Biochemical Society 2021 award winners

Ten bioscientists have been honoured in the annual Biochemical Society Awards. Each winner exemplifies the very best of the molecular biosciences community in fields ranging from DNA repair and the motile behaviour of microorganisms to muscle metabolism and complex membrane trafficking.

Professor Colin Bingle, Professor of Respiratory Cell and Molecular Biology at the University of Sheffield and Chair of the Biochemical Society’s Awards Committee, said: “Bioscientists represent an incredible community of researchers and academics that are dedicated to understanding biology at a molecular and cellular level. Due to current events, I am pleased that we have this opportunity to highlight the true value of excellence in biosciences via our awards programme. The 2021 Biochemical Society Award winners have all made significant contributions to their field of study. There is no doubt that their research is fundamental to life and of transformative relevance to health and disease. These individuals demonstrate a commitment to enhancing knowledge and, on behalf of the Society, I’d like to sincerely congratulate all of these winners for their excellence and hard work in the pursuit of biology”.

Biochemical Society Award

The 2021 Biochemical Society Award will be presented to Professor Dame Janet Thornton FRS FMedSci at the European Bioinformatics Institute, Cambridge, UK. Janet is a Senior Research Scientist at the European Molecular Biology Laboratory – European Bioinformatics Institute on the Wellcome Trust Genome Campus at Cambridge, UK. Her research is focused on proteins, especially their structure, function and evolution. She is a computational biologist, working at the interface of biology with physics, chemistry and computing.

Janet said: “I am delighted to be chosen for this Biochemical Society Award for computational methods leading to advancing the understanding of biomolecular sciences. This is a real honour for me – and for all the people with whom I have worked”.

Centenary Award

The 2021 Centenary Award will be presented to Professor Kim Nasmyth at the University of Oxford, UK. Kim currently holds the Whitley Chair at the Department of Biochemistry, University of Oxford and is a fellow of Trinity College. His scientific work has addressed the mechanisms by which genes are turned on and off during development, how DNA replication is controlled and how chromosomes are segregated during mitosis and meiosis.

Kim said: “I must confess that I never trained as a biochemist. I had planned to read chemistry but changed to biology shortly after arriving at university and eventually became a molecular geneticist. Ever since, I have always strived to explain biological phenomena in terms as simple as possible. I am therefore especially honoured to have been recognized by the Biochemical Society’s Centenary Award as an honorary biochemist”.

Colworth Medal

The 2021 Colworth Medal will be presented to Dr Giulia Zanetti of Birkbeck University of London, UK. In 2014, Giulia was awarded a Dorothy Hodgkin Royal Society fellowship, which kick-started her lab. Currently, her group is pushing the boundaries of cryo-tomography to understand the mechanisms of complex membrane trafficking processes. Integration with biochemical techniques and collaboration with labs that use complementary approaches are helping to understand how the COPII coat remodells membranes and how this process is regulated.

Giulia said: “It’s a tremendous honour to receive the Colworth Medal, and I’d like to share it with many fantastic collaborators, students and postdocs I was lucky to meet during my career. The award recognizes curiosity-driven studies on fundamental aspects of cell and molecular biology and this gives me the enthusiasm to continue along this path”.

Katie Crabb (Biochemical Society, UK)
Industry and Academic Collaboration Award

The 2021 Industry and Academic Collaboration Award will be presented to Dr Pamela Williams at Astex Pharmaceuticals, Cambridge, UK. She has a DPhil in Molecular Biophysics from Oxford University and is a Senior Director in the Molecular Sciences Group at Astex Pharmaceuticals. Pamela’s current focus is on the integration of cryoEM structure determination into the drug discovery process, building upon her interest in structure-based drug discovery technologies.

Pamela said: “The recognition of industrial scientists at all levels and stages of their careers is a positive message. I’m delighted that this award rightly highlights the significant impact collaborations between academic and industrial groups can have on pushing forward the frontiers of science”.

International Award

The 2021 International Award will be presented to Professor Brandt Eichman at the Vanderbilt University, USA. Brandt is Professor and Chair of the Department of Biological Sciences, Professor of Biochemistry, and holds the William R. Kenan, Jr. Chair at the Vanderbilt College of Arts and Science. His group focuses on the structural biology of protein machines involved in DNA repair and maintenance of genome integrity. During his PhD in biochemistry and biophysics, Brandt used X-ray crystallography to study the effects of anti-cancer drugs on DNA structure and determined the landmark structure of the Holliday Junction—the four-stranded DNA intermediate formed during genetic recombination. As an NIH postdoctoral fellow at Harvard Medical School, Brandt honed his interests in structural enzymology of DNA replication and repair. He joined the Vanderbilt faculty in 2004.

Brandt said: “I am honoured and delighted to be the recipient of the Biochemical Society’s International Award. This certainly would not have been possible without the hard work and creativity of the members of my laboratory. I thank my colleagues who made and endorsed the nomination and who have guided me over the years, and my family for their support and encouragement”.

Portland Press Excellence in Science Award

The 2021 Portland Press Excellence in Science Award will be presented to Professor Bart Vanhaesebroeck at the University College London, UK. Bart is a basic scientist whose pioneering studies on the PI 3-kinase (PI3K) signalling enzymes have led to approved medicines. With his team, he developed a unique genetic approach to create an unparalleled series of mouse models to uncover the roles of multiple PI3K family members in biology and to faithfully predict PI3K-inhibitor activity at the organismal level.

Bart said: “I am delighted to receive this award. Science is a team effort, and this award is an honour to all the talented people who have worked with me over the years”.

Sir Philip Randle Award

The 2021 Sir Philip Randle Award will be received by Professor Erik Richter at the University of Copenhagen, Denmark. Erik’s research is focused on regulation of muscle metabolism in connection with physical activity. A major breakthrough was the original observation that a single bout of exercise increases muscle insulin sensitivity for many hours following exercise; published in 1982. Since then, he has followed up this finding and his lab was the first to describe the effect of insulin on molecular signalling in human muscle in the resting and in the post-exercise state. Anothermajor research line has been to caracterize the molecular signalling during exercise and its effect on musclemetabolism. Together, this work resulted in Erik being awarded the NovoNordisk Prize in 2012. In his recent research, he has embraced systemsbiology and coupled it with advanced human and rodentphysiology to elucidate the molecular mechanisms controlling exerciseeffects on metabolism and health in an unbiased way.

Erik said: “It is a huge honour for me to be receiving this award which bears the name of one of the great pioneers in metabolism. Thanks to all the excellent collaborators during the many years of exciting research”.

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Teaching Excellence Award

The 2021 Teaching Excellence Award will be received by Dr Rosemary Clyne at Queen Mary University of London, UK. She is currently Senior Lecturer at Queen Mary and the university’s Academic Lead for International Student Experience, where she founded the Future Global Leaders Forum student leadership programme. Rosemary is a Senior Fellow of the Higher Education Academy and the recipient of two Queen Mary Education Excellence Awards.

Rosemary said: “I am absolutely thrilled to receive this distinguished award from the Biochemical Society. For me, this Award recognizes my inclusive approach toward delivering the best possible learning experience for all students. I am grateful to Queen Mary for supporting the digital learning and outreach projects that have enabled me to communicate my enthusiasm and passion for science education so widely. I share this honour with all the fantastic students who have inspired my work”.

Early Career Research awards

One of the two 2021 Early Career Research awards will be presented to Dr Roser Vento-Tormo at the Wellcome Sanger Institute, Cambridge, UK. She completed her postdoctoral studies under the supervision of Professor Sarah Teichmann as an EMBO and Human Frontier Science Program fellow. Here she developed CellPhoneDB, a unique resource of ligands, receptors and their interactions, integrated with a statistical framework to build cellular communication networks from single-cell transcriptomics data.

Roser said: “I am thrilled to receive the Early Career Research Award by the Biochemical Society, which recognizes the work of my superb team and collaborators. Together, we combine computational and experimental expertise to define novel cell identities, their regulation and functional role in health and disease. I would also like to take this opportunity to thank my nominators and mentors for their support during the early stages of my career as an independent investigator”.

The second 2021 Early Career Research Award will be presented to Dr Kirsty Wan at the University of Exeter, UK. Kirsty is a Senior Research Fellow and group leader at the Living Systems Institute (LSI), University of Exeter. Her main research interests concern the behaviour of microorganisms, with emphasis on developing novel interdisciplinary approaches to studying the dynamics of motile cilia.

Kirsty said: “I am absolutely delighted with this news! It is a real pleasure to have been given this award from the Biochemical Society. This is further justification for the value of interdisciplinary research – something that was instilled in me early on by my mentors. I take this opportunity to thank my PhD (and postdoc!) supervisor Professor Ray Goldstein who has been a constant source of inspiration throughout my career”.