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President’s Foreword

Portrait of RSE President, Professor Dame Jocelyn Bell Burnell DBE, FRS, PRSE by the renowned artist Professor Victoria Crowe OBE, FRSE, RSA. The painting, commissioned by the RSE, was unveiled in Spring 2016 at a special event for Fellows. The portrait hangs in the Kelvin Room within the RSE’s premises on George Street, Edinburgh.

Portrait ©Victoria Crowe 2016
Photograph ©Antonia Reeve
Since it was founded in 1783, the RSE has made a major contribution to Scottish society. This year, it elected 59 distinguished new Fellows who follow in the footsteps of historic figures such as Adam Smith and Sir Walter Scott, and more contemporary, but equally eminent, individuals such as Professor Peter Higgs, Alexander McCall Smith and Sir David Attenborough.

The multidisciplinary breadth of expertise and experience, ranging from life sciences, physical sciences and technology, to the arts, humanities, social sciences, business, public service and civil society, is a unique strength of the RSE. Fellows act as role-models, mentors and advisers to Scotland's top researchers, creative talent and potential business and public leaders. The reach of the Fellowship goes well beyond the academic world, extending into Scotland's economic, cultural and social wellbeing.

In the last financial year, the RSE produced over 35 Advice Papers, Briefing Papers and consultation responses, which were submitted to the Scottish and UK governments, members of the Scottish and UK parliaments, public bodies, and other interested organisations. RSE Fellows also presented oral evidence to Scottish and UK parliamentary committees on a range of topics, including education, taxation and the implications of Brexit.

The RSE's Education Committee made a series of submissions as part of an Inquiry by the Scottish Parliament's Education Committee that examined the performance of Scotland’s education agencies. Furthermore, work began on our own major Inquiry into the future of energy in Scotland, which formally launched in June 2017. These activities helped to ensure that Scotland’s policy makers and influencers have access to the best expertise available.

With existing stakeholders such as the Scottish Funding Council and Scottish Enterprise, and new partners such as the Fulbright Commission and the Natural Environment Research Council, we continue to identify and support excellent research and enterprise through prestigious awards. These awards support our aim of inspiring Scotland’s most promising talent across the research, business and public sectors. In 2016–17, we provided over £3 million in funding to individuals across 31 institutions in the UK. We maintain links with over 100 overseas bodies – often other academies or research funders – as well as with similar bodies in the UK. The RSE has also developed its international relations and overseas activities, which included a new joint project scheme with the Chinese Academy of Social Sciences—the first joint workshop to be hosted in Scotland—raising Scotland’s profile and strengthening its relations in the world.

I am grateful to all of our Fellows who have given generously of their time to support the RSE’s activities this year. Without their commitment and assistance, the RSE simply could not achieve all the things it has. Finally, I would also like to thank the RSE staff for their excellent and sustained hard work over the last year.

Jocelyn Bell Burnell DBE
President
12 September 2017
Aims and Objectives

The RSE is guided by its objectives to:

**Inspire**
Inspire and support Scotland’s most promising young talent across the research, business and public sectors, in order to create value for the economy and society.

- Enhance research capacity and leadership in Scotland.
- Strengthen Scotland’s cross-sector connections and its ability to realise benefits from its research and innovation.

**Engage**
Engage on key contemporary issues by providing an impartial forum for public debate and discussion.

- Enhance the public’s contribution to and engagement with contemporary national and global scientific, cultural and economic issues.

**Provide Expertise**
Provide expertise to ensure that Scotland’s policy makers and influencers have access to the best national, and indeed global, expertise.

- Inform and influence public policy.

**Promote**
Promote Scotland’s interests and reputation on the global stage.

- Raise Scotland’s profile and strengthen its connections with the world.
Inspire
RSE PERSONAL RESEARCH FELLOWSHIPS:
To provide outstanding researchers, who have the potential to become leaders in their chosen field, with the opportunity to build an independent research career.

ARTS AND HUMANITIES AWARDS:
Comprising Workshop Awards, Small Grants, and Network Awards to individuals in Scottish Higher Education and Cultural Institutions to encourage knowledge exchange and collaboration.

SE, STFC, NERC, BBSRC ENTERPRISE FELLOWSHIPS:
RSE Enterprise Fellowships enable promising science and technology researchers to develop into successful entrepreneurs.

JM LESSELS TRAVEL SCHOLARSHIPS:
To support honours Graduates in Engineering from Scottish Universities, to study some aspect of their profession outwith the UK.

CORMACK VACATION SCHOLARSHIPS:
For undergraduate Vacation Research Scholarships in the field of Astronomy.

CRF EUROPEAN VISITING RESEARCH FELLOWSHIPS:
Incoming and outgoing travel awards for scholars in Arts, Humanities and Social Science.

CRF HEALTH, HAPPINESS & WELLBEING INITIATIVE:
To investigate and attempt to achieve progress in the transition of young people in Scotland to successful adulthood.

PRIZES AND MEDALS:
To recognise excellence through awarding a number of prizes and medals, the highest of which is the Royal Medal.

SCOTTISH CRUCIBLE:
Selection of early career researchers for this leadership and development programme for Scotland’s research leaders of the future.

YOUNG ACADEMY OF SCOTLAND:
Fosters interdisciplinary activities among emerging leaders from the disciplines of science and humanities, the professions, the arts, business and civil society.

Engage
CONFERENCES, LECTURES AND DISCUSSION FORUMS:
On a wide range of contemporary issues.

REPORTS/RECORDINGS OF PUBLIC EVENT ACTIVITIES

OUTREACH PROGRAMMES:
Comprising public and school activities to enhance understanding of the local community.

JOINT EVENTS WITH PARTNER ORGANISATIONS

RSE YOUNG PEOPLE’S PROGRAMME:
Talks for school students of all ages.

QUIZ-A-WHIZ YOUTUBE CHANNEL:
Questions posed to our experts by participants in school and public events.

PUBLISH ACADEMIC JOURNALS IN EARTH SCIENCES AND MATHEMATICS

CORPORATE ENGAGEMENT INITIATIVES SUCH AS FRIENDS OF THE RSE

Provide Expertise
INQUIRIES:
On topics of major importance.

BRIEFING PAPERS:
For members of parliaments and civil servants.

ADVICE PAPERS:
Both responsive and pro-active on the issues of the day.

PUBLISH JOINT POLICY PAPERS:
With other organisations such as the British Academy, the Learned Society of Wales and the RSE Young Academy of Scotland.

BUSINESS INNOVATION FORUM:
Improving understanding of innovation and encouraging collaboration between the academic and business communities in Scotland.

EDUCATION COMMITTEE:
Considers all aspects of education in Scotland at all stages; identifying and promoting priorities and stimulating debate on educational issues.

LEARNED SOCIETIES GROUP ON SCIENCE EDUCATION

NETWORKING EVENTS

Promote
WORK WITH NATIONAL AND INTERNATIONAL ORGANISATIONS:
To enhance Scotland’s global profile.

DEVELOP EXISTING AND NEW RELATIONSHIPS WITH INTERNATIONAL ACADEMIES:
In identified priority countries.

PROVIDE ADVICE AND COMMENTARIES ON INTERNATIONAL MATTERS:
Across all disciplines.

JOINT RESEARCH WORKSHOPS WITH PARTNER ACADEMIES:
Including initiatives to support innovation and commercialisation of research.

INTERNATIONAL AWARDS:
To promote and build research collaboration.
Our Year in Numbers

£3m+
awarded in funding for Research and Enterprise to 136 individuals across 31 institutions in the UK.

16,473
views of the RSE Quiz-a-Whiz videos from 49 countries across the World.

35+
advice papers, briefing papers and consultation responses submitted to Scottish and UK Governments and Parliaments.

3,443+
people attended 39 RSE events including public lectures, conferences and discussion forums.

1
new Memorandum of Understanding signed with the National Research Council of Italy.
3,392 children from 25 schools in Scotland attended RSE Schools Talks and Science Technology Masterclasses.

59 Fellows elected from a range of sectors, including the arts, business, science and technology and academia.

19 Enterprise Fellowships awarded; forming the largest cohort since the programme was established in 1997.

6 instances of RSE Fellows presenting oral evidence to Scottish and UK Parliamentary Committees and Academia.

110 International visitors from Taiwan, Brazil, Estonia and Jordan have been hosted by RSE.
Research and Prizes

RSE Personal Research Fellowships

Dr Claire Cousins, is a 2013 Scottish Government Personal Research Fellow at the Department of Earth and Environmental Sciences at the University of St Andrews. Claire was recently involved in a major Mars rover mission simulation being run by the UK Space Agency in collaboration with NASA and the Canadian Space Agency.

“Work investigating sediments collected from Iceland in 2014 and 2015 has... fed into ongoing work on the European Space Agency ExoMars 2020 Panoramic Camera instrument (Gunn & Cousins, 2016; Harris et al, 2015), for which I was invited to participate in a major ExoMars-like field trial run by the UK Space Agency in November 2016 in collaboration with the Canadian Space Agency.”

Claire’s ongoing research into Mars analogue environments in Iceland was featured in the BBC Horizon documentary ‘Space Volcanoes’ on 25 May 2017.

J M Lessells Travel Scholarships

J M Lessells Travel Scholarships arise from a bequest from the late Professor John Moyes Lessells, an eminent mechanical engineer who emigrated to the United States of America. The Scholarships are for Honours Graduates in Engineering from Scottish Universities, who wish to study some aspect of their profession outwith the UK. In 2016–17, the RSE awarded five Lessells Scholarships to scholars traveling to Ireland, China and Australia.

After being awarded a J M Lessells Travel Scholarship in 2014, Christopher Lowe carried out a research visit to the Technical University of Munich (TUM), Germany.

“The experience has furnished me with a valuable skill-set which I have since applied to projects back in Scotland, where I continue to work as a Research Fellow in the Scottish Centre of Excellence in Satellite Applications, at the University of Strathclyde. I will look back on my time in Munich with great fondness, and owe so much to the JM Lessells Scholarship, without which my visit would not have been possible.”

- CHRISTOPHER LOWE.

3 RSE Personal Research Fellowships supported by 3 funders.
9 CRF European Visiting Research Fellowships.
5 J M Lessells Travel Scholarships.
6 Cormack Vacation Scholarships; 1 Cormack Postgraduate Prize;
4 Cormack Small Grants.
Robert Cormack Bequest

Dr Paula Lindgren (University of Glasgow), the recipient of a Cormack Astronomy Small Outreach Grant, organised a meteorite and early solar system workshop at the Glasgow Science Festival in June 2016. Over 2,500 people of all age ranges attended the Festival. Dr Lindgren led a craft workshop where visitors could learn about comets and meteorites by making their own versions to take home. Some of the material used at the Glasgow Science Festival was also used during a larger workshop at the Royal Society London Summer Exhibition, which reached over 15,000 people.
10 Years of RSE funding for research in the Arts and Humanities

The RSE, with support from the Scottish Government, will this year celebrate 10 years of funding research in the Arts and Humanities.

Scotland is the home of many distinguished scholars in philosophy, literature, languages, history, theology, law, creative arts, and in the theory and criticism of the visual and performing arts. The RSE annually awards around £300K to fund individuals in Scottish Higher Education and Cultural Institutions.

The RSE Workshop Awards, Small Grants, and Network Awards build associations of scholars, practitioners and policy makers, and assist the promotion of their research, including its practical application and dissemination.

They aim to encourage knowledge exchange and collaboration, acknowledging that successful research projects will engage with issues that enhance understanding of Scottish intellectual, creative and cultural life in ways which will resonate with contemporary Scottish society.

CASE STUDY

Dr Graeme Wilson and Professor Raymond Macdonald, from the University of Edinburgh, were awarded a Research Network award to support their network known as Concurrent.

Concurrent is a network of key researchers who share approaches and theoretical insights, apply psychological understandings to collaborative performance and consider how performers construct meanings at the forefront of contemporary improvisation. Public events and online dissemination engage a wide range of creative improvisers, academics and audiences interested in transcending disciplines.

“If we had not received RSE funding, we would have tried to identify alternative funding sources; however, we were not aware of other funding schemes with the same degree of openness to cross-disciplinary thinking and experimentation. If some of the work had been able to take place outwith the context of the network, it would have been hard to generate the same buzz about the work. The public events in Edinburgh and Liverpool were a particular highlight; the ferment of ideas on display and the enthusiasm of audience responses were overwhelming. Concurrent#3 at Tate Liverpool, in particular, covered a huge range of new ground... Families, school visits and passing art enthusiasts came to a standstill in the gallery to watch arts therapists exchanging clinical techniques through performance, and share the delight of the city’s artists, dancers and musicians exploring novel strategies of choice together. It was inspirational to see so many remarkable researchers and practitioners brought together and fully engaged with this audience.”

- DR GRAE ME WILSON.
Dr Karen Brown, from the School of Art History, University of St Andrews, received a Small Grant for her project: “Museums and Social Sustainability in Scotland and Costa Rica”. Dr Brown’s project looked at museums, communities and the cultural landscapes of Scotland and Costa Rica through three key topics: ecumuseumology; policy and practice of inclusion; and sustainability.

The museums considered work to promote understanding of local culture and ecology, preserve local distinctiveness, and create sustainable relations with the government/state. Dr Brown has subsequently been awarded 2.4 million Euros from the European Commission’s Horizon2020 programme to carry out a four-year project on Museums, Community and Sustainability in Europe, Latin America and the Caribbean. Building on connections made with the Skye Ecomuseum during her time funded by the RSE, Dr Brown will now collaborate with the Staffin Community Trust to run monthly workshops to reconnect young people with their heritage. She is then planning to do a physical exchange with the museums in Costa Rica.

Dr Henrietta Lidchi and Dr Stuart Allan from National Museums Scotland were awarded a workshop Grant. They brought together specialists from the fields of anthropology and military history to survey and assess the interpretive potential of military collections.

The RSE award allowed both Dr Allan and I to workshop our ideas, and to develop a critical momentum in developing a large research grant, which is very important for our individual research trajectories, and for the research profile of National Museums Scotland more generally. The Research Workshops have allowed us to think about the status and identity of particular collections, and the categorising of objects as trophies, loot, souvenirs or mementoes, in some instances falling into more than one category, changing through time. As a consequence we were successful in applying for a significant research Grant from the Arts and Humanities Research Council (AHRC) with support from the National Army Museum, and the members of what will be our Advisory Board. Our AHRC-funded project, ‘Baggage and Belonging: Military Collections and the British empire (1750-1900),’ will focus on military collecting in Africa and South Asia and begins in July 2017.

Dr Henrietta Lidchi

Over 130 military museums in the United Kingdom preserve the historical collections of British services, corps and regiments. These contain significant assemblages of artefacts acquired by British servicemen on active service and imperial garrison duties beyond Europe. The funding for the Research Workshops supported the academics to develop a methodology for understanding the value of this ‘hidden’ material.

**FUTURE PLANS**

The RSE is reviewing the components of its Awards programme and is considering replacing the RSE Personal Fellowships with a new major grant that will address issues that present global challenges.

It plans to introduce Sabbatical Research Grants for established researchers in 2017-18 and will continue to develop the Health Happiness and Wellbeing initiative.

“...The RSE award allowed both Dr Allan and I to workshop our ideas, and to develop a critical momentum in developing a large research grant, which is very important for our individual research trajectories, and for the research profile of National Museums Scotland more generally..." - Dr Henrietta Lidchi.

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RSE Enterprise Fellowships enable promising science and technology researchers to grow into successful entrepreneurs. For the duration of the Fellowship, awardees are able to focus solely on refining their business ideas whilst receiving one year’s salary, expert training in entrepreneurship and access to mentors from business Fellows of the RSE and other successful entrepreneurs. The RSE has recently awarded 11 new prestigious Enterprise Fellowships to be taken up in April 2017. This takes the total number of entrepreneurs in the two cohorts currently on the scheme – which has two intakes a year – to 19; a record number in the history of the scheme.

For the recent round, as a pilot, the Natural Environment Research Council (NERC) joined Scottish Enterprise (SE) and the Biotechnology and the Biological Sciences Research Council (BBSRC) to support Enterprise Fellows working within the NERC’s remit of terrestrial, marine, freshwater, science-based archaeology, atmospheric and polar sciences, and Earth observation. Additionally, the Science and Technology Facilities Council (STFC) – who have, up until now, supported Enterprise Fellows annually – has recently confirmed that they wish to back Enterprise Fellows in both intakes each year; moving in line with the other funders.

GEORGE FRODSHAM, 2014 BBSRC ENTERPRISE FELLOW
MediSieve, the company behind the ground-breaking magnetic sieve that removes malaria-infected blood cells, is a finalist in the Best Start-up Medtech Company Award in The OBn Awards 2016. During the last 12 months, the company has:
- secured £350,000 in seed funding from angel investors with expertise in the medical device and healthcare industries;
- received a Pathfinder Award from the Wellcome Trust – this provided MediSieve with £102,000 to fund a 12-month project to manufacture and test clinical prototypes of its device;
- won an Innovate UK Smart 2015–16 Proof of Concept Award grant worth £100,000;
- taken the runner-up spot at Pitch@Palace 5.0. Held at St. James’s Palace, London, the event saw UK entrepreneurs pitch to around 300 CEOs, angel investors, mentors and key business partners;
- presented at the Royal Society of Medicine’s 12th Medical Innovations Summit.
MICHAEL TOUGHER, A 2016 RSE/SE ENTERPRISE FELLOW (SPARK AND ROCKET) WON THE RAEng LAUNCHPAD COMPETITION.

The ‘Raspberry Pi for music’, empowers children to create music without the complexity of traditional instruments. Michael was awarded the JC Gammon Award, which provides £15,000 of funding and business mentoring, as the winner of the Royal Academy of Engineering Launchpad Competition – a nationwide hunt for the UK’s greatest entrepreneurs in the engineering and technology sector under the age of 25.

JAMES MCILROY, A 2016 RSE/SE ENTERPRISE FELLOW

James, CEO and Founder of Eurobiotix, won the Scottish Edge Award, which carries a monetary prize of £50k. EuroBiotix CIC is a community interest company that aims to expand access to faecal microbiota transplantation (FMT) and facilitates important research into the gut microbiome by centralising donor recruitment and testing, stool processing, distribution and tracking.

FUTURE PLANS

Established in 1997, the Enterprise Fellowship programme has supported over 200 researchers to develop and launch new businesses. Companies have been formed across a wide range of fields, from tidal energy generation to drug-free malaria treatment; heritage barley cultivation to virtual reality audio technology. The 20th anniversary will be celebrated in 2017–18 with events in London and Scotland.
The purpose of the workshop was to provide a platform for Scottish Higher Education institutions to share best practice around Trans-National Education in China. The first session of the workshop was delivered by Jazreel Goh, East Asia Regional Business Director (Education Services), British Council. Ms Goh provided an update on the policy and regulatory environment in China and covered issues around employing staff in-country, articulation agreements, and joint programmes.

By forging effective partnerships with national academies and learned societies overseas, the RSE International programme aims to:

- enable top Scottish-based researchers to collaborate with researchers anywhere in the world;
- Promote the exchange of early-stage researchers;
- Raise awareness overseas of some of the best of the research and innovation being undertaken in Scotland;
- Stimulate collaboration between centres of excellence through joint international events;
- Provide a forum for discussion of international affairs, Scotland’s place in the wider world, and international issues in science, the arts and letters, technology, industry and commerce.

**Connected Scotland**

**CHINA**

Connected Scotland partners attended a workshop facilitated by the China Working Group at Universities Scotland.

The second session allowed participants to present an example of one of their institution’s articulation agreements.

**AWARDS**

6 RSE–NSFC Joint Projects: *Oil and Gas with a focus on Reservoir Geophysics*

4 RSE–MOST Joint Projects

35 person-weeks of bilateral exchanges (13 awards)
Further group work allowed participants to develop a checklist of guidelines for developing a good articulation agreement in China.

The Connected Scotland China Working Group commissioned a tender for market analysis, with Connected Scotland partners involved throughout the process. The objectives of the research were to: identify regions or cities and thematic areas of opportunity where the Scottish offer could be particularly strong compared to competitor nations; and to give a broad ranking/prioritisation to these; and articulate why. The final report was used to inform Scottish universities on areas of opportunity (both regional and thematic) which could act as a starting point for more detailed market analysis.

MALAYSIA
The Connected Scotland Malaysia Working Group facilitated a Scottish event in conjunction with the British Council and GREAT in Kuala Lumpur. The GREAT Year of Education Malaysia was launched in February 2016 in London and at Heriot-Watt University’s Putrajaya campus in Malaysia. Related to these events, the High Commission in Malaysia was keen to explore ways to connect Scottish universities to their alumni base in Malaysia. Universities Scotland led a delegation of high-level university representatives and academics to Kuala Lumpur in November. The RSE used its links to help facilitate meetings with the Academy of Sciences Malaysia and the National Innovation Agency Malaysia (AIM).

INDONESIA
Connected Scotland partners attended meetings in April 2016 with the Indonesian Institute of Sciences and British Council Indonesia, hosted at Universities Scotland. Ms Nur Tri Aries Suestiingtyas, Head of the Bureau for Cooperation at the Indonesian Institute of Sciences (LIPI) and Ms Grenti Camelia Paramitha, Project Manager at the British Council, Indonesia met with representatives from Universities Scotland and the RSE to learn more about research in Scotland and opportunities for collaboration.

BRAZIL
The RSE hosted a dinner in collaboration with the British Council Scotland in June 2016. The delegation from the Brazilian Association of Rectors of State and Municipal Universities (ABRUEM) travelled through the UK on a study tour as part of a fact-finding visit to explore possible research links and potential partnerships with UK universities or relevant organisations. The visit was organised by ABRUEM, a Brazilian association that represents 45 state and municipal universities, in conjunction with the British Council.

RSE–NSFC Workshop
The RSE and the National Natural Science Foundation of China (NSFC) have a formal agreement, established to support research collaborations between Scotland and China. Under the terms of this agreement, the RSE and NSFC organise an annual workshop on a topic of interest to both countries. The workshop was held in Edinburgh, Scotland on the topic of Oil and Gas – Reservoir Geophysics.

The workshop took place at the RSE in September 2016, and the topics of the workshop were: 4D Seismic (Timelapse Seismic); Seismic Exploration and Interpretation; High-Resolution Seismic Processing; Deepwater Exploration; and Different Tectonic Basin Settings. Workshop participants presented their work in this area, had time to discuss their work with the other participants, and explored opportunities for collaboration, culminating in the six awards made in Spring 2017.

EVENTS
Franco-Scottish seminar: Linear Algebra and Parallel Computing
RSE–NSFC Joint Workshop: Oil and Gas with a focus on Reservoir Geophysics
RSE–CASS Joint Workshop
RSE–MoST Joint Workshop: The Internet of Things
RSE–NSFC Workshop

RSE/NSFC Joint Project, awarded 2013:
Xianfeng Fan, University of Edinburgh & Minghou Xu, Huazhong University of Science and Technology.

Project title: Reduce energy penalty in CO₂ capture processes and the emission of SOx and NOx from coal combustion.

Dr Fan has now been awarded a large research grant (£1.22 million) from EPSRC for the development of a compact CO₂ capture process to combat industrial emissions.

“Through this funding, we have developed long-term collaboration on clean energy production to facilitate our funding applications from research councils.”
- DR FAN.

Franco–Scottish Seminar

The RSE and the French Embassy in London are collaborating on a programme of science events designed to explore and publicly present areas of science where both Scotland and France have a powerful presence. These events are intended to stimulate Franco–Scottish collaboration in science, present new scientific ideas and their social and commercial implications to the public and increase awareness of French and Scottish science in each other’s country. The 2016 seminar was held on Wednesday 21 September at the RSE and focused on the topic of Linear Algebra and Parallel Computing at the heart of Scientific Computing.

FUTURE PLANS

A high-level delegation visit to China is planned for Summer 2017; this will continue the series of visits in which researchers from the Scottish Innovation Centres take part in a forum with Chinese researchers from the RSE’s partners - the Chinese Academy of Science and the National Natural Science Foundation of China.
**RSE–MOST (Taiwan) Workshop**

The RSE and the Ministry of Science and Technology of Taiwan have a formal agreement, established to support research collaborations between Scotland and Taiwan. A workshop at the RSE took place in October 2016 on *The Internet of Things* and the topics of the workshop were: Networking and Communications; Middleware and IoT Ecosystems; Urban and Medical Sensing; Human Behaviour and Ethics.

Researchers from both Scotland and Taiwan presented on their work and it was clear from the discussion sessions that there was enthusiasm for collaboration. Following the workshop, four joint project awards were made in Spring 2017.

**RSE–CASS Workshop**

The RSE and the Chinese Academy of Social Sciences (CASS) have a formal agreement, established to support research collaborations between Scotland and China. Under the terms of this agreement, the RSE and CASS organise a biennial workshop on a topic of interest to both countries and it is planned to run a Joint Project Scheme.

One of these workshops was held at the RSE in early November 2016, covering the following topics: Reform of public sector; Smart cities and sustainable development; Improvement of public health and healthcare; and Fiscal policy. This very successful workshop was held in Scotland for the first time and set the precedent for continued RSE/CASS relations and for potential future projects.

**The MacCormick European Lecture**

The 2016 MacCormick European Lecture was delivered by Madam Irina Bokova, Director-General, UNESCO, on the topic of *Cultural Cleansing - The Imperative of Protecting Cultural Heritage and Diversity.*
Key Activities

POLICY ADVICE UNIT

• Produced more than 35 Advice Papers to the House of Commons, Scottish Government, Scottish Parliament, House of Lords and the McCormick Commission.

• Produced five briefing papers for Parliamentary debates.

• Submitted six papers to the Education Committee of the Scottish Parliament.

• Provided witnesses for evidence sessions, and met with clerks and Committee members.

• Provided secretariat for the Learned Societies Science Education Group.

• Co-organised a Science and the Parliament event that was held in partnership with the Royal Society of Chemistry, focusing on Science, Technology, Engineering & Mathematics (STEM).

BUSINESS INNOVATION FORUM

• Made two submissions to Scottish Government Review of Enterprise & Skills Agencies.

• Briefing Paper for MSPs on Review of Enterprise & Skills Agencies.

• Responded to a call for evidence to the independent review of the SFC Innovation Centres programme.

• Responded to UK Government Green Paper on Building our Industrial Strategy.

Education Committee & Learned Societies Group

The Education Committee made a series of submissions as part of an Inquiry by the Scottish Parliament Education Committee that was examining the performance of education agencies such as the SQA, Education Scotland and the Scottish Funding Council. The Committee also engaged on reforms to the Curriculum for Excellence and SQA examination structures. On a UK-wide basis, submissions were made to the Higher Education & Research Bill, from which there were several measures of importance to Scotland. A roundtable event and two reports were also produced on the Scottish Government proposals to reform school governance. As part of the dissemination of these areas of work, meetings were held with Ministers, MSPs, civil servants and the public agencies.

The Learned Societies Group (LSG), for which the RSE provides the Secretariat, was particularly active in relation to the introduction of science benchmarks to improve the Curriculum for Excellence, as well as providing input into the Scottish Government STEM Education Strategy. The 2016 Science and the Parliament event focused on the STEM Strategy, with input from Ministers, MSPs from opposition parties and a range of experts from the education field. The LSG also gave evidence to the UK Migration Advisory Committee on shortage occupations in relation to STEM teachers.

POLICY ADVICE UNIT

More than 35 advice papers and 5 briefing papers
6 papers to the Education Committee of the Scottish Parliament
Provided witnesses for evidence sessions and co-organised a Parliament event
Provided secretariat for the Learned Societies Science Education Group
Policy Advice Unit

As well as the work on education and business innovation the Policy Advice Unit engaged on a wide range of other policy areas, such as: Air Passenger Duty, where concern was expressed at the Scottish Government proposals; A Scottish Approach to Taxation, taking into account new devolved powers – Professor David Bell gave oral evidence to a Parliamentary Committee on this; a series of papers and events were organised in the run-up to the EU Referendum and an EU Strategy Group has also now been set up to provide advice to the UK and Scottish Governments on the EU negotiations, chaired by Sir John Elvidge; and a major submission was made to a British Academy Inquiry into the importance of the social sciences to society and the economy. Members of the Policy Advice Unit and Fellows supported Parliamentary engagement in Holyrood and Westminster through individual contact with MSPs and MPs, liaising with Parliamentary clerks, supporting a Cross-Party Group on Science and Technology, and as part of a consortium of learned societies contributes to a group that organises events at Westminster promoting links between the science community and politicians.

The RSE Policy Advice Paper on the Scottish Government Delivery Plan for Excellence and Equity in Scottish Education, and its related press release, led to wide-spread media coverage: the RSE’s views were referred to in both Scotland-wide and more regional Scottish media; e.g. BBC; The Courier; The Dundee Evening Telegraph; The Evening Express; The Herald; The Scotsman; STV News.

The policy advice on the EU Referendum offered by the RSE, coupled with its high profile coverage, resulted in the RSE President, Professor Dame Jocelyn Bell Burnell, providing oral evidence to the House of Lords Science and Technology Committee in July to help inform its inquiry on EU Membership and UK Science. This campaign obtained a wide reach, with the RSE’s views being quoted in UK-wide press, as well as local news and specialist interest publications; e.g. Chemistry World; International Business Times; Research Fortnight; Science Business; Financial Express.

Business Innovation Forum

In working towards the objective of improving understanding of innovation, its part in increasing the wealth and quality of life and encouraging collaboration between the academic and business communities in Scotland, the RSE has continued to support the Business Innovation Forum (BIF).

During 2016–17, a key activity involved engaging with the Scottish Government on its Review of Enterprise & Skills Agencies. Many of the key points made by the Forum were accepted by the Scottish Government; in particular, the desirable outcome to retain the existing Agency Boards, including the Scottish Funding Council.

The Forum provided a substantial comment to the UK Government Green Paper welcoming the proposal to develop a new Industrial Strategy for the UK, although the Forum noted that much of the emphasis seemed to be on England and not the devolved nations. As a result, the RSE is currently exploring the possibility of contributing to the debate on this issue during 2017–18.

FUTURE PLANS

The RSE is planning a major Inquiry into the future of energy in Scotland, beginning a decade after our previous report Energy Issues for Scotland was published. The inquiry comes at a time of significant change and uncertainty. The market has been volatile, with demand falling and excess supply driving prices down.

In terms of electricity generation, UK winter demand has come perilously close to exceeding supply in recent years. The UK has now returned to being a net importer of energy, with the security of some vital supplies heavily reliant on a just few sources.

The Inquiry was launched in June 2017 and plans to report in 2018.

BUSINESS INNOVATION FORUM

2 Submissions to Scottish Government Review of Enterprise & Skills Agencies

Briefing papers for MSPs on Review of Enterprise & Skills Agencies

Responded to a call for evidence on SFC Innovation Centres Programme

Responded to UK Government Green Paper - Building our Industrial Strategy
Key Activities

The multidisciplinary and diverse programme of events aimed at a wide variety of audiences comprised conferences, lectures and discussion events on the following topics, many held in cooperation with partners:

**ARTS & HUMANITIES**
- **Facing Beethoven: Literature, Sculpture and Identity**
- Edinburgh International Festival Discussion Event - *Anything that Gives off Light* - In Discussion with Davey Anderson

**SCIENCE**
- **Physical Science**
  - Annual Scottish Universities Physics Alliance/RSE Cormack Astronomy Conference
  - RSE Christmas Lecture: *Rockets and Robots*

- **Engineering**
  - Lord Kelvin Prize Lecture: *Best of both worlds? How scale affects science and engineering for society*
  - Royal Academy of Engineering - *Delivering the Nations Flagships*

- **Cultural Cleansing – the Imperative of Protecting Cultural Heritage and Diversity**
- Royal Institute of Philosophy: *The Common Pursuit of True Judgement*

- RSE @ The Holywood Trust – RSE Public Engagement Prize Lecture- *Planet Oil*
- Cormack Public Lecture: *Building Stars, Planets and the Ingredients for Life in Space – Sweet Results from ALMA*

1065 attended Lectures and Annual Lectures
738 attended Joint Lectures and Discussion Forums
487 attended Discussion Forums
569 attended Conferences
584 attended other Events
Health
• Is Cancer Screening good for your health?
• Sir James Black Prize Lecture: Cures and Curiosities in Arthritis – towards a brighter future?
• Society of Chemical Industry (SCI) Lister Memorial Lecture: AMR: The Global Problem
• AMR Conference: The Ticking Time Bomb of Antimicrobial Resistance - What can we do and where should we go next?
• Institute for Translational Medicine & Therapeutics Conference: Big Data & the Development of New Medicines

SOCIAL SCIENCE
• EU Referendum debate: The Economics of the Choice
• EU Referendum debate: The UK in Europe. In or Out?
• EU Referendum debate: Constitutional Options
• EU Referendum debate: Living and Working in Europe
• After Brexit. What next for the UK and Scotland?
• Joint RSE/David Hume Institute Lecture - Prosperity and Inequality: from the Enlightenment to BREXIT and Donald Trump
• British Academy - Inequality: Good for the rich, bad for the poor
• Minding Scotland’s Money, Economic governance for an increasingly devolved Scotland - what checks? what balances?

BUSINESS AND POLICY
• An Audience with Professor Muhammad Yunus
• RSE Campaign for Science and Engineering (CaSE) Lecture: What good is a Chief Scientific Adviser?
• How can we learn to live with floods? Challenges for science and management – Public Lecture and Conference
• GM Crop Discussion - Growing tomorrow’s dinner - should GM be on the table?
• Royal Society, London - Science education: why do we need it?
• Frontier Women: Where are all the Women in Science, Technology, Engineering and Mathematics?
• Scottish Responses to the Refugee Crisis
• Scottish Consortium for Rural Research (SCRR) - Policy Making in Uncertain Environments

FUTURE PLANS
There are plans to hold more events outside Edinburgh, and to help achieve this the RSE has identified a number of Fellows as regional ‘champions’ who might assist in their delivery.
Start-up Science Masterclasses for S1 & S2 Students

The Start-up Science Masterclasses are run in partnership with Scottish Universities and are intended to give young people who have shown an interest in science and technology the opportunity to broaden their knowledge and experience. The classes promote widening participation and provide the students with a unique insight into academic life and research. 3,392 children from 27 schools in Scotland attended RSE School Talks and Science and Technology Masterclasses.

2016 Christmas Lecture

SPACE EXPLORATION WITH HELEN SHARMAN

The RSE held its Christmas Lecture event in December 2016 on the subject of space exploration. Attendees were introduced to: a real-life astronaut; a robotics engineer; a science-fiction writer; a rocket designer; and others; and were given the opportunity to ask them questions at two discussion panel sessions. Between these panel sessions, attendees were able to ‘get hands-on’ with Space: exploring Earth using augmented reality; taking an astronaut on a Spacewalk using a robotic arm; building and launching their own Soyuz FG rockets; and even experimenting with the dangers of Space.

‘Quiz a Whiz’ YouTube Channel

In December 2015, the RSE launched a new digital project for school pupils called ‘Quiz a Whiz’. School children are invited to submit questions to quiz ‘whizzes’ who are RSE Fellows, Young Academy members, experts, and RSE event speakers. We film the responses of the whizzes and upload the videos to YouTube.

2016 RSE Christmas Lecture.

19 RSE at School Talks at 12 schools in schools across Scotland.
8 Talk Science School Talks at 7 schools in Irvine Bay.
Quiz a Whiz had 11,918 views between 1 April 2016 to 31 March 2017; amongst others the ‘whizzes’ interviewed over this period included:

- Peter Higgs on Being a Theoretical Physicist – received 2809 views
- Stampy Cat on YouTube and Minecraft – received 2369 views
- Roger Penrose on Mathematical Physics – received 1595 views
- Sue Black on Forensic Science and Fiction – received 511 views
- David Attenborough on Being a Broadcaster and Naturalist – received 431 views
- Samuel Chan on Neuroscience and Translational Medicine – received 403 views
- Jim Al-Khalili on the Big Bang Theory, Time Travel, and Dark Matter – received 391 views
- Sue Black on Being a Forensic Anthropologist – received 390 views
- Ian Rankin on Being a Writer – received 335 views
- Ian Rankin on Being a Writer part 2 – received 330 views.

19 Holywood Trust RSE @ talks in 8 Schools in Dumfries and Galloway.
36 Science Masterclasses for S1 and S2 science subjects, hosted at 5 Universities.
Quiz a Whiz YouTube Channel.

FUTURE PLANS
The Young People’s Committee will continue to develop its thought-provoking, varied and pertinent programme of activities, with relevance to the Scottish Curriculum. In particular it will consider ways and means to allow the programme to be accessed by as wide a young audience as possible.
Young Academy of Scotland (YAS)

YAS launched Academic Women Now as part of the ‘YAS Special Projects’ scheme, three YAS members collaborated to produce a publication entitled Academic Women Now: experiences of mid-career academic women in Scotland. Aiming to inspire young women of all disciplines who are considering a career in academia, Academic Women Now features the career paths of current mid-career women academics, all of whom are members of the Young Academy of Scotland.

On 9th June, the publication was launched by Professor Dame Jocelyn Bell-Burnell at a half-day conference at the RSE. The launch was followed by a panel discussion and workshop on Athena SWAN moves to the Arts & Humanities, where participants reflected on the Athena SWAN experience of the STEM subjects, and considered the likely effects of its extension to Arts & Humanities. Copies of Academic Women Now were requested by every Scottish University and an additional print run was required.

44 new members appointed in Summer 2016 (Fourth cohort of 25 women and 19 men)
Alumni (members completing their five-year tenure) offered Emeritus status to continue links with YAS
1 new Working Group
INTERNATIONAL LINKS

The group successfully recruited four At-Risk Academic/Refugee (ARAR) Members in 2016 as part of the ARAR Initiative started by the International Links group. These members were also 'buddied' with a current YAS member. One of the ARAR members has since had to return to Iraq and the group is now working closely with him on a new project, BookBridge, which will help rebuild the Mosul Library. A review of the ARAR project is currently underway.

DHI POLITICIANS AND PROFESSIONALS SERIES

As in previous years, YAS partnered with the David Hume Institute, the Institute of Chartered Accountants in Scotland, the Law Society of Scotland, the RSE, the Faculty of Actuaries and the Faculty of Advocates, to host a series of talks where the five leaders of Scotland’s political parties represented in the Scottish Parliament gave speeches based on the context/ theme chosen that year. The theme this year was Brexit and the Scottish local elections. YAS members spoke at each of the events, giving an overview of YAS aims and activities.

GLOBAL YOUNG ACADEMY

In 2016–17, the RSE International Committee made a financial contribution to the Global Young Academy Conference and Annual General Meeting in Aviemore, which was organised by some YAS members, who are also GYA members. The funding was provided to enable GYA members who would otherwise be unable to attend the event to do so. GYA members from over 40 countries, distinguished members of the GYA Advisory Board, senior scientists, and sciences administrators from around the world were invited to the meeting to work together on the goals of the global organisation. The RSE’s funding enabled 10 young academics from Egypt, Ghana, India, Kenya, Malaysia, Mauritius, the Philippines, Uruguay, Uzbekistan and Vietnam to attend the meeting.

YOUNG ACADEMY OF SCOTLAND
Publications and External Communications

Key Publications

- *Earth and Environmental Science Transactions of the Royal Society of Edinburgh*: 3 issues, including a Special Issue on Form, Function and Palaeontology
- *Proceedings of the Royal Society of Edinburgh, Section A: Mathematics*: 6 issues
- *Science Scotland*: In Summer 2016 an issue of *Science Scotland* was published entitled: *Connecting the Future*. It was published in English and Mandarin.

Communications

Copies of the journals are sent to over 300 Universities, Libraries, Academies and Institutions world-wide, as part of the RSE’s long-standing exchange programme. The journals are well regarded by academics as publication vehicles for their research: *Proceedings A* has a five-year impact factor of 0.983 placing the journal 61st out of 312 in the mathematics category; and *EESTRSE*’s five year impact factor of 2.333 places it 5th out of 54 in the palaeontology category and 54th out of 184 in the geosciences multi-disciplinary category.

The RSE currently has nearly 6000 followers on Twitter and the organisation ‘tweets’ and ‘retweets’ regularly every day. In an average week on Facebook RSE has an approximate “reach” of 3,000. The RSE also produces reports of public events, and during the year 35 were posted on the RSE website.

During the financial year 2016–17, the RSE hosted a number of large-scale events with prestigious speakers at the highest level within their fields. The RSE also offered its expert opinions to a number of high-profile policy debates concerning issues that affect education and the scientific community in Scotland. As a result, the level of press coverage has grown significantly. There has been a modest 8.2% increase in the amount of UK national coverage, a larger 63.4% increase in the amount of local coverage and an impressive 233.3% increase in International coverage.

Corporate Members

Work continues to publicise the benefits of supporting the RSE to companies. In order to attract further corporate support, the RSE has revamped Friends of the RSE: its corporate membership offer. The aim is to build the RSE’s reputation in the business sector through engagement events and by exploring ways of working more closely with the Business Innovation Forum and individual Business Fellows. A new initiative ‘Scottish Business Link’, will bring together all the businesses associated with the RSE, such as event partners and one-off donors, to show how businesses interact with the RSE.

The members of Friends of the RSE for 2016–17 were: Aberdeen Asset Management, Arup, BP, BT, Chiene + Tait, Optos, SCDI, Shell, Shepherd & Wedderburn, Tesco Bank and Toshiba Medical.

MEDIA MENTIONS

68 in the UK National Media and 190 in the Scottish Media
905 mentions in the Scottish local or special interest media (UK wide)
1127 mentions in the International Media
An average of 190.75 mentions each month (44 per week)
Corporate Governance and Management

The Royal Society of Edinburgh is an educational charity, registered in Scotland as Scottish Charity No. SC000470. The Trustees are the Council Members elected during the Financial Year (1 April 2016 to 31 March 2017).

**Council**

President
Dame Jocelyn Bell Burnell DBE

Vice-Presidents
Professor IG Gray CRE
Professor NE Haites OBE
Professor EM Scott OBE
Sir David Wallace CRE
Professor JW Wallace CRE
Professor A Alexander OBE

General Secretary
Professor A Alexander OBE*

Treasurer
Mr GR Wilson CB*

Fellowship Secretary
Professor JMC Connell

Councillors
Mr J Baxter CRE
Dr J R Brown CRE
Dr B E Crawford OBE
Professor M R MacLean MBE
Dame Joan Stringer DBE*

**Officers and Senior Staff**

Curator
Dr IG Brown

Research Awards Convener
Professor BL Webber OBE

Programme Convener
Sir Andrew Cubie CRE

Young People’s
Professor S Monro OBE

Programme Convener
Professor DA Ritchie CRE*

Chair of RSE
Professor SA Brown OBE

Scotland Foundation
Professor PH Holmes OBE

Education Committee Convener
Dr W Duncan*
(UNTIL 31 MAY 2017)

Chair of RSE Scotland SCIO
Dr R Widdowfield*
(FROM 1 SEPTEMBER 2017)

Chief Executive
Miss KFM Ellis*

Director of Finance
Mr G Herbert*

Director of Corporate Services
Mr GIA Adam*

Deputy Chief Executive
(ACTING CHIEF EXECUTIVE FROM 1 JUNE TO 31 AUGUST 2017)

* Member of Executive Committee

Further legal and administrative information is included on page 32.
Financial Review

Result for the Year

The group result for the year at operational level was just less than breakeven at a loss of £9,930, comprising a deficit of £282,000 on unrestricted funds offset by a surplus on restricted funds of £272,000. This compared to the 2016 result of a deficit of £19,943 at operational level.

As required by SORP FRS102, the statement of financial activities includes realised and unrealised gains and losses on investments in the total of net income. At this level, the result for the year was a gain of £3.00m and the movement on funds after actuarial movements on pension liabilities was £2.73m.

Income and Expenditure

INCOME

Total income was £5.76m (2016 – £5.37m), a 7% increase over the previous year. This included a small uplift of Government grant-in-aid provided through the Scottish Funding Council and a significant increase in the amount provided by Scottish Enterprise and UK research councils in support of Enterprise Fellowships.

Donations and legacies of £0.36m, including Fellows’ subscriptions and donations from Friends of the Society, remained at the same level as last year. Rental income of £0.23 m was slightly lower (£2016- £0.24m), as the RSE has regained use of three rooms on the third floor of the building. Investment income decreased by 2%, reflecting the timing of changes made to the portfolio following a change in investment management arrangements.

Income for charitable activities was increased from £3.94m to £4.36m, mainly as a result of the increased support for Enterprise Fellowships.

EXPENDITURE

Total expenditure increased by 7% as a result of increased expenditure on charitable activities and an increase in the resource allocated to fundraising. The cost of raising funds includes the cost of the Fellowship office, the costs of building management in respect of income from letting of surplus space, as well as fundraising costs, both direct and management time in securing funding. Investment management fees are also in this category and increased as a result of the change in investment management arrangements.

Grants payable for research and innovation increased by 12%, including £337,000 additional expenditure on Enterprise Fellowships arising from additional appointments. Expenditure on research decreased by 7%, mainly due to early resignations in the CRF schemes and the one off grants for Health Happiness & Wellbeing research studies made in 2016.

Expenditure on developing relationships internationally was 8% up on the previous year, reflecting the variety of activities and visits during the year, both incoming and outgoing. Other categories of expenditure remained broadly stable.

Governance costs are now shown as part of support costs and allocated to activities. The total allocated has remained at a similar level to previous years, representing less than 3% of total recurring income.

Investment gains and losses included in net income reflect the performance of the UK equity market during the year. The part of the portfolio allocated to the new investment managers, Cornelian, was substantially realigned in July 2016, leading to realised investment gains of £0.66m. The improvement in market values over the year resulted in an unrealised gain of £2.36m, which recouped the unrealised loss from the previous year.

Income by Source

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fellows</td>
<td>4%</td>
</tr>
<tr>
<td>Individuals</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Legacies</td>
<td>1%</td>
</tr>
<tr>
<td>Companies</td>
<td>1%</td>
</tr>
<tr>
<td>Charitable trusts</td>
<td>1%</td>
</tr>
<tr>
<td>Scottish Government – research funding</td>
<td>26%</td>
</tr>
<tr>
<td>Scottish Government – other</td>
<td>16%</td>
</tr>
<tr>
<td>Other public sector bodies</td>
<td>26%</td>
</tr>
<tr>
<td>Operating income from activities</td>
<td>7%</td>
</tr>
<tr>
<td>Rental and investment income</td>
<td>18%</td>
</tr>
</tbody>
</table>
During the year, the BP Research Fellowship Trust was wound up and its net assets of £3.02m transferred to the RSE. The principal reason for this decision was that the original restricted purpose of the Trust (to fund research fellowships) was no longer viable, as growth in investment income had not kept pace with the growth in research salaries. The net assets were transferred to RSE to be held in a separate fund, with an undertaking from the RSE Council to honour the existing commitments of the BP Trust and thereafter to apply the assets at their discretion, with an emphasis on education and research in line with the previous purposes of the BP Trust. Accordingly, in the RSE Group, a transfer of £3.02m has been made from restricted to unrestricted funds. Other transfers between funds shown in the Statement of Financial Activities comprise the recurring transfers from the Capital Asset Reserve of a total of £102,000 to match the depreciation of buildings and the capital repayment of the loan to the Foundation; and a transfer on consolidation from the Foundation restricted fund balance to the General Fund, equivalent to the net inter-entity income received in the RSE.

**Balance Sheet**

Consolidated net assets have increased by £2.7m, from £24.7m to £27.5m, as a result of the unrealised investment gains at 31 March 2017.

Fixed assets, including the cost of property in George Street, amounted to £3.1m. Investments were valued at £23.3m, of which £22.6m related to restricted funds or designated funds, such as the BP Research Fund, the Development Fund and the Pension Reserve. Net current assets increased from £1.73m to £1.81m. Debtors have increased by £0.14m, reflecting claims for support of the increased number of Enterprise Fellows, and creditors have also increased by £0.04m.

The pension liability of £559,000 at 31 March 2016 increased to £883,000. The main difference in the calculations was the discount rate applied to the liabilities, which reflects current market conditions. The FRS102 liability for the Lothian Pension Fund was £182,000 compared to 2016, when the FRS102 pension position calculated by the fund actuary for accounts purposes was an asset, which was not recognised. For the Universities Superannuation Scheme (USS) the calculated FRS102 liability was £701,000, in respect of the two active members, five deferred members and two pensioners. It is possible that this liability will crystallise in the foreseeable future, as the active membership of the scheme reduces.

**Resources Expended**

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs of raising funds</td>
<td>5</td>
</tr>
<tr>
<td>Fellowship</td>
<td>2</td>
</tr>
<tr>
<td>Research &amp; Prizes</td>
<td>35</td>
</tr>
<tr>
<td>Publications</td>
<td>4</td>
</tr>
<tr>
<td>Enterprise &amp; Innovation</td>
<td>25</td>
</tr>
<tr>
<td>Schools</td>
<td>2</td>
</tr>
<tr>
<td>Policy</td>
<td>7</td>
</tr>
<tr>
<td>Events &amp; Conference Hire</td>
<td>12</td>
</tr>
<tr>
<td>RSE Young Academy of Scotland</td>
<td>&lt;1</td>
</tr>
<tr>
<td>International</td>
<td>8</td>
</tr>
</tbody>
</table>
### Group Statement of Financial Activities

(INCORPORATING THE INCOME & EXPENDITURE ACCOUNT)
FOR YEAR ENDED 31 MARCH 2017

<table>
<thead>
<tr>
<th>Note</th>
<th>Unrestricted £’000</th>
<th>Restricted £’000</th>
<th>2017 Total £’000</th>
<th>2016 Total £’000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legacies</td>
<td>13,400</td>
<td>51,961</td>
<td>65,361</td>
<td>5,468</td>
</tr>
<tr>
<td>Other donations</td>
<td>270,809</td>
<td>27,428</td>
<td>298,237</td>
<td>356,781</td>
</tr>
<tr>
<td>Donations and legacies</td>
<td>284,209</td>
<td>78,389</td>
<td>363,598</td>
<td>362,249</td>
</tr>
<tr>
<td>Charitable activities</td>
<td>41,654</td>
<td>4,314,919</td>
<td>4,356,573</td>
<td>3,937,382</td>
</tr>
<tr>
<td>Rental income</td>
<td>-</td>
<td>228,072</td>
<td>228,072</td>
<td>243,865</td>
</tr>
<tr>
<td>Investment income</td>
<td>382,124</td>
<td>431,451</td>
<td>813,575</td>
<td>826,782</td>
</tr>
<tr>
<td><strong>Total income</strong></td>
<td>707,987</td>
<td>5,053,831</td>
<td>5,761,818</td>
<td>5,370,278</td>
</tr>
<tr>
<td><strong>Expenditure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raising funds</td>
<td>(300,650)</td>
<td>(121,108)</td>
<td>(421,758)</td>
<td>(280,052)</td>
</tr>
<tr>
<td>Charitable activities</td>
<td>(689,932)</td>
<td>(4,660,058)</td>
<td>(5,349,990)</td>
<td>(5,110,169)</td>
</tr>
<tr>
<td><strong>Total expenditure</strong></td>
<td>(990,582)</td>
<td>(4,781,166)</td>
<td>(5,771,748)</td>
<td>(5,390,221)</td>
</tr>
<tr>
<td><strong>Net operating (deficit)/surplus</strong></td>
<td>(282,595)</td>
<td>272,665</td>
<td>(9,930)</td>
<td>(19,943)</td>
</tr>
<tr>
<td><strong>Gains / (losses) on Investment Assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Realised gains / (losses)</td>
<td>372,056</td>
<td>285,731</td>
<td>657,787</td>
<td>(97,187)</td>
</tr>
<tr>
<td>Unrealised gains / (losses)</td>
<td>1,077,057</td>
<td>1,279,500</td>
<td>2,356,557</td>
<td>(2,257,541)</td>
</tr>
<tr>
<td><strong>Net income / (expenditure)</strong></td>
<td>1,166,518</td>
<td>1,837,866</td>
<td>3,004,414</td>
<td>(2,374,671)</td>
</tr>
<tr>
<td>Transfers between funds</td>
<td>3,128,328</td>
<td>(3,128,328)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Other recognised gains / (losses)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuarial losses / gains on defined benefit pension funds</td>
<td>(276,000)</td>
<td>-</td>
<td>(276,000)</td>
<td>384,000</td>
</tr>
<tr>
<td><strong>Net movement in funds</strong></td>
<td>4,018,846</td>
<td>(1,290,432)</td>
<td>2,728,414</td>
<td>(1,990,671)</td>
</tr>
</tbody>
</table>

Reconciliation of funds:

Balance brought forward at 1 April 2016

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>18,19</td>
<td>10,110,105</td>
<td>14,625,111</td>
</tr>
</tbody>
</table>

**Balance carried forward at 31 March 2017**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>18,19</td>
<td>14,128,951</td>
<td>13,334,679</td>
</tr>
</tbody>
</table>
## Balance Sheet at 31 March 2017

### Fixed assets

<table>
<thead>
<tr>
<th>Note</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£'000</td>
<td>£'000</td>
</tr>
<tr>
<td>Tangible fixed assets</td>
<td>3,211,740</td>
<td>3,259,824</td>
</tr>
<tr>
<td>Heritage assets</td>
<td>46,920</td>
<td>42,920</td>
</tr>
<tr>
<td>Investments at fair value</td>
<td>23,273,293</td>
<td>20,265,222</td>
</tr>
<tr>
<td><strong>Total fixed assets</strong></td>
<td><strong>26,531,953</strong></td>
<td><strong>23,567,966</strong></td>
</tr>
</tbody>
</table>

### Current assets

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£'000</td>
<td>£'000</td>
</tr>
<tr>
<td>Loans</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Debtors</td>
<td>451,302</td>
<td>310,788</td>
</tr>
<tr>
<td>Cash at bank and in hand</td>
<td>181,244</td>
<td>151,054</td>
</tr>
<tr>
<td>Deposits – Restricted funds</td>
<td>970,267</td>
<td>919,673</td>
</tr>
<tr>
<td>Deposits – Unrestricted funds</td>
<td>1,329,606</td>
<td>1,420,546</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td><strong>2,932,419</strong></td>
<td><strong>2,802,061</strong></td>
</tr>
</tbody>
</table>

### Current liabilities

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£'000</td>
<td>£'000</td>
</tr>
<tr>
<td>Creditors: amounts falling due within one year</td>
<td>(1,117,742)</td>
<td>(1,075,811)</td>
</tr>
<tr>
<td><strong>Net current assets</strong></td>
<td><strong>1,814,677</strong></td>
<td><strong>1,726,250</strong></td>
</tr>
</tbody>
</table>

### Net assets excluding pension fund

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£'000</td>
<td>£'000</td>
</tr>
<tr>
<td>Net assets excluding pension fund</td>
<td>28,346,630</td>
<td>25,294,216</td>
</tr>
<tr>
<td>Defined benefit pension schemes liability</td>
<td>(883,000)</td>
<td>(559,000)</td>
</tr>
<tr>
<td><strong>Net assets after pension fund liability</strong></td>
<td><strong>27,463,630</strong></td>
<td><strong>24,735,216</strong></td>
</tr>
</tbody>
</table>

### Funds

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£'000</td>
<td>£'000</td>
</tr>
<tr>
<td>Restricted Funds</td>
<td>13,334,679</td>
<td>14,625,111</td>
</tr>
<tr>
<td>Unrestricted Funds</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Designated Funds</td>
<td>13,880,785</td>
<td>9,974,087</td>
</tr>
<tr>
<td>General Fund</td>
<td>248,166</td>
<td>136,018</td>
</tr>
<tr>
<td><strong>Total funds</strong></td>
<td><strong>14,128,951</strong></td>
<td><strong>10,110,105</strong></td>
</tr>
</tbody>
</table>

The accounts were approved by the Council on 12 September 2017 and signed on its behalf by:

**Dr John Brown**  
CBE FRSE  
TREASURER
The summary accounts set out on pages 30 and 31 have been extracted from the full financial statements of the RSE which were approved on 12 September 2017. The RSE’s full financial statements have been audited and the Auditors’ opinion was unqualified.

Further information about the activities of the Royal Society of Edinburgh and additional copies of the Annual Report may be obtained from:

The Royal Society of Edinburgh
22 – 26 George Street Edinburgh
EH2 2PQ

<table>
<thead>
<tr>
<th>Auditors</th>
<th>Stockbrokers &amp; Investment Advisers</th>
<th>Solicitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSM UK Audit LLP</td>
<td>Speirs &amp; Jeffrey &amp; Co Ltd</td>
<td>Shepherd &amp; Wedderburn WS</td>
</tr>
<tr>
<td>First Floor, Quay 2</td>
<td>50 George Square</td>
<td>1 Exchange Crescent</td>
</tr>
<tr>
<td>139 Fountainbridge</td>
<td>Glasgow</td>
<td>Conference Square</td>
</tr>
<tr>
<td>Edinburgh</td>
<td>G2 1EH</td>
<td>Edinburgh</td>
</tr>
<tr>
<td>EH3 9QG</td>
<td>Cornelian Asset Managers Limited</td>
<td>EH3 8UL</td>
</tr>
<tr>
<td></td>
<td>30 Charlotte Square</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Edinburgh</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EH2 4ET</td>
<td></td>
</tr>
</tbody>
</table>

Bankers

Bank of Scotland plc
38 St Andrew Square
Edinburgh
EH2 2AD