Awards

Biochemical Society 2020 Award Winners

Twelve 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 outstanding work by early career researchers.

Professor Colin Bingle, Chair of the Awards Committee, said: “Scientists and researchers in the biosciences community play a valuable part in society and the Biochemical Society Awards are the perfect way to honour those exceptional individuals who are leading the way. As ever, the standard of the nominees was incredibly high and our winners can be justifiably proud of their achievements. On behalf of the Society, I’d like to congratulate all of the winners, every one of whom has made an outstanding contribution in their respective fields. Well done.”

Centenary Award

The 2020 Centenary Award will be presented to Professor Dame Kay E Davies of the University of Oxford, UK.

Kay’s research has focused on the molecular analysis of Duchenne muscular dystrophy and the development of therapy. She pioneered utrophin modulation as an approach to effective treatment. Kay co-founded Summit Therapeutics to translate her work into the clinic. She is a founding fellow of the UK Academy of Medical Sciences and was elected a Fellow of the Royal Society in 2003. Kay was made Dame Commander of the British Empire for services to science in 2008.

Kay said: “I am very honoured and delighted to have my work recognized in this way by the Biochemical Society. I am also very grateful to all the talented researchers I have had the privilege to work with over the years.”

Colworth Medal

The 2020 Colworth Medal will be awarded to Dr Stephan Uphoff of the University of Oxford, UK.

Stephan’s research focuses on understanding the mechanisms of DNA repair and mutagenesis in bacterial cells. Stephan’s group at the University of Oxford takes a quantitative multidisciplinary approach to address these questions. A key aspect of his research is the development of single-molecule microscopy techniques to observe molecular processes inside living cells.

Stephan said: “It is a big honour to receive this award. The UK offers a fantastic research environment with great opportunities for young researchers. I hope we will foster this culture of openness and maintain a thriving research environment that promotes fundamental and interdisciplinary research.”

Heatley Medal and Prize

The 2020 Heatley Medal and Prize will be awarded to Professor James Barber of Imperial College London, UK.

The focus of his research has been the investigation of photosynthesis and the functional role of the photosystems with emphasis on their molecular structures. Much of his work has focused on Photosystem II, a biological machine able to use light energy to split water into oxygen and reducing equivalents.

James said: “I feel extremely honoured to be awarded the Heatley Medal and Prize. I share this honour with all those who have worked with me over the years.”

Industry and Academic Collaboration Award

The 2020 Industry and Academic Collaboration Award will be presented to Professor Matthew Dalby of University of Glasgow, UK.

With collaborators, Matthew has developed a nanovibrational bioreactor, the Nanokick, that can be used to drive three-dimensional bone formation with no need for material or chemical inducement. He has also led a successful bid for an EPSRC-SFI Centre for Doctoral Training where a lot of industrial support was achieved. The CDT aims to build a community of interdisciplinary scientists to develop UK standing in development of humanised 3D tissues to reduce
animal experimentation in drug discovery. Matthew has also been elected as a Fellow of the Royal Society of Edinburgh.

Matthew said: “I was very surprised, but clearly delighted to receive news of winning this award. Over the last few years much of my effort has focused on engaging UK industry to form a community to support development of PhD students into diverse careers. This award makes all this effort feel very worthwhile.”

**International Award**

The 2020 **International Award** will be presented to Associate Professor Wai-Hong Tham of the Walter & Eliza Hall Institute of Medical Research, Australia.

Wai-Hong’s research explores the mechanisms regulating successful infection of malaria parasites within the human host. Her group discovered the important role that parasite surface proteins play in immune evasion strategies; the discovery of structural scaffolds that unite the red blood cell binding domains of parasite adhesins and the identification of a new invasion pathway for Plasmodium vivax. These breakthrough discoveries significantly advanced understanding of the complex interplay between malaria parasites and the human host, and have led to the development of novel therapeutics against malaria.

Wai-Hong said: “I am absolutely delighted and humbled to be receiving this award. This award is a wonderful recognition of our research which would not have been possible without amazing collaborators, postdocs and research students and I am deeply grateful for their support.”

**Keilin Memorial Lecture**

The 2020 **Keilin Memorial Lecture** will be awarded to Professor Judy Hirst of MRC Mitochondrial Biology Unit, UK.

Judy’s research has made pivotal contributions to understanding energy conversion in complex redox enzymes: how they capture the energy released by a redox reaction to power proton translocation across a membrane or catalyse the interconversion of chemical bond energy and electrical potential.

Judy said: “I am delighted to have been selected to receive the Keilin Memorial Lecture Award. I feel this award recognizes the importance of taking on challenging long-term research projects at the boundaries of basic and biomedical science, and I have been fortunate to have been supported by the Medical Research Council throughout - as well as by a team of talented and enthusiastic students and postdocs.”

**Morton Lecture**

The 2020 **Morton Lecture** will be awarded to Professor Gurdyal S. Besra of the University of Birmingham, UK.

Gurdyal’s research focuses on improving our understanding of Mycobacterium tuberculosis cell-wall assembly, the discovery of novel mycobacterial lipid antigens and the identification of novel drug targets for tuberculosis. His research group played a pivotal role in advancing our understanding of the biosynthesis of mycolic acids. With international collaborators, Gurdyal has also been at the forefront in the discovery of M. tuberculosis T-cell antigens and elucidation of the CD1 antigen presentation pathway.

Gurdyal said: “I am delighted with this award that recognises the outstanding work members of my laboratory, past and present, have produced over the years.”

**Teaching Excellence Award**

The 2020 **Teaching Excellence Award** will be presented to Dr Jo Rushworth of De Montfort University, UK.

Jo has championed De Montfort University’s inclusive teaching and learning strategy, known as Universal Design for Learning. Her approach to teaching provides flexible ways for all students to learn and to demonstrate their knowledge, including songs, video podcasts and chocolate-based analogies for cellular respiration. She devised feedback boxes which are now used across her faculty, to help lecturers make the most of everyday feedback from students.

Jo said: “I feel so honoured and humbled to receive the Teaching Excellence Award. I have been a member of the Biochemical Society since I was an undergraduate student and I was always inspired when my lecturers were featured in The Biochemist. Everything I do is for my students and I am just so grateful for their tremendous support and inspiration.”
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**GlaxoSmithKline Award**

The 2020 GlaxoSmithKline Award will be presented to Dr Sarah Teichmann of the Wellcome Sanger Institute, UK. Sarah is Head of Cellular Genetics at the Wellcome Sanger Institute. Her work focuses on deciphering the immune system with genomics and bioinformatics approaches.

Sarah said: “I am deeply honoured to be awarded The GlaxoSmithKline Award for 2020 by the Biochemical Society, which recognises the work by my talented team and our collaborators. Together we have driven forwards the application of single cell genomics and computation to human tissues, providing new insights into the molecular and cellular details of development and disease.”

**Thudichum Medal**

The 2020 Thudichum Medal will be awarded to Professor Maria Grazia Spillantini of the University of Cambridge, UK. Maria is Professor of Molecular Neurology in the Clinical School of the University of Cambridge. Maria’s group works on the molecular neuropathology of diseases characterised by tau and alpha-synuclein aggregates.

Maria said: “I was surprised and very happy to receive this great honour for which I would like to thank the nominators, the committee who made the award and my collaborators over the years without whom this achievement would not have been possible.”

**Early Career Research Awards**

One of the two 2020 Early Career Research Awards will be presented to Dr Sara Priego Moreno of the Salk Institute for Biological Studies, USA. Sara’s research focuses on the understanding of replication mechanisms required for the maintenance of the essential telomeric DNA in human primary and cancer cells.

Sara said: “I was absolutely delighted and extremely happy when I found out that I was a recipient for The Early Career Research Award 2020 of the Biochemical Society. I want to give a big thanks to my wonderful PhD supervisor, Dr Aga Gambus, for her constant support throughout my PhD project and for always transmitting her enthusiasm and passion for science. I also want to thank my great colleagues, for the time and effort they spent towards my project and for making the lab a very friendly, exciting and fun place to work every day. I may be the one winning this award but this would not be possible without their help.”

The other 2020 Early Career Research Awards will be presented to Dr Andrew Hammond of Imperial College London, UK. Andrew’s primary PhD research demonstrated the first gene drive system designed to suppress populations of the malaria mosquito, including the first use of CRISPR in the African malaria mosquito. Andrew also co-developed the first CRISPR-based system to bias the sex ratio – a key process needed to develop several strategies for pest and vector control. Andrew has recently been awarded a Sir Henry Wellcome Fellowship to initiate a new line of research aimed at understanding the neurobiology underlying mosquito attraction to humans. This work will be undertaken at John’s Hopkins University, Imperial College London, and the University of Oxford.

Andrew said: “I cannot express how delighted I am to be awarded the Early Career Research Award from the Biochemical Society! I have been incredibly fortunate to have been based in such a fantastic lab over the past 7 years, with brilliant colleagues such as Dr Roberto Galizi and Kyros Kyrou. I must thank Professor Austin Burt who has been an inspirational mentor throughout my career and whose theory of gene drive first attracted me to the research. The two people I am most grateful to are my PhD supervisors, Dr Tony Nolan and Professor Andrea Crisanti — who have showered me with abundant motivation, advice and support throughout my PhD and postdoctoral research.”