

## THE ROD RICKARDS FELLOWSHIPS

The Rod Rickards Fellowships are in honour of Professor Rod Rickards (1934–2007), one of the most important contributors to Australian science through his outstanding achievements in the chemistry of compounds of medical, biological, agricultural and veterinary importance. Professor Rickards served on the Academy's Europe Committee as a member between 1994 and 2002, and as Chair in 2003–2006. At least two Fellowships are awarded each year to outstanding scientists undertaking research in Europe in the areas of chemistry or biology. In 2015 and in 2016, three researchers were fortunate to be awarded Fellowships.

<p><b>2016</b></p> <p>Dr Andrey Molotnikov Department of Materials Science and Engineering Monash University</p> <p>The recipient of the Rod Rickards Fellowship for 2016 is Dr Andrey Molotnikov from Monash University. Dr Molotnikov will undertake research on the computational modelling of the mechanical behaviour of additively manufactured metal/polymer hybrid lattices with Dr Justin Dirrenberger at Arts et Métiers ParisTech and Professor Samuel Forest at MINES ParisTech for a total of 17 days during September and October.</p>	
<p><b>2016</b></p> <p>Dr Katrina Witt Centre for Population Health Research Deakin University</p> <p>Dr Katrina Witt from Deakin University is a joint recipient for 2016. Dr Witt will travel to France for 20 days during January 2017 to work with Professor Isabelle Niedhammer from INSERM on the relationship between psychosocial working conditions and mental health, including suicidal behaviour, on young French employees.</p>	
<p><b>2016</b></p> <p>Dr Pu Xiao School of Chemistry UNSW Australia</p> <p>The third joint recipient for 2016 is Dr Pu Xiao from UNSW Australia. Dr Xiao will work with Professor Jacques Lalevee at the National Centre for Scientific Research (CNRS) during February 2017 on the development of natural dye-based photo-initiating systems for 3D printing based on LED devices.</p>	
<p><b>2015</b></p> <p>Dr Brooke Coombes School of Medical Science The University of Queensland</p> <p>The recipient of the Rod Rickards Fellowship for 2015 was Dr Brooke Coombes from The University of Queensland. Dr Coombes undertook research on quantifying tendon elasticity using shear wave dispersion analysis in healthy and diseased tendons at the University of Nantes where she worked with Associate Professor Antoine Nordez for 22 days during November.</p>	

## 2015

Dr Daniel Johnstone  
School of Medical Sciences  
The University of Sydney

Dr Daniel Johnstone from the University of Sydney was a joint recipient for 2015. Dr Johnstone travelled to France for 20 days during September and October to work with Dr Cecile Moro from The French Alternative Energies and Atomic Energy Commission (CEA) on understanding how infrared light protects against Parkinson's Disease – the effect of treating different tissues.



## 2015

Dr Romana Stark  
Department of Physiology  
Monash University

The third joint recipient for 2015 was Dr Romana Stark from Monash University. Dr Stark worked with Professor Serge Luquet at the Université Paris Diderot for 26 days during September and October on how does the brain sense the body's needs and drive food intake.



## 2014

Dr Joshua Ho  
St Vincent's Clinical School  
Victor Chang Cardiac Research Institute

The recipient of the Rod Rickards Fellowship for 2014 was Dr Joshua Ho from the Victor Chang Cardiac Research Institute. Dr Ho undertook research on decoding the language of life by computational linguistics and active learning at the French National Institute for Agricultural Research (INRA) and the Pierre-and-Marie-Curie University where he worked with Professor Jean Garnier and Dr Nataliya Sokolovska, respectively, for 21 days during August and September 2014.



## 2014

Dr Nicole Hill  
Institute for Marine and Antarctic Studies  
University of Tasmania

Dr Nicole Hill from the University of Tasmania was a joint recipient for 2014. Dr Hill travelled to France for 25 days during November and December in 2014 to work with Professor Philippe Koubbi from the Pierre-and-Marie-Curie University on predicting biodiversity to understand, manage and conserve Antarctica's unique marine ecosystem.



## 2014

Dr Jian Liu  
Department of Chemical Engineering  
Curtin University

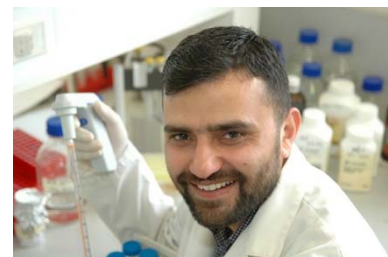
The third joint recipient for 2014 was Dr Jian Liu from Curtin University. Dr Liu worked with Professor Jean-Francois Lamonier at the Université Lille 1 and Professor Alain Walcarius from the National Centre for Scientific Research (CNRS) during November and December 2014 on the advanced yolk-shell catalysts for volatile organic compounds removal.



## 2013

Dr Abdul Jabbar  
Department of Veterinary Science  
University of Melbourne

The 2013 recipient of the Rod Rickards Fellowship was Dr Abdul Jabbar from the University of Melbourne. Dr Jabbar travelled to France in November for 19 days to visit Dr Hervé Hoste at the National Institute for Agricultural Research (INRA) to conduct research on novel drugs against parasitic nematodes of major socioeconomic importance.



## 2013

Dr Thomas Sobey  
Centre for Vascular Research  
University of New South Wales

As a joint recipient of the Fellowship for 2013, Dr Thomas Sobey from the Centre for Vascular Research at the University of New South Wales visited Dr Guillaume Romet-Lemonne at the National Centre for Scientific Research (CNRS) in Gif-sur-Yvette in France, in September 2013 for 22 days to undertake research on the 'cyto' skeleton, made of the protein actin, inside the trillions of cells in human bodies.



## 2012

Dr Kathryn Holt  
Blo21 Institute  
University of Melbourne

Dr Kathryn Holt from the University of Melbourne is one of the 2012 recipients of the Rod Rickards Fellowship. Dr Holt travelled to Paris in October to work with Dr François-Xavier Weill at the Pasteur Institute, where they used high throughput genomics to study the global emergence of a highly drug resistant form of *Salmonella* associated with consumption of chicken meat. This exciting genomic data was able to explain the abilities of the pathogen to survive in the presence of a wide range of antimicrobial drugs, and showed that this highly adaptive bacterium has gained these abilities many times in different countries, in response to different patterns of antimicrobial usage.

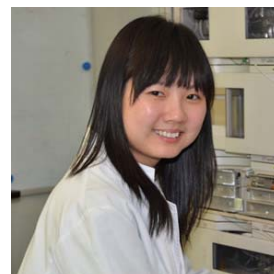
During her visit, Dr Holt and her hosts began a second collaboration to investigate the emergence and global spread of *Shigella dysenteriae*, the key cause of severe drug-resistant dysentery epidemics which have swept through refugee camps in Asia and Africa. On her way home Dr Holt stopped in Cambridge to present some recent work on other drug resistant pathogens. Shortly after returning to Australia, Dr Holt moved to the Bio21 Institute at the University of Melbourne to start her own genomics lab, and was awarded four NHMRC research grants that will use genomics in a variety of ways to study human infections.



## 2012

Dr Jennifer Koh  
Department of Biomedical and Molecular Biosciences  
University of Technology Sydney

As joint recipient of the Fellowship for 2012, Dr Jennifer Koh, from the University of Technology Sydney, visited Dr Pierre Escoubas at VenomeTech in France in October to conduct research on developing peptide toxins as therapeutics and biopesticides.

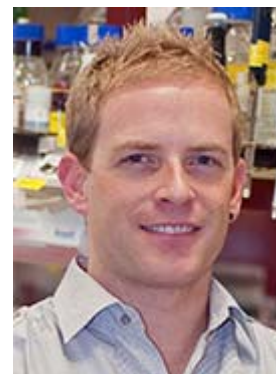


## 2010-2011

Dr Justin Boddey  
Department of Infection and Immunity  
Walter and Eliza Hall Institute of Medical Research

Dr Justin Boddey from the Walter and Eliza Hall Institute of Medical Research was a 2010–2011 recipient of the Fellowship. Dr Boddey travelled to Portugal to work with Dr Maria Mota at the Faculdade de Medicina da Universidade de Lisboa. During his visit in October–December, Dr Boddey conducted research on the protein export by malaria parasites during liver cell infection.

The project supported by the fellowship has progressed in many exciting ways that will result in up to three co-authored publications. Dr Boddey's expertise in liver-stage research has allowed him to be promoted to Faculty within the Walter and Eliza Hall Institute of Medical Research and he now heads his own laboratory within the Division of Infection and Immunity, studying liver-stage malaria. He has established eight international collaborations and successfully obtained five research grants from the ARC, NHMRC, Ramaciotti Foundation and Human Frontier Science Program.

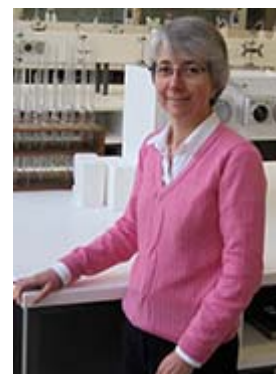


## 2010-2011

Professor Barbara Messerle  
School of Chemistry  
University of New South Wales

Professor Barbara Messerle from the University of New South Wales was joint recipient of the Rod Rickards Fellowship for 2010–2011 was. Professor Messerle travelled to Scotland to visit Professor Stuart Macgregor at Heriot-Watt University in Edinburgh and to France to visit Professor Odile Eisenstein at the Université Montpellier 2. During March–April 2011, Professor Messerle conducted research on the rational design of bimetallic catalysts for efficient synthesis.

Catalysts enhance the economic viability and the energy efficiency of chemical transformations by increasing the rates of reactions under mild conditions, and members of Professor Messerle's research team at the University of New South Wales are working on the development of bimetallic homogeneous catalysts for multiple step reactions which are designed to provide enhanced reaction rates. The collaborations with Professors Macgregor and Eisenstein enable her and her team to understand the mechanisms of the catalysed reactions and also the structures of the catalysts and how the structures will influence the rates of the reactions. During the visit, one of Professor Messerle's PhD students was able to join her in Scotland and they were able to initiate some research that has now shown that for the catalysts they have been studying that have two metal centres, the relative enhancement of catalytic reaction rate is specifically dependent on the distance between the two metal centres. This has helped Professor Messerle and her team in designing new and more effective catalysts which they have tested recently. Professors Eisenstein and Macgregor are world leaders in the development of a theoretical understanding of catalysed reactions, and their input to the research has been invaluable.



## 2010

Dr Rosanne Guijt  
School of Pharmacy  
University of Tasmania

Dr Rosanne Guijt from the University of Tasmania travelled to Switzerland in May–July 2010 as recipient of the Rod Rickards Fellowship for that year. Dr Guijt conducted research on the evaluation of a new but simple manufacturing method to improve sensitivity in contactless conductivity detection with Professor Peter Hauser at the University of Basel.

The evaluation of the technology developed at the University of Tasmania with the electronics available in Professor Hauser's laboratories allowed a good, fundamental evaluation of the new technology and led to the publication of her paper 'Microfluidic chips for capillary electrophoresis with integrated electrodes for capacitively coupled conductivity detection based on printed circuit board technology'.

