imperial College London and Director, KAUST Solar Center, King Abdullah University of Science and Technology, Saudi Arabia

#### Professor Linda Nazar OC FRS

Professor and Canada Research Chair in Solid State Energy Materials, Department of Chemistry, and Waterloo Institute of Nanotechnology, University of Waterloo, Canada

#### Professor Peter Nellist FRS

Professor of Materials and Joint Head of Department, Department of Materials, University of Oxford

#### Professor Giles Oldroyd FRS

Russell R Geiger Professor of Crop Science, Crop Science Centre and Group Leader, Sainsbury Laboratory, University of Cambridge

#### Professor Hugh Osborn FRS

Emeritus Professor, Department of Applied Mathematics and Theoretical Physics, University of Cambridge

#### **Professor Oliver Phillips FRS** Professor of Tropical Ecology, School of Geography, University of Leeds

Group Leader, Divison of Neurobiology, MRC Laboratory of Molecular Biology

Canada

## **Professor Catherine Price** FMedSci FRS Wellcome Trust Principal Research

of Oxford

Fellow and Director, Wellcome Centre for Human Neuroimaging, University College London

**Professor Raymond** 

**Pierrehumbert FRS** 

Halley Professor, Atmospheric,

Oceanic and Planetary Physics,

**Professor John Plane FRS** 

Department of Physics, University

Professor of Atmospheric Chemistry,

School of Chemistry, University of

### **Professor Carol Prives FRS**

DaCosta Professor of Biology. Department of Biological Sciences, Columbia University, USA

#### **Professor Didier Queloz FRS**

Professor, Cavendish Laboratory, University of Cambridge

### Professor Nicholas Read FRS

Henry Ford II Professor of Physics and Professor of Applied Physics and Mathematics, Department of Physics, Yale University, USA

# GOVERNANCE

of Medical Research, Australia **Professor Stephen Smartt FRS** Professor of Astrophysics, School of

**Professor Nigel Scrutton FRS** 

Research Hub and Manchester

Centre and Professor of Molecular

Professor John Shine AC FRS

Emeritus Professor, Garvan Institute

Enzymology, University of Manchester

Synthetic Biology Research

Director, UK Future Biomanufacturing

Mathematics and Physics, Queen's University Belfast

### Professor Sir Ralf Speth KBE FREna FRS

CEO, Jaguar Land Rover

#### Professor Molly Stevens FREng FRS

Professor of Biomedical Materials and Regenerative Medicine and Research Director for Biomedical Material Sciences, Department of Materials and Department of Bioengineering, Imperial College London

#### Professor Donna Strickland FRS Professor of Physics, Department of Physics and Astronomy, University of Waterloo, Canada

Professor Andrew Stuart FRS Bren Professor of Applied and Computational Mathematics, Department of Computing and Mathematical Sciences, California Institute of Technology, USA

#### Dr Michael Rudnicki OC FRS Senior Scientist and Program Director, Ottawa Hospital Research Institute.

# Dr William Schafer FMedSci FRS

#### **People** continued

#### Dr Sarah Teichmann FMedSci FRS

Cellular Genetics Programme Head, Wellcome Sanger Institute, Director of Research, Cavendish Laboratory, University of Cambridge and Senior Research Fellow, Churchill College, Cambridge

#### Professor Richard Thompson OBE FRS

Professor of Marine Biology and Director of Marine Institute, University of Plymouth

#### **Professor Jack Thorne FRS**

Professor, Department of Pure Mathematics and Mathematical Statistics, University of Cambridge

#### **Professor Nicholas Turner FRS**

Professor of Chemical Biology and Director of the Centre of Excellence in Biocatalysis (CoEBio3), Department of Chemistry, Manchester Institute of Biotechnology, University of Manchester

#### **Professor Jane Visvader FRS**

Division and Laboratory Head, The Walter and Eliza Hall Institute of Medical Research, Australia

#### **Professor Alan Wilson FRS**

Professor of Locomotor Biomechanics, Structure and Motion Laboratory, Royal Veterinary College, University of

#### **Professor Steve Young FRS**

Emeritus Professor of Information Engineering, Department of Engineering, University of Cambridge

#### **Foreign Members** elected in 2020

#### **Professor Frances Arnold ForMemRS**

Linus Pauling Professor of Chemical Engineering, Bioengineering and Biochemistry and Director, Donna and Benjamin M Rosen Bioengineering Center, Caltech, USA

#### Dr Francis Collins ForMemRS

Director, National Institutes of Health, USA

#### **Professor Kerry Emanuel ForMemRS**

Cecil and Ida Green Professor of Atmospheric Science, Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, USA

#### Professor Ben Feringa ForMemRS

Jacobus van't Hoff Distinguished Professor of Molecular Science and Academy Professor, Royal Netherlands Academy of Science, Netherlands

#### Professor Else Marie Friis **ForMemRS**

Emeritus Professor, Department of Geoscience, Aarhus University, Denmark and Emeritus Professor of Palaeobotany, Department of Palaeobiology, Swedish Museum of

#### **Professor Regine Kahmann** ForMemRS

Emeritus Scientific Member, Max Planck Institute for Terrestrial Microbiology, Germany

#### **Professor Margaret Kivelson ForMemRS**

Distinguished Research Professor, Department of Earth, Planetary, and Space Sciences, University of California, Los Angeles, USA and Research Professor, Department of Climate and Space Sciences and Engineering, University of Michigan,

#### **Professor Ramamoorthy Ramesh** ForMemRS

Purnendu Chatterjee Chair in Energy Technologies, Department of Physics and Department of Materials Science and Engineering, University of California, Berkeley, USA and Lawrence Berkeley National Laboratory, USA

#### **Professor Wendelin Werner** ForMemRS

Professor, Department of Mathematics, ETH Zürich, Switzerland

#### Professor Ada Yonath ForMemRS

The Martin S and Helen Kimmel Professor of Structural Biology, The Helen and Milton A Kimmelman Center for Biomolecular Structure and Assembly, Weizmann Institute of Science, Israel

### **Honorary Fellow** elected in 2020

#### Sir David Cooksey FRS

Founding Chair, Diamond Light Source and Founding Chair, Francis Crick Institute

Further information is available online.

#### Scientists and researchers, including Fellows of the Royal Society and people we fund, are working together across the globe to help us better understand COVID-19 and discover the best ways to tackle it.

The Society is leading and convening researchers to work together to inform policy decisions on managing the pandemic, and creating opportunities for experts from a broad range of disciplines to consider matters together so that the full range of issues can be considered concurrently.

#### Fellows

Fellows are elected through a peer-review process on the basis of their contribution to science. It is from the eminence of its Fellowship and Foreign Membership and its independence from Government that the Society derives its authority in scientific matters. Fellows and Foreign Members fulfil a range of responsibilities for the Society on a voluntary basis. Many others, scientists and non-scientists, also contribute to the work of the Society on a voluntary basis. The Fellowship is supported by staff based in London.

#### **Scientists**

The Society has played a part in some of the most fundamental, significant and life-changing discoveries in scientific history and the Society's scientists continue to make outstanding contributions to science in many research areas. The Society is currently supporting 1,083 (2020: 1,065) researchers

## 1,083 researchers currently supported

by the Royal Society through its research fellowships (2020: 1,065)



Above: The Society's IT and digital teams supported the move to a fully virtual Summer Science exhibition, as the annual event moved online for the first time.

through its research fellowships. These researchers receive long-term funding from the Society and range from early career researchers just starting their independent careers to some of the most distinguished senior researchers in the country.

#### Staff

The Society aims to offer fair pay to attract and retain appropriately qualified staff to lead, manage, support and deliver the Society's aims on behalf of its Fellows and Council. As at 31 March 2021, the Society had 223 staff. The Society's staff are organised into programmes, services and trading sections.

In March 2020, the Society's buildings were closed to Fellows, staff, conferencing clients and other visitors. The decision was taken in the interests of all our stakeholders. Although the building is closed, the business of the Society has continued with staff working remotely. The Society's IT and Digital teams accelerated plans to move to greater use of virtual platforms and services to meet the needs of staff working outside of the Society's offices. Some areas of the business were affected more than others and, through consultation with staff, the Society considered where it was appropriate to furlough a small proportion of staff

Natural History, Sweden

under the Government's Coronavirus Job Retention Scheme.

The well-being of staff has been an important consideration for the Trustees and Senior Management Team throughout the year. The Senior Management Team at the Society agreed plans to provide immediate support for staff physically, emotionally and financially when the Society's offices closed. Employee advice and mental health helplines were already available, and the Society introduced new initiatives to support staff working outside of the building with the necessary equipment and support. This included the introduction of Mental Health First Aiders and a programme of mental health talks.

Planning for the 2022 – 2026 strategy began in the year and a review of the structure and operations of the Society was completed. The objective of the review was to create a more efficient and effective organisation that is fit for the future and optimal for the delivery of our new strategy. This led to some changes in the structure of teams and the introduction of a new Strategy department involving the recruitment of two new roles, but no jobs were put at risk as part of the restructure.

**People** continued

#### Volunteers

A number of our public engagement events and other work would not be possible without the contribution of our volunteers and the Society is grateful to all those who have contributed to its work over the past year. We also recognise the contributions of the many scientists who have supported our work on the response to COVID-19 by lending their expertise to panels and discussions. Finally, we are fortunate to have volunteer committee members across several of our committees. Their experience and expertise is invaluable to the operation of the charity.

#### Equality, diversity and inclusion

As the UK's national academy of science, engineering, technology and mathematics, the Society has a particular responsibility to ensure that diversity and inclusion are embedded across all of its activities and are part of the culture of the organisation.

The Society's Diversity Committee regularly monitors statistics on diversity across the Society's activities and publishes an annual data report. The Society is committed to making diversity and inclusion a priority, both within our own organisation and across the scientific landscape. The Society's Diversity Strategy for 2019 – 2022 sets out how the Royal Society will use its convening power and leadership, in partnership with others, to increase diversity in STEM and build a more inclusive scientific community. The Diversity Committee, a Standing Committee of Council, keeps under review and makes recommendations to Council on the diversity strategy. The Committee also oversees the delivery of a programme of activities by the Society in line with this strategy.

As an employer, the Society is committed to providing an environment free from discrimination,

bullying, harassment or victimisation and to creating a culture of inclusivity where individual differences and the contributions of all staff are recognised and valued. The Society provides equality of opportunity for all and will not tolerate discrimination on grounds of age, disability, gender reassignment, marriage and civil partnership, pregnancy and parenthood, race, religion or belief, sex or sexual orientation. The Society regularly surveys staff in staff surveys and in exit interviews on matters of diversity and inclusion, specifically any issues they have witnessed or would like to report.

There are new challenges with recruiting staff during the COVID-19 pandemic, particularly where a key part of the recruitment and selection process is the ability for both the candidate and employer to have the opportunity to meet in person. Recruitment processes have been amended to ensure they still meet the high standards of good recruitment practice; these processes now include a greater use of the digital and online platforms available to us. The Society's recruitment and selection process has been adjusted to reflect practical requirements to uphold our commitment to equal opportunities and continue to attract candidates from diverse backgrounds.

#### Remuneration policy

The aim of the Society's remuneration policy is to maintain sustainable, fair levels of pay at the same time as attracting and retaining the right people to deliver our charitable objectives. In setting appropriate levels of senior management pay, the Society considers the skills, experience and competencies required for each role, and the remuneration level for those roles in sectors where suitable candidates would be found.

Remuneration packages for all staff are benchmarked from time to time using proprietary pay surveys. The annual inflationary increase provided to all staff and senior management pay are agreed by the Society's Remuneration Committee. The last review of pay structures was undertaken during 2018.

All Trustees are unremunerated.

#### Gender pay gap reporting

The Society has voluntarily completed gender pay gap reporting in order to better understand how it compares with other organisations. At the 'snapshot' date of 5 April 2020, the mean gender pay gap was -2.54% and the median gender pay gap was 9.32% compared with the national average of 16.62% and 16.55% respectively, as reported on the Gender Pay Gap website as at 29 April 2021.

#### Gender gap reporting



![](_page_19_Figure_20.jpeg)

![](_page_19_Figure_21.jpeg)

Note: gender pay gap percentages referenced in quartiles are based on mean calculations. The reported quartiles represent an equal number of employees in each quartile, from the highest paid to the lowest paid. The upper quartile represents the highest paid employees.

## **Financial review**

#### Overview

In the year to 31 March 2021, the Society's income before exceptional items increased by 3%, from £129.8 million to £133.9 million. The majority of the Society's income came from charitable activities, which increased by 6% during the year to £127.1 million (2020: £120.1 million). Total expenditure increased by 4% on the prior year from £133.7 million to £138.4 million, as the Society has continued to expand its charitable programme. Expenditure on charitable activities increased from £129.3 million to £136.3 million and has risen to around 98.5% of total expenditure from around 97% in 2020. Income from investments has decreased from the previous year to £4.9 million (2020: £6.9 million).

In March 2020, due to the COVID-19 pandemic, the Society closed its buildings to Fellows, staff, conferencing clients and other visitors. Although the building closed, the business of the Society has continued with staff working remotely, wherever possible. In line with Government advice, Chicheley Hall closed on 23 March 2020 and did not reopen during the financial year. The sale of Chicheley Hall was completed in March 2021. The net income on the sale was £2.2 million. Total income before exceptional item

![](_page_20_Figure_7.jpeg)

Grants for charitable activities

2020

![](_page_20_Figure_9.jpeg)

2021

The financial impact of the building closure was relatively small and work was replanned where possible, however there was a significant reduction in some of the Society's activities. The areas most affected are those that perform trading or public-facing programmatic activities. Some meetings and events were moved to virtual platforms, however others were cancelled or postponed. There was a significant upturn in investment markets following the fall in the prior year caused by the COVID-19 pandemic, resulting in a net gain in investments and overall net income for the year.

#### Expenditure on raising f Expenditure on charitab Total expenditure

#### Income

#### Income from charitable activities

Most of the year-on-year increase in income relates to the increase in grants for charitable activities, which rose to £119.0 million (2020: £108.5 million). There were increases in the Society's core grant from BEIS from £47.1 million in 2020 to £48.0 million in 2021, the Investment in Research Talent Fund (IRTF) from £31.6 million in 2020 to £39.3 million in 2021 and under the BEIS Global Challenges Research Fund (GCRF) from £15.0 million in 2020 to £18.6 million in 2021. Additional funding of £0.9 million (2020: £Nil) was received from BEIS to fund costed extensions to ease the impact of the COVID-19 pandemic on researchers funded by the Society.

The increase in the IRTF expanded the number of grants awarded under existing programmes. The GCRF supports the Future Leaders – African Independent Research (FLAIR) Fellowships, which launched in May 2018; in the year ended 31 March 2021, the number of FLAIR Fellows increased from 29 in 2020 to 59 in 2021, although the coming year will be the last year of the scheme.

Trading in furtherance of charitable objectives decreased by £3.5 million to £8.0 million (2020: £11.5 million) due to the closure of the Society's buildings and suspension of conferencing activities.

	2021 £m	2020 £m
unds	2.1	4.4
le activities	136.3	129.3
	138.4	133.7

#### Income from donations and legacies

Income from donations and legacies increased by £1.1 million to £1.9 million, mainly due to a donation received to support the Society's COVID-19 response work.

#### Expenditure

The Society undertakes a broad range of activities that provide public benefit either directly or indirectly, in line with our strategic priorities. Read more on the Society's public benefit statement on page 10.

#### Expenditure on charitable activities

The majority of the Society's charitable expenditure relates to grant awards, this year accounting for £115.1 million (2020: £102.5 million). The expansion of the grant programme included an increase in the value of grants awarded under existing schemes, most significantly in the University Research Fellowships (URF) programme, which increased by £7.6 million to £52.6 million (2020: £45.0 million); the FLAIR Fellowships, which rose by £4.9 million to £9.6 million (2020: £4.7 million); the Dorothy Hodgkin Fellowships, which increased by £1.3 million to £7.7 million (2020: £6.4 million); and Royal Society Research Professorships, which rose by £1.3 million to £15.2 million (2020: £13.9 million).

Financial review continued

1. Applicants submit

![](_page_21_Figure_2.jpeg)

The funding received under GCRF has enabled the Society to fund more international URFs and establish a new grant programme for funding and supporting research in sub-Saharan Africa called Future Leaders – African Independent Research (FLAIR) Fellowships. FLAIR aims to support early career researchers who are transitioning into an independent research career. In March 2021, the Society was notified that the UK Government's overseas development aid budget was to be cut, leading to a decrease in the Society's BEIS ODA funding for the 2021/22 year and therefore a reduction in the Society's ODA funded programmes.

Aside from grants activity, expenditure on providing scientific advice for policy decreased slightly from £4.3 million in 2020 to £4.0 million in 2021. The Society's work in this area focused particularly on biodiversity and climate change, animate materials, and on work to develop and provide advice to the UK Government through the COVID-19 pandemic.

Expenditure on education and public engagement decreased slightly from £4.5 million in 2020 to £4.1 million in 2021. The decrease in spend is due to the delay in public engagement events or events replanned to take place

digitally at a lower cost as a result of the pandemic. Spend in the year includes expenditure on a number of events, including the first online Summer Science Exhibition, a series on online COVID-19 themed events and a series of five videos focusing on different aspects of science in partnership with BBC Ideas.

6. Offer letters are sent to the candidate and host organisation. The offer will only become an award once both the applicant and host organisation have accepted the offer online.

final report) each year.

#### 5. All recommendations are then presented to the Grants Committee for approval.

 Further information is available at royalsociety.org/grants/applications

their proposal. 2. Once submitted, applications are checked to ensure they meet the eligibility criteria for that programme. **Grant-making** process

**3a.** For fellowships. lonalisted applications are sent for peer review and are then shortlisted by the Committee.

**3b.** For research support grants, the Committee assesses the applications, which are then considered by the Chair(s).

4a. For fellowships, shortlisted candidates are invited to interview and recommendations are made to the Grants Committee.

**4b.** For research support grants, the Chair(s) make recommendations on consideration of the Committees' assessments.

Grants made by the Society fall into two broad classes as follows:

#### (1) Fellowships

- early career fellowships, professorships;
- senior fellowships, and support for innovation; and

(2) Research grants

- research grants, collaboration;
- travel grants;
- capacity-building grants;
- education-related grants.

Grant applications are assessed by means of a peer-review process and consideration by a panel of experts comprising Fellows of the Royal Society and other senior scientists. Each panel is chaired by a Fellow of the Society.

#### Chicheley Hall – Royal Society Trading Limited

The trading subsidiary recorded a loss of £0.2 million in the year (2020: loss of £0.2 million). In the prior year, Council decided to progress with the sale of Chicheley Hall and the sale was completed in March 2021. In line with Government advice, Chicheley Hall closed on 23 March 2020 and did not reopen during 2020/21.

Following several years of trading losses and Council's decision to sell Chicheley Hall, it was no longer deemed possible to recover payment of the intercompany debtor between the Society, as the parent charity, and Royal Society Trading Limited. The outstanding debt was formally waived in both the parent and subsidiary accounts and the Society agreed to support the winding down of activities of the trading company. During 2020/21, costs were incurred in arrangements

for the closure of the Chicheley Hall business and the preparation for the sale of the property. The debt waiver has been treated as a capital contribution directly to shareholders' funds in the subsidiary of £0.5 million (2020: £0.8 million).

As the company has ceased trading, the financial statements of Royal Society Trading Limited for the year ended 31 March 2021 have been prepared on a basis other than that of the going concern basis.

#### Royal Society (London) Ltd

Royal Society (London) Ltd was set up in 2013 to process corporate sponsorships at the Society. The company commenced trading in 2019 and had income of £0.1 million (2020: £0.1 million).

#### Pension and Life Assurance Plan of the Royal Society

The Society operates a defined benefit pension scheme which was closed to new members in 2014.

The valuation of the scheme at 31 March 2021 showed a deficit of £12.2 million (2020: £10.7 million). This represents the difference between the assets and the obligations of the fund rather than an immediate cash liability. The increase in deficit was mainly driven by changes to actuarial assumptions resulting from changes in market conditions increasing the liabilities partly offset by assets returning in excess of interest; a change in mortality assumptions used reducing the liabilities; and the payment of deficit funding contributions in the year of £1.3 million. In accordance with FRS 102, the actuarial losses on the scheme of £2.5 million (2020: £0.8 million gain) have been taken to unrestricted funds.

A triennial valuation of the scheme at 1 January 2019 was agreed during 2019/20. This showed an increase in the 'technical provisions' deficit from £3.7 million to £8.7 million and it was agreed with the Trustees that the Society will pay deficit payments of £1.3 million per annum under a seven-year recovery plan. Current budgets and forecasts indicate that the Society will be able to meet these contributions as they arise.

#### Investment policy and performance

On 23 March 2016, Council passed a resolution under Section 104A(2) of the Charities Act 2011 to adopt the use of total return in relation to its permanent endowments with the exception of the Theo Murphy Australia Fund in order to best enable it to be even-handed between current and future beneficiaries.

The Society does not invest in organisations which conflict with the charity's purpose, or where Council deem that to do so would hamper the charity's work, for example by alienating those who support the Society financially. Council resolved that the Society should not invest in companies or funds that derive a significant portion of their income from the sale or manufacture of tobacco products. The Society ensures that performance is managed against appropriate benchmarks. Income from investments for the year was £4.9 million (2020: £6.9 million). The value of the Society's investment portfolio increased in the year, from £234.1 million in 2020 to £297.3 million in 2021. The increase was due to a recovery in investment markets, which had fallen at the end of the previous financial year due to the COVID-19 pandemic.

#### Reserves

The total funds of the Society increased by £57.3 million to £334.6 million during the financial year, mainly due to the gain on investments. Free reserves are unrestricted reserves (after the pension deficit) less heritage assets and fixed assets. The Society holds free reserves so that it can respond to unforeseen charitable opportunities and continue to honour existing commitments in the event of a shortfall of income. The Society's policy is to review its income streams and expenditure commitments on an annual basis, and assess the main financial risks faced by the Society and their associated likelihood in order to develop a risk-based reserves level. The target level was set cognisant of the risks associated with the changes in the publishing landscape and volatility in investment markets which may affect returns.

At the balance sheet date, the value of the Society's free reserves was £26.2 million (2020: £16.8 million), well above the target level of £15.0 million. The Society continues to develop longer-term strategies to increase its charitable activities in a sustainable way, which will reduce the level of reserves while ensuring that it has adequate resources to enable it to respond to emerging risks and opportunities.

#### Unrestricted funds Unrestricted intangible a Heritage assets Free reserves

#### **Enterprise Fund (Amadeus** RSEF LP)

The Royal Society Enterprise Fund was created with the aim of becoming a financially successful contributor to early-stage sciencebased companies in the UK and a role model for the translation of excellent science for commercial and social benefit. Due to the dual benefits expected to be received, the fund is accounted for as a mixed motive investment in the financial statements. The Society entered into a Limited Partnership Agreement with Amadeus Capital Partners in 2014 to create the Amadeus RSEF LP.

#### Statement of policy on fundraising

Section 162a of the Charities Act 2011 requires the Society to make a statement regarding fundraising activities because it is subject to an external audit. We do not use professional fundraisers or 'commercial participators' or indeed any third parties to solicit donations. We are therefore not subject to any regulatory scheme or relevant codes of practice, nor have we received any complaints in relation to fundraising activities nor do we consider it necessary to design specific procedures to monitor such activities.

	2021 £m	2020 £m
	85.4	80.4
and tangible fixed assets	(10.0)	(14.1)
	(49.2)	(49.5)
	26.2	16.8

#### Modern Slavery Act

The Society is committed to taking the appropriate measures to reduce the risk of slavery and human trafficking taking place in our organisation or our supply chains. Pursuant to Section 54 of the Modern Slavery Act 2015, the Society has published its slavery and human trafficking statement for the financial year ended 31 March 2021.

Further information is available online.

#### Going concern

During 2019/20, Council decided to progress a sale of Chicheley Hall and, as a result of the pandemic, the trading activities of Royal Society Trading Limited ceased. The sale of Chicheley Hall was completed in March 2021. As the company has ceased trading, the financial statements of Royal Society Trading Limited for the year ended 31 March 2021 have been prepared on a basis other than that of the going concern basis.

The Trustees consider that there are no material uncertainties about the Society and Royal Society (London) Ltd to continue as a going concern. This conclusion has been reached after careful consideration of future forecasts which take into account the ongoing impact of COVID-19. The Society manages uncertainties through risk management processes with mitigations in place for key risk areas, and has a robust reserves position and availability of liquid assets in cash at hand and as cash within the investment portfolio.

## **Principal risks** and uncertainties

Council is responsible for ensuring that proper arrangements are in place for risk management. Council relies principally on the Audit Committee, supported by the internal auditors, KPMG LLP, to assess those arrangements and to advise it accordingly.

The Audit Committee considers regular reports on risk-management systems and management of major risks. Council considers regular reports from the Audit Committee and reviews management of major risks, including using its own risk register. The risk registers of the Society's sections are also updated periodically and used in managing and monitoring risks and communicating information about risks across the organisation.

Council and senior staff reflect frequently on uncertainties and risks to achieving the Society's goals and the effectiveness of the various means it employs to mitigate those risks. They are also vigilant in identifying new risks and taking steps to address them. Actions and processes often contribute to mitigation of several risks simultaneously. The Society works assiduously to develop and maintain relationships to ensure that its activities remain relevant, that its contributions are effective and that the value of its work is recognised. The Society enjoys many beneficial relationships through its Fellows, Foreign Members and staff.

In March 2020, due to the COVID-19 pandemic, the Society closed its buildings to Fellows, staff, conferencing clients and other visitors. Although the buildings closed, the business of the Society continued with staff working remotely, wherever possible. In line with Government advice, Chicheley Hall closed on 23 March 2020. Following the decision to dispose of Chicheley Hall in 2020, the property was sold in March 2021. The risk register was regularly reviewed during the period in response to developments in the external landscape, in particular the COVID-19 pandemic and the operational changes required to continue the Society's work and support the Society's staff. The findings of these reviews were that the impact did not expose the Society to unduly high levels of risk.

The main risks identified by Council and actions taken to manage them, including ongoing actions, are described in the table.

## Key

#### Status of risk

High risk

Medium risk

Only significant risks are presented in the table, therefore none have been rated as low risk

Change of status

↑ Increased risk

 $\leftrightarrow$  No change

 $\checkmark$  Decreased risk

Key strategic priorities at risk

Promoting excellence in science

Supporting international scientific collaboration

Demonstrating the importance of science to everyone

#### Risk Business continuity Events adversely impact reputation and/or operations, including loss of

operations due to a major incident (cyber-attack, serious data security breach, a serious fraud, major health and safety incidents, internal control failures or an outbreak of a communicable disease).

#### Strategy delivery

The Society's strategy does not clearly articulate objectives to allow effective prioritisation of work, which means the Society commits to work beyond its resource capacity; therefore, the Society does not deliver against its mission and does not act effectively in its three key roles as a charity, fellowship and national academy of science.

#### Public benefit recognition

The Society does not ensure the effectiveness of its work, fails to remain relevant and/or address important issues as they arise, including Environmental, Social and Governance considerations, and does not ensure that its public benefit is recognised by stakeholders.

#### Key strategic priorities at risk Manageme

Engage in polic

- Regular and pro Regular recove
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  - Oversid
  - experie • Early pl
  - to inclu benefit
  - Effectiv
  - Specifie and pe
  - scientif Govern

nt	Status of risk
e senior-level management, committees and Council y setting and monitoring. r review and update of information security policies ocedures. r review and update of business continuity and disaster ry plans to help minimise disruption to operations from ected events.	↓
ciety has a system of committees that report to Council e responsible for key areas of the Society's work. lanning for the formulation of the 2022 – 2027 strategy creased focus on financial and risk considerations. r meetings of the Officers and regular communication e Officers to Council. cally during the current pandemic, the Officers actively er the latest Government advice and the impact on the r's work programme with reprioritisation and diversion urces to the areas of the biggest current need. I audit of Governance arrangements was performed in ar and actions for improvements were agreed.	⇔
national academy of science, the Society has provided e policy advice to Government during the pandemic. ciety has run public engagement activities to unicate with the public on key areas in relation to the nic. ciety's role in providing science policy advice to ument and the publication of science policy reports the pandemic has been communicated through eam media and to key stakeholder groups through d communication. ogrammes of work are approved by Council, who have the over all work at the Society and set the Society's y. r meetings of the Officers and regular communication e Officers to Council. ght of the Society's activities by Fellows with relevant ence. anning for the formulation of the 2022 – 2027 strategy de considerations of ways of demonstrating public effectively. re project initiation and project management processes. cally during the pandemic, engagement with Fellows ers to enable participation in initiatives to support ic analysis and provide scientific advice to the iment.	↔

#### Principal risks and uncertainties continued

Risk	Key strategic priorities at risk	Management	Status of risk	Risk	Key strategic priorities at risk	Management
International collaboration Political developments in major international science partners, or between UK and major international science partners, have negative impacts on the UK science system. This could lead to funding cuts to foreign partners or their withdrawal from international agreements and collaboration arrangements and a drop in foreign applications for Royal Society grant awards.		<ul> <li>Continue to work with many partners, in the UK, the rest of Europe and globally.</li> <li>Advocate and promote future arrangements for international collaboration and the desire to work globally, and the ability of the UK to continue to attract outstanding scientists from overseas, funding for UK science and regulatory matters.</li> <li>Maintain strong dialogue with the Government on the most challenging issues.</li> <li>Promote good research culture and values of science which promote good collaboration.</li> <li>Provide advice and build relationships.</li> </ul>	↔	Safeguarding The Society does not effectively safeguard its people or those with whom it comes into contact.		<ul> <li>Processe activities</li> <li>Relevant review of</li> <li>Internal s appointe</li> <li>Council r safeguar</li> <li>Agree a stakeholi</li> <li>Specifica and oppointe</li> </ul>
Governance structure Governance structure fails to provide the right level and diversification of expertise to make decisions and run the Society effectively.		<ul> <li>Oversight of election process by Officers and other Council members.</li> <li>Clear role descriptions for Officers and Council members.</li> <li>Identify potential members with broad Trustee experience.</li> <li>Include non-Fellows with relevant expertise on Society committees.</li> <li>Continue to enable willing Fellows to contribute to the Society's work.</li> <li>Provide induction and ongoing training and workshops from legal and audit specialists.</li> <li>Complete regular board effectiveness reviews.</li> <li>Engage with internal and external audit functions to provide support as appropriate.</li> <li>Specifically, internal audit review of Governance arrangements began in the year and actions for improvements will be agreed.</li> </ul>	↔	Reduction in funding Funding reduced or remaining static has a negative impact on the Society's ability to support excellent science. A reduction of income could be due to a reduction in funding from Government, reduced income generated by publishing activities due to open access journals strategy, failure of trading activities to perform and/or reduced investment returns due to financial crises.		<ul> <li>work in the available</li> <li>Strengthe seeking the funding.</li> <li>Improve</li> <li>High lever long-term include the Continge</li> <li>Specification consider society's resource utilisation</li> </ul>
<b>Employees</b> Talented staff not recruited, developed and retained.		<ul> <li>External consultancy firm engaged to review the effectiveness of the structure of the organisation and structure change recommendations implemented.</li> <li>Ongoing benchmarking of compensation and benefits to the rest of the sector.</li> <li>Employee engagement surveys informing areas of change.</li> <li>Schedule of internal courses available for employees.</li> </ul>	<b>↑</b>	Investment performance The economic climate and inherent uncertainties in performance give rise to the risk that investments are not properly safeguarded or perform poorly, including those in the DB pension scheme.		<ul> <li>Review c</li> <li>Regularly the inves</li> <li>Appropri</li> <li>Trained a pension</li> </ul>
Quality of the science Dilution in the quality of the science funded by grants and/or failure to apply the available resources to activities that are of the highest quality and are likely to have the most valuable impact to further the Society's strategic aims.		<ul> <li>Grants Committee formed of experts in subject area, making them best placed to select applications of 'excellent science'.</li> <li>Ongoing review of performance against strategy.</li> <li>Policies and procedures in place to govern decision-making processes.</li> <li>Periodic scheme evaluations to ensure offerings remain relevant and competitive.</li> </ul>	<b>●</b> ↔	<b>Diversity</b> Narrow representation due to lack of diversity in the Fellowship, Council, grant applicants and general science arena.		<ul> <li>Active agengagen</li> <li>Unconscionate</li> <li>Continuative</li> <li>Continuative</li> </ul>

nent	Status of risk
esses adapted to reflect safeguarding considerations for ties performed in a newly virtual format. vant and appropriate policies are in place, and regular w of such policies. nal safeguarding working group and safeguarding officers inted. cil member with designated responsibility for juarding. e a code of conduct for staff, Fellows and other relevant holders. ifically during the pandemic, monitor Government advice opportunities for support, and produce plans for a return to in the office based on advice and scientific evidence once able.	<b>*</b>
gthen existing relations and develop new relationships, ing to secure additional funding and diversify sources of ng. ove arrangements for financial planning. levels of discretionary expenditure that do not have a term commitment attached to them and grant awards de termination clauses in the event of funding withdrawal. ngency planning for potential future changes in funding. ifically during the current pandemic, the Officers actively der the latest Government advice and the impact on the ety's work programme with reprioritisation and diversion of urces to the areas of the biggest current need, and ation of opportunities for support where appropriate.	<b>†</b>
ew of investment-management arrangements. larly review the investment portfolio and performance of ivestment manager. opriate legal advice sought and followed. ed and competent staff in senior positions, and professional ion Trustees appointed.	⇔
e agenda to positively influence and encourage gement from under-represented groups. nscious bias training provided to those in positions ike decisions. nual consideration and engagement with experts in ant fields.	<b>†</b>

## Governance

Risk	Key strategic priorities at risk	Management	Status of risk
Influence and support The Society loses influence and support, and the Fellowship does not support the activities of the Society.		<ul> <li>Regular communication with the Fellowship and other key stakeholders.</li> <li>Implement a new customer relationship management system to more effectively track and monitor communications and contributions.</li> <li>Specifically during the pandemic, engagement with Fellows and peers to enable participation in initiatives to support scientific analysis and provide scientific advice to the Government.</li> </ul>	<b>⇔</b>
Legal and regulatory requirements The Society does not comply with legal and regulatory requirements.		<ul> <li>Appropriate legal advice sought and followed.</li> <li>Trained and competent staff in senior positions.</li> <li>Approved policies and procedures with significant exceptions reported to the Audit Committee.</li> <li>Internal and external audit functions in place.</li> </ul>	$\Leftrightarrow$
National decision making Decisions and actions by the UK Government have a negative impact on the Society's work and ability to achieve its strategy.		<ul> <li>Regular communication with the Fellowship and other key stakeholders.</li> <li>Strengthen existing relations with key stakeholders, including partners and funders.</li> <li>Transparent communication on the Society's position on key areas.</li> </ul>	(New)

#### Structure and management

The Society is a registered charity and Council is the Trustee body under charity law. The Society was founded in 1660 and incorporated by Royal Charter. A Supplemental Charter was granted in 2012, and that now serves as the Society's governing document. The governing body of the Society is its Council, whose members are elected by and from the Fellowship.

Under the Charter, Council 'shall and may have full authority, power, and faculty from time to time to draw up, constitute, ordain, make, and establish such laws, statutes, acts, ordinances, and constitutions as shall seem to them, or to the major part of them, to be good, wholesome, useful, honourable, and necessary, according to their sound discretions, for the better Government, regulation, and direction of the Royal Society aforesaid, and of every Member of the same, and to do and perform all things belonging to the Government, matters, goods, faculties, rents, lands, tenements, hereditaments, and affairs of the Royal Society aforesaid.'

#### Council

The Charter specifies that Council must have between 20 and 24 members, each of whom must be a Fellow of the Society. Council determines the strategic direction of the Society and in particular approves the Society's strategic plan. Council also approves plans for specific charitable programmes on the recommendation of relevant committees, and those committees oversee activities within the programmes on behalf of Council. There are currently 23 members.

Members of Council are all Fellows, and therefore bring primarily scientific expertise to the role. The Society works to ensure that Council has access to excellent advice from staff and other professional advisers in providing them with support that is needed to perform the range of their duties as Trustees.

#### Membership of Council

Among the members of Council are the President, who is the Chair of Council, and four Officers: the Biological Secretary, the Foreign Secretary, the Physical Secretary and the Treasurer. During the year there were also 18 so-called Ordinary

	The Obligation of the Jellows of the ROYAL SOCIETY.
ul .	We whe have hereante subscribed, do hereby promise, each for himselfe, that we will endeavour to premote a Read Society of London for imperving Natural Recordedce, and to pursue the Ends for which the fame wa
na L	That we will be prefent at the meetings of the Society, as often as conveniently we can, opecially at the Elections, and upon Extraordinary occasions ; and that we will observe the Statutes and Orders of the .
14 H	Provided that whenfource any one of us. (hall fignify to the Declident, under his hand, that he defireth to from the Deciety, he shall be free from this Obligation for the future
	Southester Bruncher 320 - Colling
	W. Jeusnshire Roraz Seth Exon: James O
	+ Confut and Kenelme Digby Qo Doyles

Good of the (ounded ; universary und Society. withdraw ~ esley All M. AVren

Members. The President and the Officers normally serve five-year terms and the Ordinary Members serve three-year terms.

With a view to increasing the diversity of Officers, the Charity Commission approved the application submitted by Council to make grants to Officers' parent institutions to reimburse some of the costs that arise from the significant time commitment involved in Officers' roles. This initiative is expected to bring more diversity to the field from which Officers, who will continue to be unpaid by the Society, is drawn.

Changes in the membership of Council took place as usual on 30 November, which is the Society's Anniversary Day. The new members received an induction that included a review of relevant documents and presentations on Trustee duties by a partner in a leading charity-law practice. During the year, Council also received guidance from professional advisers on specific matters and updates on relevant developments affecting charities and Trustees. Council delegates responsibility for day-to-day management of the Society's affairs to the Executive Director.

There have been 62 Presidents of the Royal Society since it was founded in 1660. Previous Presidents of the Royal Society have included Christopher Wren, Samuel Pepys, Isaac Newton, Joseph Banks, Humphry Davy and Ernest Rutherford. The new President of the Society, Sir Adrian Smith, took up the post on 30 November 2020 as the term of the previous President, Sir Venki Ramakrishnan, came to an end.

**Left:** The Royal Society's Charter Book features the signatures of its founding members.

#### Governance continued

#### Public benefit

Fellows are not remunerated for serving as Trustees. Council has complied with its duty to have due regard to the Charity Commission's public benefit guidance when exercising any powers or duties to which that guidance is relevant. Information about public benefit provided by the Society is presented in this report.

#### Committees

The Society is supported by a wide range of committees and working groups. These include committees that oversee key strands of the Society's work, committees that make recommendations to Council of recipients of medals and awards and committees that assess applications for and make grant awards. All Standing Committees have terms of reference agreed by Council that set out the delegations of responsibility to that committee and, for the majority, a member of Council sits on the committee. The committee structure diagram on the following page illustrates the Society's committee structure by type of business and provides additional information on committees relevant to central business on finance, planning and subsidiaries.

#### Key business in the year

In the year, Council received regular reports from the Executive Director and Board as well as reports from key committees, including Audit Committee; Diversity Committee; Education Committee; Hooke Committee; Nominations Committee; Planning and Resources Committee; Public Engagement Committee; Publishing Board; Science, Industry and Translation Committee; and Science Policy Committee.

All of the considerations of Council in the year have been made in the context of the COVID-19 pandemic and the rapidly evolving landscape of significant change in ways of working, the research system and the UK's position globally. The Society has played a significant role in the development and provision of advice to the UK Government through the COVID-19 pandemic. Council has continually supported and reviewed the Society's work in this area and has reflected on issues that have arisen from the pandemic.

The President and Officers of the Society increased the frequency of their meetings to enable rapid consideration of emerging advice and the ability for rapid decision making. In October 2020, a limited reopening of the Society's buildings to staff was agreed. The decision was made following review of UK Government and scientific advice and in consideration of staff for whom working at home is most challenging. The advice from Government is under continuous review and plans to reopen and close the Society's offices have been amended accordingly, with a precautionary approach applied to minimise the risk to Fellows, staff and the general public.

In the previous financial year, following careful consideration of the course of the COVID-19 pandemic at the time, Council made the decision to implement a closure of the Society's buildings to Fellows, staff, conferencing clients and other visitors. During the 2020/21 financial year, Council was given frequent updates and consulted upon the Society's policy response to COVID-19 and the impact of COVID-19 on Royal Society business.

In line with Government advice, Chicheley Hall closed on 23 March 2020. The Society concluded a review of operations at Chicheley Hall in the previous financial year and Council decided to progress with a sale of the property. The sale of Chicheley Hall was completed in March 2021.

Over 1,100 mission related meetings were held at Chicheley Hall by the Royal Society and others. There were no meetings or in-person events held during the 2020/21 year and plans for 2021/22 include the continued use of virtual platforms until it is safe to allow in-person meetings. Going forward the Society will consider use of a broader range of venues for its meetings and events with the aim of encouraging broader and more diverse participation and reducing environmental impact.

Council continued to review the processes surrounding the election of Fellows and Foreign Members with a focus on increasing the diversity of the Fellowship, and equality, diversity and inclusion was also considered in the wider context of the research system. There was also further consideration of the impact on science and science funding following the UK's decision to leave the EU and the latest Comprehensive Spending Review by the Government.

Council reviewed the Society's safeguarding policy, considered and agreed the Council risk register, and approved the Society's budget for the 2021/22 financial year.

#### Committee structure

#### Council

The Trustee body under charity law. Council has a system of committees and determines the memberships of committees, which comprise Fellows and many non-Fellows with relevant expertise. Delegations of authority by Council are explicit in the terms of reference of committees.

#### Board

A subcommittee of Council comprising the President and the Officers. Board oversees fundraising and considers on behalf of Council natters that require urgent attention and matters, such as international affairs, that span many programmes.

#### Fellowship committees

Investment

Committee

The Society's

Investment

Committee

advises Council

on investment

policy, determines

investment strategy

and oversees the

performance of the

Society's investment

managers.

#### Audit Committee

The Audit Committee approves the internal audit programme; reviews internal audit reports and tracks implementation of any actions arising; approves the external audit plan; discusses the audit and matters arising from it with the external auditors and management; and makes recommendations to Council in relation to the financial statements and associated matters.

#### **Planning and** Resources Committee

The Planning and Resources Committee monitors financial performance, oversees the Society's trading activities and the provision of services and recommends the Society's financial plan and its annual budgets to Council for approval.

#### Financial, planning and subsidiary committees

Committees make recommendations to Council for approval in a range of areas, including financial planning and budgeting, the effectiveness of the Society's internal control system, external audit and financial statements, pay-related matters and trading activities.

#### Programme committees

public engagement, committees are invited to attend specific Council

#### Remuneration Committee The Remuneration

Committee considers pay-related matters, including remuneration of key management personnel.

#### Trading subsidiary boards

The Board of Royal Society Trading Limited oversees the activities undertaken by the trading subsidiary, whose primary purpose is to manage the running of operations at Chicheley Hall.

The Board of Royal Society (London) Ltd oversees the trading activities processed by the trading subsidiary.

## Statement of Trustees' responsibilities

The Council members (who are the Trustees of the Society) are responsible for preparing the Trustees' annual report and the financial statements in accordance with applicable law and regulations.

Charity law requires the Council to prepare financial statements for each financial year in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law). Under charity law the Council members must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the group and charity and of the incoming resources and application of resources, including the income and expenditure, of the group for that period.

In preparing these financial statements, the Council members are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent;
- state whether applicable United Kingdom Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in business.

The Council members are responsible for keeping adequate accounting records that are sufficient to show and explain the charity's transactions and disclose with reasonable accuracy at any time the financial position of the charity and enable them to ensure that the financial statements comply with the Charities Act 2011. They are also responsible for safeguarding the assets of the charity and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

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

The current Council members, having made enquiries of fellow Council members and the charity's auditors, confirm that:

- so far as they are aware, there is no relevant audit information of which the charity's auditors are unaware; and
- they have taken all reasonable steps they ought to have taken as Trustees in order to make themselves aware of any relevant audit information and to establish that the charity's auditors are aware of that information.

This report was approved by Council on 6 July 2021 and signed on their behalf by:

Adrian Smith President of the Royal Society

# Independent auditor's report

#### Opinion on the financial statements

- In our opinion, the financial statements: • give a true and fair view of the state of the Group's and of the Parent Charity's affairs as at 31 March 2021 and of the Group's incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities Act 2011.

We have audited the financial statements of The Royal Society ('the Parent Charity') and its subsidiaries ('the Group') for the year ended 31 March 2021 which comprise the consolidated statement of financial activities, the consolidated and charity balance sheets, the consolidated 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 Financial Reporting Standard 102, the Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

#### Opinion on other matter as required by BEIS grant letter

In our opinion, in all material respects, the core and Investment in Research Talent Funding grant payments received from the Department for Business, Energy & Industrial Strategy ("BEIS") have been applied for the purposes set out in the grant letters and in accordance with the terms and conditions of the grants.

#### **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 Group and the Parent Charity in accordance with the ethical requirements relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Conclusions related to going concern

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

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group and the Parent 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 Trustees are responsible for the other information. The other information comprises the information included in the Trustees' report and financial statements, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon. Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the 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.

Independent auditor's report continued

#### Matters on which we are required to report by exception

We have nothing to report in respect of the following matters in relation to which the Charities Act 2011 requires us to report to you if, in our opinion:

- the information contained in the financial statements is inconsistent in any material respect with the Trustees' report and financial statements; or
- adequate accounting records have not been kept by the Parent Charity; or
- the Parent Charity financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

#### Responsibilities of Trustees

As explained more fully in the Statement of Trustees' responsibilities, the Trustees 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 Group's and the Parent 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 Group or the Parent Charity or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements We have been appointed as auditor under Section 144 of the Charities Act 2011 and report in accordance with the Act and relevant regulations made or having effect thereunder.

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

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

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

Based on our understanding of the Group and the industry in which it operates, we identified that the principal laws and regulations that directly affect the financial statements to be the relevant Charities Acts and the financial reporting framework in the UK. We assessed the extent of compliance with these laws and regulations as part of our procedures on the related financial statement

items. We considered the Group's and Parent Charity's own assessment of the risks that irregularities may occur either as a result of fraud or error. We also considered financial performance, key drivers for bonus or other performance targets. We also considered the risks of noncompliance with other requirements imposed by the Charity Commission and we considered the extent to which non-compliance might have a material effect on the Group financial statements.

In addition, the Group and Parent Charity are subject to many other laws and regulations where the consequences of non-compliance could have a material effect on amounts or disclosures in the financial statements, for instance through the imposition of fines or litigation. We identified the following areas as those most likely to have such an effect: employment law, data protection and fundraising regulations. Auditing standards limit the required audit procedures to identify non-compliance with these laws and regulations to enguiry of Those Charged with Governance and other management and inspection of regulatory and legal correspondence, if any.

Our tests included agreeing the financial statement disclosures to underlying supporting documentation, enquiries of the Audit Committee, management and internal audit, and a review of minutes of meetings of Those Charged with Governance. We made enquiries regarding any matters identified as a Serious Incident as reportable to the Charity Commission. We also performed analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud.

We challenged assumptions made by management in their significant accounting estimates, in particular in relation to the assumptions related to the valuation of the defined benefit pension scheme and the assumptions related to the valuation of heritage assets.

We did not identify any matters relating to irregularities, including fraud. As in all of our audits, we also addressed the risk of management override of internal controls, including testing journals including those which potentially impact remuneration and other performance targets and evaluating whether there was evidence of bias by management or Those Charged with Governance that represented a risk of material misstatement due to fraud.

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

A further description of our responsibilities 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 report

This report is made solely to the Charity's Trustees, as a body, in accordance with the Charities Act 2011. Our audit work has been undertaken so that we might state to the Charity's Trustees 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 Trustees as a body, for our audit work, for this report, or for the opinions we have formed.

#### -DocuSigned by: BDO LLP

Gatwick

BDO LLP, statutory auditor

Date: 27 August 2021

BDO LLP is eligible for appointment as auditor of the Charity by virtue of its eligibility for appointment as auditor of a company under section 1212 of the Companies Act 2006.

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

### Consolidated statement of financial activities

For the year ended 31 March 2021 (incorporating an income and expenditure account)

		Unrestricted funds	Restricted funds	Expendable endowment funds	Permanent endowment funds	2021 Total funds	2020 Total funds
	Notes	£'000	000'£	£'000	£'000	000'£	£'000
income and endowments from donations	1	704	1 1 7 1			4 05 0	005
	I	/34	1,124		-	1,858	805
	1	1 1 0 1	117050			440.024	100 5 20
	4	1,181	522		-	119,031	108,529
Irading in furtherance of charitable activities	3	7,522	522	_	-	8,044	11,543
	2	8,703	118,372	_	-	127,075	120,072
Other trading activities	3	110	-		-	110	1,975
Income from investments	2	/86	654	802	2,615	4,857	6,851
Other income		-	23		-	23	/6
Iotal income before exceptional item		10,333	120,173	802	2,615	133,923	129,779
Exceptional net income from property sale	5	2,247	-	-	-	2,247	
Total income		12,580	120,173	802	2,615	136,170	129,779
Expenditure on raising funds	6	1.191	303	127	474	2.095	4.412
Expenditure on charitable activities	7	,					,
Promoting science and its benefits		261	81	_	-	342	245
Supporting and recognising excellence in science		8.275	106.397	_	_	114.672	104.091
Providing scientific advice for policy		1,945	2,099	_	-	4,044	4,265
Fostering international and global cooperation		885	12,279	_	-	13,164	16,166
Education and public engagement		2,998	1,107	_	-	4,105	4,525
		14,364	121,963	_	-	136,327	129,292
Total expenditure		15,555	122,266	127	474	138,422	133,704
Net (expenditure)/income before		(0.075)	(2.002)	675	2444	(0.050)	(2.025)
net gains/(losses) on investments	40	(2,975)	(2,093)	6/5	2,141	(2,252)	(3,925)
Net gains/(losses) on investments	18	8,462	4,015	11,275	38,346	62,098	(23,774)
Net income/(expenditure) for the year		5,487	1,922	11,950	40,487	59,846	(27,699)
Gross transfers between funds	23	1,986	1,834	(1,331)	(2,489)	-	
Actuarial (losses)/gains on defined benefit	<u> </u>					(0 E0 A)	700
pension scheme	25	(2,504)	-		-	(2,504)	/80
Net movement in funds		4,969	3,756	10,619	37,998	57,342	(26,919)
Total funds brought forward		80,445	36,729	36,989	123,085	277,248	304,167
Total funds carried forward		85,414	40,485	47,608	161,083	334,590	277,248

All of the above results are derived from continuing activities except those from Royal Society Trading Limited, which ceased trading on 23 March 2020. There are no other gains or losses other than those stated above. The income and expenditure in the consolidated statement of financial activities for the Group that relate to the discontinued trading subsidiary were £Nil (2020: £1.8m) and £0.2m (2020: £2.3m).

The consolidated statement of financial activities is for the Group as a whole. The Charity's total income for the year was £136.1m (2020: £129.3m). The Charity's total funds increased by £57.1m in the year (2020: £27.6m decrease).

The notes that follow form part of the financial statements.

### Consolidated and charity balance sheets As at 31 March 2021

		Group		Charity	
	Notes	2021 £'000	2020 £'000	2021 £'000	2020 £'000
Fixed assets					
Tangible assets	15B	9,727	14,074	9,727	14,074
Intangible assets	15A	228	_	228	_
Heritage assets	17	49,163	49,476	49,163	49,476
Investments	18	297,310	234,075	297,310	234,075
		356,428	297,625	356,428	297,625
Current assets					
Stocks		21	40	21	26
Debtors receivable within one year	19	2,564	3,420	2,540	3,479
Cash at bank and in hand		6,790	4,759	6,788	4,487
		9,375	8,219	9,349	7,992
Creditors: amounts falling due within one year	20	(18,951)	(17,750)	(18,925)	(17,253)
Net current liabilities		(9,576)	(9,531)	(9,576)	(9,261)
Total assets less current liabilities		346,852	288,094	346,852	288,364
Creditors: amounts falling due after					
more than one year	20	(45)	(129)	(45)	(129)
Net assets before pension scheme liability		346,807	287,965	346,807	288,235
Defined benefit pension scheme liability	25	(12,217)	(10,717)	(12,217)	(10,717)
Total net assets		334,590	277,248	334,590	277,518
Permanent endowment funds	23	161,083	123,085	161,083	123,085
Expendable endowment funds	23	47,608	36,989	47,608	36,989
Restricted funds	23	40,485	36,729	40,485	36,729
Unrestricted funds					
Revaluation reserve	23	47,541	47,856	47,541	47,856
Defined benefit pension reserve	23	(12,217)	(10,717)	(12,217)	(10,717)
Unrestricted income funds	23	50,090	43,306	50,090	43,576
Total funds		334,590	277,248	334,590	277,518

The financial statements were approved and authorised for issue by Council on 6 July 2021 and signed on its behalf by

Sir Andrew Hopper Treasurer

#### Consolidated statement of cash flows

For the year ended 31 March 2021

		2021		2020
	Notes	£'000	£'000	£'000
Net cash used in operating activities	A		(6,432)	(13,744)
Cash flows from investing activities				
Investment income	2	4,857		6,851
Purchase of intangible fixed assets	15A	(207)		-
Purchase of tangible fixed assets	15B	(492)		(1,983)
Proceeds from disposal of tangible fixed assets	15B	6,460		-
Purchase of heritage assets	17	(2)		(20)
Proceeds from disposal of heritage assets	17	14		-
Purchase of investments	18	(52,552)		(31,616)
Proceeds from sale of investments	18	50,385		33,863
Net cash provided by investment activities			8,463	7,095
Increase/(decrease) in cash and cash equivalents			2,031	(6,649)
Cash and cash equivalents at 1 April			4,759	11,408
Cash and cash equivalents at 31 March			6,790	4,759

A. Reconciliation of net income/(expenditure) to net cash flow from operating activities

		2021 £'000	2020 £'000
Net income/(expenditure) as per the statement of financial activities		59,846	(27,699)
Adjustments for:			
Depreciation and amortisation charges	15	1,172	1,262
(Gains)/losses on investments	18	(62,098)	23,774
Investment income	2	(4,857)	(6,851)
(Gains)/losses on the disposal of fixed assets	15B	(2,814)	1
Loss on the disposal of heritage assets	17	301	-
Investment management fees charged to portfolio	18	1,030	1,164
Decrease in stocks		19	3
Decrease in debtors	19	856	3,088
Increase/(decrease) in creditors	20	1,117	(8,362)
Donated heritage assets	17	-	(40)
Difference between pension charge and cash contributions	25	(1,004)	(84)
Net cash used in operating activities		(6,432)	(13,744)

B. Analysis of changes in net debt

	Balances at 1 April		Balances at 31 March
	2020	Cash flows	2021
	£'000	£'000	£,000
Cash at bank and in hand	4,759	2,031	6,790
Total	4,759	2,031	6,790

Accounting policies For the year ended 31 March 2021

The principal accounting policies adopted in the preparation of these financial statements are as follows.

#### Accounting convention

The financial statements have been prepared in accordance with Financial Reporting Standard 102 – 'The Financial Reporting Standard applicable in the United Kingdom and Republic of Ireland' ('FRS 102') and with the Statement of Recommended Practice: Accounting and Reporting by Charities FRS 102 as revised in 2019 ('the SORP 2019 2nd Edition') together with the reporting requirements of the Charities Act 2011.

The financial statements have been prepared under the historical cost convention with items recognised at cost or transaction value unless otherwise stated in the relevant accounting policy or note.

The accounts have been prepared on a going concern basis. This conclusion has been reached after careful consideration of future forecasts which take into account the ongoing impact of COVID-19. The Society manages uncertainties through risk management processes with mitigations in place for key risk areas, and has a robust reserves position and availability of liquid assets in cash at hand and as cash within the investment portfolio. The Royal Society ('the Society') is a Public Benefit Entity as defined by FRS 102. The accounting policies have been applied consistently throughout the financial statements and the prior year.

The accounts of the subsidiary Royal Society Trading Limited have been prepared on a basis other than that of the going concern basis. This basis includes, where applicable, writing the company's assets down to net realisable value. Provisions have also been made in respect of contracts which have become onerous at the reporting date. No provision has been made for the future costs of terminating the business unless such costs were committed at the reporting date.

#### Basis of consolidation

These financial statements consolidate the results of the Royal Society and its active wholly owned subsidiaries, Royal Society Trading Limited and Royal Society (London) Ltd, on a line-by-line basis. In the consolidated financial statements uniform accounting policies have been used, with the exception of Royal Society Trading Limited. A separate statement of financial activities for the charity itself is not presented.

#### Cash flow statement

The Society meets the definition of a qualifying entity under FRS 102 and has therefore taken advantage of the disclosure exemption in relation to presentation of a cash flow statement in respect of its separate financial statements, which are presented alongside the consolidated financial statements.

#### Critical accounting judgements and key sources of estimation uncertainty

In the application of the Group's accounting policies the Trustees are required to make judgements, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. Judgements, estimates and associated assumptions are reviewed on an ongoing basis and are based on historical experience and other factors that are considered to be relevant, including expectations of future events that are believed to be reasonable under the circumstances.

Critical judgements relate to the accounting treatment of the multiemployer defined benefit scheme. Critical accounting estimates and assumptions relate to the defined benefit pension scheme and the valuation of heritage assets.

#### Multi-employer defined benefit scheme

Certain employees participate in a multi-employer defined benefit scheme with other organisations. In the judgement of the Trustees, the Society does not have sufficient information on the plan assets and liabilities to be able to reliably account for its share of the defined benefit obligation and plan assets. In accordance with FRS 102 this is therefore accounted for as though it were a defined contribution scheme.

### Accounting policies continued

#### Defined benefit pension scheme

The cost of the defined benefit pension scheme and the present value of the scheme liability depend on a number of factors, including assumptions about inflation, discount rates and mortality, which are taken by actuarial specialists. The valuation of the scheme is particularly sensitive to discount rate assumptions, with a 0.1% movement in the discount rate resulting in a £2.3m change in the value of the scheme liabilities.

#### Impairment of heritage assets

Heritage assets held at valuation or cost totalled £49.2 million at 31 March 2021 (2020: £49.5 million) and a detailed impairment assessment was last performed in 2015. The valuation assumes that since 2015: (a) the physical condition of the assets has not deteriorated; and (b) there have not been any significant changes in the markets of these assets. A review of the indicators of impairment is undertaken annually and should this review identify any indicators, then a detailed impairment assessment would be undertaken. No indicators of impairment were identified in this annual review.

#### Royal Society Trading Limited

Royal Society Trading Limited ceased to trade on the closure of Chicheley Hall on 23 March 2020 following Government advice due to the COVID-19 pandemic. Following the decision to progress with the sale of Chicheley Hall in 2020, the property was sold in March 2021. As the company has ceased trading, the financial statements of Royal Society

Trading Limited for the year ended 31 March 2021 have been prepared on a basis other than that of the going concern basis.

During the year, costs were incurred in arrangements for the closure of the Chicheley Hall business and the preparation for the sale of the property. Following several years of trading losses and Council's decision to sell Chicheley Hall, it was no longer deemed possible to recover payment of the intercompany debtor between the Society, as the parent charity, and Royal Society Trading Limited. The debt was formally waived in both the parent and subsidiary accounts. The debt waiver has been treated as a capital contribution directly to shareholders' funds in the subsidiary of £0.5 million (2020: £0.8 million).

#### Income

Income is accrued and recognised when conditions on entitlement are met, receipt can be quantified reliably and is probable.

#### Donations and legacies

Donated goods and services are included at the value to the Society where these can be quantified. No amounts are included in these financial statements for the services donated by volunteers or Fellows.

Donations are accounted for on a receivable basis where receipt is probable and there is entitlement to the income. Donations include Gift Aid based on amounts receivable at the accounting date.

Legacy income is recognised on a receivable basis when there is sufficient evidence to assess that receipt is probable and receipt can be quantified reliably. Receipt of a legacy, in whole or in part, is only considered probable when the charity has been notified of the executor's intention to make a contribution.

Fellows' annual contributions are recognised in the year in which they become due.

#### Grants for charitable activities

Grants are recognised when all conditions for receipt are met. Where donor-imposed restrictions apply to the timing of the related expenditure as a precondition of its use the grant is treated as deferred income until those restrictions are met. Grants received for specific purposes are accounted for as restricted funds.

#### Income from trading activities

Income from conferencing activities is recognised when the event takes place. Income from publishing activities is recognised when the publication or service is provided. Income for the sales of subscriptions, package subscriptions and consortium deals is recognised evenly over the period of subscription or service.

#### Income from investments

Investment income and interest on deposits is recognised on an accruals basis. Investment income arising on endowment funds is credited to the appropriate fund in accordance with the prescribed conditions.

#### Expenditure

Expenditure, including irrecoverable VAT, is accounted for on an accruals basis. Expenditure is allocated to the particular activity where the cost relates directly to that activity. Support costs, which cannot be directly attributed to a particular activity, are apportioned based on the costs of staff engaged in direct activities.

#### Expenditure on raising funds

Costs of raising funds include those costs incurred in raising donations and legacies.

#### Expenditure on charitable activities

Charitable expenditure includes all expenditure incurred on grants awarded and on other schemes run in pursuance of the Society's objectives under its Charter, including Fellowship activities and primary purpose trading.

The direct costs of supporting these activities, including staff and other overhead costs, are separately analysed and shown as support costs under this heading.

Grants are recognised as a liability when the Society formally notifies the recipient of the award. Due to the nature of the funding source for the majority of grant awards, the liability is measured as the total of expected payments for the period to the next confirmation of income due. Payments due in future periods are disclosed as grant commitments. Any termination liabilities are recognised when a decision to cease the grant is made. Liabilities for awards where more than one year of expected payments are provided at the outset are discounted to current value using a rate equivalent to the opportunity cost from investments foregone.

#### Leased assets

Rentals payable under operating leases are charged to the statement of financial activities evenly over the term of the lease.

#### Tangible fixed assets

Tangible fixed assets are capitalised at cost, including purchase price and any other costs of bringing the asset into working condition for its intended use. The Society only capitalises items costing more than £5,000. Batches of items below this threshold are capitalised if forming part of a larger asset or project and together cost more than £5,000.

Depreciation is provided on all assets, excluding freehold land and assets under development, to write off the cost of tangible fixed assets on a straight-line basis over their expected useful lives as follows:

Freehold property	
and improvements:	20 – 50 years
Freehold fixtures	
and fittings:	3 – 10 years
Leasehold	
improvements:	20 – 30 years
Leasehold fixtures	
and fittings:	3 – 10 years
Computers and AV	
equipment:	3 – 5 years
Other equipment:	10 – 20 years

On completion, assets under development are transferred to the relevant category and depreciated.

#### Intangible assets

Intangible assets consist of computer software that is not an integral part of its related hardware. Intangible assets are capitalised at cost, including purchase price of computer software licences and any other costs directly

attributable to bringing the licences into use, such as configuration or implementation costs. Software development costs are recognised as an intangible asset when all of the conditions of FRS 102 are met.

The Society only capitalises items costing more than £5,000. Batches of items below this threshold are capitalised if forming part of a larger asset or project and together cost more than £5,000.

Intangible assets are measured at cost less accumulated amortisation and any impairment losses.

Amortisation is charged to write off the cost of the intangible asset on a straight-line basis over the estimated useful life of between 3–10 years.

#### Heritage assets

Heritage assets comprise:

- printed books;
- archives;
- pictures, sculptures and other works of art; and
- other artefacts.

Printed books and archives are included on the balance sheet at deemed cost using a valuation performed in 2003. Pictures, sculptures and other works of art, and other artefacts are included on the balance sheet on a valuation basis. The valuation reflects their fair value and was last performed in 2015. Impairment reviews of these collections are undertaken every 5-10 years and when changes in circumstances indicate. A review of indicators of impairment is undertaken annually.

### Accounting policies continued

Additions to heritage assets are made by purchase or donation. Purchases are initially recorded at cost and donations are recorded at a fair value where practicable. The Society holds and maintains these assets principally for their contribution to knowledge and culture in line with its charitable aims.

The Trustees do not consider that a reliable estimate of the fair value can be obtained for a large part of the archives collection without incurring costs that would exceed the benefits provided. The Society was founded in 1660 and the collection has been built up throughout its existence and the number of assets held in the collection is extensive and diverse in nature. Reliable and relevant information on the cost of many of the assets is therefore not readily available and there is a lack of comparable market values. As such, these assets are not recognised in the accounts.

#### Investments

Listed investments are held at fair value. Unlisted investments are held at cost as an approximation to fair value where the fair value is not obtainable. Private equity investments are valued at fair value based on the latest information from the fund managers. Realised gains and losses on investments sold in the year and unrealised gains and losses on revaluation of investments are included in the statement of financial activities.

Investment management fees are allocated proportionally against the funds under investment.

The Enterprise Fund is accounted for as a mixed motive investment, owing to the dual benefits expected to be received.

The investments in subsidiary undertakings are held at cost on the Society-only balance sheet.

#### Total return accounting

The Society adopts the use of total return in relation to its permanent and expendable endowments with the exception of the Theo Murphy Australia Fund. Income from the endowments and investment gains and losses are recognised in the endowment column of the statement of financial activities. Unapplied total return that is allocated to income funds is presented as an allocation between endowment funds and income funds as a transfer on the face of the statement of financial activities.

The amount of any unapplied total return fund is included as part of the relevant endowment together with the value of the trust for investment on the balance sheet.

The Trustees' policy is to distribute up to 4% of the rolling five-year average capital value of the fund. In determining that the charity should adopt a total return approach, the Trustees considered the Charities (Total Return) Regulations 2013 and received advice from Stone King LLP and Cazenove Capital Investment managers.

The core endowment represents the part of the assets which the Trustees seek to maintain in real terms. It is based on the value of the endowments at 31 March 2012, together with an allowance for inflation (UK consumer price index (CPI) as determined by the Office for National Statistics).

#### Impairment of fixed assets

Tangible fixed assets, intangible assets and investments are subject to review for impairment when there is an indication of a reduction in their carrying value.

Investments held at cost are reviewed annually for impairment. Any impairment is recognised in the corresponding statement of financial activities category in the year in which it occurs.

Heritage assets are reviewed for impairment at the end of each reporting period to ensure that the carrying value reflects their carrying amounts.

#### Foreign currency

Transactions in foreign currencies are recorded at the exchange rate at the date of the transaction. Assets and liabilities in foreign currency are translated into sterling at the exchange rate at the balance sheet date. Resulting gains or losses are included in the statement of financial activities.

#### **Financial instruments**

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

#### Fund accounting

Restricted funds can only be used for particular purposes specified or agreed by the donor. Permanent endowment funds are funds where the capital must be retained and invested. Expendable endowment funds are funds that must be invested to produce income. Unrestricted funds may be used for any purpose in the furtherance of the general objectives of the charity.

#### Pension costs

Defined benefit pension scheme assets are measured at fair value and liabilities on an actuarial basis using the projected unit method and discounted at a rate equivalent to the current rate of return on a highquality corporate bond of equivalent currency and term to the Scheme liabilities. The actuarial valuations are obtained triennially and updated under FRS 102 rules at each balance sheet date. Any surplus or deficit is shown in the balance sheet as an asset or liability.

The charge to the statement of financial activities is calculated so as to spread the cost of pensions over employees' working lives with the Society. The charge comprises the administration costs of running the scheme, the current service cost computed by the actuary under FRS 102 and gains and losses on settlements and curtailments. Past service costs or credits are recognised immediately if the benefits have vested. If the benefits have not vested immediately, the costs are recognised over the period until vesting occurs. The interest on the assets and liabilities for the period is shown as a net amount of other finance costs or credits

charged or credited to the statement of financial activities. Actuarial gains and losses are recognised immediately under the description 'Actuarial losses on defined benefits pension scheme'.

Multi-employer schemes are accounted for as defined contribution schemes as it is not possible to identify the Society's share of the underlying assets and liabilities on a reasonable and consistent basis. Contributions payable relating to funding of the deficit are included as a liability on the balance sheet and charged to the statement of financial activities.

The amounts charged to the statement of financial activities for defined contribution pension schemes represent the employer's contributions payable in the year. The method for allocation of pension costs between funds is to allocate on a pro rata basis using departmental salary costs as a base.

#### Termination benefits

Termination benefits are payable when employment is terminated by the Society, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The amounts charged to the statement of financial activities represent the best estimate of the expenditure required to settle the obligation at the balance sheet date.

#### Taxation

The Society is a charity within the meaning of Paragraph 1 Schedule 6 of the Finance Act 2010. Accordingly, the Society is exempt from income and corporation taxes on income and gains to the extent that they are applied to charitable purposes. The trading subsidiaries do not generally pay UK corporation tax because their policy is to pay taxable profits to the Society as Gift Aid.

#### Prior year comparatives

In accordance with FRS 102, prior year comparative figures can be found as follows:

- consolidated statement of financial activities – note 27;
- analysis of net assets between funds – note 28;
- movement on trust and specific funds in year – note 29.

### Notes to the financial statements

For the year ended 31 March 2021

#### 1 Income and endowments from donations and legacies

	Unrestricted funds £'000	Restricted funds £'000	Expendable endowment funds £'000	Permanent endowment funds £'000	2021 Total funds £'000	2020 Total funds £'000
Gifts and donations	19	1,124	_	_	1,143	520
Legacies	486	_	_	-	486	26
Fellows' contributions	229	_	_	-	229	259
Total	734	1,124	_	-	1,858	805

#### 2 Income from investments

	Unrestricted funds £'000	Restricted funds £'000	Expendable endowment funds £'000	Permanent endowment funds £'000	2021 Total funds £'000	2020 Total funds £'000
Dividends and interest	782	654	802	2,615	4,853	6,817
Bank deposit interest	4	_	_	-	4	34
Total	786	654	802	2,615	4,857	6,851

#### 3 Trading

		Recharged		2021	2020
	External	internal	Gross	Net surplus/	Net surplus/
	income	lettings	expenditure	(deficit)	(deficit)
	£'000	£'000	£'000	£'000	£'000
Trading activities through subsidiary companies					
Kavli Royal Society International Centre (Chicheley Hall)	_	_	(185)	(185)	(187)
Sponsorships	110	_	(4)	106	122
	110	_	(189)	(79)	(65)
Trading in furtherance of charitable activities					
Publishing	7,494	-	(3,256)	4,238	4,417
Conferencing activities in furtherance of objectives – Carlton House Terrace	2	-	(827)	(825)	1,539
Other	548	_	_	548	669
	8,044	_	(4,083)	3,961	6,625
Total	8,154	_	(4,272)	3,882	6,560

The costs of the Society's publishing operation and the costs associated with the lettings in furtherance of charitable objects are included in 'Supporting and recognising excellence in science' on the face of the statement of financial activities. The costs of trading through subsidiary companies are included in expenditure on raising funds.

The Society was exempt from income tax, corporation tax and capital gains tax on income derived from its primary purpose trading and charitable activities.

#### 4 Grants for charitable activities

	Unrestricted funds £'000	Restricted funds £'000	Expendable endowment funds £'000	Permanent endowment funds £'000	2021 Total funds £'000	2020 Total funds £'000
From Government and other public bodies						
Core grant from Department for Business, Energy and Industrial						
Strategy (BEIS)	992	47,030	-	-	48,022	47,101
BEIS Investment in Research Talent Fund	_	39,267	_	_	39,267	31,629
BEIS Newton Fund	_	4,364	_	_	4,364	6,137
BEIS Global Challenges Research Fund	-	18,551	-	_	18,551	15,033
BEIS COVID Costed Extensions Fund	-	941	-	_	941	_
Department for International Development	_	1,686	_	_	1,686	1,990
Other grants from Government and public bodies	189	230	_	_	419	182
From other external bodies						

#### From other external bodies

Contribution to charitable activities	_	5,781	_	_	5,781	6,457
Total	1,181	117,850	_	-	119,031	108,529

Other grants from Government and public bodies includes income of £189,000 (2020: £Nil) from the Coronavirus Job Retention Scheme.

Details of the income to and movement of individual funds are disclosed in note 23.

#### 5 Property sale – exceptional item

	Unrestricted funds £'000	Restricted funds £'000	Expendable endowment funds £'000	Permanent endowment funds £'000	2021 Total funds £'000	2020 Total funds £'000
Exceptional net income from property sale	2,247				2,247	
Total	2,247	_	-	-	2,247	-

During the year, the Society completed on the sale of Chicheley Hall in Milton Keynes for £6.5 million with a net book value of £3.6 million and costs associated with the sale of £0.3 million. Heritage assets (mainly portraits and paintings) with a net book value of £0.3 million were also disposed of during the year as part of the Chicheley Hall sale. The portraits and paintings had heritage association with Chicheley Hall and so they were sold with the building.

#### 6 Expenditure on raising funds

		Expendable	Permanent	2021	2020
Unrestricted	Restricted	endowment	endowment	Total	Total
funds	funds	funds	funds	funds	funds
£'000	£'000	£'000	£'000	£,000	£'000
431	_	-	-	431	473
449	-	-	-	449	464
185	_	-	-	185	2,311
126	303	127	474	1,030	1,164
1,191	303	127	474	2,095	4,412
	Unrestricted funds £'000 431 449 185 126 1,191	Unrestricted funds £'000         Restricted funds £'000           431         -           449         -           185         -           126         303           1,191         303	Unrestricted funds         Restricted funds         Expendable endowment funds           £'000         £'000         £'000           431         —         —           431         —         —           432         —         —           185         —         —           126         303         127           1,191         303         127	Unrestricted funds £'000Restricted funds £'000Expendable endowment funds £'000Permanent endowment funds £'0004314314311851263031271,191303127	Unrestricted funds £'000Restricted funds £'000Expendable endowment funds £'000Permanent endowment funds £'0002021 Total funds £'0004314314314314494491851851263031274741,0301,1913031274742,095

#### 7 Expenditure on charitable activities

	Staff costs £'000	Grant costs £'000 (note 10)	Other direct costs £'000	Support costs £'000 (note 8)	2021 Total £'000	2020 Total £'000
Charitable activities						
Promoting science and its benefits	15	60	36	231	342	245
Supporting and recognising excellence in science	3,974	104,063	2,489	4,146	114,672	104,091
Providing scientific advice for policy	1,791	-	308	1,945	4,044	4,265
Fostering international and global cooperation	815	10,696	768	885	13,164	16,166
Education and public engagement	1,444	312	779	1,570	4,105	4,525
Total for costs of charitable activities	8,039	115,131	4,380	8,777	136,327	129,292

#### 8 Support costs

	Media relations and public engagement £'000	Facilities and building management £'000	Support services £'000	Governance £'000	2021 Total £'000	2020 Total £'000
Support costs on raising funds	29	99	289	32	449	464
Charitable activities						
Promoting science and its benefits	15	51	148	17	231	3
Supporting and recognising excellence in science	272	914	2,662	298	4,146	4,452
Providing scientific advice for policy	127	429	1,249	140	1,945	1,966
Fostering international and global cooperation	58	195	568	64	885	905
Education and public engagement	103	346	1,008	113	1,570	1,608
	575	1,935	5,635	632	8,777	8,934
Total support costs	604	2,034	5,924	664	9,226	9,398

Facilities and building management comprises the rent and running costs (maintenance, insurance, cleaning and security) of Carlton House Terrace.

Support services comprises finance, IT, HR, pension costs and corporate management.

Support costs are allocated on a pro rata basis using departmental salary costs as a base.

#### 9 Staff costs

	2021	2020
	£'000	£'000
Costs by type		
Salaries	10,155	10,154
Social security costs	1,036	994
Pension costs	1,018	1,314
Total	12,209	12,462

As required by FRS 102, included in 2021 staff costs is an amount of £297,000 (2020: £238,000) relating to holiday pay owed to staff at 31 March 2021.

and a defined benefit scheme, and the Universities Superannuation Scheme (USS) pension scheme as follows:

- The Royal Society Group Personal Pension Plan (defined contribution): £633,000 (2020: £594,000); • The Pension and Life Assurance Plan of the Royal Society (defined benefit): £377,000 (2020: £337,000);
- USS: £26,000 (2020: £41,000).

The following numbers of employees of the Royal Society earning £60,000 per annum or more received total emoluments within the bands shown:

	2021	2020
£60,001 – £70,000	10	8
£70,001 – £80,000	6	8
£80,001 – £90,000	3	3
£90,001 – £100,000	5	1
£100,001 – £110,000	1	1
£110,001 – £120,000	1	2
£120,001 – £130,000	2	_
£140,001 – £150,000	-	1
£150,001 – £160,000	2	1
£160,001 – £170,000	-	1
£360,001 – £370,000	-	1
£380,001 – £390,000	1	_

The 12 key management personnel of the Royal Society (2020: 14) received total remuneration of £1,832,000 including employer's NIC (2020: £1,850,000).

The average number of employees, analysed by function, was:

	2021	2020
Expenditure on raising funds	6	6
Expenditure on charitable activities	162	160
Support (including governance)	51	46
Total	219	212

The average full-time equivalent was 214 (2020: 209).

Redundancy and termination payments were made to 2 employees during the year (2020: 1). Total redundancy and termination payments in respect of these employees were £15,000 (2020: £100,000).

Pension costs include employer contributions to two Royal Society pension schemes, a defined contribution scheme

#### 10 Grants

	Grants to	Grants to	2021	2020
	institutions £'000	individuals £'000	Iotal £'000	lotal £'000
Fellowships				
University Research Fellowships	_	52,621	52,621	45,037
Royal Society Research Professorships	_	15,240	15,240	13,856
FLAIR Fellowships	_	9,602	9,602	4,738
Dorothy Hodgkin Fellowships	_	7,689	7,689	6,396
Newton International Fellowships	-	4,237	4,237	6,361
Sir Henry Dale Fellowships	_	4,214	4,214	3,892
RS Visiting Research Professorship	_	3,794	3,794	3,835
RS Challenge Grants	_	2,873	2,873	2,871
Newton Advanced Fellowships	_	2,433	2,433	3,457
Industry Fellowships	_	2,152	2,152	1,764
Wolfson Advanced Fellowships	1,931	-	1,931	1,380
Wolfson Research Merit Award	1,285	-	1,285	1,822
Leverhulme Trust Senior Research Fellowships	_	387	387	486
International Fellowship Grants	_	182	182	200
Professorship of Public Engagement	_	26	26	22
Education schemes				
Partnership grants scheme	142	-	142	144
Education Research Fellowships	_	3	3	6
Other education grants	_	5	5	4
Other grant programmes				
International Exchanges	_	2,518	2,518	1,558
DFID Africa Awards	_	1,392	1,392	1,576
Entrepreneur in Residence	_	897	897	874
Leverhulme Trust APEX Awards	_	673	673	579
Wolfson Laboratory Refurbishment Grants	258	-	258	558
Other GCRF Programmes	—	-	-	227
Australian Academy of Science Think Tank	—	103	103	200
Paul Instrument Fund	—	101	101	199
Awards and prizes	_	223	223	191
Newton International Exchanges		(20)	(20)	138
Brian Mercer Awards		61	61	14
Other	-	109	109	111
Total	3,616	111,515	115,131	102,496

#### **10** Grants continued

		2021 Total	2020 Tatal
	Number	£'000	£'000
Recipients of institutional grants			
University of Glasgow	12	485	292
Imperial College London	14	393	313
University College London	9	188	316
University of Birmingham	12	176	175
University of Southampton	7	146	141
King's College London	4	143	101
University of Cambridge	15	135	208
University of Nottingham	6	132	175
University of Leicester	4	123	108
University of Bristol	9	121	132
University of Edinburgh	8	111	143
University of Leeds	8	111	113
Nottingham Trent University	2	106	_
University of York	5	97	52
University of Sheffield	2	91	_
University of Oxford	5	83	85
Liverpool School of Tropical Medicine	3	81	_
Durham University	5	71	-
University of St Andrews	3	68	113
University of Warwick	10	65	108
University of Manchester	5	58	50
University of Bath	5	56	68
The Francis Crick Institute	1	53	_
Brunel University London	1	43	_
University of Portsmouth	1	38	_
Queen's University Belfast	2	34	_
Diamond Light Source Ltd	1	34	_
University of Sussex	5	30	_
Cardiff University	4	29	40
University of Exeter	3	26	51
Queen Mary University of London	2	21	30
Swansea University	1	15	_
Newcastle University	1	15	21
Keele University	_	-	62
London School of Hygiene and Tropical Medicine	_	_	50
Other organisations	67	238	957
Total	242	3,616	3,904

Grants are generally awarded to particular individuals, although the actual award is made to the host organisation.

Details of individual grants awarded during the year analysed by organisation are available from the finance department on request.

#### 11 Reconciliation of grants payable

	2021	2020
	Total	Total
	£'000	£'000
Liability at 1 April	4,785	12,191
New grants awarded in year	116,751	104,968
Grants paid in year	(114,242)	(109,902)
Grants refunded to the Society	(1,569)	(2,472)
Liability at 31 March	5,725	4,785

All grants payable fall due within one year.

#### 12 Payments to Trustees and related party transactions

	2021	2020
	Total	Total
	£'000	£,000
Expenses: Travel and subsistence	2	83

No Trustees received remuneration from the Society in the year (2020: Nil). Expenses were reimbursed to or paid on behalf of 5 Trustees (2020: 24 Trustees).

#### Indemnity insurance

With the consent of the Charity Commission, the Society has taken out Trustees' indemnity insurance. The cost of this insurance for the year was £10,000 (2020: £9,000). No claims have been made under this policy.

#### Grants and awards

Professor Peter Bruce FRS is an award holder of an International Exchanges Cost Share (NSFC) grant. The total value of the award is £12,000. This was awarded in March 2021. No payment was made in 2020/21. He was also a co-applicant on a Newton Advanced Fellowship grant. The total value of the award is £111,000. This was awarded and taken up in the 2018/19 financial year. No payment was made in 2020/21. Professor Nora de Leeuw, spouse of Professor Peter Bruce FRS, holds a grant as part of the Africa Capacity Building Initiative programme funded by the Department for International Development (DFID) (now the Foreign, Commonwealth and Development Office (FCDO)) and administered by the Royal Society grants team.

Professor Sheena Radford FRS is an award holder of a Royal Society Research Professorship grant. The total value of the award is £1,054,000. This was awarded and taken up in 2021. A payment of £206,000 was made in 2020/21 to the University of Leeds.

Professor Jennifer Thomas FRS is an award holder of a Royal Society Research Professorship grant. The total value of the award is £1,120,000. This was awarded and taken up in 2020. A payment of £402,000 was made in 2020/21 to University College London.

#### Other

Sir Adrian Smith, President of the Royal Society, has use of the President's flat at Carlton House Terrace.

With a view to increasing the diversity of Officers, the Charity Commission approved the application submitted by Council to make grants to Officers' parent institutions to reimburse some of the costs that arise from the significant time commitment involved in Officers' roles. The grants paid this year were £50,000 (2020: £Nil).

#### Related party transactions

The Royal Society had two wholly owned trading subsidiaries during the year, Royal Society Trading Limited (registered number 06967016) and Royal Society (London) Ltd (registered number 08808518).

Details of transactions with these subsidiaries are set out in note 26.

#### 13 Total expenditure includes the following amounts:

	2021 Total 5'000	2020 Total 5'000
Operating lease rentals	2000	2000
Plant and machinery	71	79
Rent	490	490
	561	569
Fees payable to the Charity's auditors for:		
The audit of the Charity and Group accounts	46	35
The audit of the Charity's subsidiaries' accounts pursuant to legislation	5	6
Tax returns of the Charity and trading subsidiaries	6	6
Total auditors' remuneration	57	47
Charges on owned assets		
Depreciation and amortisation	1,172	1,262
	1.172	1.262

#### 14 Financial memoranda

Income and expenditure relating to Government grants during the year was as follows:

	2021	2020
	Total	Total
	£,000	£'000
Department for Business, Energy and Industrial Strategy – core grant		
Income	48,022	47,101
Expenditure	(48,022)	(47,101)
Department for Business, Energy and Industrial Strategy – Investment in Research Talent Fund		
Income	39,267	31,629
Expenditure	(39,267)	(31,629)
	-	_
BEIS Global Challenges Research Fund		
income	18,551	15,033
Expenditure	(18,551)	(15,033)
BEIS Newton Fund		
Income	4,364	6,137
Expenditure	(4,364)	(6,137)
BEIS COVID Costed Extensions Fund	-	
Income	941	_
Expenditure	(941)	_
	-	
Department for International Development grant		
Income	1,686	1,990
Expenditure	(1,686)	(1,990)
	-	_

#### 15 Intangible and tangible fixed assets

15A Intangible assets – Group and charity

	Software	2021	2020
	£'000	£,000	£'000
Cost			
At 1 April	_	-	_
Additions	207	207	-
Transfers	43	43	-
At 31 March	250	250	-
Accumulated amortisation			
At 1 April	_	-	-
Charge for year	22	22	-
At 31 March	22	22	-
Net book value at 31 March 2021	228	228	-
Net book value at 31 March 2020	_	-	-

During the year, a customer relationship management (CRM) system was completed and went live. Once completed, the asset costs were reviewed and it met the criteria of an intangible asset. The costs incurred on the CRM system in the previous year were transferred out of assets under development into intangible assets during the year.

Amortisation of intangible fixed assets is included within the expenditure on charitable activities in note 7.

There were no contractual commitments for acquisitions of intangible assets as at 31 March 2021 (2020: £Nil).

#### 15 Intangible and tangible fixed assets continued

15B Tangible fixed assets – Group and charity

	Chicheley Hall freehold and property improvement £'000	Chicheley Hall computers and other equipment £'000	Leasehold improvements £'000	Computers and other equipment £'000	Assets under development £'000	2021 £'000	2020 £'000
Cost							
At 1 April	17,954	684	21,855	4,161	92	44,746	43,419
Additions	8	_	100	375	9	492	1,983
Disposals	(17,961)	(674)	(65)	(286)	-	(18,986)	(656)
Transfers	(1)	(10)	_	20	(52)	(43)	_
At 31 March	_	_	21,890	4,270	49	26,209	44,746
Depreciation							
At 1 April	14,259	638	13,001	2,774	_	30,672	30,065
Charge for year	90	11	714	335	_	1,150	1,262
Disposals	(14,348)	(642)	(65)	(285)	_	(15,340)	(655)
Transfer	(1)	(7)	_	8	_	-	-
At 31 March	_	-	13,650	2,832	_	16,482	30,672
Net book value at 31 March 2021	_	-	8,240	1,438	49	9,727	
Net book value at 31 March 2020	3,695	46	8,854	1,387	92		14,074
	5,055	40	0,004	1,507	JZ		17,074

	freehold and property	computers and other	Leasehold	Computers and other	Assets under		
	improvement £'000	equipment £'000	improvements £'000	equipment £'000	development £'000	2021 £'000	2020 £'000
Cost							
At 1 April	17,954	684	21,855	4,161	92	44,746	43,419
Additions	8	_	100	375	9	492	1,983
Disposals	(17,961)	(674)	(65)	(286)	-	(18,986)	(656)
Transfers	(1)	(10)	_	20	(52)	(43)	-
At 31 March	-	-	21,890	4,270	49	26,209	44,746
Depreciation							
At 1 April	14,259	638	13,001	2,774	-	30,672	30,065
Charge for year	90	11	714	335	-	1,150	1,262
Disposals	(14,348)	(642)	(65)	(285)	-	(15,340)	(655)
Transfer	(1)	(7)	_	8	-	_	-
At 31 March	-	-	13,650	2,832	-	16,482	30,672
Net book value at 31 March 2021	-	-	8,240	1,438	49	9,727	
Net book value at 31 March 2020	3,695	46	8,854	1,387	92		14,074

All tangible fixed assets are used for the support of charitable activities within the Society.

Depreciation of tangible fixed assets is included within the expenditure on charitable activities in note 7.

During the year, the Society completed on the sale of Chicheley Hall in Milton Keynes for £6.5 million with a net book value of £3.6 million and costs associated with the sale of £0.3 million (see note 5).

#### 16 Capital commitments – Group and charity

	2021 £'000	2020 £'000
Authorised and contracted for	225	182
Authorised but not contracted for	1,660	1,497
Total commitment	1,885	1,679

At the balance sheet date, £811,000 (2020: £712,000) of capital commitments was authorised for refurbishment of 6 – 9 Carlton House Terrace. A further spend of £646,000 (2020: £576,000) had been authorised on IT projects. Other general capital items total £428,000 (2020: £391,000). Of these commitments £225,000 (2020: £182,000) has been contracted for by the year end.

#### 17 Heritage assets – Group and charity

The Society holds an extensive collection of heritage assets relating to the history of the Society itself and the wider history of scientific endeavour. The collection has four main components:

Printed works: The Library contains over 70,000 titles, published from the 1470s to the present day. The main strength of the collection is in the 17th and 18th centuries; from the 1680s to the mid-19th century, the policy of the Library was to acquire every important scientific publication.

Archives: These comprise an extraordinary and unrivalled record of the development of science that spans nearly 350 years. The archive collection is a unique resource for historians, particularly historians of science, containing over 250,000 items. It includes the Society's Charter Book and the manuscript of Isaac Newton's Principia Mathematica.

Pictures, sculptures and other works of art: The collection includes over 200 original works (primary collection) and approximately 10,000 photographs and engravings (secondary collection), many of them portraits of past and present Fellows.

Other artefacts: The collection comprises approximately 250 items and includes scientific instruments, furniture and furnishings, and the Society's Charter Book.

The collections are accessible to scholars and the wider public through the Royal Society's History of Science Centre, which includes a reference library and an extensive online presence, including a fully searchable catalogue and image library.

	Assets held	Assets held		
	at cost	at valuation	2021	2020
Summary of heritage asset transactions	£'000	£'000	£'000	£'000
Purchases/donations				
At 1 April	36,268	13,208	49,476	49,416
Additions	2	_	2	60
Disposals	-	(315)	(315)	-
Valuation or cost at 31 March	36,270	12,893	49,163	49,476
The heritage assets comprise:				
Printed books			13,278	13,278
Archives			22,965	22,965
Pictures, sculptures and other works of art			9,164	9,462
Other artefacts			3,756	3,771
Total			49,163	49,476

The printed books and archives were valued in August 2003 by Roger Gaskell, a rare book dealer, and the pictures and other artefacts by Weller King, Fine Art Dealers, in 2015. The valuations are on a fair market/replacement basis on those parts of the collection where it is felt such a valuation can be reasonably made. Assets are held at valuation as a proxy for cost.

The paintings and furniture at Chicheley Hall were valued in March 2015 by Weller King, Fine Art Dealers. The valuations are on a fair market/replacement basis on those parts of the collection where it is felt such a valuation can be reasonably made. The Trustees consider there to be no material impairment on the present market values/ replacement values compared with those stated.

#### 17 Heritage assets – Group and charity continued

	2021	2020	2019	2018	2017
Five-year financial summary of heritage asset transactions	£'000	£'000	£'000	£'000	£'000
Purchases/donations					
Printed books	-	1	7	1	13
Archives	-	37	51	_	23
Pictures, sculptures and other works of art	2	22	37	20	9
Other artefacts	-	—	_	_	4
Total purchases/donations	2	60	95	21	49

Donated heritage assets are recognised in the year they are received. Heritage assets valued at £315,000 were disposed of during the year as part of the Chicheley Hall sale (2020: £Nil). Portraits and paintings valued at £300,000 had heritage association with Chicheley Hall and so they were sold with the building. Other artefacts held at valuation of £15,000 were sold for proceeds of £14,000. There have been no other disposals of heritage assets within the last five years.

#### Preservation and management

Expenditure which in the Trustees' view is required to preserve or clearly prevent further deterioration of individual collection items is recognised in the Income and Expenditure account when it is incurred.

The Society has an ongoing cataloguing project and the Society's major strategic facilities for the long-term preservation of its historic archives, manuscripts and printed books are environmentally controlled store rooms (conforming to British Standard BS EN 16893:2018).

The Society's modern records have been subject to a full audit, completed in April 2011. This process enabled the full-life management, destruction and permanent archiving of pertinent files. Conservation of both old and new archives is now underway.

Each of the Society's major collections (archives, modern records, printed books, pictures, journals, objects) has a designated member of curatorial staff and exhibited materials are looked after by an exhibitions manager. Collections are managed and recorded in discrete databases and according to the prevailing standard in each area (for example, International Standard Archival Description (ISAD) for archival cataloguing, SPECTRUM for museum standards and picture control). In 2018, the Society's archives achieved accredited status (for procedures and service quality) with the UK National Archives.

#### 18 Investments – Group and charity

	2021	2020
	000'£	£'000
Valuation at 1 April	234,075	261,260
Additions of investments	53,397	31,616
Disposal of investments	(50,385)	(40,903)
Net change in cash invested for trades within portfolio	(3,673)	8,527
Investment management costs	(1,030)	(1,164)
Net cash added to/(withdrawn from) portfolio	2,828	(1,487)
Net gains/(losses) on valuation at 31 March	62,098	(23,774)
Valuation at 31 March	297,310	234,075
Total historical cost at the end of the year	200,562	190,245
The valuation at 31 March comprises:		
Investments listed on a recognised stock exchange including investments and unit trusts:		
UK	139,807	104,101
Overseas	130,046	97,277
Other unlisted securities:		
UK	8,642	9,633
Overseas	3,076	4,540
Cash:		
UK	11,699	13,094
Overseas	4,040	5,430
Total	297,310	234,075

Overseas investments comprise equities, unit/investment trusts and fixed interest funds.

The Society owns 100% of the issued share capital of Royal Society Trading Limited (note 26). The principal activity of the company was conferencing activities at Chicheley Hall. The company ceased trading on 23 March 2020.

The Society owns 100% of the issued share capital of Royal Society (London) Ltd (note 26). The principal activity of the company is corporate sponsorships.

Funds are invested as follows:

	2021	2020
	£'000	£'000
Specific investments – Amadeus RSEF	7,555	8,621
Specific investments – Theo Murphy Australia Fund	3,982	2,720
Pooled investments	285,773	222,734
Total	297,310	234,075

#### 19 Debtors

	2021	2021	2020	2020
	Receivable	Receivable	Receivable	Receivable
	within	after	within	after
	one year	one year	one year	one year
	£'000	£'000	£'000	£'000
Trade debtors	683	-	1,450	_
Grants receivable	1,115	-	1,159	_
Legacy receivable	14	-	96	_
Other debtors	72	-	100	_
Accrued income	97	-	188	_
Prepayments	583	-	427	-
Total	2,564	-	3,420	-

Included in the Group debtors are debtors of £132,000 (2020: £Nil) of Royal Society (London) Ltd. All other debtors relate to the Charity.

#### 20 Creditors

	2021 Due within one year £'000	2021 Due after one year £'000	2020 Due within one year £'000	2020 Due after one year £'000
Trade creditors	538	_	2,094	_
Publications advanced sales	3,586	-	3,586	_
Chicheley advanced sales	-	-	232	_
Grants payable	5,725	_	4,785	_
Other creditors	1,657	_	359	_
Accruals and provisions	611	45	935	129
Deferred income	6,834	_	5,759	-
Total	18,951	45	17,750	129

Included in the Group creditors are creditors of £26,000 (2020: £9,000) relating to Royal Society (London) Ltd. All other creditors relate to the Charity.

As required by FRS 102, included within accruals and provisions in 2021 is a provision for a liability under the deficit recovery plan for the Universities Superannuation Scheme (USS) multi-employer pension scheme. A total amount of £50,000 (2020: £140,000) has been provided for, comprising £5,000 (2020: £11,000) due within one year and £45,000 (2020: £129,000) due within more than one year.

#### Reconciliation of deferred income

	2021 £'000	2020 £'000
Deferred income brought forward	5,759	5,590
Amount released from previous year	(5,759)	(5,590)
Income deferred in the year	6,834	5,759
Total	6,834	5,759

#### 21 Statement of total returns

	Expendable	Permanent	2021 Total
	£'000	£'000	£'000
Investment returns			
Investment Income	802	2,615	3,417
Capital gains	11,275	37,147	48,422
Investment management costs	(127)	(474)	(601)
Total return for year	11,950	39,288	51,238
Indexation	(295)	(969)	(1,264)
Less application of total return	(1,331)	(2,489)	(3,820)
Net total return for the year	10,324	35,830	46,154
Unapplied total return			
At 31 March 2021	17,799	59,937	77,736
At 31 March 2020	7,475	24,107	31,582

#### 22 Analysis of net assets between funds – Group

	Unrestricted	Restricted	Expendable	Permanent	2021 Total	2020 Total
	funds £'000	funds £'000	funds £'000	funds £'000	funds £'000	funds £'000
Funds balances at 31 March are represented by:						
Intangible assets	228	_	_	_	228	_
Tangible fixed assets	9,727	-	-	-	9,727	14,074
Heritage assets	49,163	-	-	-	49,163	49,476
Investments	48,134	40,485	47,608	161,083	297,310	234,075
Net current liabilities	(9,576)	-	-	_	(9,576)	(9,531)
Creditors: due after one year	(45)	_	-	_	(45)	(129)
Defined benefit pension scheme liability	(12,217)	-	-	-	(12,217)	(10,717)
Net assets	85,414	40,485	47,608	161,083	334,590	277,248

The net current liabilities in 2021 are funded by investments, which could be realised to meet the net liabilities as they fall due.

All net current liabilities in the Group accounts relate to the Charity. Included in the 2020 Group net current liabilities are liabilities of £270,000 of Royal Society Trading Limited.

There is no material difference in net assets between funds for the Charity.

#### 23 Movements on trust and specific funds in year – Group and charity

Permanent	Relevant	Indexation	Relevant	Unapplied total return at 1 April 2020	Income	Investment gain £'000	Expenditure	Indexation	Transfers/ application of total return £'000	Unapplied total return at 31 March 2021	Total at 31 March 2021 s'000
Life Sciences Trust	11.483	115	11.598	3.028	314	4.454	(57)	(115)	(596)	7.028	18.626
Maths and Physical	,		,	-,		.,	(0.7)	()	()	- ,	
Sciences Trust	10,534	105	10,639	2,802	288	4,093	(52)	(105)	(548)	6,478	17,117
RW Paul											
Instrument Fund	11,294	113	11,407	3,067	310	4,408	(56)	(113)	(175)	7,441	18,848
Theo Murphy – UK	54,136	541	54,677	13,260	1,456	20,686	(264)	(541)	(855)	33,742	88,419
Other permanent											
endowments	9,479	95	9,574	1,950	247	3,506	(45)	(95)	(315)	5,248	14,822
Total permanent											
endowments part											
of the unapplied											
total return	96,926	969	97,895	24,107	2,615	37,147	(474)	(969)	(2,489)	59,937	157,832
Funds not part of the unapplied total return											
Theo Murphy –											
Australia	2,052		2,052			1,199					3,251
Total permanent											
endowments	98,978	969	99,947	24,107	2,615	38,346	(474)	(969)	(2,489)	59,937	161,083
Expendable endowment funds	Relevant value b/f	Indexation	Relevant value c/f	Unapplied total return at 1 April 2020	Income £'000	Investment gain £'000	Expenditure £'000	Indexation	Transfers/ application of total return £'000	Unapplied total return at 31 March 2021	Total at 31 March 2021 £'000
General Trust											
Fund	11,011	110	11,121	3,825	322	4,522	(51)	(110)	(481)	8,027	19,148
Life Sciences Trust	6,730	67	6,797	1,749	184	2,585	(29)	(67)	(349)	4,073	10,870
Maths and Physical											
Sciences Trust	3,664	37	3,701	973	100	1,413	(16)	(37)	(192)	2,241	5,942
Other expendable											
funds	8,109	81	8,190	928	196	2,755	(31)	(81)	(309)	3,458	11,648
Total expendable endowment											
funds	29,514	295	29,809	7,475	802	11,275	(127)	(295)	(1,331)	17,799	47,608

				Unapplied					application	total return	Total at
Pormanont	Polovant		Polovant	total return	Incomo	Investment	Expondituro		of total	at 31 March	31 March
endowment funds	value b/f	Indexation	value c/f	2020	£'000	£'000	£'000	Indexation	£'000	2021	£'000
Life Sciences Trust	11,483	115	11,598	3,028	314	4,454	(57)	(115)	(596)	7,028	18,626
Maths and Physical											
Sciences Trust	10,534	105	10,639	2,802	288	4,093	(52)	(105)	(548)	6,478	17,117
RW Paul											
Instrument Fund	11,294	113	11,407	3,067	310	4,408	(56)	(113)	(175)	7,441	18,848
Theo Murphy – UK	54,136	541	54,677	13,260	1,456	20,686	(264)	(541)	(855)	33,742	88,419
Other permanent											
endowments	9,479	95	9,574	1,950	247	3,506	(45)	(95)	(315)	5,248	14,822
Total permanent											
endowments part											
of the unapplied											
total return	96,926	969	97,895	24,107	2,615	37,147	(474)	(969)	(2,489)	59,937	157,832
Funds not part of											
the unapplied total											
return											
Theo Murphy –											
Australia	2,052		2,052			1,199					3,251
Total permanent											
endowments	98,978	969	99,947	24,107	2,615	38,346	(474)	(969)	(2,489)	59,937	161,083
Successful	Delevent		Delevent	Unapplied total return		Investment	<b>F</b> undari di tura		Transfers/ application of total	Unapplied total return at 31	Total at 31 March
endowment funds	value b/f	Indexation	value c/f	at i April 2020	£'000	gain £'000	Expenditure £'000	Indexation	£'000	2021	£'000
General Trust											
Fund	11,011	110	11,121	3,825	322	4,522	(51)	(110)	(481)	8,027	19,148
Life Sciences Trust	6,730	67	6,797	1,749	184	2,585	(29)	(67)	(349)	4,073	10,870
Maths and Physical											
Sciences Trust	3,664	37	3,701	973	100	1,413	(16)	(37)	(192)	2,241	5,942
Other expendable											
funds	8,109	81	8,190	928	196	2,755	(31)	(81)	(309)	3,458	11,648
Total expendable											
endowment											
funds	29,514	295	29,809	7,475	802	11,275	(127)	(295)	(1,331)	17,799	47,608

Indexation has been applied using the annual CPI rate to March 2021 (1.0%).

#### 23 Movements on trust and specific funds in year – Group and charity continued

	Brought forward at 1 April 2020 £'000	Income £'000	Investment and actuarial gain/(loss) £'000	Expenditure £'000	Transfers £'000	Carried forward at 31 March 2021 £'000
Restricted funds						
Life Sciences Trust	4,819	67	582	(1,394)	772	4,846
Maths and Physical Sciences Trust	3,766	70	754	(1,044)	511	4,057
Enterprise Fund	8,621	-	(866)	(200)	-	7,555
Nutrition in Old Age Fund	5,916	116	1,257	(19)	(18)	7,252
Other restricted funds	13,607	119,920	2,288	(119,609)	569	16,775
Total restricted funds	36,729	120,173	4,015	(122,266)	1,834	40,485
Unrestricted funds						
General Trust Fund	15,348	310	3,172	(483)	483	18,830
BEIS Science and Research	_	992	-	(992)	-	-
Revaluation Reserve	47,856	-	-	-	(315)	47,541
Defined Benefit Pension Reserve	(10,717)	-	(2,504)	1,004	-	(12,217)
General purpose	27,958	11,883	5,290	(15,689)	1,818	31,260
Total unrestricted funds	80,445	13,185	5,958	(16,160)	1,986	85,414

#### Purposes of funds

The objects of the Life Sciences Trust are to promote and advance for the general benefit of the public, including the scientific (science, medicine, engineering and technology) community, the study and investigation of, and research into, all areas of life sciences and other science at the interface between this area and other areas of science. This shall be done in particular by supporting scientists working in this area, advancing engagement of the public in all matters relating to such science and providing the best possible scientific advice and information to those making policy in the area of life science.

The objects of the Mathematics and Physical Sciences Trust are to promote and advance for the general benefit of the public, including the scientific (science, medicine, engineering and technology) community, the study and investigation of, and research into, all areas of mathematics and physical sciences and other science at the interface between this area and other areas of science. This shall be done in particular by supporting scientists working in this area, advancing engagement of the public in all matters relating to such science and providing the best possible scientific advice and information to those making policy in the area of mathematics and physical science.

Following the Deed of retirement of the other Trustees the property and investments of the RW Paul Instrument Fund were transferred to the sole remaining Trustee, being the Royal Society. The application of the income from the portfolio is restricted to the provision of grants under the Paul Instrument Grants Scheme.

The Theo Murphy Funds (in the UK and Australia) were created through a bequest from the estate of the late Theo Murphy. The funds 'shall be used or applied to further scientific discovery in the fields of medicine, science, technology and engineering'. The Australia Fund will carry out activities in Australia in accordance with the will.

The objects of the General Trust Fund are to promote and advance for the general benefit of the public, including the scientific (science, medicine, engineering and technology) community, the efficiency and effectiveness of the Royal Society and its Fellowship. This shall be done in particular by establishing, promoting, supporting and maintaining, for the general benefit of the public and the scientific community, its activities, premises, fixtures and fittings, equipment, libraries and archives, general publications and the history of science.

The Enterprise Fund was created by generous donations in support of the Society in making equity investments in innovative early-stage businesses emerging from the science base in the UK and elsewhere.

The Nutrition in Old Age Fund was established following the receipt of a legacy for the study of nutrition in old age.

Other restricted funds comprise monies received to fund separate restricted projects in line with our charitable activites and are held as separate individual funds in our accounts. No individual balance is in excess of £4 million on 31 March 2021.

The Revaluation Reserve relates to the revaluation of the heritage assets.

The transfers between projects and funds include administration charges of the investments held in the trusts, administration costs reclaimed from projects where applicable, notional interest paid to projects in respect of income held during the year and any income released to the general reserves at the end of projects (where allowed under the gift or grant agreement).

#### 24 Financial commitments – Group and charity At 31 March 2021 the Society had the following commitments:

Total future minimum lease payments under a non-cancellable operating lease in respect of occupation of 6–9 Carlton House Terrace, London, are as follows for each of the following periods:

	2021	2020
	£'000	£,000
Less than one year	490	490
One to five years	1,960	1,960
Over five years	18,620	19,110
Total	21,070	21,560

The lease is due to expire on 5 January 2064; however the next 10-yearly rent review is due on 5 January 2025.

Agreements and commitments to fund research professorships/fellowships and other grants at 31 March 2021 totalled £130,000,000 (2020: £171,000,000). Of these, £59,000,000 (2020: £92,000,000) are due in less than one year, and £71,000,000 (2020: £79,000,000) in between two and five years. There are no grants payable in more than five years. As the Society retains the discretion to terminate these grants they are treated as liabilities of future periods and will be financed by specific grants or other income receivable in those periods.

The Society has entered into investment contract commitments totalling £462,000 (2020: £510,000) payable at dates yet to be agreed.

#### 25 Pension obligations – Group and charity

The Royal Society ('the Employer') operates a defined benefit pension arrangement in the UK called the Pension and Life Assurance Plan of the Royal Society ('the Plan'), with assets held in a separately administered fund. The Plan provides retirement benefits on the basis of members' final salary. The Plan is closed to new members, although remains open to future benefit accrual, and provides benefits on a defined benefit basis.

The most recent valuation of the Plan under FRS 102 was carried out as at 31 March 2021. The valuation of the Plan used the projected unit method and was carried out by Barnett Waddingham LLP, professionally qualified actuaries.

The Employer expects to make contributions to the Plan during the year to 31 March 2022 of around £1,850,000 (2021: £1,700,000).

The Plan is subject to the Statutory Funding Objective under the Pensions Act 2004. A valuation of the Plan is carried out at least once every three years to determine whether the Statutory Funding Objective is met. As part of the process the Employer must agree with the Trustees of the scheme the contributions to be paid to address any shortfall against the Statutory Funding Objective and contributions to pay for future accrual of benefits.

The full actuarial valuation at 1 January 2019 showed an increase in the deficit from £3,716,000 to £8,732,000. It has been agreed with the Trustees that the Employer will pay £652,000 on or before each 30 April and 31 October in the years 2020 to 2026 inclusive to meet the deficit.

Contributions payable by the Employer in respect of future benefit accrual and expenses are at the rate of 28% of pensionable salaries. Members' contributions are 7% of pensionable salaries. Life cover and dependants' pensions in respect of death in service are provided by additional insurance premiums. Contributions payable by the Employer in respect of expenses are at the rate of £13,750 per month.

#### 25 Pension obligations – Group and charity continued

#### The principal assumptions used to calculate Plan liabilities include:

	2021	2020
	% pa	% pa
Inflation (RPI)	3.50	2.80
Inflation (CPI)	2.90	2.00
Salary escalation	2.00	2.00
Increase to pensions in payment* – subject to LPI minimum 4%	4.20	4.10
Increase to pensions in payment* – subject to LPI	3.30	2.70
Statutory revaluation	2.90	2.00
Discount rate (pre- and post-retirement)	2.05	2.30
	105% of	105% of
Pre-retirement mortality table	S3NA	S3NA
Post-retirement mortality table	105% of S3NA	105% of S3NA
	CMI_2020 projections with LTR of 1.25% pa and initial addition of 0.25% pa and the 2020 weight parameter is	CMI_2019 projections with LTR of 1.25% pa and initial addition
Post-retirement mortality projection	. 25%	of 0.25% pa
	20% of	20% of
Tax-free cash	pension	pension
Withdrawals	None	None

\* Pensions in payment increase by the lesser of the annual increase in the retail price index (RPI) or 5%. For service prior to 1 November 2001 this is subject to a minimum increase of 4%.

Under the mortality tables and projections adopted, the assumed future life expectancy at age 60 is as follows:

	2021	2020
Male currently aged 40	27.8 years	28.2 years
Female currently aged 40	30.6 years	30.8 years
Male currently aged 60	26.3 years	26.8 years
Female currently aged 60	29.2 years	29.4 years

#### 25 Pension obligations – Group and charity continued

2024

2020

The assets in the Plan were:	Value at 31	Value at 31
	March 2021	March 2020
	£'000	£'000
Equities	14,941	16,916
LDI portfolio	11,097	10,793
Multi-asset fund	17,153	4,266
Cash	5,877	1,056
Diversified growth	_	8,874
Annuity policies	4,821	6,448
Total market value of Plan assets	53,889	48,353
Present value of scheme liabilities	(66,106)	(59,070)
Net pension liability	(12,217)	(10,717)

The assets do not include any investment in the Employer.

#### Reconciliation of present value of scheme liabilities

	Year to 31 March 2021 £'000	Year to 31 March 2020 £'000
Defined benefit obligation at 1 April	59,070	59,080
Current service cost	412	450
Contributions by Plan participants	94	103
Interest cost	1,337	1,462
Benefits paid	(2,026)	(1,323)
Experience (gain)/loss on liabilities	(541)	111
Changes to demographic assumptions	(1,014)	86
Changes to financial assumptions	8,774	(899)
Defined benefit obligation at 31 March	66,106	59,070

#### Sensitivity analysis of the scheme deficit

The sensitivity of the present value of the scheme deficit to changes in the principal assumptions used is set out below.

		Change in
	Change in	liabilities
	assumption	£'000
Discount rate	-0.10%	2,341
Rate of inflation*	-0.10%	(222)
Commutation	No commutation	2,499
	1% pa long-term	
	rate of mortality	
Mortality	improvements	(769)
Mortality	Improvements	(769)

\* Other assumptions linked to the rate of inflation are also assumed to change appropriately.

#### 25 Pension obligations – Group and charity continued

#### Reconciliation of fair value of scheme assets

	Year to 31 March 2021 £'000	Year to 31 March 2020 £'000
Fair value of scheme assets at 1 April	48,353	47,499
Interest on assets	1,110	1,182
Contributions by the Employer	1,832	1,054
Contributions by scheme participants	94	103
Benefits paid	(2,026)	(1,323)
Administration costs	(189)	(240)
Return on Plan assets less interest	4,715	78
Fair value of scheme assets at 31 March	53,889	48,353

The actual return on Plan assets in the year was £5,825,000 (2020: £1,260,000).

#### Analysis of the amount charged to the statement of financial activities - operations

	Value at 31	Value at 31
	March 2021	March 2020
	£'000	£'000
Current service cost	412	450
Administration costs	189	240
Interest cost	1,337	1,462
Interest on assets	(1,110)	(1,182)
Total charge	828	970

#### Actuarial gains and losses

	Value at 31 March 2021 £'000	Value at 31 March 2020 £'000
Gains on scheme assets in excess of interest	(4,715)	(78)
Experience (gains)/losses on liabilities	(541)	111
(Gains)/losses from changes to demographic assumptions	(1,014)	86
Losses/(gains) from changes to financial assumptions	8,774	(899)
Actuarial losses/(gains)	2,504	(780)

The Royal Society ('the Employer') operates two pension schemes and contributes to the Royal Society Group Personal Pension Plan (defined contribution). During the year ended 31 March 2021, employer contributions to this scheme totalled £633,000 (2020: £594,000).

During the year, one member of the Society's staff was a member of the Universities Superannuation Scheme (USS), a defined benefit scheme (2020: one member). During the year ended 31 March 2021, employer contributions to this scheme totalled £26,000 (2020: £41,000). The employer contribution rate at the year end was 21% (2020: 21%).

USS is a defined benefit scheme which is externally funded and valued every three years by professionally qualified independent actuaries using the Projected Unit Method. The scheme is a 'last man standing' scheme, which means that in the event that another member institution becomes insolvent the other participating members will pick up any funding shortfall.

At the date of the latest actuarial valuation of the scheme (31 March 2020), the assets were sufficient to cover 84% of the benefits that had accrued to members; the deficit at 31 March 2020 was £12.9 billion (2019: £5.4 billion).

#### 25 Pension obligations – Group and charity continued

Based on expected contributions until 31 March 2028, the net present value of the payment towards the reduction of the deficit is estimated using the modeller developed by the British Universities Finance Directors Group (BUFDG), with the support of the USS trustee company, as a tool for estimating the liability under the recovery plan for accounting purposes. An initial liability of £184,000 was charged to the statement of financial activities during 2015/16 and recorded as a liability on the balance sheet to be unwound over time (initially over the period to 2031) as the liability is discharged; to 31 March 2021, £134,000 of this provision has been released. Further information can be found at www.uss.co.uk

#### 26 Subsidiary undertakings

The Society owns 100% of the £1 called-up and issued share capital of Royal Society Trading Limited (registered number 06967016). Royal Society Trading Limited has been set up to process the activities that occur at Chicheley Hall. On 23 March 2020, the Directors of Royal Society Trading Limited agreed to cease operations immediately and the company has not traded since this date. On 10 March 2021, Chicheley Hall was sold. The Charity (parent) agreed to waive the debt owed by the subsidiary and to support the winding down of activities. This has been treated as a capital contribution directly to shareholders' funds in the subsidiary in 2020 and 2021. The annual accounts for the financial year ended 31 March 2021 were not prepared on a going concern basis.

The Society also owns 100% of the £1 called-up and issued share capital of Royal Society (London) Ltd (registered number 08808518). Royal Society (London) Ltd has been set up to process corporate sponsorships at the Society.

	Royal S (Londo	Royal Society (London) Ltd		Royal Society Trading Limited	
	2021 £'000	2020 £'000	2021 £'000	2020 £'000	
Results for the year ended 31 March:					
Trading income					
Internal income	-	_	-	296	
External income	110	127	-	1,848	
Cost of sales	-	_	(176)	(2,273)	
Gross profit/(loss)	110	127	(176)	(129)	
Administrative expenses	(4)	(5)	(9)	(46)	
Operating profit/(loss)	106	122	(185)	(175)	
Interest on loan account to parent	_	_	-	(12)	
Gift Aid payable to parent charity	(106)	(122)	-	-	
Result for the period	_	_	(185)	(187)	
Total funds brought forward at 1 April	_	_	(270)	(925)	
Capital contribution from parent charity	-	_	455	842	
Total funds carried forward at 31 March	-	-	-	(270)	
Balance sheet as at 31 March:					
Current assets					
Stock	-	_	-	14	
Debtors	132	_	-	64	
Cash at bank and in hand	2	132	-	140	
	134	132	-	218	
Creditors: amounts falling due within one year	(134)	(132)	-	(488)	
Net current liabilities	-	_	_	(270)	
Capital and reserves					
Called-up share capital	_	_	_	_	
Profit and loss reserve	-	_	(1,297)	(1,112)	
Capital reserve	-	_	1,297	842	
Shareholder's funds	_	_	_	(270)	

Royal Society (Australia) Pty Limited ACN 126112678 is the Trustee of the Royal Society Theo Murphy (Australia) Fund. It is an Australian company, the shares of which are owned by the Society. At 31 March 2021 its net assets were £3,982,000 (2020: £2,720,000).

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#### 27 Prior year comparison – Consolidated statement of financial activities

(incorporating an income and expenditure account)

For the year ended 31 March 2020

	Notes	Unrestricted funds £'000	Restricted funds £'000	Expendable endowment funds £'000	Permanent endowment funds £'000	2020 Total funds £'000
Income and endowments from donations and legacies	1	536	269	_	_	805
Income from charitable activities						
Grants for charitable activities	4	992	107,537	_	-	108,529
Trading in furtherance of charitable activities	3	10,905	638	_	_	11,543
		11,897	108,175	_	_	120,072
Other trading activities	3	1,975	-	-	-	1,975
Income from investments	2	1,249	1,004	1,070	3,528	6,851
Other income	5	_	76	_	_	76
Total income		15,657	109,524	1,070	3,528	129,779
Expenditure on raising funds	6	3,388	413	127	484	4,412
Expenditure on charitable activities	7					
Promoting science and its benefits		72	173	_	-	245
Supporting and recognising excellence in science		10,845	93,246	_	-	104,091
Providing scientific advice for policy		1,966	2,299	_	-	4,265
Fostering international and global cooperation		905	15,261	_	-	16,166
Education and public engagement		3,108	1,417	_	-	4,525
		16,896	112,396	_	-	129,292
Total expenditure		20,284	112,809	127	484	133,704
Net (expenditure)/income before net (losses)/gains						
on investments		(4,627)	(3,285)	943	3,044	(3,925)
Net (losses)/gains on investments	18	(2,212)	(1,634)	(4,645)	(15,283)	(23,774)
Net (expenditure)/income for the year		(6,839)	(4,919)	(3,702)	(12,239)	(27,699)
Gross transfers between funds	23	2,822	1,218	(735)	(3,305)	-
Actuarial gains/(losses) on defined benefit pension scheme	25	780	-	-	_	780
Net movement in funds		(3,237)	(3,701)	(4,437)	(15,544)	(26,919)
Total funds brought forward		83,682	40,430	41,426	138,629	304,167
Total funds carried forward		80,445	36,729	36,989	123,085	277,248

#### 28 Prior year comparison – Analysis of net assets between funds – Group

	Unrestricted funds £'000	Restricted funds £'000	Expendable endowment funds £'000	Permanent endowment funds £'000	2020 Total funds £'000
Funds balances at 31 March 2020 are represented by:					
Tangible fixed assets	14,074	-	_	-	14,074
Heritage assets	49,476	-	_	-	49,476
Investments	37,272	36,729	36,989	123,085	234,075
Net current liabilities	(9,531)	-	-	-	(9,531)
Creditors: due after one year	(129)	-	-	-	(129)
Defined benefit pension scheme liability	(10,717)	-	_	-	(10,717)
Net assets	80,445	36,729	36,989	123,085	277,248

There is no material difference in net assets between funds for the Charity.

#### 29 Prior year comparison – Movements on trust and specific funds in year – Group

Permanent endowment funds	Brought forward at 1 April 2019	Income £'000	Expenditure £'000	Transfers £'000	Investment gain/(loss) £'000	Carried forward at 31 March 2020 £'000
Life Sciences Trust	16 483	428	(59)	(587)	(1754)	14.511
Maths and Physical Sciences Trust	15 148	394	(54)	(540)	(1,612)	13 336
RW Paul Instrument Fund	15 969	415	(57)	(266)	(1,012)	14,361
Theo Murphy – UK	75,388	1960	(269)	(1.658)	(8,025)	67.396
Theo Murphy – Australia	2 887		(200)		(835)	2.052
Other permanent endowments	12 754	331	(45)	(254)	(1.357)	11.429
Total permanent endowments	138.629	3.528	(484)	(3.305)	(15.283)	123.085
	100,020	0,020	(101)	(0,000)	(10,200)	,
Expendable endowment funds						
General Trust Fund	16,292	421	(50)	_	(1,827)	14,836
Life Sciences Trust	9,691	250	(30)	(345)	(1,087)	8,479
Maths and Physical Sciences Trust	5,299	137	(16)	(189)	(594)	4,637
Other expendable funds	10,144	262	(31)	(201)	(1,137)	9,037
Total expendable endowment funds	41,426	1,070	(127)	(735)	(4,645)	36,989
Restricted funds						
Life Sciences Trust	5,963	173	(1,712)	452	(57)	4,819
Maths and Physical Sciences Trust	4,783	125	(1,339)	414	(217)	3,766
Enterprise Fund	9,536	_	(310)	_	(605)	8,621
Other restricted funds	20,148	109,226	(109,448)	352	(755)	19,523
Total restricted funds	40,430	109,524	(112,809)	1,218	(1,634)	36,729
Unrestricted funds						
General Trust Fund	15,698	406	(47)	47	(756)	15,348
BEIS Science and Research	-	992	(992)	_	-	-
Revaluation Reserve	47,856	_	-	_	-	47,856
Defined Benefit Pension Reserve	(11,581)	_	84	-	780	(10,717)
General purpose	31,709	14,259	(19,329)	2,775	(1,456)	27,958
Total unrestricted funds	83,682	15,657	(20,284)	2,822	(1,432)	80,445
Total for all trusts						
Life Sciences Trust	32,137	851	(1,801)	(480)	(2,898)	27,809
Maths and Physical Sciences Trust	25,230	656	(1,409)	(315)	(2,423)	21,739
RW Paul Instrument Fund	15,969	415	(57)	(266)	(1,700)	14,361
Theo Murphy – UK	75,388	1,960	(269)	(1,658)	(8,025)	67,396
Other permanent endowments	12,754	331	(45)	(254)	(1,357)	11,429
Theo Murphy – Australia	2,887	_	_	_	(835)	2,052
General Trust Fund	31,990	827	(97)	47	(2,583)	30,184
Other expendable endowments	10,144	262	(31)	(201)	(1,137)	9,037
Enterprise Fund	9,536	_	(310)	-	(605)	8,621
Other restricted funds	20,148	109,226	(109,448)	352	(755)	19,523
BEIS Science and Research	_	992	(992)	_	-	-
Revaluation Reserve	47,856			_	_	47,856
Defined Benefit Pension Reserve	(11,581)	_	84	_	780	(10,717)
General purpose	31,709	14,259	(19,329)	2,775	(1,456)	27,958
Total	304,167	129,779	(133,704)	-	(22,994)	277,248

There is no material difference in movements on trust and specific funds in year for the Charity.

# GOVERNANCE

#### **Reference and administrative details**

**President** Sir Adrian Smith\*\* Sir Venki Ramakrishnan\*

**Treasurer** Sir Andrew Hopper

Physical Secretary Professor Peter Bruce

Foreign Secretary Sir Richard Catlow

**Biological Secretary** Dame Linda Partridge

Members of Council Professor Judith Armitage\*\* Professor Michael Ashfold Professor David Beerling Dr Mariann Bienz\* Sir Leszek Borysiewicz\* Baroness Brown of Cambridge (Professor Dame Julia King)\*\* Sir Steven Cowley\*\* Professor Christl Donnelly Dr Christopher Dye Professor Chris Hawkesworth Dame Sue Ion\* Professor Richard Jones Professor Jane Langdale Professor Thomas McLeish Professor Richard Morris Professor James Naismith\*\* Professor Sheena Radford Sir Jim Smith\*\* Professor Maria Grazia Spillantini Professor Karen Steel\* Professor Jennifer Thomas\*\* Professor Ulrike Tillmann\* Professor Veronica van Heyningen Professor Julia Yeomans\*

\* Retired 30 November 2020 \*\* Appointed 30 November 2020

Audit Committee Chair Sir John Beddington **Executive Director** Dr Julie Maxton

#### Key Management Personnel

Andrew Allen, Director of International Affairs Jennifer Cormack, Director of Development Mary Daly, Chief Financial Officer Richard Gascoigne, Director of IT Bill Hartnett, Director of Communications Linda Kelly, Director of Human Resources Rupert Lewis, Chief Science Policy Officer Dr Paul McDonald, Director of Grants Programmes Lesley Miles, Chief Programmes, Partnerships and Engagement Officer Dr Alan Pitt, Director of Fellowship, Strategy and Governance Dr Stuart Taylor, Director of Publishing

Statutory Auditor BDO LLP 2 City Place, Gatwick RH6 0PA

Bankers Natwest Group 1 Princes Street, London EC2R 8BP

Investment Managers Rathbone Brothers PLC 8 Finsbury Circus, London EC2M 7AZ

Internal Auditors KPMG LLP 15 Canada Square, London E14 5GL

Lawyers Stone King LLP 91 Charterhouse Street, London EC1M 6HR Withers LLP 20 Old Bailey, London EC4M 7AN

#### Registered Charity Number 207043

Registered address 6 – 9 Carlton House Terrace London SW1Y 5AG

royalsociety.org

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The Royal Society is a self-governing Fellowship of many of the world's most distinguished scientists drawn from all areas of science, engineering, and medicine. The Society's fundamental purpose, as it has been since its foundation in 1660, is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity.

The Society's strategic priorities emphasise its commitment to the highest quality science, to curiosity-driven research, and to the development and use of science for the benefit of society. These priorities are:

- Promoting excellence in science
- Supporting international collaboration
- Demonstrating the importance of science to everyone

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Registered Charity No 207043 Issued: August 2021 DES7464