

The #AANSS2020 conference chaired by Dr Leonie van't Hag and Dr Livia Salvati Manni kicked off on time with fantastic presentations yesterday in the awards session.

We opened the conference with the presentation of this year winners of the ANBUG Awards. Prof. Tracy Rushmer, the President of ANBUG, introduced the 2020 ANBUG Award winners and we had a chance to see and hear their inspirational presentations.

Please join us in congratulating ANBUG 2020 winners:

ANBUG Outstanding PhD Prize: Dr Damian Goonetilleke, UNSW

Damian Goonetilleke completed his PhD in Chemistry at the University of New South Wales (UNSW) under the supervision of Assoc. Prof. Neeraj Sharma. His PhD project was focused on operando structural characterisation of materials for energy storage. He is currently a postdoctoral researcher at the Battery and Electrochemistry Laboratory (BELLA), part of the Karlsruhe Institute of Technology, where he investigates cathode materials for Li-ion batteries.

Damian's PhD thesis explored the use of in situ methods to investigate the structural changes and reaction mechanisms occurring within functional electrochemical devices during their operation. He has shown tenacity and perseverance to work with difficult samples and data and to extract valuable meaning from them. The work carried out using neutron scattering techniques demonstrates its effectiveness for improving the performance of existing devices and providing intuition for the development of new devices and materials for energy storage.



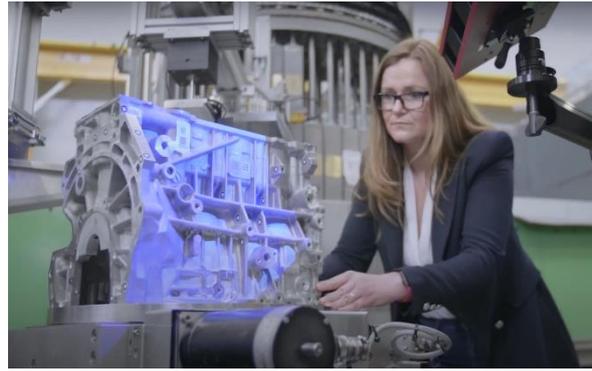
ANBUG Young Scientist Award: Dr David Cortie, University of Wollongong

Dr David Cortie obtained his PhD in physics from the University of Wollongong in 2013. He then did postdoctoral work at the University of British Columbia, the Australian National University and the Australian Nuclear Science and Technology Organisation. In 2017, he returned to the University of Wollongong, and was awarded an Australian Research Council Discovery Early Career Research Fellowship. His research focuses on the interplay between structure, dynamics and magnetism in quantum materials. In this theme, he uses polarised neutron scattering techniques to investigate materials ranging from large bulk crystals down to nanostructures. He was awarded the Postgraduate Student AINSE Gold Medal in 2014 for excellence in research supported by AINSE. David has continued to make significant contributions in applying neutron scattering techniques to the emerging fields of nanostructures and thin films.

Dr Cortie has published neutron scattering papers with a network of collaborators in Australia, Taiwan, China, Germany, and Canada. He has published over 65 peer-reviewed journal articles. David is a rising star in the field of neutron scattering; while still at a relatively early stage in his career, he has shown both great potential and capability as one of future leaders in the field of neutron scattering in Australia.

ANBUG Neutron Award: Professor Anna Paradowska, ANSTO/USYD

Prof Anna Paradowska works as a scientist but is an engineer by heart and education. She has a PhD in Mechanical Engineering from Monash University (2008) and MSc degree in Materials Science Engineering from Wroclaw University of Technology (2001), Poland. Anna is international expert in neutron diffraction stress analysis, which she uses for advanced manufacturing procedures,



in particular, in additive manufacturing and welding. The primary goal of her research is to relate residual-stresses, mechanical and metallurgical properties to manufacturing procedures and integrity requirements of engineering components. Currently, Anna holds Co-joint position as a Professor in Advanced Structure Materials and an Industrial Engagement Manager at Australian Centre for Neutron Scattering (ACNS) at ANSTO. Prior to this appointment, she was working on the neutron strain scanner Engin-X at ISIS Rutherford Appleton Laboratory, UK (2007-11) and Kowari at ANSTO (2011-14).

Prof. Anna Paradowska has pioneered industrial engagement at the Australian Centre for Neutron Scattering (ACNS) at the Australian Nuclear Science & Technology Organisation (ANSTO) utilising neutron scattering techniques to solve industry problems. Her goal is to support Australian and global industry through building long-term collaborations and partnerships with universities, other research organisations, and businesses. She has been involved in international and local industry focus grants such as Australian Research Council (ARC). The total value of those grants exceeds \$20 million over her relatively short a career which spans just over a decade since receiving her PhD.

She focuses not only on delivering solutions to industry via neutron scattering, but also providing training and mentoring to the next generation of scientist and engineers in the use of large scale scientific infrastructure. She has an exceptional publication record, a book, 2 book chapters and over 150 papers in scientific journals and conference proceedings. She has won several grants and publication awards both in Australia and overseas. She actively serves on several national and international advisory and reviewing committees. Anna is passionate about building bridges between science and industry with a proactive focus on the promotion of neutron science. Anna participates in various STEM programs and is an enthusiastic supporter and mentor of women in science and engineering.



ANBUG Career Award: Professor John White, ANU

Prof. White began his neutron scattering career in Europe in the 1960's, where the most exciting developments were taking place at the time. Within 10 years he had risen to the top of the leadership in the field, serving as Neutron Beam Coordinator at Harwell and then Director of the ILL in Grenoble, France, where he proposed and led the “deuxième souffle” renewal program from 1978.

While, therefore, Prof. White was not physically present in Australia for its first wave of neutron scattering development (the HIFAR reactor), he became closely engaged with both the facility and community immediately upon his return in 1985 when he was appointed Professor at the Australian National University. In particular, Prof White was largely responsible for introducing SANS and neutron reflectometry as experimental techniques to

the Australian chemistry, biology and physics communities. He led the charge to build the AUSANS instrument at HIFAR, and pushed strongly for the development of a reflectometer there. Both of these suffered from the lack of cold source at HIFAR, but they provided essential experience in design and construction of new instruments that came to the fore when the instrumental suite for the new OPAL reactor source was developed 10 years later. The enormous influence and importance of this is evident in the fact that Quokka SANS is the first instrument type at OPAL for which a second instrument was approved to be built, due to user demand; while the Platypus reflectometer at OPAL was the initial flagship instrument in terms of complexity and capabilities.

Over the last 30 years, Prof. White has been the most politically influential and effective advocate for neutron scattering to government through his roles as a Fellow of the Australian Academy of Science, President of the Royal Australian Chemical Institute and President of the Australian Institute of Nuclear Science and Engineering (AINSE). Under the heading of “Small Country Big Science”, he organised a crucial access deal for Australian scientists to ISIS in the UK between AINSE and the ARC, negotiating financial contributions from ANSTO, CSIRO, the Australian Research Council, AINSE and participating universities. Over 20 years, this provided Australian researchers with access to the most powerful spallation neutron source, with scattering techniques unavailable at home. Our current generation of neutron scatterers is deeply indebted to Prof. White for the technical experience, as well as the scientific results, obtained through this scheme.

The growth of new scientific and engineering uses of neutrons in Australia through ISIS access provided a sound basis upon which the case for a replacement research reactor at ANSTO was developed, and ultimately commissioned as OPAL in 2005. Prof. White represented the case to the Australian Government on behalf of the Australian Academy of Science and the National Commission on Crystallography at a series of enquiries through the 1990’s (ASTEC Review, McKinnon Enquiry, Senate and the Senate Select Committee). The case for OPAL in its final form, as developed by ANSTO, was appraised by an Australian Academy of Science committee led by Prof. White, which formulated advice to the government on policy, siting, environmental impact and user access.

Prof. White was instrumental in the development of the neutron scattering capabilities at the OPAL reactor participating on the Beam Facilities Consultative Group (1997-1998), Beam Instruments Advisory Group (2000-2004) and the Bragg Institute Advisory Committee (2004-2010).

More recently, Prof. White has been a major driver in building an Asia-Oceania neutron scattering community to the mutual benefit of all its member countries. His direct involvement began on the Asian Crystallography Association Council in the early 1990’s, shortly after its founding, and also as a founding executive member of the Asia-Oceania Neutron Scattering Association of which he served as president from 2010-2012.

Perhaps most importantly, through a combination of his exemplary science and his promotion of neutron techniques, Prof. White has been responsible for launching the careers of a large part of the current generation of Australian neutron scatterers. University departments, ANSTO and other neutron laboratories throughout the world are populated with John’s former students, and postdocs and others whom he informally mentored over the last 30 years. The legacy of his leadership will be felt in Australia and throughout the Asia-Oceania region for many years to come, and the ANBUG Career Award would be a fitting recognition of this.

Once again congratulations to all the winners!