

BUILDING ASPIRATION AND RECOGNISING INSPIRATION IN UK SCIENCE AND ENGINEERING

Whether it is a teacher, work colleague, relative or friend, we have all come across people who have been a source of inspiration, either in our careers or personal life. They may have provided guidance and helped to build our confidence over a long period of time, or they may simply have come up with an invaluable piece of advice that stays with us throughout our lives.

During the past year the Engineering and Physical Sciences Research Council (EPSRC) has been running a campaign that recognises scientists and engineers who are inspiring others. The initiative also provides the ideal

RISE Leader



Professor
Kevin Shakesheff,
University of Nottingham

Champion

Professor Jeremy Farrar,
Director, Wellcome Trust

Rising Star



Dr Marianne Ellis,
University of Bath

RISE Leader



Professor Lee Cronin,
University of Glasgow

Champion

Dave Allen, Head GSK
Respiratory Therapy Unit

Rising Star



Dr Oren Scherman,
University of Cambridge

RISE Leader



Professor Jim Al-Khalili,
University of Surrey

Champion

Liam Byrne, MP
Shadow Minister for
Universities, Science
and Skills

Rising Star



Dr Radu Sporea,
University of Surrey

RISE Leader



Professor Rachel Williams,
University of Liverpool

Champion

Sir Mark Walport,
Government Chief
Scientific Adviser

Rising Star



Dr Paolo Paoletti,
University of Liverpool

RISE Leader



Professor Jenny Nelson,
Imperial College London

Champion

Zac Goldsmith, MP

Rising Star



Dr Piers Barnes,
Imperial College London

environment for fostering the ambition, innovation and adventure of people who are in the early stages of their careers.

It not only benefits the individuals involved, but also scientific and technological endeavour in the UK and beyond.

RISE (Recognising Inspirational Scientists and Engineers) was set up in November 2013 as part of plans to mark the twentieth anniversary of EPSRC in 2014. The initiative, in partnership with the Royal Academy of Engineering, is part of the 'Engineering for Growth' campaign.

It also links to EPSRC's track record of supporting high calibre

academics from the early stages of their careers. Many of these have gone on to become inspirational leaders in research and public engagement.

... mutually beneficial learning process ...

"Ten of our outstanding Scientists and Engineers, RISE Leaders, have nominated rising stars whom they feel will lead internationally excellent research in the future," explains the Chief Executive of EPSRC, Professor Philip Nelson. "Our RISE Leaders are paired with RISE Champions who are senior people from industry, business, government and the media. A mutually beneficial learning process is taking place."

This building of aspiration and recognition of inspiration is also highlighted in one of EPSRC's strategic priorities which focuses on leadership and creates an environment that supports

researchers throughout their careers.

The independent panel that selected the RISE Leaders was chaired by Professor David Delpy and consisted of Philip Greenish, Imran Khan, Sarah Main, Sir Richard Brook and Harold Poor. Nominations for the RISE Leaders came from more than thirty universities, industries and learned societies. Criteria included leadership, engagement, influence and impact.

The names of those selected reads like a 'Who's Who' of science and technology expertise. They would also make fascinating dinner guests particularly if the topic of conversation turned to *how should we be tackling some of the major challenges we are facing in the world today?*

RISE Leaders include Professors Jim Al-Khalili, Sadie Creese, Harald Haas, Lee Cronin and Rachel Williams. Research areas cover cybersecurity, ageing and chronic disease, using visible light to access the internet and regenerative medicine. Add to that their immense drive, ability to communicate and charisma, an essential ingredient for

RISE Leader



Professor Sadie Creese, University of Oxford

Champion

James Quinault, Cabinet Office, Director OCSIA (Office of Cyber Security and Information Assurance)

Rising Star



Dr Jason Nurse, University of Oxford

RISE Leader



Professor Steve Haake, Sheffield Hallam University

Champion

Sir John Armit, Chairman of the Council of the City and Guilds of London Institute

Rising Star



Dr Jon Wheat, Sheffield Hallam University

RISE Leader



Professor Harald Haas, University of Edinburgh

Champion

Jonathan Legh-Smith, Head of Partnerships and Strategic Research, BT

Rising Star



Dr Lev Sarkisov, University of Edinburgh

RISE Leader



Professor Jeremy O'Brien, University of Bristol

Champion

Danny Finkelstein, Associate Editor, The Times

Rising Star



Peter Shadbolt, University of Bristol (on secondment to Imperial college London)

RISE Leader

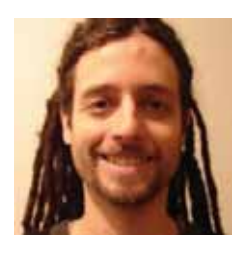


Professor Rodrigo Quian Quiroga, University of Leicester

Champion

Professor John Perkins, BIS CSA

Rising Star



Dr Hernan Rey, University of Leicester

enthusing others, and you have ten people who will inspire and motivate. Their wealth of experience not only extends to their nominated rising stars but also the RISE Champions with whom they have been paired.

In putting forward names of potential rising stars the RISE Leaders were asked to nominate someone they consider to be a future world-class talent. They might have the skills, for instance, to invent a device that will change the way we live and work, to save thousands of lives or millions of pounds or to advance our understanding of the universe.

At the University of Leicester is RISE Leader, Professor Rodrigo Quian Quiroga who is Director of the Centre for Systems Neuroscience. He is improving understanding of how the brain works, particularly how we form memories and how we can develop engineering tools to understand the complex data that comes from brain signals. His work is providing insight into areas such as epileptic seizures and Alzheimer's disease.

His nominated Rising Star is Dr Herman Rey, Lecturer in Systems Neuroscience, also

... the right people to help take our work on to the next level ...

based at the University of Leicester. Rodrigo has been paired with Professor John Perkins CBE, Chief Scientific Adviser at the Department for Business, Innovation and Skills (BIS).

"My responsibilities in BIS are to ensure that the scientific evidence informing policy is fit

for purpose", says Professor Perkins. "Rodrigo recognises that what he is doing has potentially a large impact. Thinking about ways of moving that agenda forward is a very exciting thing to be involved in. This is a way of enhancing the networks around some of the excellent science that is going on in the UK."

... ten people who will inspire and motivate ...

our research we don't always know the right people to help take our work on to the next level," says Professor Quian Quiroga, "being able to talk directly to John offers a source of invaluable advice."

This is echoed by the Rising Star whom Professor Quian Quiroga has nominated, Dr Herman Rey, who said, "Our field of research has some interesting potential applications for the future." "John brings guidance on the different approaches."

Another rising star is Dr Marianne Ellis, Senior Lecturer in Biochemical Engineering at the University of Bath. "I was nominated by Professor Kevin Shakesheff from the University of Nottingham. Having

recognition from somebody like Kevin is very humbling. It is acknowledging my potential. I will use it to build confidence and promote our field and bring to people what it can mean for the future."

Professor Shakesheff works in the area of tissue engineering. His nomination form for Dr Ellis

stated that "Marianne's work has the potential to provide answers across the wide arena of 'health and well-being' where tissue engineering can be applied. This includes regenerative medicine and cell therapies, in-vitro models for drug discovery and toxicology testing, bio-artificial organs and cultured meat. Marianne's work takes the

science of cell therapies into the clinic." Professor Shakesheff has been paired with clinical scientist Jeremy Farrar, the Director of the Wellcome Trust.

When it comes to engaging the public with the wonders of science and engineering research, Professor Jim Al-Khalili, based at the University of Surrey, has captured the imagination of

... captured the imagination of many people ...

many people from all walks of life, and inspired many in his own research area of theoretical physics. His long list of television and radio credits includes *The Life Scientific* on BBC Radio 4 and *Shock and Awe: The Story of Electricity* on BBC 4.

Professor Al-Khalili nominated Dr Radu Sporea, also at Surrey, who specialises in power-efficient, cost-effective large-area electronics in organic and inorganic semiconductor technologies.

"Although Public Engagement and popularising of Science and Engineering are something that we do very well in the UK, a lot of these rising stars are deeply into their research", says Professor Al-Khalili, "so they don't have the time to look

around, stick their head up and spread the word, but this gives them an opportunity to show off just how great innovation, engineering, technology and science is in this country."

Professor Al-Khalili has been paired with Liam Byrne, Shadow Minister for Universities, Science and Skills. As well as the immediate opportunities this initiative provides it is hoped that there will be long-term benefits: "If you look at the range of people, the champions that we are linked up with it's fantastic," says Professor Al-Khalili. "I think it is going to spread the word about the importance of science and engineering in a way that we won't fully appreciate until some way down the line."

The idea that the beneficial links formed will continue to reap rewards into the future

resonates with the Chief Executive of EPSRC, Philip Nelson: "I've seen so many times that the really outstanding work is inspired by one or two critical people. It is those people that lead that make things happen."

For more information and a full list of names of all of those involved in the RISE campaign visit <http://www.epsrc.ac.uk/rise/>