Annual Review Annex
2014/2015
Annex to the Annual Review

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Fellows

Fellows of the Academy are leading engineers in the UK drawn from academia, industry, and the not-for-profit sectors. Fellowship is a national honour, awarded for outstanding personal engineering achievements. Election to the Fellowship is managed by current Fellows of the Academy.

HONORARY FELLOWS

Elected in 2014 was:

Lord Bamford
Chairman, JCB Bamford Excavators Ltd

INTERNATIONAL FELLOWS

Elected in 2014 were:

William Baker
Partner, Skidmore, Owings & Merill LLP

Professor Teck Seng Low
Chief Executive Officer, National Research Foundation, Singapore

Professor Thomas O’Rourke
Thomas R Briggs Professor of Engineering, Cornell University

Dr Rick Rashid
Chief Research Officer, Microsoft Corporation

Professor Tienu Tan
Deputy Secretary-General, Chinese Academy of Sciences (CAS); Professor and Director, Centre for Research on Intelligent Perception and Computing, National Laboratory of Pattern Recognition, Institute of Automation, CAS

Dr Andrew Viterbi
Presidential Chair Professor, University of Southern California

Professor Jianyun Zhang
Professor and President, Nanjing Hydraulic Research Institute; Director-General, Dam Safety Management, Ministry of Water Resources; Director-General, Research Centre for Climate Change, Ministry of Water Resources

Professor Esteban Busso
Scientific Director, Materials and Structures Branch, ONERA - National Aerospace Research Centre, General Scientific Directorate (France)

Tim Chapman
Director, Arup, and Leader of Arup’s Infrastructure design group, London

Professor Sheng Chen
Professor of Communications, Signal Processing and Control Research Group, Electronics and Computer Science, University of Southampton

Professor Patricia Connelly
Professor of Bioengineering, Director of the Strathclyde Institute of Medical Devices, University of Strathclyde, and Chief Executive Officer, Ohmedics Ltd

Professor Steven Cowley
Chief Executive Officer, UK Atomic Energy Authority

Ed Daniels
Executive Vice President for Commercial and New Business Development for Upstream International, Shell UK Ltd

Dr Steve Denton
Engineering Director, Parsons Brinckerhoff Ltd; Visiting Professor, University of Bath

Professor Andy Doherty
Director of System Engineering, Network Rail

Bob Dudley
Group Chief Executive, BP plc

Dr Shaun Fitzgerald
Chief Executive Officer, Breathing Buildings

Dr Andrew Fitzgibbon
Principal Researcher, Microsoft Research Cambridge

Professor Pratibha Gai
JIOl Professor of Electron Microscopy, University of York

Professor Tony Gillespie
Fellow, Air and Weapon Systems Department, Dstl; Visiting Professor, University College London

Professor Paul Howarth
Managing Director, National Nuclear Laboratory

Professor David Ijles
Palmer Endowed Department Chair, Anson Martin Distinguished Professor and Chair of Department, Department of Electrical and Computer Engineering, Iowa State University

Professor Hanif Kara
Co-Founder and Director, AKT II

Dr John Leitch
Engineering Authority for BP Upstream Global Projects

Vice-Admiral Simon Lister
Chief Naval Engineer Officer and Chief of Materiel (Support), Ministry of Defence, Defence Equipment and Support

Professor Michael Lowe
Deputy Head of Department of Mechanical Engineering, Imperial College London; Director, Guided Ultronics Ltd

Muir Macdonald
Managing Director, BMT Defence Services Ltd

David MacKenzie
Chief Executive Officer, Flint and Nell Consulting Engineers

Andy MacLeod
Group Chief Networks Officer, Vodafone plc

Professor Malcolm Macleod
Chief Scientist, C4ISR and Dean of Fellows, QinetiQ Ltd; Visiting Professor, University of Strathclyde

John Marlow
Director, John Marlow Ltd

Professor Mark Miłodowicki
Professor of Mechanical Engineering, University College London; Director, UCL Institute of Making

Professor Asoke Nandi
Head, Department of Electronic and Computer Engineering, Brunel University; Finland Distinguished Professor, University of Jyväskylä, Finland; Adjunct Professor, University of Calgary, Canada

Professor Paul Newman
BP Professor of Information Engineering, and Fellow of Keble College, University of Oxford

Dr David Parker
Chairman, Perpetuum Ltd; Managing Director, OPS Innovations Ltd; Venture Partner, Imperial Innovations

Dr James Ramage
Chairman, Tesla Engineering Ltd and Sterling Industries Ltd; Non-Executive Director, Microsaic Systems plc

Michael Ryan
Vice-President and General Manager, Bombardier Aerospace, Belfast

David Scott
Lead Structural Director, Laing O’Rourke Engineering Excellence Group, London

Professor Karen Scrivener
Professor (ordinaire) and Director of Laboratory of Construction Materials, Ecole Polytechnique Federale de Lausanne, Switzerland
Trustee Board

The Trustee Board comprises 13 trustees elected by and from the Fellowship and is chaired by the President, Professor Dame Ann Dowling. The Trustee Board has co-opted an additional trustee for one year, Professor Sir William Wakeham, to oversee the implementation of the recommendations from a recent review of the Academy’s governance, which resulted in important amendments to the Academy’s Charter, Statutes and Regulations.

OFFICERS AND MEMBERS OF COUNCIL

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Vice Presidents
Allan Cook CBE FEng, Vice President Committee Coordination

Professor Sir William Wakeham FEng, Vice President Governance

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Secretariat
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Professor Richard Parker CBE FEng
Ian Ritchie CBE FEng FRS
Dr John E Roberts CBE FEng
Professor Martyn Thomas CBE FEng

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Howard Beeston ACIS
Academy Governance Committees

AUDIT AND RISK COMMITTEE
The purpose of the Audit and Risk Committee is to assess and improve risk management and internal processes and controls across the Academy and oversee the external audit on behalf of the Trustee Board.

Chair
Dr Michael Howse CBE FREng

Deputy Chair
Professor Brian Collins CB FREng

Members
Carolyn Griffiths FREng
Dr Joanna Kennedy OBE FREng FRSE
Dr Gordon Masterton OBE FREng FRSE
Dr Michael Purshouse FREng
John Robinson CBE FREng

Secretariat
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FINANCE COMMITTEE
The Finance Committee is responsible to the Trustee Board for the financial management of the Academy including compliance with the Charities Act 2011 and other relevant legislation, management of Academy budgets, external investment fund managers and compliance with external financial reporting standards.

Chair
Ian Ritchie CBE FREng FRSE

Members
John Baxter FREng FRSE
Carol Burke FREng
Allan Cook CBE FREng
Professor Jim Norton FREng

Secretariat
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MEMBERSHIP COMMITTEE
The Membership Committee is the guardian of excellence in determining which candidates may go forward for election to the Fellowship. The Membership Committee consists of a Chair, Chairs of each of the Membership Selection Panels, and the Chair of the International Committee. Each of the 11 Membership Selection Panels looks after a sector of engineering.

Chair
Dr John Roberts CBE FREng

Ex-Officio:
The President

Panel Chairs
Panel 1 (Civil and Environmental)
Professor Timothy Brodley FREng

Panel 2 (Materials and Mining)
Professor Ian Cilliers FREng

Panel 3 (Chemicals and Process)
Judith Hackitt CBE FREng

Panel 4 (Aerospace)
Air Marshall Simon Bolbom CB FREng

Panel 5 (Transport and Mechanical)
Dr Stephen Garwood FREng

Panel 6 (Manufacturing and Design)
Professor Roger Benson FREng

Panel 7 (Electrical and Electronic)
Dr Frances Saunders CB FREng

Panel 8 (Energy and Power)
Dr Martin Grant FREng

Panel 9 (Medical and Bioengineering)
Professor Elizabeth Tanner FREng

Panel 10 (Computing and Communications)
Professor Alan Bundy CBE FREng

Panel 11 (Special)
VAdm Sir Andrew Mathews KCB FREng

Panel Members
Panel 1 (Civil and Environmental)
Professor Colin Bailey FREng
Professor Nicholas Buenfeld FREng
Ginny Clarke CBE FREng
Peter Hansford FREng
Professor Ouabay Hassan FREng
Christopher Hendy FREng
Professor Douglas King FREng
Michelle McDowell MBE FREng
Dr Toby Roberts FREng
Professor Peter Robbery FREng
Professor Tom Stephenson FREng

Panel 2 (Materials and Mining)
Professor Paul Curtis FREng
Professor Eileen Harkin-Jones FREng
Professor Chris Hall FREng FRSE
Mike Goullete FREng
Dr John Groome FREng
Professor Anthony Kinloch FREng FRS
Professor Allan Matthews FREng
Professor David Owen FREng FLSW FRS
Professor Jane Plant FREng FRSE
Jeff Smith FREng
Dr Alan Turnbull FREng FRSE

Panel 3 (Chemicals and Process)
Professor Zhanfeng Cui FREng
Professor Michael Hounslow FREng
Dr Andrew Jamieson OBE FREng
Professor Andrew Livingston FREng
Professor Elaine Martin FREng
Professor Raffaela Ocone FREng FRSE
Nigel Perry FREng
Professor Robin Smith FREng
Dr David Tomlinson FREng

Panel 4 (Aerospace)
Garrett Copeland FREng
Dr Roger Digby FREng
Dr Stephen Elston FREng
Dr Richard Greaves FREng
Graham Hopkins FREng

Professor Andrew Keane FREng
Tony Kinghorn FREng
Dr Matthew Perkins FREng

Panel 5 (Transport and Mechanical)
Kenneth Burrage FREng
Professor David Cebon FREng
Professor Simon Gallimore FREng
Professor Timothy Leighton FREng
Dr Michael Purshouse FREng
Professor Paul Shayer FREng
Professor Raymond Snidle FREng
Professor Hugh Spikes FREng
Professor Paul Wrobley FREng
Dr Willem van Griethuysen FREng

Panel 6 (Manufacturing and Design)
Carol Burke FREng
Professor Stuart Cameron FREng
Professor John Clarkson FREng
Professor Jane Jiang FREng
Professor Patrick Keogh FREng
Professor Lin Li FREng

Panel 7 (Electrical and Electronic)
Professor Roger Appleby FREng
Professor Cliff Burrows OBE FREng
Professor Jonathon Chambers FREng
Professor Roger Goodall FREng
Professor lan Hunter FREng
Professor Cliff Jones FREng
Professor Andrew Marvin FREng
Professor Mohamed Missous FREng
Professor Sir Michael Pepper FREng FRS
Professor Richard Penty FREng
Professor Harvey Rutl FREng
Dr Nicholas Waltham FREng
Dr Richard Wylde FREng

Panel 8 (Energy and Power)
Professor Nigel Brandon OBE FREng
Janice Crawford FREng
David Eyton FREng
Dr Malcolm Kennedy CBE FREng FRSE
Dr Marcus Newborough FREng
Dr Win Rampen FREng
Professor Albert Rodger FREng

Professor Nicholas Winser CBE FREng
Panel 9 (Medical and Bioengineering)
Dr Douglas Anderson OBE FREng FRSE
Professor Serena Best FREng
Dr Clive Buckberry FREng
Dr Donal Cronin FREng
David Gow FREng
Professor Nicholas Medcalf FREng
Professor Guang-Zhong Yang FREng

Panel 10 (Computing and Communications)
Professor Bashir Al-Hashimi FREng
Dr Steve Allpress FREng
David Braben FREng
Professor Carole Goble CBE FREng
Nic Holt FREng
Dr David Watson FREng
Dr Richard Whittington FREng
Professor James Woodcock FREng

Panel 11 (Special)
Professor Richard Godwin FREng
Sir Patrick Haren FREng
Commodore Peter Hurford OBE FREng
Dr Gordon Masterton OBE FREng FRSE
Professor Ian Wallace FREng

Committee Secretariat
Jo Ryley
NOMINATIONS COMMITTEE

The purpose of the Nominations Committee is to ensure that a sufficient number of Fellows stand as candidates in the annual Trustee election and that the candidates bring to the Trustee Board skills, knowledge, experience and diversity that would yield, among the ordinary members and Vice-Presidents, a balanced Board. The Committee will recommend to the Board candidates for appointment as Vice-Presidents and for appointment as chairs of the Academy’s committees. The Committee is also to recommend to the Trustees and ultimately the Fellowship, the Academy’s President from nominations submitted by the Fellowship.

Chair
Professor Dame Ann Dowling DBE FRS FREng

Members
John Baxter FREng FRS Professor Dame Wendy Hall DBE FREng FRS Dervilla Mitchell CBE FREng Professor Sir Christopher Snowden FREng FRS Professor Sir William Wakeham FREng Professor Richard Williams OBE FREng Paul Westbury CBE FREng

Secretariat
Howard Beeston ACIS

REMUNERATION COMMITTEE

The purpose of the Remuneration Committee is to establish and keep under review the remuneration policy for permanent Academy staff which will be implemented by the Chief Executive, to consider the recommendation of the Chief Executive for remuneration of the Academy Directors and agree their remuneration and to set the remuneration of the Chief Executive.

Chair
Professor Dame Ann Dowling DBE FRS FREng

Members
Allan Cook CBE FREng Professor Sir Michael Gregory CBE FREng Ian Ritchie CBE FREng FRSE Professor Sir William Wakeham FREng

Secretariat
Philip Greenish CBE

AWARDS COMMITTEE

The role of the Awards Committee is to identify and to recommend to the President and Trustee Board appropriate candidates for all of the Academy’s relevant prizes and awards (with the exception of National Honours, the International Medal, the Queen Elizabeth Prize and the MacRobert Award).

Chair
Nigel Perry FREng

Members
Professor Adisa Azapagic FREng Dr Steve Allpress FREng Dr Rob Buckingham FREng Professor Christos Christopoulos FREng Chris Hendy FREng Professor Tim Ibell FREng Tony Kinghorn FREng Professor Raffaella Ocone FREng FRSE Professor Jason Reese FREng FRSE Professor Jim Woodcock FREng

Secretariat
Philip Greenish CBE

Committee Secretariat
Sylvia Hampartumian

EDUCATION AND TRAINING COMMITTEE

The Education and Training Committee’s role is to oversee and be responsible for the Academy’s activities in engineering education and training and to maintain links with other bodies working in these fields.

Chair
Professor Helen Atkinson CBE FREng

Members
Professor Adisa Azapagic FREng Professor Kel Fuller FREng Professor Anthony Finkelstein FREng Professor Ian Hutchings FREng Dr John Lazor FREng Professor Jonathan Seville FREng Mike Simpson FREng Faith Wainwright MBE FREng

Ex Officio
Chris Earnshaw FREng Professor Peter Goodhew FREng Professor Tim Ibell FREng Chris Mairs FREng Professor Andrew McNaughton FREng Professor David Nethercott FREng Professor Sarah Spurgeon FREng

Committee Secretariat
Dr Rhys Morgan

ENGINEERING POLICY COMMITTEE

The Engineering Policy Committee’s role is to advise and be responsible to the Trustee Board for the engineering policy of the Academy and for all matters concerned with the application of engineering knowledge and principles (other than education and training). It should identify, monitor and promote attention to emerging and generic issues of importance to engineering in pursuit of this role.

Chair
Professor John Loughhead OBE FREng

Members
Dr Peter Bonfield OBE FREng Professor John Clarkson FREng Professor Brian Collins CB FREng Lambert Dopping-Hepenstal FREng Professor Nigel Gilbert FREng Professor Jim Hall FREng Dr Mike Lloyd FREng Richard Maudsley CBE FREng Professor Jim Norton FREng Professor Andrew Sherry FREng Dr Liane Smith FREng Professor Jeremy Watson CBE FREng Nicholas Winser CBE FREng Steve Yianni FREng

Ex Officio
Professor Serena Best FREng

Committee Secretariat
Dr Alan Walker
EXTERNAL AFFAIRS COMMITTEE
The role of the committee is to provide strategic direction for external affairs activities on behalf of the Trustee Board. It oversees all aspects of the Academy’s communications, public affairs and engagement activities and events programme, ensuring they are delivered in line with Royal Charter and business plan commitments.

Chair
Dr Martyn Thomas CBE FREng

Members (Fellows)
Dr Peter Cochrane OBE FREng
Dr Dougal Goodman OBE FREng
Professor Douglas King FREng
Dr Gordon Masterton OBE FREng FRSE
Professor Alison Noble OBE FREng FRSE
Professor Sarah Spurgeon FREng
Dr Scott Steedman CBE FREng

Members (Non-Fellows)
Jeremy Greaves
Dr Richard Highfield
Sir Roland Jackson, Bt

Committee Secretariat
Junior Blake

INTERNATIONAL COMMITTEE
The role of the International Committee is to advise and be responsible to the Trustee Board for promoting the international interests of the Academy. In pursuit of this role, the Committee’s interests include the Academy’s membership of the International Council of Academies of Engineering and Technological Sciences (CAETS) and the European Council of Applied Sciences and Engineering (Euro-CASE).

The Committee also contributes to other international committees and study groups as appropriate and works to expand relationships with other academies of engineering and technological sciences, taking part in their activities where this is consistent with the Academy’s objectives.

The Committee oversees the Research Exchanges with China and India Scheme and the Academy’s Newton Fund activities.

Chair
Professor Sir William Wakeham FREng

Members
Timothy Askew FREng
Professor Ian Bogle FREng
Malcolm Brinded CBE FREng
Dr Andrew Chan FREng
Dr Alastair Glass FREng
Professor Sir Michael Gregory FREng
Professor Anthony Hey CBE FREng
Dr Shirley Jackson FREng
Professor William Lee FREng
Dr Timothy Leverton FREng
Professor John Loughhead OBE FREng
Professor Anne Neville FREng FRSE
Professor Sir Martin Sweeting OBE FREng FRS
Dr Stephen Myers OBE FREng
Dr Gareth Williams OBE FREng

Committee Secretariat
Shane McHugh

PROACTIVE MEMBERSHIP COMMITTEE
The Proactive Membership Committee is responsible for ensuring that the pool of candidates proposed for election as Fellows better reflects the society within which the Academy exists. Activities include identifying and tracking potential candidates from novel and overlooked areas, and engaging more existing Fellows in the process.

Chair
Nicholas Cooper FREng

Members
Dr Andrew Bradley FREng
Tudor Brown FREng
Dr Richard Laming FREng
Professor Geoffrey Maitland FREng
Dervilla Mitchell CBE FREng
Professor William Powrie FREng
Professor Rodney Smallwood FREng
Professor Keith Ridgway CBE FREng
Professor Tony Unsworth FREng
Professor Bernard Weiss FREng

Committee Secretariat
Dr Chris Coulter

RESEARCH AND SECONDMENT SCHEMES COMMITTEE
The role of the Research and Secondment Schemes Committee is to advise and be responsible to the Trustee Board for the supervision of research and secondment schemes other than those concerned with education and training.

Chair
Professor Ric Parker CBE FREng

Members
Professor Bashir Al-Hashimi FREng
Professor Polina Bayvel FREng
Professor Peter Fryer FREng
Professor Carole Goble CBE FREng
Dr Andrew Hosty FREng
Professor John McDermid OBE FREng
Professor Stephen McLaughlin FREng FRSE
Professor Andrew McNaughton FREng
Professor Kenichi Soga FREng
Professor Lionel Tarassenko CBE FREng
Dr David Watson FREng
Professor Paul Younger DL FREng

Ex Officio
Professor William Milne FREng (Leverhulme Senior Research Fellowships)
Professor Clive Parini FREng (Industrial Secondments)
Professor Roger Whatmore FREng (Research Fellowships)

Committee Secretariat
Dr Ian Forristal
Awards

2014 MacRobert Award
The premier award for UK innovation in engineering, with a £50,000 prize, awarded annually to a team of engineers for an exceptional engineering innovation that has been both commercially successful and delivered societal benefits. Awarded to: Cobalt Light Systems for the Insight 100 airport security liquid scanner.

2014 President’s Medal
Awarded to an Academy Fellow who has contributed significantly to the Academy’s aims and work through initiative in promoting excellence in engineering. Awarded to: Dame Sue Ion DBE FREng.

2014 Sir Frank Whittle Medal
Awarded to an engineer resident in the UK, whose achievements have made an exceptional contribution to the early to mid-career engineer resulting in market exploitation. Up to four medals may be awarded in any one year. Awarded to: Peter Brewin and Will Crawford, Directors, Concrete Canvas.

2014 Silver Medals
For an outstanding personal contribution to UK engineering by an early to mid-career engineer resulting in market exploitation. Up to four medals may be awarded in any one year. Awarded to: Professor Dino Distefano, Professor of Software Verification, Queen Mary, University of London; Professor Maire O’Neill, Professor of Secure Information Technologies, Queen’s University Belfast; Christopher Young, Director – Trent XWB Programme, Rolls-Royce.

2014 Major Project Award
The award recognises the contribution of a team of up to five engineers, based in the UK, who have delivered a major engineering project that has had a substantial impact on society. Awarded to: Kings Cross St Pancras development by Arup.

2014 Rookie Award
The prize is awarded to an individual, small team or project based in the UK that has supported the Academy’s aims and work through their initiative in promoting engineering to the public. Awarded to: Dr Diane Crann, Clothworkers’ Fellow in Mathematics and Mathematics Fellow, Royal Institution.

2014 Sir George Macfarlane Medal
The award recognises the potential of engineers working in the UK who have demonstrated excellence in the early stage of their career. Awarded to: Eur Ing Mark Wallace CEng, Engineering Project Manager, Wabtec Rail Limited.

2014 Prince Philip Medal
The medal is awarded biennially to an engineer of any nationality who has made an exceptional contribution to engineering as a whole through practice, management or education. Awarded to: Professor CC Chan FREng, Honorary Professor, University of Hong Kong.

2014 MacMillan Medal
Awarded to an individual, small team or project based in the UK, who have delivered a major engineering project that has had a substantial impact on society. Awarded to: Peter Brewin and Will Crawford, Directors, Concrete Canvas.

2014 Royal FPE Prize
Awarded to an Academy Fellow who has contributed significantly to the Academy’s aims and work through initiative in promoting excellence in engineering. Awarded to: Dame Sue Ion DBE FREng.

2014 President’s Medal
Awarded to an Academy Fellow who has contributed significantly to the Academy’s aims and work through initiative in promoting excellence in engineering. Awarded to: Dame Sue Ion DBE FREng.

2014 Sir Frank Whittle Medal
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Academy staff

Chief Executive
Philip Greenish CBE

QUEEN ELIZABETH PRIZE FOR ENGINEERING
Director, QE Prize
Keshini Navaratnam

HEAD OF OPERATIONS, QE PRIZE
Jonathan Narbett

COMMUNICATIONS MANAGER, QE PRIZE
Katya-yani Vyas

Manager, QE Prize
Guong Dang

DEVELOPMENT
Director, Development
Sarah Philbrick
Trust Manager
Dominic Geyer

ENGINEERING TALENT PROJECT
Director, Engineering Talent Project
Fiona Sampson

Interim Campaign Manager, Engineering Talent Project
Caroline Evans

POLICY AND EXTERNAL AFFAIRS
Director, Policy and External Affairs
Beverley Parkin

Communications Manager
Jane Sutton

Interim Press and Communications Officer
Alexandra Rees

External Relations Manager
Junior Blake

Publications and Web Editor
Dominic joyeux

Manager, Web and Publications
Emily Bick

Events Manager
Ivana Mackintosh

Events Coordinator
Jane Divito

Junior Events Coordinator
Katie Jones

Head of Policy
Dr Alan Walker

Policy Advisors
Dr Andrew Chivers
Phippa Shetton
Phippa Westbury

PROGRAMMES AND FELLOWSHIP
Director, Programmes and Fellowship
Dr Hayaatun Sillem

Head of International Activities
Shane McHugh

International Policy Advisor
Meredith Ettridge

Programme Managers - International (Newton Fund)
Eleanor Hood
Shaarad Sharma

International Partnerships and Missions Manager
Samantha Frost

As at 1 June 2015

Team Coordinator, International
Abigail Taylor

Head of Research and University Programmes
Dr Ian Forristal

Programme Managers, Research
Angus Baker
Tapshi Khambra

Programme Manager, Research and University Programmes
Jacqueline Clay
Dr Lucy Wheeler

Research Policy Advisor
Dr Helen Ewles

Head of Fellowship Services and Awards
Sylvia Hampartumian

Membership Manager
Jo Ryley

Fellowship Advisor
Dr Chris Coulter

Departmental Administrators
Anne Mahabal
Pauline Stillman
Yohanes Scarlett

Head of Enterprise
Arnaud Jullens

Programme Manager, Enterprise
Catherine Lawrence

Marketing and Communications Officer, Enterprise
Lisa Huggins
Grants, fellowships and programmes

**INGENIOUS PUBLIC ENGAGEMENT AWARDS ROUND 9 AWARDS**

Ingenious provides funding for projects that enable engineers to enhance their public engagement skills, consider the societal applications of their work and take part in debate with the public on engineering and its impact on society.

<table>
<thead>
<tr>
<th>Awardee Organisation</th>
<th>Project title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Teresa Anderson Jodrell Bank, University of Manchester</td>
<td>Engaging with the engineering of the Square Kilometre Array</td>
</tr>
<tr>
<td>Dr Sarah Bell University College London</td>
<td>Engineering Exchange</td>
</tr>
<tr>
<td>Dr Giovanni Biglino University College London</td>
<td>3D printing and engineering simulations to communicate with teenagers with congenital heart disease</td>
</tr>
<tr>
<td>Dr Geoff Coxon SKYLAB</td>
<td>Scotland to the skies @ the SKYLAB</td>
</tr>
<tr>
<td>Erik Engbretsen University College London</td>
<td>UCell public engagement events, 2015</td>
</tr>
<tr>
<td>Dr Kathy Fawcett At-Bristol</td>
<td>On shaky ground?: Earthquakes, fracking, engineering and risk</td>
</tr>
<tr>
<td>Luisa Golob</td>
<td>Ignite Imaginations</td>
</tr>
<tr>
<td>Dr Elizabeth Granger University of Central Lancashire</td>
<td>3D future</td>
</tr>
<tr>
<td>Jennifer Greenwood Space, Science &amp; Engineering Foundation</td>
<td>UK space design competition</td>
</tr>
<tr>
<td>Jenny Jopson Guerilla Science</td>
<td>Fire organs: Seeing sound</td>
</tr>
<tr>
<td>Dr Carol MacGillivray TROPE</td>
<td>Chain Reaction - Creating an installation at Kirkaldy Testing Museum</td>
</tr>
<tr>
<td>Shane McCracken Galtomanor Ltd</td>
<td>I’m an Engineer, Get Me Out of Herel</td>
</tr>
<tr>
<td>Peter McGinty University of Strathclyde</td>
<td>Space for art: Making mechanical engineering in space visible</td>
</tr>
<tr>
<td>Dr John McKinley Queens University, Belfast</td>
<td>Creative bridges: Ingenious design in civil engineering</td>
</tr>
<tr>
<td>Dr Nicole Metje University of Birmingham</td>
<td>Why is aerodynamics important? - A wind engineering view of the world?</td>
</tr>
<tr>
<td>Clive Gee Brunel University</td>
<td>Robo-Code - up-skill engineers’ communication skills, enabling them to stimulate young people through engagement with engineering</td>
</tr>
<tr>
<td>Lisa Naas University of Edinburgh</td>
<td>Glass whispers: Audio and electrical engineering meets studio glass for interactive, personal art experiences</td>
</tr>
<tr>
<td>Dr Thrishantha Nanayakkara Kings College, London</td>
<td>Humanitarian demining: Questions of engineering, ethics, and engagement</td>
</tr>
<tr>
<td>Tracey Ogden-Davies Techniquest</td>
<td>Making light work</td>
</tr>
<tr>
<td>Professor Paul Shore Cranfield University</td>
<td>Watch it Made</td>
</tr>
<tr>
<td>Dr Patricia Sterpaio University of Abertay, Dundee</td>
<td>On the right track: Engineering and education for all</td>
</tr>
</tbody>
</table>
RESEARCH CHAIRS

Research Chairs provide funding, together with industry and other research organisations, to support strategically important research in UK universities. The Academy provides funding initially for a period of five years.

<table>
<thead>
<tr>
<th>Name</th>
<th>Co-sponsor</th>
<th>Subject</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Guglielmo Aglietti</td>
<td>Surrey Satellite Technology (EADS)</td>
<td>Space engineering</td>
<td>University of Surrey</td>
</tr>
<tr>
<td>Professor Robert Akid</td>
<td>BP</td>
<td>Corrosion and materials</td>
<td>University of Manchester</td>
</tr>
<tr>
<td>Professor John Andrews</td>
<td>Network Rail</td>
<td>Infrastructure asset management</td>
<td>University of Nottingham</td>
</tr>
<tr>
<td>Professor Matthew Angling</td>
<td>Dstl</td>
<td>Space environment and radio frequency engineering</td>
<td>University of Birmingham</td>
</tr>
<tr>
<td>Professor Ashraf Ayaub</td>
<td>Pell Frischmann</td>
<td>Nuclear infrastructure engineering</td>
<td>City University</td>
</tr>
<tr>
<td>Professor Luke Bissy</td>
<td>Arup</td>
<td>Fire and structures</td>
<td>University of Edinburgh</td>
</tr>
<tr>
<td>Professor Richard Butler</td>
<td>Rolls-Royce</td>
<td>Experimental studies of next generation gas-turbine combustion system aerothermal processes</td>
<td>University of Loughborough</td>
</tr>
<tr>
<td>Professor Jon Carrotte</td>
<td>Rolls-Royce</td>
<td>Next generation gas-turbine combustion system aerothermal processes</td>
<td>University of Loughborough</td>
</tr>
<tr>
<td>Professor Jonathan Cooper</td>
<td>Airbus</td>
<td>Integrated design of advanced novel wing architectures</td>
<td>University of Bristol</td>
</tr>
<tr>
<td>Professor George Constantinides</td>
<td>Imagination Technologies</td>
<td>Energy-efficient high performance embedded processing in an uncertain world</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Professor Yulong Ding</td>
<td>Highview Power Storage</td>
<td>Cryogenic energy storage</td>
<td>University of Birmingham</td>
</tr>
<tr>
<td>Professor Steve DIXAN</td>
<td>Elster</td>
<td>Industrial Ultrasonics</td>
<td>University of Warwick</td>
</tr>
<tr>
<td>Professor Fiorn Dunne</td>
<td>Rolls-Royce</td>
<td>Integrative mechanistic design</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Professor Daniel Esser</td>
<td>SELEX GALILEO</td>
<td>Laser devices and engineering</td>
<td>Heriot-Watt University</td>
</tr>
<tr>
<td>Professor Brian Fazlon</td>
<td>Bombardier</td>
<td>Advanced aerospace composites</td>
<td>Queen's University Belfast</td>
</tr>
<tr>
<td>Professor Chris Gerada</td>
<td>Cummins Generator Technologies</td>
<td>Electrical machine technology</td>
<td>University of Nottingham</td>
</tr>
<tr>
<td>Professor Alistair Gibb</td>
<td>ECI</td>
<td>Management of complex projects</td>
<td>Loughborough University</td>
</tr>
<tr>
<td>Professor Kenneth Gratian</td>
<td>George Daniels Trust FReNG</td>
<td>Next generation optical and fibre optic instrumentation</td>
<td>City University</td>
</tr>
<tr>
<td>Professor Hugh Griffiths FReNG</td>
<td>Thales UK</td>
<td>Intelligent radar systems</td>
<td>University College London</td>
</tr>
<tr>
<td>Professor Susan Grimes</td>
<td>SITA</td>
<td>Environmental waste management</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Professor Eileen Harkin-Jones FReNG</td>
<td>Bombardier</td>
<td>Composites engineering</td>
<td>University of Ulster</td>
</tr>
<tr>
<td>Professor Ian Hunter</td>
<td>Radio Design Limited</td>
<td>Microwave signal processing</td>
<td>University of Leeds</td>
</tr>
<tr>
<td>Professor Neil Hyatt</td>
<td>The Nuclear Decommissioning Authority</td>
<td>Nuclear waste management</td>
<td>University of Sheffield</td>
</tr>
</tbody>
</table>

RESEARCH CHAIRS IN EMERGING TECHNOLOGIES

These Chairs allow recipients to develop an area of early-stage research into a new technology to the extent that it engages the wider research community, and subsequently can be taken forward by industry.

<table>
<thead>
<tr>
<th>Name</th>
<th>Co-sponsor</th>
<th>Subject</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Lorenzo Iannucci</td>
<td>Dstl</td>
<td>Multiscale composite armour design</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Professor Nikil Kapur</td>
<td>GSK</td>
<td>Pharmaceutical processing</td>
<td>University of Leeds</td>
</tr>
<tr>
<td>Professor Alan Kemp</td>
<td>Fraunhofer UK</td>
<td>Advanced laser engineering</td>
<td>University of Strathclyde</td>
</tr>
<tr>
<td>Professor Jangguo Lin</td>
<td>TATA Steel</td>
<td>Multidisciplinary studies of hot stamping</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Professor Philip Mawby</td>
<td>Converteam</td>
<td>Power electronics</td>
<td>University of Warwick</td>
</tr>
<tr>
<td>Professor John Miles</td>
<td>Arup</td>
<td>Energy transitions</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>Professor James Moore</td>
<td>Bagrit Trust</td>
<td>Medical devices</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Professor Stephen Muggleton FIREng</td>
<td>Syngenta</td>
<td>Applications of automated theory-formation using meta-interpretive machine learning</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Professor Bernard Mulgrew FIREng</td>
<td>SELEX GALILEO</td>
<td>Multi-sensor signal processing</td>
<td>University of Edinburgh</td>
</tr>
<tr>
<td>Professor Andrew Neely</td>
<td>IBM/BAE Systems</td>
<td>Complex engineering systems</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>Professor Kamran Nikbin</td>
<td>EDF Energy – Existing Nuclear</td>
<td>Structural integrity assessment</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>professor mc schraefel</td>
<td>Microsoft Research</td>
<td>Human computer interaction</td>
<td>University of Southampton</td>
</tr>
<tr>
<td>Professor Sven Schroeder</td>
<td>Infineum UK</td>
<td>Engineering applications of synchrotron science</td>
<td>University of Leeds</td>
</tr>
<tr>
<td>Professor Sridhar Seetharaman</td>
<td>TATA Steel</td>
<td>Low carbon technologies</td>
<td>Warwick University</td>
</tr>
<tr>
<td>Professor Spencer Sherwin</td>
<td>McLaren Racing</td>
<td>Transient flow simulation for advanced race and road cars</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Professor David Smith</td>
<td>Rolls-Royce/EDF Energy</td>
<td>Structural performance of energy systems</td>
<td>University of Bristol</td>
</tr>
<tr>
<td>Professor Iain Todd</td>
<td>GKN Aerospace</td>
<td>Additive manufacture and advanced structural materials</td>
<td>University of Sheffield</td>
</tr>
<tr>
<td>Professor Anton Ziozakowski</td>
<td>PGS Geophysical</td>
<td>Petroleum geoscience</td>
<td>University of Edinburgh</td>
</tr>
<tr>
<td>Professor Zi-Qiang Zhu</td>
<td>Siemens Wind Energy</td>
<td>High efficiency and power density wind power generator systems</td>
<td>University of Sheffield</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Subject</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Anne Neville FIREng FRSE</td>
<td>Bio-inspiration for functional surface design</td>
<td>University of Leeds</td>
</tr>
<tr>
<td>Professor Jeremy O'Brien</td>
<td>Photonic quantum ICT</td>
<td>University of Bristol</td>
</tr>
</tbody>
</table>
SENIOR RESEARCH FELLOWSHIPS

The Senior Research Fellowships (SRFs) scheme provides funding for Senior Lecturer/Reader level appointments. Like Research Chairs, SRFs are funded jointly with industry for a period of five years.

<table>
<thead>
<tr>
<th>Name</th>
<th>Co-Sponsor</th>
<th>Subject</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Matthew Hall</td>
<td>British Geological Survey</td>
<td>Rock-fluid interactions in carbon capture, storage and alternative hydrocarbons</td>
<td>University of Nottingham</td>
</tr>
<tr>
<td>Professor Nicholas Hills</td>
<td>Rolls-Royce</td>
<td>Computational engineering</td>
<td>University of Surrey</td>
</tr>
<tr>
<td>Dr Stephen Neethling</td>
<td>Rio Tinto</td>
<td>Heap and in situ leaching</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Dr Rongshan Qin</td>
<td>Tata Steel</td>
<td>Steel research</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Dr Graham Spinardi</td>
<td>Ove Arup Foundation</td>
<td>Integrating technical and social aspects of fire safety engineering</td>
<td>University of Edinburgh</td>
</tr>
</tbody>
</table>

LEVERHULME TRUST SENIOR RESEARCH FELLOWSHIPS

These Fellowships provide mid-career engineers working in UK academic institutions with the opportunity to focus on research activities for a period of up to 12 months with their academic and administrative responsibilities being taken over by an early-career academic.

<table>
<thead>
<tr>
<th>Name</th>
<th>Project title</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Haofeng Chen</td>
<td>Modelling the fatigue and creep of metal matrix composite</td>
<td>University of Strathclyde</td>
</tr>
<tr>
<td>Dr Piotr Dudek</td>
<td>Analogue computation with novel nanodevices for machine learning</td>
<td>University of Manchester</td>
</tr>
<tr>
<td>Dr Marianne Ellis</td>
<td>Scale-up of immune cell therapies for organ transplants</td>
<td>University of Bath</td>
</tr>
<tr>
<td>Dr Stephen Garrett</td>
<td>Understanding transition in boundary-layer flows over rotating geometries</td>
<td>University of Leicester</td>
</tr>
<tr>
<td>Dr Paola Lettieri</td>
<td>A life cycle approach for nuclear waste management and plant decommissioning</td>
<td>University College London</td>
</tr>
<tr>
<td>Dr Chenfeng Li</td>
<td>Real time computational methods for complex high-fidelity surgical simulation</td>
<td>Swansea University</td>
</tr>
<tr>
<td>Dr Cyril Lyndale</td>
<td>Recycling of carbon dioxide in mortar and concrete</td>
<td>University of Sheffield</td>
</tr>
<tr>
<td>Dr Dmitry Nerukh</td>
<td>Personal supercomputer for modelling complete virus at all atom resolution</td>
<td>Aston University</td>
</tr>
<tr>
<td>Professor Thomas Nowotny</td>
<td>Enabling scientific computing with GPUs with domain specific languages and metacomputers</td>
<td>University of Sussex</td>
</tr>
<tr>
<td>Dr Rachel Oliver</td>
<td>Understanding and utilising nitride nanostructures</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>Dr Justin Phillips</td>
<td>A non-invasive continuous monitor of intracranial pressure</td>
<td>City University</td>
</tr>
<tr>
<td>Dr David Sanders TD</td>
<td>Improving mobility and quality of life for children with disabilities</td>
<td>University of Portsmouth</td>
</tr>
<tr>
<td>Dr Sebastian Savory</td>
<td>Realising the capacity in fibre-optic networks with uncertainty and Nonlinearity</td>
<td>University College London</td>
</tr>
<tr>
<td>Dr Aleksandra Vuckovic</td>
<td>Home based patient-managed neurorehabilitation following spinal cord injury</td>
<td>University of Glasgow</td>
</tr>
</tbody>
</table>

DAPHNE JACKSON FELLOWSHIPS

These Fellowships enable engineers to return to work following a career break.

<table>
<thead>
<tr>
<th>Name</th>
<th>Subject</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Margarita Fernandez-Chas</td>
<td>Effect of changes in the spatial properties of the myocardial tissue mechanics on the overall efficiency of the heart</td>
<td>Kings College London</td>
</tr>
<tr>
<td>Dr Suhaila Mattar</td>
<td>Embodied CO$_2$ of concrete: Materials, structural and methodological factors</td>
<td>University of Leeds</td>
</tr>
<tr>
<td>Dr Divya Tiwari</td>
<td>LPG sensors for measuring carbon dioxide concentration at carbon capture and storage sites</td>
<td>Cranfield University</td>
</tr>
</tbody>
</table>

RAENG/EPSRC RESEARCH FELLOWSHIPS

These Fellowships, which are funded jointly with the EPSRC, are aimed at outstanding researchers from all branches of engineering who are about to finish their PhDs or have up to three years’ post-doctoral experience.

<table>
<thead>
<tr>
<th>Name</th>
<th>Subject</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Sachi Arafat</td>
<td>Foundations research in information retrieval inspired by quantum theory</td>
<td>University of Glasgow</td>
</tr>
<tr>
<td>Dr Helen Bridle</td>
<td>Biosensors in engineering: From in situ pathogen detection to global impacts</td>
<td>Heriot-Watt University</td>
</tr>
<tr>
<td>Dr Tore Buttì</td>
<td>Modelling the vibration of complex structures with localised nonlineairies</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>Dr Maria Ana Cataluna</td>
<td>Compact and ultra-versatile lasers based on quantum-dot materials</td>
<td>University of Dundee</td>
</tr>
<tr>
<td>Dr Simon Cotton</td>
<td>Next generation body-centric communications: a joint analytical-statistical approach to modelling quasi-cyclostationary anisotropic signal reception</td>
<td>Queen's University Belfast</td>
</tr>
<tr>
<td>Dr Christophe Dubach</td>
<td>Adaptable processor architecture and software for energy-efficient computing</td>
<td>University of Edinburgh</td>
</tr>
<tr>
<td>Dr Filippo Fazi</td>
<td>Electroussical inverse problems</td>
<td>University of Southampton</td>
</tr>
<tr>
<td>Dr Maria Galano</td>
<td>Development of aluminium metal matrix complex nanocomposites for high strength applications</td>
<td>University of Oxford</td>
</tr>
<tr>
<td>Dr Deborah Gunning</td>
<td>Neural interfaces for studying cortical processes</td>
<td>University of Strathclyde</td>
</tr>
<tr>
<td>Dr Matthew Hindsworth</td>
<td>Atom-chip integration for quantum-enabled devices</td>
<td>University of Southampton</td>
</tr>
<tr>
<td>Dr Hugh Leather</td>
<td>Optimising the mobile net</td>
<td>University of Edinburgh</td>
</tr>
<tr>
<td>Dr Andrew Marshall</td>
<td>Exploiting emerging interface misfit epitaxy to engineer cheaper, higher performance photodiodes for imaging, communications and gas monitoring</td>
<td>Lancaster University</td>
</tr>
<tr>
<td>Dr Dawide Mattia</td>
<td>Nanoparticle factory-on-a-chip</td>
<td>University of Bath</td>
</tr>
<tr>
<td>Dr Steven Neale</td>
<td>Micro-actuators controlled by optoelectronic tweezers (MACOET)</td>
<td>University of Glasgow</td>
</tr>
</tbody>
</table>
Name | Subject | University
---|---|---
Dr Francesca Parmigiani | Optical processing of high spectral efficiency phase encoded signals for future generation optical networks | University of Southampton
Dr Andrew Robertson | Intelligent interactive musical performance systems | Queen Mary, University of London
Dr Silvia Schievano | FEM before FIM – Finite element modelling prior to first-in-man in heart valve technology | University College London
Dr Aleksey Shitov | Distributed passive intermodulation phenomena in microwave circuits | Queen's University Belfast
Dr Susannah Speller | Superconducting metamaterials for near field NMR microscopy applications | University of Oxford
Dr Danail Stoyanov | Real-time intra-operative navigation for robotic assisted minimally invasive surgery | University College London
Dr Manlio Tassieri | Rheology at the microscale: New tools for bio-analysis | University of Glasgow
Dr Kevin Webb | Optical stimulation for the long-term control and monitoring of neural network activity | University of Nottingham
Dr Amanda Wright | New horizons in adaptive optics for life science research: adaptive microscopy | University of Nottingham

**RESEARCH EXCHANGES WITH CHINA AND INDIA AWARDS**

The Research Exchanges with China and India scheme promotes academic collaboration between high-quality engineering researchers in the UK and China/India, aims to strengthen relations between leading partners in these countries, and supports the expansion of international networks of excellence, offering funding (to cover travel, accommodation and subsistence) for exchanges of 3-12 months.

<table>
<thead>
<tr>
<th>UK academic</th>
<th>Chinese/Indian academic</th>
<th>Project title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Kai Cheng</td>
<td>Dr Hui Ding</td>
<td>Design and manufacturing of micro-featured engineering surfaces</td>
</tr>
<tr>
<td>Brunel University</td>
<td>Harbin Institute of Technology</td>
<td></td>
</tr>
<tr>
<td>Dr Richard Fu</td>
<td>Professor Yan Li</td>
<td>Super high strength nanocomposite functionally graded smart thin film materials</td>
</tr>
<tr>
<td>University of the West of Scotland</td>
<td>Beihang University</td>
<td></td>
</tr>
<tr>
<td>Professor Tim Heath</td>
<td>Professor Tong Cui</td>
<td>Vertical Farms: engineering sustainable urban food supplies</td>
</tr>
<tr>
<td>University of Nottingham</td>
<td>Institute of Architecture Design and Research, Chinese Academy of Sciences</td>
<td></td>
</tr>
<tr>
<td>Dr Jerry Yong Yew Heng</td>
<td>Dr Zhongqiang Yang</td>
<td>DNA nanotechnology: a new strategy for protein nucleation and crystallisation</td>
</tr>
<tr>
<td>Imperial College London</td>
<td>Tsinghua University</td>
<td></td>
</tr>
<tr>
<td>Professor Wayne Luk FREng</td>
<td>Professor Yuchun Ma</td>
<td>Exploiting run-time reconfiguration for high-performance reconfigurable computing</td>
</tr>
<tr>
<td>Imperial College London</td>
<td>Tsinghua University</td>
<td></td>
</tr>
<tr>
<td>Professor Perumal Nithiarasu</td>
<td>Dr K Arul Prakash</td>
<td>Developing a comprehensive systemic circulation model for fractional flow reserve (FFR)</td>
</tr>
<tr>
<td>Swansea University</td>
<td>Indian Institute of Technology Madras</td>
<td></td>
</tr>
<tr>
<td>Professor Duc Truong Pham</td>
<td>Professor Zude Zhou</td>
<td>Intelligent monitoring for Machine tools based on optical fibre sensing</td>
</tr>
<tr>
<td>University of Birmingham</td>
<td>Wuhan University of Technology (WUT)</td>
<td></td>
</tr>
<tr>
<td>Dr Therese Sheehan</td>
<td>Professor Lin-Hai Han</td>
<td>Cyclic response of hollow and concrete-filled elliptical hollow section braces</td>
</tr>
<tr>
<td>University of Bradford</td>
<td>Tsinghua University</td>
<td></td>
</tr>
<tr>
<td>Dr Shuncal Wang</td>
<td>Professor Wensheng Li Lanzhou</td>
<td>Near frictionless and wear monitoring coatings by electro-deposition</td>
</tr>
<tr>
<td>University of Southampton</td>
<td>University of Technology</td>
<td></td>
</tr>
<tr>
<td>Professor Stewart Williams</td>
<td>Professor Qiang Zhan</td>
<td>Process monitoring and control for wire plus arc additive manufacture</td>
</tr>
<tr>
<td>Cranfield University</td>
<td>Beihang University</td>
<td></td>
</tr>
</tbody>
</table>
RAENG RESEARCH FELLOWSHIPS

These Fellowships are aimed at outstanding researchers from all branches of engineering who are about to finish their PhDs or have up to three years’ post-doctoral experience.

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<tr>
<th>Name</th>
<th>Subject</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Dr Mark Ainslie</td>
<td>Engineering interactions of magnetic and superconducting materials for electrical applications</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>Dr David Armstrong</td>
<td>Micro-engineering advanced alloys for extreme nuclear power environment</td>
<td>University of Oxford</td>
</tr>
<tr>
<td>Dr Mahdi Azarpeyvand</td>
<td>Source and propagation modelling for wind turbine and turbomachinery noise</td>
<td>University of Bristol</td>
</tr>
<tr>
<td>Dr Emmanuel Benetos</td>
<td>Software inspired by the human ear/looking at the human ear to design novel listening software</td>
<td>Queen Mary, University of London</td>
</tr>
<tr>
<td>Dr Ben Britton</td>
<td>Better understanding of materials to make safer reactors</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Dr Peter Carrington</td>
<td>High efficiency mid-infrared semiconductor materials and devices grown on silicon</td>
<td>University College London</td>
</tr>
<tr>
<td>Dr Alan Clark</td>
<td>Plasmon enhanced pyroelectrodynamic nanoscale trapping and sensing</td>
<td>University of Glasgow</td>
</tr>
<tr>
<td>Dr David Clifton</td>
<td>Machine learning for the intelligent patient record</td>
<td>University of Oxford</td>
</tr>
<tr>
<td>Dr Alexander Dickinson</td>
<td>Developing the next generation of prosthetic limbs</td>
<td>University of Southampton</td>
</tr>
<tr>
<td>Dr Christian Fengsch</td>
<td>Auto-tuned programming patterns and the programamibility gap</td>
<td>Heriot-Watt University</td>
</tr>
<tr>
<td>Dr Peter Gammon</td>
<td>Novel interlayer cooling for harsh environment (NICHE) devices and circuitry</td>
<td>University of Warwick</td>
</tr>
<tr>
<td>Dr Tawfique Hasan</td>
<td>Graphene: Fully flexible graphene-based transparent conductors</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>Dr Edmund Kelleher</td>
<td>Next generation short-pulse lasers for the visible and ultraviolet</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Dr Maiwrapped Kersouvy-Kerhoas</td>
<td>Towards better pregnancy monitoring: Miniaturised tools for non-invasive prenatal diagnosis in clinics and hospitals</td>
<td>Heriot-Watt University</td>
</tr>
<tr>
<td>Dr Edward Laird</td>
<td>Quantum computing devices based on carbon nanomaterials</td>
<td>University of Oxford</td>
</tr>
<tr>
<td>Dr Martin Lavery</td>
<td>Increasing data transfer capacity using light’s unusual properties</td>
<td>University of Glasgow</td>
</tr>
<tr>
<td>Dr Grigorios Loukides</td>
<td>Privacy protection in event-based data sharing and analysis</td>
<td>Cardiff University</td>
</tr>
<tr>
<td>Dr Fleur Loveridge</td>
<td>New thermal and geotechnical facility for ground heat exchangers</td>
<td>University of Southampton</td>
</tr>
<tr>
<td>Dr Mathieu Luczaiud</td>
<td>Future-proofing fossil power stations with CO2 capture</td>
<td>University of Edinburgh</td>
</tr>
<tr>
<td>Dr Christos Masouros</td>
<td>Interference as a source of green signal energy in wireless communications</td>
<td>University College London</td>
</tr>
<tr>
<td>Dr Matthias Mauch</td>
<td>Software systems for computer-aided music understanding</td>
<td>Queen Mary, University of London</td>
</tr>
</tbody>
</table>

RAENG/MINISTRY OF DEFENCE RESEARCH FELLOWSHIP

This Fellowship offers an innovative engineer opportunities to work with research, development and modelling teams within the Defence Science and Technology Laboratory and some of the laboratory’s industrial and academic partners.

<table>
<thead>
<tr>
<th>Name</th>
<th>Subject</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Ruth Misener</td>
<td>Towards rational chemotherapy strategies: A hybrid computational/experimental approach</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Dr Mehran Moazen</td>
<td>Predicting skull growth in craniosynostosis for improved surgical treatment</td>
<td>University of Hull</td>
</tr>
<tr>
<td>Dr Thomas Okell</td>
<td>Novel imaging techniques to visualise blood flow in the brain</td>
<td>University of Oxford</td>
</tr>
<tr>
<td>Dr Oliver Payton</td>
<td>Mapping, measuring and manufacturing nanostructures via high-speed atomic force microscopy</td>
<td>University of Bristol</td>
</tr>
<tr>
<td>Dr Alberto Peruzzo</td>
<td>Quantum processors for quantum chemical engineering</td>
<td>University of Bristol</td>
</tr>
<tr>
<td>Dr Soraya Finta</td>
<td>Exploiting novel carbon-fibre composites</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Dr Antoniu Pop</td>
<td>Developing a language for the computers of the future</td>
<td>University of Manchester</td>
</tr>
<tr>
<td>Dr Paul Shearing</td>
<td>4-dimensional tomography of electrochemical devices</td>
<td>University College London</td>
</tr>
<tr>
<td>Dr Radu Sporea</td>
<td>Novel high performance transistors for use in large area electronics</td>
<td>University of Surrey</td>
</tr>
<tr>
<td>Dr Nikos Tzevelekos</td>
<td>Game semantics for program analysis</td>
<td>Queen Mary, University of London</td>
</tr>
<tr>
<td>Dr Freddie Withers</td>
<td>Light harvesting hybrid - graphene-based devices (GrapheneX)</td>
<td>University of Manchester</td>
</tr>
<tr>
<td>Dr Weijia Yuan</td>
<td>Advancing renewable energy integration by innovative smes-battery storage systems</td>
<td>University of Bath</td>
</tr>
</tbody>
</table>

Name                  | Project title                                                                 | University               |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Dr Benjamin Russell</td>
<td>Energy mitigation and blast impact loading</td>
<td>University of Cambridge</td>
</tr>
</tbody>
</table>
ENTERPRISE FELLOWSHIPS

Enterprise Fellowships provide funding and support to outstanding entrepreneurial engineering researchers, working at a UK university, to enable them to develop a spin-out business around their technological idea.

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
<th>Project title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Angus Webb</td>
<td>University of Southampton</td>
<td>Using big data to reduce commercial fuel consumption</td>
</tr>
<tr>
<td>Dr David Hazafy</td>
<td>Queen’s University Belfast</td>
<td>Creating smart materials with photocatalysts</td>
</tr>
<tr>
<td>Dr Toby Basey-Fisher</td>
<td>Imperial College London</td>
<td>AnemiStat: redefining the diagnosis of anaemia at the point of care.</td>
</tr>
<tr>
<td>Dr Nicola Irwin</td>
<td>Queen’s University Belfast</td>
<td>Uroglide lubricious catheter coatings</td>
</tr>
<tr>
<td>Dr Thomas Frame</td>
<td>University of Surrey</td>
<td>The Halo System for aesthetic and cosmetic enhancement</td>
</tr>
<tr>
<td>Dr Stephen Hicks</td>
<td>University of Oxford</td>
<td>Smart glasses for blind and partially sighted individuals</td>
</tr>
<tr>
<td>Dr Jack Cohen</td>
<td>University of Warwick</td>
<td>Multiple fingertip tracking in three dimensions for computer interaction</td>
</tr>
</tbody>
</table>

PATHWAYS TO GROWTH

Pathways to Growth grants support capacity building within engineering and technology SMEs by providing £10,000, £15,000 or £20,000 of funding towards training for their engineering staff. Leaders of high-performing awardee companies may also have the opportunity to become members of the Academy’s Enterprise Hub.

Awarded companies
- 3D Laser Mapping
- Capital Refractories
- Cobalt Light Systems
- Data Harvesting
- e2e Services
- Embody Orthopaedic
- Eta Projects
- Elyyn
- Featurespace
- Fianium
- Firefy – Clean Energy
- Hireserve
- HMD Seal/Less Pumps
- Lindhurst Engineering
- DC Robotics
- PPM
- React Engineering
- Recycling Technologies
- RPFTV
- Shadow Robot Company
- Sonobox
- YASA Motors

LAUNCHPAD COMPETITION

The Launchpad Competition aims to find an exceptionally promising engineering entrepreneur or team of entrepreneurs, between the ages of 16 and 25, and enable them to start a business based on their engineering innovation and maximise the chances of its successful growth. The winner(s) of the Competition receive the JC Gammon Award – a prize of £15,000 and membership of the Enterprise Hub.

Winners
- Dr Niall Kent, UCL, and Dr Alessia D’Onofrio, Queen Mary University of London; Aerograft

RAENG/ERA FOUNDATION ENTREPRENEURS AWARD

The award seeks to identify, encourage and reward entrepreneurial engineering researchers working in UK universities, in a field involving electro-technology.

Co-winners
- Dr David Heath
  - University of Strathclyde
  - Advanced skincare product applicator
- Dr James MacFarlane and
  - Dr Oliver Payton
  - University of Bristol
  - Advanced airborne radiation monitoring (AARM) systems

Runners-up
- Dr Mark Symes
  - University of Glasgow
  - An integrated hydrogen production and fuel cell platform (PROMISE)

DISTINGUISHED VISITING FELLOWSHIPS

The Distinguished Visiting Fellowship Scheme provides funding to enable an academic engineering department in a UK university to be a host for up to a month to a senior academic from an overseas academic centre of excellence, and to engage the fellow in a range of mutually beneficial activities. The scheme aims to promote sharing of the latest developments and allow the participating organisations to discover common and complementary skills and initiatives that could form the foundation for future collaborations, thereby strengthening UK capacity and international standing.

Award holder
- Dr Claudio Babocco
  - Durham University
  - Professor Mikhail Kaliteevski
  - St Petersburg Academic University
  - Development of fire-safe and smart building materials
- Professor Atul Bhaskar
  - University of Southhampton
  - Professor Issac Elishakoff
  - Florida Atlantic University
  - The application of stochastic and probabilistic methods to response calculations in structural mechanics
- Dr Basabatta Bhattacharya
  - University of Lincoln
  - Professor Piotr Suffczynski
  - University of Warsaw
  - Engineering and evolving secure software systems
- Professor Luke Alexander Bisby
  - FIREng
  - University of Edinburgh
  - Dr Giovanni Terrasi
  - EMPA Swiss Federal Laboratories for Materials Science and Technology
  - Advanced automotive turbo machines for boosting and exhaust and waste heat energy recovery
- Professor Nigel Peter Brandon
  - FIREng
  - Imperial College London
  - Professor Tom Zawodzinski
  - University of Tennessee
  - Novel hybrid nanomaterials for biomedical applications
- Dr Richard Burke
  - University of Bath
  - Professor Jose-Ramon Serrano
  - Universitat Politècnica de Valencia
  - Biomechanical analysis of lymph transport and immune function
- Dr Bipong Chen
  - University of Sheffield
  - Professor Kang Sun
  - Shanghai Jiao Tong University
  - Internal solitary waves: modelling to engineering application
- Professor Steve Culley
  - University of Bath
  - Dr Mario Štorga
  - University of Zagreb
  - Language of traceability, context and culture (LOTCC)
<table>
<thead>
<tr>
<th>Award holder</th>
<th>Distinguished Visitor</th>
<th>Area of collaboration</th>
</tr>
</thead>
</table>
| Peter Anthony Davies  
University of Dundee | Professor Gregory Ivey  
University of Western Australia | Optimisation of the fire protection performance of water mist based on an advanced analytical approach |
| Dr Martin Davy  
The University of Oxford | Professor Ling-Shun (David) Hung  
Shanghai Jiao Tong University | Engineering electrodes for energy storage devices |
| Dr Siaka Dembele Kingston University Higher Education Corporation | Dr Leonid Dombrovsky  
Joint Institute for High Temperatures, NCMRT, Russian Federation | A computational model based study towards using steady-state-visually-evoked-potential in brain-computer-interface and clinical neuroscience |
| Dr Vinai Dhokia  
University of Bath | Professor Richard Wysk  
North Carolina State University | Decarbonizing the whole energy system from head to tail - a smart micro-grid solution |
| Dr Trung D O Quang  
Queen’s University Belfast | Professor Marco Di Renzo  
Laboratoire des Signaux et Systèmes | Modelling, analysis and design of SG self-powered heterogeneous wireless networks - a stochastic geometry approach |
| Dr James Elliott  
University of Cambridge | Professor Stephen Padddison  
University of Tennessee | Hybrid manufacture |
| Professor Roger Falconer FREng  
Cardiff University | Professor Junqiang Xia  
Wuhan University | Development of an integrated 2D model for the risk assessment of floodplain floods and its application |
| Professor Sanjeev Gupta  
Imperial College London | Professor Michael Lamb  
California Institute of Technology | Graph cut methods for higher-order priors in computer vision and medical imaging |
| Dr Erdin Ibraim  
University of Bristol | Professor Bagdan Cazaciu  
Institut Français des sciences et technologies des transports, de l'aménagement et des réseaux (IFST) | Time effects in sand and large scale production of composite soils |
| Professor Serafim Kalliadasis  
Imperial College London | Professor Stephen H Davis  
Northwestern University | Surfactant dynamics near rupture sites |
| Andreas Kapsos  
City University London | Professor Nicois Makris  
University of Central Florida | Mechanics and hazards of river avulsions on deltas |
| Professor Fusong Li  
University of Bath | Professor Xiaoxian Zhou  
China Electric Power Research Institute (CEPRI) | Developing an evidence-based framework for informing energy policy development in China |
| Professor Kang Li  
Queen’s University Belfast | Professor Hongjie Jia  
Tianjin University | Developing a novel evidence-based framework for circulating microRNAs for cancer diagnoses |
| Professor Zhenhong Li  
Newcastle University | Dr Maorong Ge  
Helmholtz Centre | GNSS seismology for responding to large earthquakes and monitoring infrastructure stability |
| Professor James Moore  
Imperial College London | Professor David Zawieja  
Texas A&M University | Using electromagnetic acoustic transducers (EMATs) for wind turbine shaft crack detection |
| Professor Horalambo Moustatidis  
University of Brighton | Professor John Mylopoulos  
University of Trento | SG mobile communications research and development in China |
| Dr Linda Newnes  
University of Bath | Dr Ricardo Valenti  
University of Arizona | Cost estimating: a systems-based approach |
| Dr Daphne O'Doherty  
Cardiff University | Professor David Thompson  
Mississippi State University | Enhancing the analysis of vertical flows |

**NEWTON RESEARCH COLLABORATION PROGRAMME**

The Newton Research Collaboration Programme is a component of the UK Newton Fund, which aims to develop science and innovation partnerships to promote the economic development and social welfare of developing countries.

The main focus of the Newton Research Collaboration Programme is to support the aims of the Newton Fund by facilitating international exchanges lasting three months to a year between researchers in the UK and their counterparts in selected Newton Fund partner countries.

<table>
<thead>
<tr>
<th>Partner country</th>
<th>UK researcher</th>
<th>Project title</th>
<th>Partner country researcher</th>
</tr>
</thead>
</table>
| Brazil          | Dr Martin Stringwood  
University of Birmingham | Use of increased Nb levels for welded high strength pipeline steel | Dr Waldék Bose Filho  
Universidade de Sao Paulo, Departamento de Engenharia de materiais |
| Brazil          | Dr Jeff Kettle  
Bangor University | allocall | Professor Edison Laureto  
Universidade Estadual de Londrina |
<table>
<thead>
<tr>
<th>Partner country</th>
<th>UK researcher</th>
<th>Project title</th>
<th>Partner country researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>Professor Yang Zhang</td>
<td>University of Sheffield</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Brazil</td>
<td>Dr Alberto Marzo</td>
<td>The University of Sheffiled</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Brazil</td>
<td>Professor David W Chadwick</td>
<td>University of Kent</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Brazil</td>
<td>Professor Dariusz Rafał Kowalski</td>
<td>University of Liverpool</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Brazil</td>
<td>Professor Dongsheng Wen</td>
<td>University of Leeds</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Brazil</td>
<td>Dr Andrea Da Ronchi</td>
<td>University of Southampton</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Professor Daniel Rueckert</td>
<td>Imperial College London</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Professor Asif Usmani</td>
<td>University of Edinburgh</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Max Migliaroto</td>
<td>University of Manchester</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Tao Sun</td>
<td>Bolton University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr WeiJia Yuan</td>
<td>University of Bath</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Yongde Xia</td>
<td>University of Exeter</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr WenXian Yang</td>
<td>Newcastle University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Partner country</th>
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<th>Project title</th>
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<td>China</td>
<td>Dr Qiang Wang</td>
<td>Durham University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Hua-Peng Chen</td>
<td>The University of Greenwich</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Professor Ali Emrouznejad</td>
<td>Aston Business School, Aston University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Professor Song Wu</td>
<td>University of Huddersfield</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Longbin Tao</td>
<td>Newcastle University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Xue Jin</td>
<td>University of Glasgow</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Dongfang Liang</td>
<td>University of Cambridge</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr David Jorge Alexander</td>
<td>Trujillo Coventry University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Professor Anne Neville FReNg</td>
<td>University of Southamppton</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Professor Zizong Wang</td>
<td>Brunel University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Zhijun Peng</td>
<td>University of Hertfordshire</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Yue Huang</td>
<td>Liverpool John Moores University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Xibe Yuan</td>
<td>The University of Bristol</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Jing Li</td>
<td>University of Nottingham</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>China</td>
<td>Dr Martin D Jaere</td>
<td>Imperial College London</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Mexico</td>
<td>Dr Lionel Christopher Ganippa</td>
<td>Brunel University</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Germany</td>
<td>Dr Haifeng Liu</td>
<td>Imperial College London</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Germany</td>
<td>Dr Qi Zhang</td>
<td>University of Sheffield</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
<tr>
<td>Germany</td>
<td>Dr Qi Zhang</td>
<td>University of Sheffield</td>
<td>Dr Qi Zhang, University of Sheffield</td>
</tr>
</tbody>
</table>

The table above lists the UK researchers, their partner countries, and the titles of their projects. Each project title is associated with a partner country researcher. The table is designed to provide a clear and structured representation of the information.
<table>
<thead>
<tr>
<th>Partner country</th>
<th>UK researcher</th>
<th>Project title</th>
<th>Partner country researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>Professor Alfonso Arturo Castrejon-Pita University of Oxford</td>
<td>Dynamics of pairs of falling drops</td>
<td>Professor Eduardo Ramos-Mora Instituto de Energías Renovables</td>
</tr>
<tr>
<td>Mexico</td>
<td>Professor Sanowar Khan City University of London</td>
<td>Fast optimal state estimation over finite data for industrial applications</td>
<td>Professor Yury Shmaliev Universidad de Guanajuato</td>
</tr>
<tr>
<td>South Africa</td>
<td>Professor Malcolm Neil James University of Plymouth</td>
<td>Innovation in friction processing platforms to support economic development in manufacturing for South Africa</td>
<td>Professor Danie Hattingh Nelson Mandela Metropolitan University</td>
</tr>
<tr>
<td>South Africa</td>
<td>Professor Paul Tarisai Mativenga University of Manchester</td>
<td>UK – South Africa Circular Economy Synergies</td>
<td>Professor Charles Mbohwa University of Johannesburg</td>
</tr>
<tr>
<td>Turkey</td>
<td>Dr Basabdatta Bhattacharya University of Lincoln</td>
<td>Towards a neuro-inspired seismo-bot for seismic disaster-response in Turkey</td>
<td>Dr Neslihan Serap Sengor Istanbul Technical University</td>
</tr>
<tr>
<td>Turkey</td>
<td>Dr Gheorghita Geana Brunei University</td>
<td>Multimodal emergency guide system for the elderly</td>
<td>Dr Tacha Serif Yeditepe University</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Dr John Hugh George Macdonald University of Bristol</td>
<td>Behaviour of complex slender structures against wind actions: oscillation, testing and stability</td>
<td>Dr Cung Huy Nguyen Industrial University of Ho Chi Minh City</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Professor Thanh Thi Kim Nguyen University College London</td>
<td>Engineering multifunctional magnetic nanoparticles for enhanced oil recovery</td>
<td>Dr Bich Thi Luong Institute of Applied Materials Science, Vietnam Academy of Science and Technology</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Dr Trung Q. Duong Queen's University Belfast</td>
<td>Energy harvesting enabled two-way relay networks in D2D communications: an optimization design</td>
<td>Dr Nguyen Son Vo Duy Tan University</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Dr Thuc V. Ho Northumbria University</td>
<td>A nonlocal higher-order beam theory with application to bending, buckling, and vibration of functionally graded nanobeams</td>
<td>Dr Trung-Kien Nguyen Ho Chi Minh City University of Technology and Education</td>
</tr>
</tbody>
</table>

**LEADERS IN INNOVATION FELLOWSHIPS**

The Academy is a Delivery Partner of the UK Government’s Newton Fund – a five-year, £375 million initiative to help build strong, sustainable and systemic ties in science, innovation and R&D with 15 emerging powers across the globe. Under the Newton Fund, the Academy delivers the Leaders in Innovation Fellowships (LIF) programme, which provides training and coaching to engineering researchers from partner countries who wish to commercialise their innovations. 149 researchers from eight different countries – Brazil, Chile, India, Mexico, the Philippines, South Africa, Thailand and Vietnam – participated in the programme in 2014-15.

**THE AFRICA PRIZE FOR ENGINEERING INNOVATION**

The Africa Prize for Engineering Innovation aims to stimulate, celebrate and reward innovation and entrepreneurship in sub-Saharan Africa through six months of mentoring and training before a cash prize is awarded to the winner and runners-up.

**2014/2015 shortlist**

- Samuel Nyburga Wangui and team Kenya
- Captain Abubakar Surajo Nigeria
- Chimneye Justin Nwagwugwu Nigeria
- Tolulope Ajuwape and team Nigeria
- Ernst Pretorius South Africa
- Dr Reinhardt Kotze and team South Africa
- Dr Askwar Hilonga Tanzania
- Dr Oscar Kibaazi and team Tanzania
- Samuel Malinga and team Uganda
- Musenga Silwawa and team Zambia
- Ian Mutamiri and team Zimbabwe
- Rujeko Masike and team Zimbabwe

**ENRICHING ENGINEERING EDUCATION IN SUB-SAHARAN AFRICA**

The Enriching Engineering Education Programme aims to bring engineering curricula in universities in line with current industrial practice, and to improve teaching practices in engineering, through a structured partnership between universities and industry.

**Hub institutions**

- University of Dar es Salaam, Tanzania
- University of Zimbabwe

**Spoke institutions**

- Makerere University, Uganda
- Moi University, Kenya
- Dedan Kimathi University of Technology, Kenya
- Harare Institute of Technology, Zimbabwe
- Chihoi University of Technology, Zimbabwe
- National University of Science and Technology, Zimbabwe
- Nambila University of Science and Technology
- Universidade Eduardo Mondlane, Mozambique
- University of Botswana
INDUSTRIAL SECONDMENTS SCHEME

This scheme facilitates knowledge transfer between universities and UK industry by providing engineering academic staff exposure to industrial and commercial practice.

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
<th>Project title</th>
<th>Host</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Rafiq Ajaj</td>
<td>University of Southampton</td>
<td>Loads alleviation for transport Aircraft using folding wingtips</td>
<td>Airbus Operations Ltd</td>
</tr>
<tr>
<td>Dr Akram Alomainy</td>
<td>Queen Mary, University of London</td>
<td>Advance traceable and cost-effective measurement solutions for characterising wearable antennas and body-centric wireless networks</td>
<td>National Physical Laboratory (NPL)</td>
</tr>
<tr>
<td>Dr Paul Bagot</td>
<td>University of Oxford</td>
<td>Advanced atom probe studies of critical engineering for Rolls-Royce</td>
<td>Rolls-Royce plc</td>
</tr>
<tr>
<td>Dr Phil Brooke</td>
<td>Teesside University</td>
<td>Reliable approaches to gathering evidence and intelligence from network sources</td>
<td>Cleveland Police</td>
</tr>
<tr>
<td>Dr Gary Burnett</td>
<td>University of Nottingham</td>
<td>Human factors engineering methods for vehicle design</td>
<td>Jaguar Land Rover Ltd</td>
</tr>
<tr>
<td>Dr Jyoti Chaudrie</td>
<td>University of Hertfordshire</td>
<td>Evaluating cloud computing technologies development using vertical and horizontal communication</td>
<td>Xerox Europe</td>
</tr>
<tr>
<td>Dr Tao Chen</td>
<td>University of Surrey</td>
<td>In-silico modelling of transdermal permeation</td>
<td>Unilever UK</td>
</tr>
<tr>
<td>Dr Adam Clare</td>
<td>University of Nottingham</td>
<td>Nontraditional manufacturing technology deployment for future Rolls-Royce factories</td>
<td>Rolls-Royce plc</td>
</tr>
<tr>
<td>Dr Martin Foster</td>
<td>University of Sheffield</td>
<td>Development of 1-2kW power converter system for battery storage applications</td>
<td>VXi Power Ltd</td>
</tr>
<tr>
<td>Professor Stephanie Haywood</td>
<td>University of Hull</td>
<td>Energy works academy: building industry-focused energy research and education for the future</td>
<td>C Spencer Ltd</td>
</tr>
<tr>
<td>Dr David Hessom</td>
<td>University of Wolverhampton</td>
<td>Industrial implementation of HD laser scanning for visualisation of building information modelling</td>
<td>The Severn Partnership Ltd</td>
</tr>
<tr>
<td>Professor Raffaela Dcone</td>
<td>Heriot-Watt University</td>
<td>Management of sour water: translating SHE and ethics from industry into the engineering curriculum - the development of case studies</td>
<td>PETROINEOS</td>
</tr>
<tr>
<td>Dr Gillian Ragsdell</td>
<td>University of Loughborough</td>
<td>Engineering knowledge management: adding value to the energy sector</td>
<td>The Energy Technologies Institute</td>
</tr>
<tr>
<td>Dr Donal Reay</td>
<td>Heriot-Watt University</td>
<td>Lab-in-a-box hands-on DSP teaching materials for ARM cortex M4</td>
<td>ARM Holdings Ltd</td>
</tr>
<tr>
<td>Dr Andrea Da Ronch</td>
<td>University of Southampton</td>
<td>Industrial aircraft design</td>
<td>Airbus Operations Ltd</td>
</tr>
<tr>
<td>Dr Antoaneta Sergueva</td>
<td>University College London</td>
<td>Computational intelligence and knowledge engineering approaches to modelling systemic risk</td>
<td>Bank of England</td>
</tr>
<tr>
<td>Dr Siraj Shaikh</td>
<td>Coventry University</td>
<td>Automotive cybersecurity</td>
<td>MIRA Ltd</td>
</tr>
<tr>
<td>Dr Jenna Tudor</td>
<td>Northumbria University</td>
<td>Sensor improvement on in-line inspection tools</td>
<td>GE: PI Pipeline Solutions</td>
</tr>
<tr>
<td>Dr Rafael Viviescas</td>
<td>University of Leicester</td>
<td>Test of constrained multi-objective control for future helicopter rotor technologies</td>
<td>AgustaWestland (Yeovil)</td>
</tr>
<tr>
<td>Professor Jiangzhou Wang</td>
<td>University of Kent</td>
<td>Wireless in-building distributed antenna systems (Wi-DAS)</td>
<td>Hutchison 3G UK Ltd</td>
</tr>
<tr>
<td>Dr Zena Wood</td>
<td>University of Exeter</td>
<td>Gaining insight from data collected from emerging technologies</td>
<td>IBM UK Ltd</td>
</tr>
</tbody>
</table>

ENGINEERING LEADERSHIP ADVANCED AWARDS

This award funds ambitious engineering undergraduates to undertake an accelerated personal development programme in order to move into a leadership position soon after graduation.

The Academy has 108 awardees currently being funded, from the following universities: Aberdeen, Bath, Bristol, Cambridge, Cardiff, Durham, Edinburgh, Glasgow, Imperial College London, Loughborough, Manchester Queen’s University Belfast, Robert Gordon University, Sheffield, Southampton, Strathclyde, Surrey, University College London, York.

VISITING PROFESSORS

The Visiting Professor programme is currently supporting over 50 Visiting Professors at more than 30 UK Universities through placing senior industrialists into universities to enhance the teaching and learning as well as employability and skills of UK undergraduate engineering students.

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
<th>Project title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicholas Anott</td>
<td>University of Surrey</td>
<td></td>
</tr>
<tr>
<td>Sam Beale</td>
<td>University of Cambridge</td>
<td></td>
</tr>
<tr>
<td>Greg Beattie</td>
<td>Liverpool University</td>
<td></td>
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<tr>
<td>Ron Bell</td>
<td>University of Leeds</td>
<td></td>
</tr>
<tr>
<td>Dr Rick Bradford</td>
<td>Loughborough University</td>
<td></td>
</tr>
<tr>
<td>Dr Andrew Bradley FREng</td>
<td>University of Leeds</td>
<td></td>
</tr>
<tr>
<td>Keith Carter</td>
<td>University of Leicester</td>
<td></td>
</tr>
<tr>
<td>Doug Cartwright</td>
<td>University of Durham</td>
<td></td>
</tr>
<tr>
<td>Steve Clark</td>
<td>University of Hull</td>
<td></td>
</tr>
<tr>
<td>Keith Clarke</td>
<td>Aston University</td>
<td></td>
</tr>
<tr>
<td>Dr Ashish Darbari</td>
<td>University of Southampton</td>
<td></td>
</tr>
<tr>
<td>Neil Downie</td>
<td>University of Surrey</td>
<td></td>
</tr>
<tr>
<td>Penny Endersby</td>
<td>University of Southampton</td>
<td></td>
</tr>
<tr>
<td>David Falzani</td>
<td>University of Cambridge</td>
<td></td>
</tr>
<tr>
<td>Dr Shaun Fitzgerald FREng</td>
<td>University of Cambridge</td>
<td></td>
</tr>
<tr>
<td>Stefan Gabriel</td>
<td>University of Huddersfield</td>
<td></td>
</tr>
</tbody>
</table>
This scheme seeks to enhance the national potential of UK engineering industry by providing a human resource pool of high career potential chartered engineers who have complemented their technical training and knowledge with an MBA degree from a leading international business school.

Ten fellowships were awarded during the year, the recipients being:

<table>
<thead>
<tr>
<th>Name</th>
<th>Business school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicholas Allen</td>
<td>IMD, Switzerland</td>
</tr>
<tr>
<td>Andrew Buckley</td>
<td>London Business School</td>
</tr>
<tr>
<td>Jorgina Busquets</td>
<td>London Business School</td>
</tr>
<tr>
<td>Christopher Mannion</td>
<td>MIT</td>
</tr>
<tr>
<td>Kwok-Gam Ng</td>
<td>London Business School</td>
</tr>
<tr>
<td>Philip Price</td>
<td>London Business School</td>
</tr>
</tbody>
</table>

The government, leading companies in the aerospace sector, the Royal Academy of Engineering (RAEng) and the Royal Aeronautical Society (RAeS) have developed an initiative to boost the supply of aeronautical engineering skills to the UK economy.

The main purpose of the scheme is to bring new talent, knowledge and skill into the UK aerospace sector. It is designed for people who would not otherwise be able to finance their MSc studies. It also provides MSc funding to upskill certain categories of employee already working in the UK aerospace sector.

In 2014-2015, 229 students were supported under this scheme at the following universities:

- Aston, Bath, Brunel, Cardiff, City University London, Cranfield, Derby, Exeter, Glasgow, Glasgow Caledonian, Glyndwr, Heriot Watt, Huddersfield, Imperial College London, Kingston, Lancaster, Leeds, Liverpool, Loughborough, Manchester, Manchester Metropolitan, Newcastle, Open University, Oxford, Portsmouth, Queen's University Belfast, Queen Mary, University of London, Salford, Sheffield, Southampton, Staffordshire, Strathclyde, Swansea, University College London, Ulster, University of South Wales, University of West England, Warwick, York.

The enhanced graduate engineer is developed through a combination of an appropriate full-time postgraduate master's level degree coupled with additional learning and development opportunities provided by Petrofac.

In 2014-15 the following students were supported by these fellowships:

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mustapha Aljaf</td>
<td>University of Aberdeen</td>
</tr>
<tr>
<td>Karim Elifly</td>
<td>University of Aberdeen</td>
</tr>
<tr>
<td>Huroon Khan</td>
<td>Cranfield University</td>
</tr>
<tr>
<td>Hadi Khubeize</td>
<td>Cranfield University</td>
</tr>
<tr>
<td>Andreas Kounouris</td>
<td>Heriot Watt University</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chukwuka Maduekah</td>
<td>University of Sheffield</td>
</tr>
<tr>
<td>Sean McKirdy</td>
<td>University of Aberdeen</td>
</tr>
<tr>
<td>Harris Rana</td>
<td>Imperial College London</td>
</tr>
<tr>
<td>Syed Shah</td>
<td>University of Sheffield</td>
</tr>
<tr>
<td>Abdul Zafar</td>
<td>Imperial College London</td>
</tr>
</tbody>
</table>
SIR ROBERT MALPAS BURSARY

The enhanced graduate engineer is developed through a combination of an appropriate full-time postgraduate master's level degree coupled with additional learning and development opportunities provided by Petrofac.

In 2014-15 the following students were supported by these fellowships:

Robert Stiff  
Aston University

Matt Tomlinson  
Aston University

PANASONIC TRUST FELLOWSHIPS

The Panasonic Trust supports graduate engineers to acquire skills in environmental technology by supporting full-time study of appropriate master's courses.

<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jack Barrie</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>Stephen Cressey</td>
<td>Loughborough University</td>
</tr>
<tr>
<td>Timothy Hull-Bailey</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>Timothy Liptrot</td>
<td>University of Birmingham</td>
</tr>
<tr>
<td>Peter Renfrew</td>
<td>Heriot Watt University</td>
</tr>
<tr>
<td>Daniel Smith</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td>James Sweeney</td>
<td>University of Strathclyde</td>
</tr>
<tr>
<td>Jake Tudge</td>
<td>Imperial College London</td>
</tr>
</tbody>
</table>

HERTHA MARKS AVRTON FELLOWSHIP

This prestigious award was established by the Panasonic Trust to encourage members of underrepresented groups to reach their full technical potential by supporting them to study a full-time master's course in a new technology subject.

Emily Lewis  
Imperial College London

SIR ANGUS PATON BURSARY

The Panasonic Trust continued to award the Sir Angus Paton Bursary on behalf of the Academy. Enabled by an endowment in 1986 from Sir Angus Paton CMG FREng FRS, this annual bursary recognises excellence and seeks to inspire a suitably qualified engineer to study a full-time master's course related to water engineering.

Sefinat Otaru  
Imperial College London

Heather Purshouse  
University of Leeds

QUEEN ELIZABETH PRIZE FOR ENGINEERING FOUNDATION TRUSTEES

The Queen Elizabeth Prize for Engineering Foundation, which manages the prize and the funding for the prize.

Lord Browne (Chairman)  
Professor Dame Ann Dowling DBE FREng FRS

Sir Paul Nurse HonFREng PRS

Sir John Beddington CHG HonFREng

Sir Mark Walport, Chief Scientific Adviser to UK Government, is adviser to the board.

Queen Elizabeth Prize for Engineering

The Queen Elizabeth Prize for Engineering is a global award which celebrates outstanding innovations in engineering that have created significant benefit to humanity. The £1 million prize is awarded to an individual or team of people, of any nationality, directly responsible for a groundbreaking advance in engineering.

QEP Prize panel of judges

<table>
<thead>
<tr>
<th>Name</th>
<th>Job title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lord Alec Broers</td>
<td>Chair of Judges, Past President, The Royal Academy of Engineering</td>
</tr>
<tr>
<td>Professor Sir Christopher Snowden FREng</td>
<td>Deputy Chair and Chair Elect of Judges, President and Vice-Chancellor University of Surrey</td>
</tr>
<tr>
<td>Professor Frances Arnold</td>
<td>Professor of Chemical Engineering, Bioengineering and Biochemistry at Caltech, USA</td>
</tr>
<tr>
<td>Professor Brian Cox OBE DEBE</td>
<td>Royal Society Research Fellow, University of Manchester</td>
</tr>
<tr>
<td>Professor Lynn Gladden CBE REngFRS</td>
<td>Pro Vice Chancellor for Research, Shell Professor of Chemical Engineering at University of Cambridge</td>
</tr>
<tr>
<td>Professor John Hennessy</td>
<td>President, Stanford University</td>
</tr>
<tr>
<td>Professor Dr Reinhard Huettl</td>
<td>President, German National Academy of Science and Engineering (acatech)</td>
</tr>
<tr>
<td>Dr Chen Jining</td>
<td>Minister of Environmental Protection</td>
</tr>
<tr>
<td>Professor Calestous Juma HonFREngFRS</td>
<td>Professor of the practice of International Development, Director of the Science, Technology and Globalisation Project, Harvard University</td>
</tr>
<tr>
<td>Professor Hiroshi Komiyama</td>
<td>President, Engineering Academy Japan</td>
</tr>
<tr>
<td>Dr C D (Dan) Mote, Jr</td>
<td>President, U.S. National Academy of Engineering; Regents Professor, University of Maryland, USA</td>
</tr>
<tr>
<td>Narayana Murthy CBE</td>
<td>Founder, Infosys</td>
</tr>
<tr>
<td>Professor Choon Fong Shih</td>
<td>Professor, National University of Singapore</td>
</tr>
<tr>
<td>Professor Dr Dr hc Viola Vogel</td>
<td>Head of Laboratory of Applied Mechanobiology, ETH Zurich</td>
</tr>
<tr>
<td>Paul Westbury FREng</td>
<td>Group Technical Director, Laing O'Rourke</td>
</tr>
</tbody>
</table>

The Queen Elizabeth Prize for Engineering is a global award which celebrates outstanding innovations in engineering that have created significant benefit to humanity. The £1 million prize is awarded to an individual or team of people, of any nationality, directly responsible for a groundbreaking advance in engineering.
QEPRIZE DONORS

The Queen Elizabeth Prize for Engineering Foundation extends its gratitude to the corporate donors whose generosity has funded an endowment to enable the continuing development of the Queen Elizabeth Prize. Support has been received from the following:

Founding donors

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- Jaguar Land Rover
- Sony
- National Grid plc
- Tata Steel Europe
- Tata Consultancy Services
- BP plc
- Shell UK Ltd
- Siemens UK
- GlaxoSmithKline
- Toshiba

Donors

- Nissan Motor Company Ltd

QEPRIZE SEARCH GROUP

The role of the Search Group is profile raising, engaging the global professional engineering community in making nominations for the prize; acting as global ambassadors for the prize, promoting awareness throughout networks, participating in events and seeking intelligence of emerging areas of accomplishment and innovation; and assisting in the search for nominations.

<table>
<thead>
<tr>
<th>Name</th>
<th>Job title</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Sir William Wakeham FREng</td>
<td>Chair of Search Group</td>
<td>UK</td>
</tr>
<tr>
<td>Professor Stephen Williamson FREng</td>
<td>Deputy and Chair Elect of Search Group, Former Deputy Vice-Chancellor Research and Innovation, University of Surrey</td>
<td>UK</td>
</tr>
<tr>
<td>Professor David Balmforth</td>
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The role of the Development Advisory Board is to support the realisation of the Academy’s goals and in particular its fundraising efforts. Board members are:

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*a further eight Fellows wished their gifts to remain anonymous.

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The Academy would also like to thank those Fellows who in opting for Emeritus status, made a donation to the Academy in place of an annual subscription.

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