

Biochemical Society 2017 Award Winners

Eleven distinguished scientists and exceptional early career researchers have been honoured in the Biochemical Society's annual Awards.

The Awards recognize scientists for the excellence of their work and the profound impact their research has had on the scientific community and wider society. They also highlight exceptional work by early career researchers.

Professor Anne Dell, Chair of the Awards Committee, said: "The Biochemical Society's Awards recognize scientists at all career stages,

across the full spectrum of the molecular biosciences. The Award lectures in 2016 will showcase the outstanding contributions that the winners have made."

All of our award prize and medal lectureships carry an honorarium and all award winners will be invited to submit an article to a Society-owned publication.

Biochemical Society Award



The 2017 Biochemical Society Award will be awarded to Professor Keith Gull from the Sir William Dunn School of Pathology, University of Oxford. Professor Gull has a special interest in the biochemistry of the microtubule cytoskeleton, cell motility and division. He has made a major contribution to understanding the molecular components of the microtubule cytoskeleton and how it operates in flagellar motility, cell division, and morphogenesis of the African trypanosome. His work has led to the establishment of novel insights into the evolution of the cytoskeleton and its components.

"I am both surprised and delighted to receive the 2017 Biochemical Society Award", said Professor Gull. "Awards from one's peers make the biggest personal impact and mean the most. My thanks go to the many past and present members of my group whose talents have been central to our success over the years. It is an honour to join such a distinguished list of awardees".



Centenary Award



The 2017 Centenary Award will be awarded to Professor Sir Salvador Moncada from the University of Manchester. Professor Moncada has been successively at the forefront of three areas of research in his career to date. Earlier in his career he was a pioneer of prostaglandin pharmacology, initiating and leading the work that resulted in the discovery of the enzyme thromboxane synthase and the vasodilator prostacyclin, which contributed to the understanding of how low doses of aspirin prevent cardiovascular episodes such as myocardial infarction and stroke. He has been a central figure in nitric oxide biology for many years, with his recent finding that nitric oxide is involved in mitochondrial biogenesis having implications for the understanding of metabolic syndrome, type 2 diabetes and obesity. He has also led the way in understanding how energy metabolism can be regulated and adapted by various signalling pathways.

Professor Moncada's research has had a major impact, as shown by his standing in the international citation indexes and his acknowledgement as the most cited UK scientist in biomedicine in the 1990s. In 2010 he received a Knighthood from Her Majesty the Queen in recognition of his services to Science.

Commenting on his award, Professor Moncada said: "I am extremely honoured and delighted to receive the Centenary Award from the Biochemical Society, one of the most prestigious scientific societies in the country."



Colworth Medal



The 2017 Colworth Medal will be awarded to Dr Markus Ralser from the University of Cambridge and the Francis Crick Institute, London, for his work revolutionizing understanding of the origin of cellular metabolism during early evolution and the dynamic nature of metabolism that allows cells to adapt to stress situations. He is a leader in the exploration of the evolution of metabolic pathways, with his description of non-enzymatic pathways.

“I feel amazingly honoured to receive with the Colworth Medal such a prestigious award”, said Dr Ralser. “I accept this on behalf of my amazing and clever students, and the many senior scientists that generously supported me over the years. It’s worth mentioning that the first Colworth Medal was awarded to Hans Kornberg in 1963 for the discovery of the glyoxylate cycle, a pathway whose function and evolution is part of my research now. This gives a feeling how long biochemical research can last while still yielding increasingly exciting insights into how cells function”.



Heatley Medal and Prize



The 2017 Heatley Medal and Prize will be awarded to Professor Ian Graham from the University of York. During his career Ian has made major contributions to our understanding of plant metabolism and seed biology. Transformative research has shed new light on the production of small molecule natural products from plants such as the anti-cancer compound noscapine, morphinan-based analgesics such as codeine and morphine and the antimalarial drug artemisinin. He led the way in the genetic dissection of lipid mobilization in Arabidopsis oilseeds and most recently has discovered a role for oxylipins in controlling seed germination.

Professor Graham commented: “I am delighted at having been awarded the Heatley Medal and Prize. I would like to thank the Biochemical Society and all the great scientists that have contributed to my laboratory over the years. Dr Heatley and the previous prize winners are an inspiration in applying biochemistry advances for the benefit of society and it is a huge honour to be in such company. This award will inspire us to carry on doing what we enjoy”.



Novartis Medal and Prize



The 2017 Novartis Medal and Prize will be awarded to Professor Doreen Cantrell from the University of Dundee. Professor Cantrell’s research interests are focused on T lymphocyte development and activation, a key process to the comprehension and manipulation of mammalian immune responses. Her contributions have provided great insight into how the T lymphocyte interprets antigenic information both from foreign sources and from ‘self’ and makes appropriate responses. She has applied varied and insightful approaches to rigorously interrogate this key biological system at the fundamental level of biochemical signal transduction. These insights offer new possibilities to manipulate the immune system to enhance desirable immune responses and eliminate undesirable ones.

“I am honoured and delighted to have been selected to receive the Novartis Medal and Prize in 2017,” said Professor Cantrell. “I work with an outstanding team in the School of Life Sciences and this honour is a tribute to their contributions. I am also indebted to Wellcome Trust and Cancer Research UK who have supported my career and my research group for many years”.



Sir Philip Randle Lecture



The 2017 Sir Philip Randle Lecture will be awarded to Professor Geoffrey Holman from University of Bath. Professor Holman has made a major contribution to the field of insulin-regulated glucose metabolism, principally the mechanism by which glucose enters cells in response to insulin stimulation through a regulated transporter translocation mechanism. His work has direct impact on our understanding of human insulin-resistant state and the development of type 2 diabetes.

“I am delighted to be awarded the Sir Philip Randle Lecture Prize”, said Professor Holman. “I feel greatly honoured to follow the previous eminent winners of this award in the area of research pioneered by Sir Philip. I would like to thank and acknowledge all those who have made this award possible, particularly the many highly talented co-workers from Bath University and friends and colleagues from collaborating laboratories”.

Thudichum Medal



The 2017 Thudichum Medal will be awarded to Professor David Rubinsztein from the University of Cambridge. David pioneered the strategy of autophagy upregulation as a possible therapeutic approach in various neurodegenerative diseases and has identified drugs and novel pathways that may be exploited for this objective. He has made key contributions to illuminating the relevance of autophagy defects as a disease mechanism and to the basic cell biology of this important catabolic process. He has also identified druggable pathways independent of autophagy that may be relevant to diseases caused by aggregate-prone proteins. These insights open novel avenues for developing potential therapies.

“I am delighted and greatly honoured by this award, which I accept on behalf of the members of my lab past and present, and my collaborators. This would not have been possible without the long-term, generous fellowship funding I have received from the Wellcome Trust, and the support of my family”, commented Professor Rubinsztein.



Early Career Research Awards

Biotechnology



The Biotechnology Early Career Research Award will be awarded to Dr Alexander Buell from the University of Düsseldorf, Germany. Dr Buell has made ground-breaking contributions to the application of biophysical techniques to characterize the properties of biological molecules. In particular, he has participated in seminal advances in understanding of the molecular mechanisms of aggregation of amyloid forming proteins related to Alzheimer's and Parkinson's disease.

“I am absolutely thrilled to receive this award, which I owe in great parts to my scientific mentors and collaborators in the UK and elsewhere that have helped me to become the person and scientist that I am now”, said Dr Buell. “I am also particularly delighted as I think this award underlines the importance of research into the physico-chemical principles and mechanisms of biomolecular self-assembly as a basis for biomedical and biotechnological applications”.

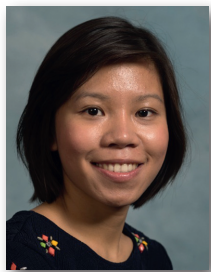


Energy and Metabolism



The Energy and Metabolism Early Career Research Award will be awarded to Dr Edward Chouchani from the Dana-Farber Cancer Institute, Harvard Medical School, USA. Dr Chouchani has worked to establish the mechanistic basis for cardioprotection by nitric oxide within mitochondria and has developed a targeted therapy for treatment of acute myocardial infarction. Additionally, he has identified how novel metabolic pathways become activated to fuel mitochondrial reactive oxygen species production during ischaemia-reperfusion injury. He has established how mitochondria can determine healthy function of adipose tissue in mice, which has uncovered new mechanisms that define the anti-obesity and anti-diabetic actions of thermogenic adipose tissue.

“I am very honoured to receive this award, and grateful to my colleagues and mentors for their continuing support”, said Dr Chouchani. “I'm particularly thankful to my PhD and post-doctoral supervisors Mike Murphy and Bruce Spiegelmen for their mentorship”.



Genes

The Genes Early Career Research Award will be awarded to Dr Thi (Kelly) Nguyen from the University of Cambridge. Her work has made significant contributions to the understanding of architecture and activation mechanism of the spliceosome, setting a framework for future biochemical and structural studies in this area of research.

“I am thrilled and deeply honoured to receive this award”, said Dr Nguyen. “I am very grateful to my supervisor, Dr Kiyoshi Nagai, and all the past and present Nagai lab members and colleagues at the MRC-Laboratory of Molecular Biology for the tremendous support and guidance over the years”.



Signalling

The Signalling Early Career Research Award will be awarded to Dr Maria Romina Girotti from the University of Manchester, UK. Maria's work has provided crucial insights into the molecular mechanisms underlying resistance to targeted therapies in melanoma, the development of new therapeutics to treat resistant patients in collaboration with the Institute of Cancer Research and new technologies for personalized medicine in melanoma patients.

Dr Girotti said: “I am absolutely thrilled to receive this award. I would like to thank my supervisor Prof Richard Marais for nominating me and for being such an amazing mentor. To work in his team is a privilege one and certainly one of the most important steps in my scientific career”.

Royal Society of Biology News

Spreading the word in public and in Parliament

Spring was full of events engaging young scientists in policy, and activities engaging the public in science.



Mark Downs
(Chief Executive, Royal Society of Biology)

At Set for Britain, a poster competition in the House of Commons, 200 early career researchers, across bioscience, chemistry, physics, engineering and maths, shared their work with dozens of politicians and expert judges. The Royal Society of Biology (RSB) helps to organise SET for Britain as a rare opportunity for politicians to meet some of our most promising early career scientists and understand their work.

Of the 59 bioscience exhibitors, Dr Maelíosa McCrudden, a postdoctoral research fellow at Queen's University Belfast, won the Gold medal and £3,000 for the excellence of her research into microneedles, which help take the sting out of hypodermic needle injections. We were delighted that she also received the prestigious Westminster Wharton Medal, the overall prize chosen from the five gold medal winners at the end of the day.

At our Voice of the Future event early career researchers descended on the Houses of Commons to grill MPs and Ministers on their science policies. The RSB, the Biochemical Society and many other scientific organisations sent representatives and the

Q&A panel sessions were broadcast live on Parliament TV.

We were thrilled that Major Tim Peake recorded a video message for the event from the International Space Station. He replied to a question from Jo Johnson MP, describing how his experiments in space often focus on finding ways to counter the negative effects of growing old on the body. Peake also praised the UK's commitment to helping to lead Europe in collaborative research and technological development through the European Space Agency.

These events in Parliament ensure MPs not only have an awareness of the great research going on in their constituencies, but also gain a greater understanding of the international collaborative nature of science. It is important that MPs make policy decisions informed by evidence, and a greater mutual understanding between MPs and scientists will improve this. The Government needs to ensure the UK continues to lead the world in biological research where we have enormous strength.

The links between science, knowledge and democracy were also highlighted by Sir