

# resource

## The Newsletter of Scotland's National Academy



Former President of Ireland, Mary McAleese was admitted as an Honorary Fellow of the RSE at the ASM in October 2012. She is pictured in front of the new exhibition 'From Maxwell to Higgs' with Professor Peter Higgs, who was awarded a specially-commissioned medal at the meeting. More details inside ...  
*Images courtesy of Gary Doak*

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[RSE Young Academy of Scotland – one year on](#)

THE ROYAL  
SOCIETY  
OF EDINBURGH



From James Clerk Maxwell's Electromagnetic Equations, through to Albert Einstein's Special Theory of Relativity and on to the more recent Standard Model of Particle Physics, the exhibition charts a history that brings us up to date with the latest findings at the Large Hadron Collider. The display, housed in the Upper Gallery at the RSE's own historic premises, opened with a private viewing by His Royal Highness The Duke of Edinburgh on the occasion of the Royal Medals Presentation, 26 September 2012.

# THE ROYAL SOCIETY OF EDINBURGH

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## From Maxwell to Higgs

The Royal Society of Edinburgh, in collaboration with the University of Edinburgh's School of Physics and Astronomy, has created an exhibition that celebrates the recent discovery at CERN of a new particle consistent with the Higgs boson.

"From Maxwell to Higgs" shows the important role Peter Higgs has played, whilst also highlighting the historic discoveries and theories that have influenced current thinking about the existence of such a particle.



Peter Higgs FRS FRSE, standing in the 27-km LHC collider ring at CERN.



HRH The Duke of Edinburgh is pictured viewing the exhibition with Professor Alan Walker of the Particle Experiments Group at Edinburgh's School of Physics, who helped to create the exhibition along with Professor David Saxon OBE FRSE (not pictured).

In recognition of his outstanding work that led to the recent announcement by scientists at CERN, Professor Higgs was awarded a specially-commissioned medal at the RSE Annual Statutory Meeting on 1 October 2012.



Professor Sir John Arbuthnott, President of the Royal Society of Edinburgh, said *Professor Higgs' theoretical work has long been recognised as a crucial step towards a unified theory of the forces of Nature and for this he was one of the first recipients of the Royal Medal – the RSE's highest honour – in 2000. I am delighted that twelve years later, in light of the work being carried out at CERN to confirm his theories, the Society is once again able to give its congratulations and recognition to Professor Higgs with this commemorative medal. Professor Higgs' achievements have shaped Man's understanding of Nature at the most fundamental level.*

# Young Academy of Scotland

## One Year On .....

Next month marks a year since the official launch of the RSE Young Academy of Scotland. The Young Academy was formed by the RSE with a mission to:

*Foster interdisciplinary activities among emerging leaders from the disciplines of science and humanities, the professions, the arts, business and civil society.*

Established by the Royal Society of Edinburgh in 2011, the Young Academy provides a platform for able and innovative young entrepreneurs, professionals and academics to develop a coherent and influential voice, and to address the most challenging issues facing society in Scotland and beyond.

Since its inception, the sixty-eight founding members of the Young Academy have begun to identify some of these key issues, around which they will build a coherent programme of projects.

After only a year, members of the Young Academy are engaged across a spectrum of issues. Members produced a response to the Scottish Government's consultation paper "Your Scotland, Your Referendum" and will continue to investigate the issues surrounding proposed reforms to the Scottish constitution. The sharing of scientific research also came under scrutiny in a response to the Royal Society's Call for Evidence, "Science as a Public Enterprise". Developing areas of activity include engaging with the current changes in educational practice within Scotland as part of the Curriculum for Excellence; bringing together members from the various sectors represented in the Young Academy to propose activities under a Health and Wellbeing theme; and identifying practical ways to capitalise on the recommendations from the RSE's recent "Tapping all our Talents" Report to widen participation by women and other underrepresented groups in STEM. Many of these projects are at the earliest stages, but the Young Academy is committed to making an impact through its developing portfolio of activities.



It would not have been possible to have reached this stage had it not been for the vision and ongoing support of the Fellows and staff of the RSE in setting up the Young Academy. In addition, the Young Academy of Scotland is delighted to have secured additional financial support from the Scottish universities, which will allow the membership to participate fully in its activities. As the members of the Young Academy are distributed across the whole of Scotland, this support will be invaluable in ensuring the activities and outcomes reflect this distribution. In addition, the first AGM of the Young Academy was held in Aberdeen in September, with the joint support of the University of Aberdeen and Aberdeen City Council. If you would like to learn more about the work of the Young Academy, or to find out how to support this, please email: [facilitate@youngacademyofscotland.org.uk](mailto:facilitate@youngacademyofscotland.org.uk)

The Young Academy is part of a growing international movement, but the first of its kind in the UK. It will continue to grow over the coming years with an annual recruitment of new members. A call for the second cohort of members was launched in September and the outcome of that call will be announced in the near future.

And finally, congratulations to Dr Nicola Stanley-Wall, Dr Sharon Ashbrook and Dr Rob Jenkins, recipients of the RSE's Early-Career Prizes and all members of the Young Academy.

If you would like to contact the Young Academy, email: [facilitate@youngacademyofscotland.org.uk](mailto:facilitate@youngacademyofscotland.org.uk) or contact Dr Lesley Campbell (Young Academy Manager): [info@youngacademyofscotland.org.uk](mailto:info@youngacademyofscotland.org.uk)

Updates on progress of Young Academy activities are available on the website at: [www.youngacademyofscotland.org.uk](http://www.youngacademyofscotland.org.uk)

# Scotland's Research Talent

## Cormack Vacation Research Scholarships

### David Edwards

School of Physics and Astronomy,  
University of Glasgow

*Investigating non-standard cosmological models with gravitational wave standard sirens*

### Alistair Hodson

Department of Physics,  
University of Aberdeen

*Are core collapse supernovae powered by scalar gravitational waves?*

### Samuel Irvine

Institute for Astronomy,  
University of Edinburgh

*Assessing Habitability in Large Exoplanet Datasets using Simple Climate Models*

### Aron Krausz

School of Physics and Astronomy,  
Institute for Astronomy,  
University of Edinburgh

*Resolving Stellar Population of Two Nearby Starburst Galaxies*

### Juraj Sabol

School of  
Mathematics and  
Statistics, University  
of St Andrews

*A Non-Linear  
Force-Free Field  
Model of the Quiet  
Sun Corona*



## Carnegie Caledonian Scholarships

### Piotr Jacobsson

Scottish Universities  
Environmental  
Research Centre,  
University of Glasgow

*Dating Scottish  
Crannogs*



### Jonathan Simpson

The Centre for Molecular Nanometrology,  
Pure and Applied Chemistry,  
University of Strathclyde

*Investigating Sugar Biosensing with Surface Enhanced Raman Spectroscopy (SERS)*

## Lessells Travel Scholarships

### Liliana Acosta Alvarez

Bioelectronics Research Centre,  
University of Glasgow

*Microfluidic platform for cell trapping and separation to generate artificial tissues for biomedical applications*

**Visiting:** Division of Health Sciences and Technology, Harvard-MIT, USA

### Pamela Anderson

Advanced Space  
Concepts Laboratory,  
Department of  
Mechanical and  
Aerospace Engineering,  
University of Strathclyde



*The Orbital Dynamics of Advanced Planetary Observation Systems*

**Visiting:** Mission Design and Navigation, NASA's Jet Propulsion Laboratory/California Institute of Technology, USA

### James Charles Calvey

School of Engineering and the Built Environment, Edinburgh Napier University

*IntelliBike: monitoring the condition of cycling infrastructure*

**Visiting:** Laboratory for Engineering Mechanics, Delft University of Technology, Netherlands

### Kyle Crombie

UK Biochar Research Centre, School of Geoscience, University of Edinburgh

*Investigating the effect of pyrolysis production conditions on the stability of biochar*

**Visiting:** Department of Crop and Soil Science, Cornell University, Ithaca, New York, USA

### Konstantinos Margaris

Department of Bioengineering,  
University of Strathclyde

*Study of physiological fluid flow in the lymphatic system using experimental and mathematical methods*

**Visiting:** Department of Biomedical Engineering, Texas A&M University, College Station, Texas, USA

### Ian McNally

School of Engineering, University of Glasgow

*The Orbital Motion of Large Solar Power Satellites in Space*

**Visiting:** Aerospace Engineering Sciences, University of Colorado, USA

## CRF European Travel Fellowships – Visits to Europe

### Dr Maud Anne Bracke

School of Humanities/  
History, University  
of Glasgow

*Women and the re-invention of the political: the Italian feminist movement in an international perspective (1966–1983)*

**Visiting:** Department of History and Civilisation, European University Institute, Florence, Italy



### Dr Bernadette O'Rourke

Department of Languages and Intercultural Studies, Heriot-Watt University

*New Speakers of Galician*

**Visiting:** Department of Galician Linguistics and Language Planning, University of Vigo, Spain

### Professor Stephen Partridge

Research Office, Duncan of Jordanstone College of Art & Design, University of Dundee

*Video Art in Italy 1968–1994*

**Visiting:** Dipartimento Comunicazione e Spettacolo, Roma Tre, Università Degli Studi, Rome, Italy

### Dr Myrto Tsakatika

School of Social and Political Sciences,  
University of Glasgow

*The weakest link: changing patterns of party competition and the politics of protest in Southern Europe*

**Visiting:** Centre for the Advanced Study of the Social Sciences, Juan March Foundation, Madrid, Spain

## CRF Personal Research Fellowship in Biomedical Sciences

### Dr Christine Démoré

Institute for Medical Science and Technology,  
University of Dundee

*Ultrasound Biomedical Microscanning: New capabilities in tissue characterisation*



# The Class of 2012

## CRF European Travel Fellowships – Visits to Scotland

### Professor Igor Dukhan

Arts and Design Department & Centre for Visual Arts and Media, Belarusian State University  
*Utopia of Fraternity: Interactions and Migrations in the 1920s European and Russian avant-gardes*

**Visiting:** Edinburgh College of Art, University of Edinburgh

### Dr Sándor Hites

Institute for Literary Studies, Hungarian Academy of Sciences  
*Credit, Fiction, Nation-building*

**Visiting:** Institute for Advanced Studies in the Humanities, University of Edinburgh

### Professor Máire Ní Annracháin

School of Irish, Celtic Studies, Irish Folklore and Linguistics, University College Dublin

*Figurative Language in Scottish Gaelic Song*

**Visiting:** Sabhal Mòr Ostaig, University of the Highlands and Islands, Isle of Skye

### Dr Alexander Pavlenko

Department of Foreign Languages, Taganrog Institute of Management and Economics  
*A Study into the Toponyms of the Scottish Origins in the Former Russian Empire.*

**Visiting:** School of Language and Literature, University of Aberdeen

### Dr Sigrid Rieuwerts

Department of English and Linguistics (British Studies), Johannes Gutenberg University, Mainz, Germany  
*The moorings of the Minstrelsy of the Scottish Border in Walter Scott's life and correspondence*

**Visiting:** Celtic and Scottish Studies, University of Edinburgh

### Dr Berit Sandnes

Department of Dialectology and Onomastics, Institute for Language and Folklore, Lund, Sweden  
*Place-names in the former Viking Areas*

**Visiting:** Centre for Nordic Studies, University of the Highlands and Islands, Orkney and Shetland

## BBSRC Enterprise Fellowships

### Dr Neil K Gibbs

Dermatology, School of Translational Medicine, University of Manchester  
*Curapel Ltd – developing safe and effective therapies for chronic skin conditions*

### Dr Lisa Mohamet

Human Development, University of Manchester  
*Commercialisation of a Novel, Single-Step Method for the Enrichment of Stem Cell-Derived Neural Progenitor Cells*

## Scottish Enterprise Enterprise Fellowships

### Dr Lee Baker

Medical Research Institute, University of Dundee  
*Chi-Squared Innovations Limited – discovering, developing and delivering an innovative portfolio of automated statistical analysis tools*

### Kanika Bansal

Edinburgh Technology Transfer Centre/School of Engineering, University of Edinburgh  
*IV Prev—Preventing Infections from IV Drip*

### Dr Paulo Di Prodi

School of Engineering, University of Glasgow  
*EMMA (Elder Monitoring Mobile Assistant)*

### Dr Elias Ekonomou

Institute for Information and Digital Innovation, Edinburgh Napier University  
*Vitalmeda: The Personal Health Data Manager*



### Eleanore Irvine

Pure and Applied Chemistry, University of Strathclyde  
*biogelX: Cell Matched Matrices for 3D Cell Culture*

## STFC Enterprise Fellowships

### Mohammed Belal

RAL Space, Science and Technology Facilities Council  
*Chirped Laser Dispersion Spectroscopy (CLaDS)*



### Oliver Hardick

Advanced Centre for Biochemical Engineering, University College London  
*Nanofibres for High Productivity Bioseparations*

## Scottish Government Personal Research Fellowships Co-funded by Marie Curie Actions

### Dr Angela Bradshaw

BHF Glasgow Cardiovascular Research Centre, University of Glasgow  
*A novel approach to ameliorating vascular pathologies driven by transforming growth factor-beta (TGFβ)*

### Dr Grant Hill

School of Chemistry, University of Glasgow  
*An accurate theoretical protocol for homogenous transition metal catalysis*

### Dr Sarah McKim

Division of Plant Sciences, College of Life Sciences, University of Dundee  
*Molecular characterisation of spike -development in barley*



## BP Trust Research Fellowship

### Dr Stuart D Robertson

Department of Pure and Applied Chemistry, University of Strathclyde  
*Avenues of Application for Cooperative Bimetallics*

# Arts & Humanities Awards

## Scottish Government Arts & Humanities Small Grants

### Dr Ross Birrell

Forum for Critical Inquiry,  
The Glasgow School of Art  
*Rodeo: Artist Films on  
R B Cunninghame Graham*

### Dr Kate Britton

Department of  
Archaeology,  
University of Aberdeen  
*Analysis of human  
remains from St  
Nicholas Kirk,  
Aberdeen: Diet, health and mobility  
in a Medieval maritime society*



### Dr Barbara Burns

School of Modern Languages and Cultures,  
University of Glasgow  
*Ageing and self-awareness in the literary  
works of Laure Wyss*

### David Cowley

Aerial Survey, RCAHMS (Royal  
Commission on the Ancient and Historical  
Monuments of Scotland)  
*In with the new, out with the old?  
Integrating new technologies and  
traditional archaeological skills in  
the world of virtual archaeology*

### Dr Philip Drake

Stirling Media  
Research Institute,  
University of Stirling  
*Building 'reputational  
capital': examining  
film industry creativity,  
reputation and authorship*



### Dr Christine Ferguson

Department of English Literature,  
University of Glasgow  
*Race and Spiritualism in Nineteenth-  
Century New Orleans: Séance  
Transcriptions from the Henry Louis  
Rey Circle, 1858-1876*

### Dr Jacqueline Jenkinson

History and Politics, University of Stirling  
*Shop keeping among general  
practitioners in Scotland, c. 1858–1911 –  
a way for poor doctors to aid poor patients?*

### Dr Chris Jones

Department of English,  
University of St Andrews  
*Edwin Morgan and Old English*

### Dr Rebecca H Jones

Survey and Recording, Royal  
Commission on the Ancient and  
Historical Monuments of Scotland  
*Presentation and dissemination of  
research into Roman Scotland and  
Roman Frontiers at the XXII International  
Limes (Roman Frontiers) Congress in Ruse,  
Bulgaria (6th–11th September 2012).*

### Dr Hilary Macartney

History of Art, School of Culture &  
Creative Arts, University of Glasgow  
*The First Photographically Illustrated  
Book on Art: William Stirling Maxwell's  
Annals of the Artists of Spain (1848)*

### Dr Fraser MacDonald

Institute of Geography  
and the Lived  
Environment,  
University of Edinburgh  
*From Space Exploration  
to Scotland's Cold War:  
testing and contesting the world's  
first nuclear missile*



### Dr Jane Wilson Mallinson

School of Culture and Creative Arts,  
University of Glasgow  
*Choral Societies in Nineteenth-Century  
Scotland*

### Dr Karen Milek

Archaeology, School  
of Geosciences,  
University of Aberdeen  
*Material Culture  
and Power Politics  
in Viking Age Iceland*



### Professor Peter van Dommelen

Department of Archaeology, School of  
Humanities, University of Glasgow  
*Ancient Interactions: Crafts, Technology  
and Knowledge Exchange in the  
Ancient Mediterranean*

### Diane Watters

Architecture &  
Industry, Royal  
Commission on the  
Ancient & Historical  
Monuments of  
Scotland  
*Scottish Historic School Architecture  
(pre-1880): Contextual Research &  
Survey of Northern England's Historic  
Urban School Architecture*



## Scottish Government Arts & Humanities Workshops

### Dr Claudia Glatz

Archaeology, School of Humanities,  
University of Glasgow  
*The Prehistoric Black Sea*

### Dr Seán Molloy

Politics and International Relations,  
University of Edinburgh  
*The Indispensable Theory? The Theory  
and Practice of Realism from the Scottish  
Enlightenment to the Present*

### Professor Andrew Patrizio

History of Art/  
Edinburgh College  
of Art, University  
of Edinburgh  
*The ARTIST ROOMS  
Research Workshop Programme*



### Dr Marina Moskowitz

Department of History,  
University of Glasgow, and  
**Professor Lynn Abrams**  
Department of History,  
University of Glasgow

*Hand-Knitted Textiles and the Economies  
of Craft in Scotland*

### Frances Lennard

History of Art (Centre for Textile  
Conservation and Technical Art History),  
University of Glasgow, and

### Dr Graeme Small

School of Humanities/Sgoil na  
Daonnachdan, University of Glasgow

*Tapestry in the Round: Interdisciplinary  
Cross-sector Research in Textile History*

### Professor Alan Riach

Department of Scottish Literature,  
University of Glasgow, and

### Dr Ken Neil

Forum for Critical Inquiry,  
Glasgow School of Art, with

### Sorcha Dallas

The Alasdair Gray Foundation

*Vision and Language: Alasdair Gray's  
Visual and Literary Archive*

# Scottish Crucible 2012

<b>Adam Barker</b>	School of Computer Science, St Andrews
<b>Rebecca Barr</b>	Musculoskeletal Research Programme, Aberdeen
<b>Helen Bridle</b>	Institute for Infrastructure & Environment, Edinburgh
<b>Maria Ana Cataluna</b>	Ultrafast Photonics Group, Dundee
<b>Alasdair Clark</b>	School of Engineering, Glasgow
<b>Joanna Cloy</b>	Scottish Agricultural College
<b>Geoff Cooper</b>	School of Chemistry, Glasgow
<b>Sylvie Coupaud</b>	Biomedical Engineering, Glasgow
<b>Andrew Davie</b>	Institute of Aquaculture, Stirling
<b>Michaela Dewar</b>	Human Cognitive Neuroscience, Edinburgh
<b>Johannes Kiefer</b>	Chemical Engineering, Aberdeen
<b>Joanneke Kruijssen</b>	Centre for Understanding Sustainable Practice, RGU, Aberdeen
<b>David Loudon</b>	School of Design, Glasgow School of Art
<b>W. Gordon Mackay</b>	Institute of Health-Associated Infection, West of Scotland
<b>Frankie McCarthy</b>	School of Law, Glasgow
<b>Alistair McGowan</b>	School of Geographical and Earth Sciences, Glasgow
<b>Jonathan Mendel</b>	School of the Environment, Dundee
<b>Wendy Moncur</b>	School of Computing, Dundee
<b>Erik Monsen</b>	Hunter Centre for Entrepreneurship, Strathclyde
<b>Colin Moran</b>	School of Sport, Stirling
<b>Alasdair Mort</b>	Centre for Rural Health, Aberdeen
<b>Cristina Persano</b>	School of Geographical & Earth Sciences, Glasgow
<b>Anita Quye</b>	Centre for Textile Conservation & Technical Art History, Glasgow
<b>Susan Rasmussen</b>	School of Psychological Sciences & Health, Strathclyde
<b>Colin Rickman</b>	Inst of Biological Chemistry, Biophysics & Bioengineering, Heriot-Watt
<b>Verena Rieser</b>	School of Mathematics & Computer Science, Heriot-Watt
<b>Craig Roberts</b>	Psychology, Stirling
<b>Tamsin Saxton</b>	Psychology, Abertay, Dundee
<b>Kiril Sharapov</b>	Glasgow School for Business & Society, Glasgow Caledonian
<b>Narakorn Srinil</b>	Dept of Naval Architecture & Marine Engineering, Strathclyde
<b>Chris White</b>	School of Physics and Astronomy, Glasgow



Fourteen of this year's Crucible Awardees were able to attend the RSE Research Awards Reception in September. They are pictured with: Ruth Neiland, (far left), Head of Research Futures, Heriot-Watt University; Sir John Arbuthnott, (seated centre), President of the RSE; Professor Alan Miller, (second from far right), Deputy Principal (Research and Knowledge Transfer) Heriot-Watt; and Professor Steve Beaumont OBE, (far right), RSE Research Awards Convener.

# RSE Awards Currently Available

## CRF European Visiting Research Fellowships

The aim of these Fellowships is to establish a two-way flow of scholars between Scotland and Continental Europe.

To Europe ....

Applications are invited from scholars working in Scotland, who should be continuing members of academic or academic-related staff at a Scottish HEI, and whose research would benefit from a short period (2–6 months) spent in a European country outwith the UK.

To Scotland ...

Applications are also invited from scholars in European countries outwith the UK, who would benefit from a similar period spent in Scotland. Scholars from Europe wishing to study in Scotland must be nominated by members of academic staff from HEIs in Scotland. The Nominator must submit the completed form and will be responsible for the organisation of the visit and the disbursement of any grants provided under this scheme. Applicants from Europe should normally be employed in a recognised centre of higher education or research. In addition, it is the responsibility of the Nominator to ensure that the Fellow submits his/her report of the visit within two months of the end of the Fellowship.

Closing date: Monday 5 November 2012

Full details at: [www.rse.org.uk/967\\_GuidanceandForms.html](http://www.rse.org.uk/967_GuidanceandForms.html)

## Scottish Enterprise Enterprise Fellowships

Are you a researcher? Are you interested in developing a spin-out business around your technological idea and within which you will be expected to play a leading role?

Enterprise Fellowships offer:

- A year's salary to develop your commercial proposition and product, hosted at your university or HEI;
- Business training to give you the knowledge to prepare a viable business plan;
- Access to networks of mentors, business experts and professional advisors;
- A "once in a lifetime" opportunity.

Closing date: 5 November 2012 for Fellowships starting on 1 April 2013

Full details at: [www.rse.org.uk/1016\\_ScottishEnterpriseApplication.html](http://www.rse.org.uk/1016_ScottishEnterpriseApplication.html)

The funding that the RSE provides supports Scotland's cultural, economic and social wellbeing. The programmes through which this funding is made available aim to:

- Attract and retain those with outstanding potential to establish their Science, Technology, Engineering & Mathematics (STEM) and Arts & Humanities careers in Scotland, and to make long-term contributions in these areas and in their application in Scotland;
- Encourage enterprise and innovation and the commercialisation of technology-based ideas coming from academic research;
- Develop international collaborative links and enable participation in international research programmes.

Full details of all funding administered by the RSE are available on the website at: [www.rse.org.uk/180\\_FundingAwards.html](http://www.rse.org.uk/180_FundingAwards.html)

## INTERNATIONAL FUNDING

### International Exchange Programme – Bilateral

The International Exchange Bilateral programme supports short-term visits to and from Scotland, to enhance the research capabilities of individual researchers, develop international collaborative links, and enable participation in international research programmes.

Next deadline: 30 November 2012.

Full details at:

[www.rse.org.uk/802\\_InternationalExchangeProgrammeBilateral.html](http://www.rse.org.uk/802_InternationalExchangeProgrammeBilateral.html)

### International Exchanges – Open Programme

The Open Programme allows researchers to further collaborations with research groups in any countries (non-UK) or institutes not covered by the Bilateral Programme.

Next deadline: 30 November 2012

Full details at:

[www.rse.org.uk/832\\_InternationalExchangesOpenProgramme.html](http://www.rse.org.uk/832_InternationalExchangesOpenProgramme.html)

### National Natural Science Foundation of China (NNSFC) – Joint Projects

The NNSFC Joint Projects allow Scotland-based researchers and China-based researchers to collaborate on joint projects over a two-year period.

Next deadline: 24 January 2013

Full details at:

[www.rse.org.uk/801\\_NSFC.html](http://www.rse.org.uk/801_NSFC.html)



# International

## INTERNATIONAL EXCHANGE PROGRAMME

One of the main purposes of the RSE International Programme is to award short-term travel grants to enable Scottish researchers to establish links with colleagues in other countries with a view to a long-lasting collaboration, through joint publications and joint applications for longer-term funds.

The RSE also supports longer-term collaborations through the Joint Project Scheme with the National Natural Science Foundation of China, which facilitates longer-term international collaboration between researchers based in Scotland and China by providing two years'-worth of funding.

**Professor Nikolai Zhelev,  
University of Abertay Dundee**

**Visited: Professor Qingge Li,  
Xiamen University, China**

Professor Nikolai Zhelev (pictured right) visited Fujian Province in China in order to discuss possibilities for collaboration with Professor Qingge Li from Xiamen University (pictured right, below) and colleagues from Fujian Medical School and Fujian Academy of Integrative Medicine.

The aim of the visit was to set up an international interdisciplinary collaboration to develop novel nanosensors for a highly sensitive detection of RNA, DNA and protein molecules in cells and within biological samples.

It was agreed to start a collaboration to develop novel ultrasensitive biosensors for biomedical research, drug development and environmental monitoring by combining the experience of the Chinese colleagues in nanoparticles and Professor Zhelev's laboratory's experience in biosensors and systems biology.



**Scottish-based Host: Professor Robert Logie FRSE, University of Edinburgh**

**Overseas visitor: Dr Satoru Saito,  
Kyoto University, Japan**

Our collaboration investigates how healthy adult humans remember the serial order of words in written language. This ability is essential for learning to read, and for reading comprehension.

Japanese has completely different structures from European languages, so this research examines what is universal for all humans, and what is language-specific. Most previous research of this kind has focused on spoken language, and on European languages. During the visit we completed a draft of a scientific manuscript for our work thus far, showing that some aspects of memory for written language are indeed universal.

We commenced work on computational modelling of our data that will be added to this manuscript prior to submitting it for publication in an international, peer-reviewed journal. All of the work that required face-to-face discussion was completed. The remainder of the work and of the writing will be completed via e-mail.

## NNSFC Joint Project

**Professor Umit Bititci and Dr Kepa Mendibil, University of Strathclyde  
Associate Professor Dan Wang, Harbin Institute of Technology, China**

The aim of this project was to develop a detailed understanding of the issues associated with the international collaborative business relationships and collaborative innovation, with a view to developing a framework for managing collaborative innovation in cross-cultural supply and value chains. The project was carried out in three phases (namely deductive, empirical and data analysis), which included a thorough review of the literature in the subject area and case studies with four engineering organisations.

Key achievements included:

- the identification of factors affecting cross-cultural collaborative innovation;
- four company case studies;
- three papers presented at international conferences;
- one special session organised in an international conference;
- a special issue for *Production Planning and Control* journal edited by the awardees.

# Advice and Briefing Papers

## RSE response to the Scottish Parliament Finance Committee's consultation on the Draft Budget 2013–14

Having provided written and oral evidence to the Scottish Parliament's Finance Committee on the Comprehensive Spending Review and Draft Budget 2012–13 in autumn last year, the RSE has now responded to the Committee's call for evidence on the Draft Budget 2013–14.

In its Advice Paper, the RSE calls for a fundamental rethink of the budget-setting process in Scotland, highlighting that a process which, since 1999, has entailed agreeing the distribution of a Scottish Budget with year-on-year growth, is no longer fit for purpose in a time of tightening public spending constraints.

Key points of the RSE's response to the Finance Committee include:

- It is essential that, when setting the Budget, the Scottish Government takes a strategic long-term view and links, in a transparent and consistent way, spending to outcomes within this strategic context. The RSE calls for the establishment of a Treasury function which would provide an objective and full cost-benefit analysis and opportunity cost analysis for each policy option in order that priorities can be set and choices made.
- An independent body, similar in status to the Office for Budget Responsibility at UK level, should be set up as a vehicle through which discussions on the realities and implications of budget cuts can be held.
- The Scottish Government must also provide clear, transparent reporting on its spending and the impacts this has on the Scottish economy. This should include transparency and consistency on spending announcements and changes to proposed spending made throughout the year, showing the source of funds and clearly identifying cross-overs and transfers between portfolios.

• With the information that would be made available through the above mechanisms, the Scottish Parliament would be able to take a significantly enhanced role in assessing and then approving the draft Budget and holding the Government to account for its spending. Both the Finance and subject committees would be better able to scrutinise the draft budget by portfolio and by line, with a full understanding of the options available, their costs, benefits and opportunity costs; and be in a stronger position to monitor and evaluate progress.

Finally, recognising that much of the focus of the Finance Committee's call for evidence lay on areas where more spending may be needed, the RSE emphasised the need, both in the setting and the scrutiny of the Draft Budget 2013–14, for informed discussion on the changing profile of budget cuts.

**The full report can be read on the RSE website at:**  
[www.rse.org.uk/cms/files/advice-pers/2012/AP12\\_08.pdf](http://www.rse.org.uk/cms/files/advice-pers/2012/AP12_08.pdf)

## Tapping all our Talents

As part of the dissemination of the findings of the *Tapping all our Talents* Report on Women in STEM disciplines, a series of meetings have been held in Glasgow, Aberdeen, Dundee and Edinburgh. These have been well attended and the report has found a favourable response from attendees. The audiences have been primarily from the academic sector, although some people from the private sector have taken part. Consideration is being given on how to extend the reach of the report to a wider audience.

In addition to the dissemination events, meetings have also been held with the Scottish Funding Council (SFC), the Equality Challenge Unit and the

Department of Business Innovation and Skills (BIS). The SFC will be seeking to make progress on women in the sciences through new outcome agreements that they are reaching with universities and colleges. It is anticipated that the Society will receive a formal response to the report from the Scottish Government, which will indicate how it intends to take forward those issues within its responsibility, whilst at a UK level the Government has indicated in the Queen's Speech that it intends to legislate to reform the law as it applies to parental rights in relation to the workplace.

**The full report can be read on the RSE website at:**  
[www.rse.org.uk/1027\\_Report.html](http://www.rse.org.uk/1027_Report.html)



Dame Jocelyn Bell Burnell CBE FRSE is pictured with Martin Donnelly, Permanent Secretary at the Department of Business Innovation and Skills

## Scotland and the United Kingdom

The issue of Scottish independence is one of the biggest constitutional issues facing the UK, with far-reaching consequences for all UK citizens. The Royal Society of Edinburgh (RSE) and British Academy Policy Centre (BA) have released a report outlining Scotland's past, present and future relationship with the rest of the United Kingdom.



This new report explores the options for further devolution and the potential consequences for the UK, including issues such as tax and spending, the English response and relations with the European Union.

The RSE is now working with the BA on a series of joint follow-up events that will be held next year to examine these and other key issues in detail.

**The full report can be read on the RSE website at:**  
[www.rse.org.uk/cms/files/advicepapers/2012/scotland\\_in\\_the\\_uk.pdf](http://www.rse.org.uk/cms/files/advicepapers/2012/scotland_in_the_uk.pdf)

## The Financing of Business Innovation in Scotland

The RSE Business Innovation Forum published a new report in October 2012. This report presents the outcomes and conclusions of a consultation process undertaken by the RSE's Business Innovation Forum. It covers the topics of the financing of innovation in Scottish companies and the aspects and characteristics of the current financial environment which support or constrain businesses seeking to grow and develop in Scotland.

In brief, its principal recommendations are that:

1. a senior-level advisory group should be established to investigate and report on the feasibility of mobilising new sources of risk capital in Scotland.
2. the infrastructure available to support Scottish companies in connecting with sources of equity investment outside Scotland should be reviewed. This would involve consultation with a range of interested parties across both private and public sectors.
3. an evaluation should be undertaken of the potential for and feasibility of creating (a) new vehicle(s) to provide access to loan funding for emerging Scottish companies on terms which would be viable for the businesses and acceptable to the lenders.

**The full report can be read on the RSE website at:**  
[www.rse.org.uk/cms/files/advice-papers/2012/AP12\\_10.pdf](http://www.rse.org.uk/cms/files/advice-papers/2012/AP12_10.pdf)

## Fiscal Sustainability

In August, an RSE Working Group under the chairmanship of Professor Alice Brown CBE FRSE, RSE General Secretary, responded to the Scottish Parliament Finance Committee's inquiry into *Fiscal Sustainability: Demographic change and ageing population*. In September, Lord Sutherland of Houndwood KT FRSE participated on behalf of the RSE in the Finance Committee's evidence session on the health and social care aspects of the inquiry. The RSE's response made the following key points:

- Variation in migration assumptions will make a considerable difference to fiscal sustainability. As the UK does not (yet) employ a systematic means of recording migrants, migration is difficult to measure and predict. Migration levels are currently influenced by factors outwith the control of the UK and Scottish Governments, and should be kept under review.
- Fiscal sustainability will be influenced by the extent to which Scotland embeds healthy ageing and preventative interventions into current and future priorities. Whilst healthy life expectancy in Scotland has increased, it remains lower than the UK average and there is a large variation in healthy life expectancy within Scotland. It is important that preventative measures are aimed not merely at avoiding death but also at reducing morbidity, enhancing quality of life, increasing people's contribution to society and reducing their demand on services. The economy as a whole will benefit from the adoption of this approach.
- With marked real-term declines in public spending for the foreseeable future, the emphasis must be on securing best value from the available expenditure.

To achieve this, radical reform of the current adult health and social care systems is required. The steps being taken by the Scottish Government to integrate adult health and social care services and budgets are to be welcomed.

- It is urgent that all central policies are re-evaluated with a level of realism as to what is absolutely essential to the Scottish public and economy. No policy should be protected until both the cost/benefits and opportunity costs – social, economic and environmental – of its delivery are critically evaluated. The evaluation should apply across the board, including to policies involving universal benefits, with consideration given to the extent of their preventative contribution to healthy ageing.
- Scotland's budgetary framework is in need of reform. The annuality of the current budget process should be reviewed, as it restricts longer-term prioritisation of spend and reduction of costs at a time of tightening public expenditure.
- The Scottish Parliament Committee structure is well placed to institute a longer-term framework which takes cognisance of demographic change and befits an ageing population.

Fundamental to this is the extension of Scotland's record linkage to social care and benefits; and detailed, sophisticated, cross-sectoral longitudinal analyses. The Finance Committee and the Scottish Government should engage with the Healthy Ageing in Scotland (HAGIS) project and support the establishment of a Scottish longitudinal survey of ageing.

**The full report can be read on the RSE website at:** [www.rse.org.uk/cms/files/advice-papers/2012/AP12\\_07.pdf](http://www.rse.org.uk/cms/files/advice-papers/2012/AP12_07.pdf)

# Events@ RSE

**Tuesday 13 November 2012**

**FULL-DAY CONFERENCE**

## **SUPA Cormack Astronomy Meeting**

The Cormack Bequest meeting has been a long-standing annual RSE event for the Scottish astronomy community to gather and share, via talks and posters, some of the very wide range of astronomy research being conducted in Scotland. Each year, there is an invited talk on a 'hot' astronomy topic, and this year Professor Don Kurtz, University of Central Lancashire, (pictured right) will be speaking on asteroseismology results from the Kepler Mission.

2012 sees the first full Cormack Astronomy Meeting jointly funded and organised by the Scottish Universities Physics Alliance (SUPA).



Image courtesy of Jack Harvey/NSO

**LECTURE at 6 pm**

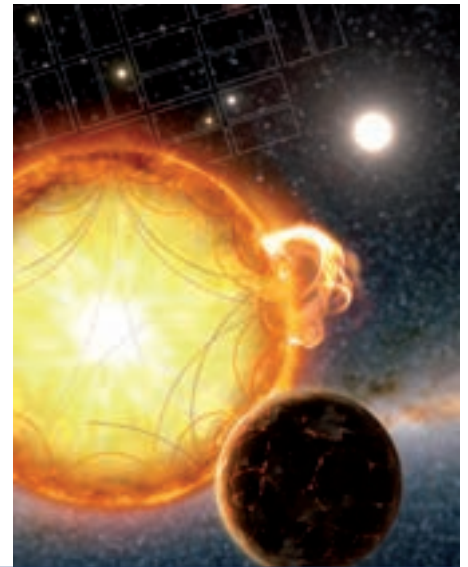
## ***Exploring the Diversity of Exoplanets***

**Dr Suzanne Aigrain, Lecturer in Astrophysics, University of Oxford**

Less than twenty years ago, the Solar System was the only planetary system we knew about. Since then, astronomers have discovered many hundreds of exoplanets – planets which orbit stars other than the Sun. We now know that exoplanets are common, perhaps even outnumbering the stars in our Galaxy. Some of them are so utterly unlike any of the Solar System planets that they challenge both our imagination and our theories of how planets form and evolve.

This talk will describe some of the highlights and challenges of exoplanet exploration in the past decade, and outline how we are working to detect and characterise an ever wider range of planets, including some that might harbour life.

Image courtesy of Suzanne Aigrain



## **Monday 26 November 2012 at 6 pm** **MACCORMICK EUROPEAN LECTURE**

**Allan Little, BBC World Affairs Correspondent**

The MacCormick Lecture is named after the late Sir Neil MacCormick, in recognition of the contribution made by him to Scottish and European politics and the international work of the RSE.

For over two decades, Allan Little (pictured left) has been reporting the changing shape of our world. In this lecture he will try to make sense of the current crisis in Europe, especially the euro crisis, by putting it in the context of Europe's history.

Allan Little and Jane Beresford (BBC) were awarded the annual UACES Thomson Reuters Reporting Prize at a ceremony in London on 24 May 2012.

Joint event with the European Movement in Scotland, supported by the European Parliament Office in Edinburgh.

**This event is now fully booked.**

**To join the waiting list please register online: [www.royalsoced.org.uk/events/](http://www.royalsoced.org.uk/events/)**



**Tuesday 27 November 2012**

**FULL-DAY CONFERENCE**

*Europe and the Arab World*

The countries which now make up the European Union were in a state of instability and chaos in the aftermath of war only 60 years ago. Similar instability – in government, civil society and economic development – is now apparent in many parts of the Arab World, which stretches from the Arabian Gulf in the east to the Atlantic in the west. This conference aims to bring together policy makers, academics, professionals and interested members of the public to examine ways in which Europe may be able to help to restore stability to the Arab World, and in so doing further the related objectives of democracy and prosperity.

Full rate: £150

Fellows/Academics: £75\*

Student/Concession: £50\*

\*limited places available

This is a joint event with the European Movement in Scotland and is supported by the European Commission Office in Scotland and the Centre for Advanced Study of the Arab World

**Friday 7 December 2012**

**FULL-DAY EVENT**

*C T R Wilson –  
a Great Scottish Physicist:  
His Life, Work and Legacy*

This event is to honour C T R Wilson FRS FRSE, (1869–1959), the 1927 Nobel Physics Laureate, who invented the cloud chamber. This device, described by Rutherford as “the most original and wonderful instrument in scientific history”,

was used in many discoveries that led to the development of particle physics. Wilson was also deeply interested in atmospheric electricity and his ideas about thunderstorms are at the heart of modern physics. Speakers will discuss his life and his contributions to physics, as well as current work on cosmic rays and climate, thunderstorms and the search for the origin of cosmic rays, on the existence of which Wilson speculated ten years before their discovery in 1912.

Full rate: £120

Student/Concession rate: £50 (limited places available)

This event is supported by the Institute of Physics, SUPA, the Royal Meteorological Society and the Astroparticle Physics and Environmental Physics Group.



**Monday 3 December  
2012 at 6 pm**

**RSE/BP HUTTON PRIZE  
LECTURE IN ENERGY  
INNOVATION**

*MTEM –  
From PhD  
Research to  
Commercial  
Exploration  
Tool*



**Dr David Wright,  
PGS Senior  
Research Fellow,  
University of  
Edinburgh**



In 2004, MTEM Ltd spun out from the University of Edinburgh to commercialise research in electromagnetics for oil and gas exploration. As a co-founder, Dr David Wright played a key part in the early development of this technology and continues to do so. This lecture tells the story of how MTEM technology developed from field tests in the South of France to commercial operations in the North Sea and looks at what the future holds. The technology will also be put into context by discussing how it complements conventional tools used in exploration and other potential applications.

This event is supported by the BP Trust.

The lecture forms part of an RSE Ordinary Meeting and so will be preceded by Society business, such as Fellows signing the Roll.

# RSE@ Programme

## RSE@LOCHABER 2012–2013

The RSE@ Lochaber Project was launched in September 2012, introducing a programme of educational and inspirational school and community events to be delivered in the region until June 2013. Professor Jan McDonald FRSE (pictured on left with Kate Kennedy, RSE Project Officer) has been one of the driving forces behind the programme since its inception in 2008. Here she looks at how the initiative began and what it set out to achieve, reminiscing on past programmes, on her personal highlights, and revealing some surprising challenges met along the way.

## BEGINNINGS – THE ROAD TO ARBROATH

*Where does any project begin? For me the RSE@Arbroath project began on a train to Edinburgh when I was travelling to my first meeting of the RSE's Young People's (YP) Committee. Included in the papers was a policy document from Dr Lesley Campbell, emphasising the importance of developing sustainability or legacy in the Society's outreach programmes.*

*The YP Committee already provided an excellent programme of schools' talks, masterclasses and workshops, but, at that time, areas of Scotland outside the Central Belt were visited only occasionally with one-off events. Taking as a model the practice of some small theatre companies which form partnerships with communities by establishing extended residencies, I sketched out, almost literally on the back of an envelope, a scheme for a year-long residency, or sustained programme of RSE events, in Aberdeen.*

*Rather to my surprise, the idea met with guarded approval from my new colleagues. It was agreed that the possibility of a pilot project would be explored. My most enthusiastic supporter was Professor Sue Black, but with the energy and inspiration that is typical of Sue, she cried out, 'Yes, but not Aberdeen, Arbroath!'*

*Sue had given some highly successful lectures to school pupils in Arbroath and had professional links with the Royal Marine Commandos stationed nearby. Her advice proved to be excellent. The burgh of Arbroath has a rich cultural and scientific heritage, with many resources in its history, literature, folklore, geology, geography, ecology and past and present industries, as well as, most significantly, in its people—not to mention the 'Smokies', on the qualities of which our little team became discriminating experts.*



## AIMS OF THE RSE@ PROGRAMMES

### 1. To develop and sustain active engagement with a community outwith the Central Belt.

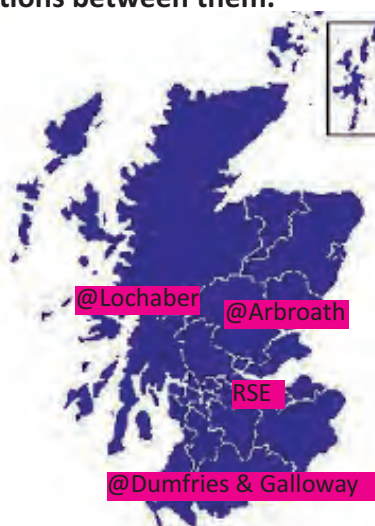
The RSE acknowledges its role as Scotland's National Academy, and recognises that this implies a responsibility to extend the public benefit of our activities throughout the country.

In Arbroath, as in all subsequent RSE@ projects, from the outset the involvement of the local community was our first priority. It remains very important to us that we build on the resources within the area. Community engagement and participation are essential to our planning, and we have been very fortunate in finding a great deal of practical help and support from a wide range of local people throughout our chosen regions.

### 2. To plan and deliver a programme which explores a range of disciplines and the many connections between them.

Events in the RSE@ Programme are designed to promote the full range of the disciplines that fall within our Fellowship: Science, Engineering and Technology, of course, but also the Arts and Humanities, Social Sciences, Business and Industry.

Further, we want to promote events that engage with areas of



knowledge in a way which demonstrates that they are symbiotic and interdependent, not isolated silos. Within this framework, we aim to select topics which have meaningful links to local environment and culture.

### 3. To appeal to a wide local audience by offering a diversity of events

Each programme offers a variety of activities to satisfy a range of tastes and age groups, including public lectures and exhibitions, together with masterclasses, classroom projects, workshops and field trips for schools at secondary and primary levels, which fit with the guidelines in the *Curriculum for Excellence*, and are thematically linked to the public lectures.

## CHALLENGES

### Geography

Arbroath was easy in that it is a relatively small burgh and, although the programme extended a little into the surrounding countryside, there were no access problems. Taking the programme to Dumfries and Galloway was much more of a challenge. As well as a number of events in major towns – Dumfries, Stranraer, Lockerbie – there were also activities in Newton Stewart, New Galloway, Langholm, Dalry, Kirkcudbright, Gatehouse of Fleet, Sanquhar and Thornhill.

Lochaber will present an even greater challenge, because there are even more small communities. We have sought to address this by choosing four centres: Fort William, Mallaig, Kinlochleven and Strontian. Each of these has a school or college with good accommodation which acts as a focal point for the local community. We also plan some boat trips with educational entertainment to the Small Isles. The fact that the University of the Highlands and Islands has splendid video-conferencing facilities is also a real plus, and we hope to webcast events where possible.

### Townies going rural

We had a few important lessons to learn about staging events in rural areas, shifting gear to fit in with the local area. For example, when publicising an event, we quickly learned that displaying posters in local focal points such as shops, doctors' and dentists' waiting rooms, hospitals, schools, nurseries, village halls and guest houses is a good method of spreading the word. In addition, local papers, local radio stations, taxi drivers, bus drivers and traffic wardens can play important roles in spreading the word and building audiences. In Dumfries and Galloway, we started with audiences of about 25 and progressed to attendances of up to 150.

### Intrusion of wildlife, and other inconveniences ...

When a bat enters the room in which you are lecturing, an incident which occurred during Dr Maureen Park's excellent exposition of the work of an early pioneering psychiatrist at the Royal Crichton Hospital, it is best to leave it be!

If you are lecturing in a room where all the lights are set to go out if there is no perceptible movement, when the lights do go out, jump about a bit – and carry on.

And, if you're given haggis in an egg box, eat it! A refusal might well offend.....

## HIGHLIGHTS

Professor McDonald concludes, *The principal highlight has been working with a great team of people from the RSE. The RSE@ programmes could not happen without their commitment, intelligence, imagination and unflinching resourcefulness. And it was fun!*

*Then, there are all the Fellows who have been 'amazing' (to use the favourite adjective of this Olympic year), and who gave '110% of their best' for no financial reward. It would be really hard to pick out a 'star' in this constellation. I learned a great deal from all the lectures across a range of subjects.*

*Particularly pleasing, perhaps, were those which directly met our target of offering a bridge across the so-called 'two cultures' divide. The theme in Dumfries and Galloway was 'Water'. Professor Geoffrey Bolton, geologist, lectured in Lockerbie on Sustainability – Wind, Water and Waves, while Professor Ted Cowan, Scottish historian, talked on The Myths and Legends of Galloway Rivers in Gatehouse of Fleet. Professor David Ingram, Former Keeper of the Royal Botanic Garden, Edinburgh, chaired a fascinating colloquium on Gardens in Arts and Science at Drumlanrig Castle near Thornhill.*

*I should also mention the 'special' RSE Christmas Lectures – Professor Anne Glover in Arbroath, and Allan Little in Stranraer. These were nostalgic experiences for both, as they were former pupils of the schools to which they were returning to speak as leaders in their fields.*

## RSE @LOCHABER 2012–2013

### Events so far ...



#### Monday 17 September Programme Launch

Snowgoose Restaurant, Fort William.  
*History in Question: An Evening with Professor Tom Devine OBE FRSE*

#### Thursday 20 September

West Highland College, Kilchoan.  
*The Large Hadron Collider, the Higgs Boson and Other Questions about the Universe.*  
Professor Peter Clarke FRSE

#### Friday 28 September

Kinlochleven High School.  
*Location Location – Film Locations in Lochaber.*  
Dr Jonathan Murray

### Events to come ...

#### Tuesday 30 October

Mallaig High School  
*The Nanny, the Priests and the King*  
Professor Owen Dudley Edwards FRSE

#### Friday 2 November

West Highland College, Kilchoan  
*The Dark Side of the Universe*  
Professor Martin Hendry FRSE



#### Tuesday 11 December

Lochaber High School  
RSE Christmas Lecture 2012  
**Katherine Grainger**

**The RSE@Lochaber Programme will run until June 2013. For details of above events and others, visit the RSE website: [www.rse.org.uk/1007\\_RSELochaber.html](http://www.rse.org.uk/1007_RSELochaber.html)**

# Events in Schools

## Exploring Enhancements in Disability Sport

The 2012 Paralympic Games are being billed as the most high-profile and successful in the history of the games. This was timely for the RSE's annual Discussion Forum, which took place in June and explored issues around enhancements in disability sport.

The event took place at Arbroath Academy, which already has strong links with the RSE, having participated in events in the 2008 RSE@ Arbroath programme. This year is the 50th anniversary of the Academy, and the discussion forum was arranged as part of a week of Olympic activities celebrating this milestone.

Key to the event was World Champion Paratriathlete, Jane Egan, who comes from Kilbrachan near Glasgow and was part of the team that developed the content of the week's programme. Jane delivered a fascinating and engaging talk to students, introducing them to some of the main issues, such as drug use, equipment, coaching and finance in disability sport, as well as classifications within her sport. Jane's presentation also included her personal experience of sport and the background to her neurological condition, *Complex Regional Pain Syndrome*.

This was followed by a short introduction to formal and discussion-style debates by Suzanne Ensom from the English Speaking Union, after which the students spent time researching the key questions around these issues and debating some of the topics, such as whether taking necessary medication levels the playing field in terms of performance, or gives athletes an advantage.

Feedback was typically positive, with both students and staff agreeing that the event was successful and highly enjoyable: all of the students reported that they enjoyed the event and learned something new; 90% of students felt the event helped their debating and team working skills; students indicated that they will use what they learned in a number of ways, including in future debates and when giving presentations and communicating their ideas in school and extra-curricular activities; many added that what they learned would be useful for their CVs, for university and their future careers.



The event was supported by The Darwin Trust of Edinburgh.



A Resource Pack (pictured above) has been developed from the event, allowing other schools to explore and debate these issues.

This is available on the RSE website at: [www.rse.org.uk/772\\_Resources.html](http://www.rse.org.uk/772_Resources.html)



Jane Egan was new to triathlon in 2009 but became a World and European Champion in 2010 – she was recognised for this spectacular breakthrough by being voted British Triathlon's female Paratriathlete of the Year for 2010. She followed this up with another great year in 2011 and was once again voted British Triathlon's female Paratriathlete of the Year in 2011. Jane has a rare neurological disorder affecting her central and peripheral nervous systems, which means she experiences pain and loses muscle control.





# Recognising Excellence

## The Scottish Engineering Hall of Fame

The Scottish Engineering Hall of Fame was conceived and developed in 2011 by the Institution of Engineers and Shipbuilders in Scotland (IESIS), at the suggestion of its then President, Dr Gordon Masterton OBE FEng FRSE.

With the support of the major engineering academies and institutions, a judging panel of eminent engineers, industrial archaeologists and other specialists was assembled to select inductees.

The first seven engineers inducted were:

**Andrew Meikle** (1719–1811), engineer and inventor of the threshing machine;

**Percy Sinclair Pilcher** (1867–1899), engineer and aviation pioneer whose aeronautical work predated the Wright brothers;

**Thomas Telford FRS FRSE** (1757–1834), engineer whose works traversed the UK (pictured right, top);

**Sir William Thomson, 1st Baron Kelvin FRS FRSE** (1824–1907), engineer and scientist, designer of the electric telegraph;

**James Watt FRS FRSE** (1736–1819), engineer who developed the steam engine;

**William Douglas Weir, 1st Viscount Weir** (1877–1959), engineer who created the National Grid;

**James Young FRS FRSE** (1811–1883), chemist and engineer, shale oil pioneer and founder of the petrochemical industry.

The Hall of Fame celebrates and honours those engineers from, or closely associated with, Scotland who have achieved, or deserve to achieve, greatness. The genius and skills of many great Scots have contributed hugely to the wellbeing of the world today, in all fields of engineering.

The first seven inductees were announced at the IESIS James Watt Dinner on 30 September 2011. Each year will see a select few outstanding individuals added to this pantheon of great Scottish Engineers.



The 2012 Inductees were announced at the James Watt Dinner on 28 September 2012, presided over by Iain MacLeod, current President of the IESIS. The four inductees are:

**John Elder** (1824–1869), marine engineer and shipbuilder;

**James Clerk Maxwell FRS FRSE** 1831–1879), (pictured left, bottom) physicist whose work forms the foundations of electrical engineering;

**Dorothee Pullinger** (1894–1986), automobile engineer and pioneering businesswoman;

**Douglas Anderson OBE FRSE** (b. 1951), (below) product design engineer, inventor of improved retinal scanning.



For the first time this list includes a living inductee who is also a Fellow of the RSE.

The Scottish Engineering Hall of Fame website was launched on 27 August 2012 and can be viewed at: [www.engineering-halloffame.org/index.html](http://www.engineering-halloffame.org/index.html)

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**CORPORATE PARTNERS OF THE ROYAL SOCIETY OF EDINBURGH**

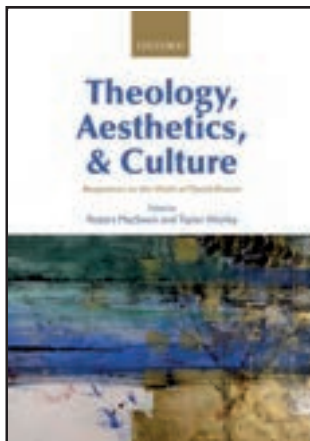
If you would like to know more about the Royal Society of Edinburgh's Friends of the Society initiative, or if your organisation may be interested in joining the scheme, please contact: **Gordon Adam, Director of Business Development and Communications – 0131 240 2781 – [gadam@royalsoced.org.uk](mailto:gadam@royalsoced.org.uk)**

# Fellows Honoured

The RSE currently has around 1540 Fellows, including 63 Corresponding Fellows, who are not normally resident in the UK, and 63 eminently distinguished Honorary Fellows.

The following Fellows have received recognition in various ways in recent months:

In September 2012, Oxford University Press (OUP) published a collection of essays on the work of the **Revd Professor David Brown** FBA, University of St Andrews. This book examines Professor Brown's remarkable five-volume series with OUP, and contains contributions from a number of highly distinguished scholars on both sides of the Atlantic, including Professor Brown himself. Professor Brown's membership of the Society is noted on the inside cover.



For details of the book or to purchase visit:  
<http://ukcatalogue.oup.com/product/9780199646821.do>

The following RSE Fellows have been elected to the British Academy:

**Professor Knud Haakonssen**  
Emeritus Professor of Intellectual History, University of Sussex

**Professor Michael Keating**  
Professor of Politics, University of Aberdeen

**Professor Hugh Kennedy**  
Professor of Arabic, School of Oriental and African Studies, University of London

**Professor Nigel Leask**  
Regius Professor of English Language and Literature, and Head of School of Critical Studies, College of Arts, University of Glasgow

**Professor Neil Walker**  
Regius Professor of Public Law and the Law of Nature and Nations, University of Edinburgh

The following RSE Fellows have been made Fellows of the Royal Academy of Engineering:

**Iain Conn**  
Group Managing Director and Chief Executive, Refining and Marketing, BP plc

**Professor Paul William Jowitt CBE**  
Professor of Civil Engineering Systems, Heriot-Watt University

**Professor David Michael Lane**  
Director, Ocean Systems Laboratory, Heriot-Watt University, and Director, SeeByte Inc.

**Professor Jane Ann Plant CBE**  
Anglo-American Professor of Geochemistry, Imperial College London

**Professor Austin Tate**  
Personal Chair of Knowledge-based Systems and Director, Artificial Intelligence Applications Institute, University of Edinburgh; Senior Visiting Scientist, Florida Institute for Human Machine Cognition

#### Honorary Fellows:

**Professor Sir John Beddington** CMG FRS  
Government Chief Scientific Adviser

**Sir Paul Nurse** PRS HonFRSE  
President, Royal Society

The American Society of Human Genetics (ASHG) has named **Emeritus Professor Alan E H Emery**, University of Edinburgh, as the winner of the Award for Excellence in Human Genetics Education. The award will be presented to Dr Emery on 10 November 2012 at the ASHG 62nd Annual Meeting at the Moscone Center in San Francisco.

The Society for General Microbiology announced **Professor Nigel Brown**, University of Edinburgh, as its new President from September 2012.

**Professor David Sugden**, University of Edinburgh, has been awarded the Seligman Crystal (pictured right) by the International Glaciological Society.

*The Seligman Crystal shall be awarded from time to time to one who has made an outstanding scientific contribution to glaciology so that the subject is now enriched.*



## RSE COUNCIL AND EXECUTIVE BOARD

At the 2012 Annual Statutory Meeting on Monday 1 October, Fellows were elected to serve on the RSE Council and Executive Board. Following are the lists of all office-bearers for the current Session:

### Council

#### President

Sir John Arbuthnott MRIA

#### Vice-Presidents

Professor Graham Caie  
Professor Anna Dominiczak OBE  
Professor Tariq Durrani OBE  
Mr Ian Ritchie CBE  
Professor Wilson Sibbett CBE

#### General Secretary

Professor Alice Brown CBE

#### Treasurer

Mr Gerald Wilson CB

#### Fellowship Secretary

Professor Alan Miller

#### Ordinary Members

Professor Alan Alexander OBE  
Professor Robert Cormack  
Sir David Edward KCMG QC PC  
Professor Sheila Rowan MBE  
Sir Muir Russell KCB

### Executive Board

#### General Secretary

Professor Alice Brown CBE

#### Treasurer

Mr Gerald Wilson CB

#### Curator

Dr Iain Gordon Brown

#### Vice-President International

Professor Tariq Durrani OBE

#### Programme Convener

Sir Andrew Cubie CBE

#### Research Awards Convener

Professor Steve Beaumont

#### Young People's Convener

Dr Chris van der Kuyf

#### Chairman of RSE Scotland Foundation

Professor Donald Ritchie CBE DL

#### Education Convener

Professor Sally Brown OBE



RSE General Secretary,  
Professor Alice Brown CBE

## Self-Contained Office Accommodation to Let

This extensive accommodation above the RSE Rooms is now vacant and new tenants are being sought.

The property comprises the third floor of our attractive 4-storey and lower ground, B Listed period building with return frontage onto George Street and Hanover Street. The suite is self contained and benefits from a dedicated entrance off Hanover Street with lift access to the third floor suite.

Internally, the layout provides for a mix of open-plan office areas and individual rooms which benefit from ample natural daylight supplemented by fluorescent strip lighting throughout. The property further benefits from dedicated WC and tea-prep facilities, gas-fired central heating, CAT 5 data cabling and perimeter trunking.

### 53 Hanover Street, Edinburgh, EH2 2PJ

- Third floor
- 259 sq m (2,787 sq ft)

Viewing strictly by appointment with the sole letting agents, contact:

Iain Taylor – [iain.taylor@ryden.co.uk](mailto:iain.taylor@ryden.co.uk) or

Cameron Whyte – [cameron.whyte@ryden.co.uk](mailto:cameron.whyte@ryden.co.uk)

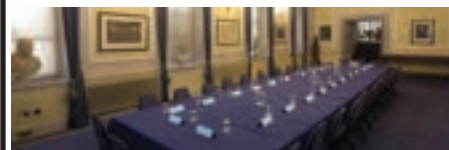
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## The 2012 RSE Royal Medals and the Clerk Maxwell Award

The RSE Royal Medals capture the spirit of the Society's Royal Charter of 1783 and its remit to advance learning and useful knowledge. They were created to mark the Millennium and have been awarded annually since then with the express approval of Her Majesty The Queen. The Royal Medals represent the Society's highest accolade.

The Clerk Maxwell Award is a joint award made by the RSE and the IEEE, funded by Wolfson Microelectronics plc. It recognises groundbreaking work by those who follow in Maxwell's footsteps and was first presented in 2006.



RSE President, Sir John Arbuthnott, is pictured welcoming HRH The Duke of Edinburgh and the other honoured guests to this prestigious event, held at the RSE in September.

This year the Medals were again presented by HRH The Duke of Edinburgh who has been an Honorary Fellow of the RSE since 1951.



Professor Sir Edwin Southern KB FRS HonFRSE (above) was awarded a Royal Medal for his outstanding contribution to molecular biology, from which technologies have been developed with a global impact. The citation was read by Professor Jean Beggs CBE FRS (below), a past Vice-President of the RSE.



Dr David Milne OBE FRSE (above) was awarded the Royal Medal for his outstanding contribution to business and commerce in Scotland through his founding, growth and leadership of Wolfson Microelectronics. The citation was read by Professor Wilson Sibbett CBE FRSE (below), RSE Vice-President and recipient of a Royal Medal in 2009.



Professor Gerhard Sessler (above) was awarded the Clerk Maxwell Award. Professor Sessler has helped revolutionise the modern microphone market, not once but twice during his career. IEEE President, Dr Gordon Day (below) read the citation.



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