

## 27TH AINSE WINTER SCHOOL

Online program: July 2023



## Key points to note;

- All times listed in the program are in Australian Eastern Standard Time (AEST). Please adjust to your local time zone appropriately.
  - NZST (New Zealand): add 2 hours to listed times.
  - ACST (Adelaide): subtract 30 minutes from listed times.
  - AWST (Perth): subtract 2 hours from listed times.
- We will use the following Zoom details for every session of the event:
  - [Winter School Zoom Meeting Link](#)
  - Meeting ID: **857 8184 5186**
  - Passcode: **070323**
- If you have any questions or need to get in touch with AINSE staff, please contact AINSE in the Slack group or via email: [forum@ainse.edu.au](mailto:forum@ainse.edu.au).

## Day 1: Monday 3<sup>rd</sup> July

|                   |  |
|-------------------|--|
| 9:00am – 10:00am  | <b>Opening</b> <ul style="list-style-type: none"> <li><b>Acknowledgement of Country</b><br/><b>Brett Rowling</b>   <i>Analytical Experimental Officer, ANSTO</i></li> <li><b>Welcome and Opening Address</b><br/><b>Michelle Durant</b>   <i>Managing Director, AINSE</i></li> <li><b>Housekeeping &amp; Code of Conduct</b><br/><b>Dr Michael Rose</b>   <i>Communications and STEM Manager, AINSE</i></li> </ul>   |
| 10:00am – 10:40am | <b>NST Overview</b><br>An overview of ANSTO's Nuclear Science & Technology<br><b>Prof. Andrew Peele</b>   <i>Group Executive, NST, ANSTO</i>   |
| 10:40am – 11:00am | <i>Break</i>   |
| 11:00am – 12:30pm | <b>Discovery Centre Tour of ANSTO</b><br>Virtual Tour of ANSTO facilities, including the OPAL Multipurpose Reactor.<br><i>Hosted by the ANSTO Discovery Centre.</i>  |
| 12:30pm – 1:30pm  | <i>Lunch Break</i>   |
| 1:30pm – 3:00 pm  | <b>Social activity</b>   |
| 3:00 pm – 4:30 pm | <b>Panel: ANSTO Research</b><br>Presentations from leaders across ANSTO's three Research Themes. <ul style="list-style-type: none"> <li><b>Environment</b><br/><b>Dr Karina Meredith</b>   <i>Research Leader, Environment, ANSTO</i><br/><b>Patricia Gadd</b>   <i>Program Manager and Instrument Scientist, ANSTO</i></li> <li><b>Health</b><br/><b>Dr Paul Callaghan</b>   <i>Imaging Neurophysiologist, Health, ANSTO</i></li> <li><b>Nuclear Technologies</b><br/><b>Prof Mihail Ionescu</b>   <i>Research Leader, Nuclear Technologies, ANSTO</i></li> </ul> |
| 4:30 – 5:30pm     | <b>Guest Speaker:</b><br><b>Dr Elisabeth Tondl</b><br><i>Radiochemist, NST Biosciences, ANSTO and 2013 Winter School alumna</i><br><i>"Humanising the Scientist"</i>   |
| 5:30pm            | <i>Approximate finish (Zoom meeting remains open for casual networking).</i>   |

## Day 2: Tuesday 4<sup>th</sup> July

|                   |  |
|-------------------|--|
| 9:00am – 10:30am  | <p><b>Panel: ANSTO Infrastructure, part 1</b><br/>Presentations from leaders across ANSTO's key research platforms.</p> <ul style="list-style-type: none"> <li>• <b>Australian Centre for Neutron Scattering   Dr Anton Stampfl</b><br/><i>Senior Instrument Scientist, Australian Centre for Neutron Scattering, ANSTO</i></li> <li>• <b>Australian Synchrotron   Dr Danielle Martin</b><br/><i>Science Operations Manager, Australian Synchrotron, ANSTO</i></li> <li>• <b>Centre for Accelerator Science   Dr Ceri Brenner</b><br/><i>Leader, Centre for Accelerator Science, ANSTO</i></li> </ul>                                      |
| 10:30am – 11:00am | Break  |
| 11:00am – 12:30pm | <p><b>Panel: ANSTO Infrastructure, part 2</b><br/>Presentations from leaders across ANSTO's key research platforms.</p> <ul style="list-style-type: none"> <li>• <b>National Deuteration Facility   Dr Anwen Krause-Heuer</b><br/><i>Organic Synthetic Chemist, National Deuteration Facility, ANSTO</i></li> <li>• <b>Nuclear Materials Development and Characterisation   Prof Gordon Thorogood</b><br/><i>Senior Research Leader, Nuclear Fuel Cycle Research, ANSTO</i></li> <li>• <b>Isotope Tracing in Natural Systems   Robert Chisari</b><br/><i>Capability Area Manager, Isotope Tracing in Natural Systems, ANSTO</i></li> </ul> |
| 12:30pm – 1:30pm  | Lunch Break  |
| 1:30pm – 3:00pm   | <p><b>Panel: ANSTO Infrastructure, part 3</b><br/>Presentations from leaders across ANSTO's key research platforms.</p> <ul style="list-style-type: none"> <li>• <b>Radioisotopes and Radiotracers   Dr Elisabeth Tondl</b><br/><i>Radiochemist, NST Biosciences, ANSTO</i></li> <li>• <b>Radiobiology and Bioimaging   Dr Kelly Smart</b><br/><i>Senior Preclinical Imaging Scientist, NST Biosciences, ANSTO</i></li> <li>• <b>Nuclear Stewardship   Dr Jennifer Harrison</b><br/><i>Leader, Nuclear Stewardship, ANSTO</i></li> </ul>   |
| 3:00pm – 3:30pm   | Break  |
| 3:30pm – 4:30pm   | <p><b>Early Career Panel:</b><br/>Q&amp;A with AINSE postgraduate scholars:<br/> <b>Shankar Dutt</b>, PhD student, Australian National University &amp; 2019 AINSE PGRA Scholar<br/> <b>Danielle Hill</b>, PhD student, Griffith University &amp; 2020 AINSE RSS Scholar<br/> <b>Harrison Stevens</b>, PhD student, University of Tasmania &amp; 2021 AINSE PGRA Scholar<br/> <b>Nisal Wanasingha</b>, PhD student, RMIT University &amp; 2021 AINSE PGRA Scholar</p>  |
| 4:30pm            | Approximate finish (Zoom meeting remains open for casual networking).  |

## Day 3: Wednesday 5<sup>th</sup> July

|                  |   |
|------------------|---|
| 9:00am – 12:00pm | <b>Facility Session 1   The Australian Synchrotron</b><br>Led by:<br>Andrew Langendam and Bernt Johannessen   |
| 12:00pm – 1:00pm | <i>Lunch Break</i>  |
| 1:00pm – 1:15pm  | <b>AusYGN Presentation</b><br>Short presentation from the president of the<br><b>Australian Young Generation in Nuclear (AusYGN)   Ciara Collins</b><br><i>Mechanical Project Engineer, ANSTO</i> |
| 1:15pm – 3:30pm  | <b>Facility Session 2   Radiation Damage and Nuclear Materials</b><br>Led by:<br>Gordon Thorogood, Daniel Oldfield, Dhriti Bhattacharyya and Alan Xu  |
| 3:30pm – 4:30pm  | <i>Break</i>  |
| 4:30pm – 6:00pm  | <b>Social Activity: Online Trivia Night</b><br>(please see the 'Trivia Instructions 2023' document)   |
| 6:00pm           | <i>Approximate finish.</i>  |



## Day 4: Thursday 6<sup>th</sup> July

|                  |  |
|------------------|--|
| 9:00am – 12:00pm | <b>Facility Session 3   The Australian Centre for Neutron Scattering (ACNS)</b><br>Led by:<br>Anton Stampfl and Helen Qiu  |
| 12:00am – 1:00pm | <i>Lunch Break</i>   |
| 1:00pm – 1:15pm  | <b>WiN Australia Presentation</b><br>Short presentation from the president of<br><b>Women in Nuclear Australia Chapter   Lieutenant Colonel Jasmin Diab</b><br><i>Co-founder of the Defence Entrepreneurs Forum Australia</i>    |
| 1:15pm – 4:00pm  | <b>Facility Session 4   Environmental Studies</b><br>Led by:<br>Patricia Gadd  |
| 4:00pm           | <i>Approximate finish (Zoom meeting remains open for casual networking).</i><br><br><i>Reminder to read the project book and view the online research posters ahead of Friday afternoon's Research Roundup Networking Event.</i> |

## Day 5: Friday 7<sup>th</sup> July

|                   |  |   |   |
|-------------------|--|---|---|
| 9:00am – 11:00am  | <b>Facility Session 5   The Centre for Accelerator Science (CAS)</b><br>Led by:<br>Madhura Manohar   |   |   |
| 11:00am – 11:20am | <b>Early Career Opportunities</b><br>Overview of the Ignite Network and the Winter School onsite application process<br><b>Dr Michael Rose</b>   <i>Communications and STEM Manager, AINSE</i> |   |   |
| 11:20am – 12:00pm | <b>Social Activity: Facility Session Discussion</b><br>An optional activity for students to engage with each other in breakout rooms to discuss the facility sessions.                         |   |   |
| 12:00pm – 1:00pm  | Lunch Break  |   |   |
| 1:00pm – 2:30pm   | <b>Facility Roundtable Sessions</b><br>A chance for students to return to their favourite facility session(s) and engage in extended Q&A with the ANSTO staff.                                 |   |   |
| 2:30pm – 3:00pm   | Break  |   |   |
| 3:00pm – 5:00pm   | <b>Research Roundup Networking Event</b><br>Networking opportunity with ANSTO researchers.   |   |   |
|                   | TIME   | ACTIVITY  | DESCRIPTION   |
|                   | 3:00pm – 3:10pm  | Welcome   | Welcome address and instructions.   |
|                   | 3:10pm – 3:15pm  | Researchers split into pre-assigned breakout rooms.<br>Students join breakout room of their choice.   |   |
|                   | 3:15pm – 4:55pm  | Networking Sessions   | Students can move freely between breakout rooms to talk to individual ANSTO researchers (or with a small group of researchers) about potential collaborative research projects. |
|                   | 4:55pm – 5:00pm  | Countdown to close of breakout rooms.   |   |
|                   | 5:00pm   | Close of roundtable sessions followed by close of Winter School.  |   |
|                   | 5:00pm – 5:30pm  | <b>Close of the Winter School</b> <ul style="list-style-type: none"><li>Michelle Durant   Managing Director, AINSE</li><li>Prof. Ian Gentle   President, AINSE</li><li>Shaun Jenkinson   CEO, ANSTO</li></ul> |   |

## Speaker Biographies

### Prof. Andrew Peele



Andrew Peele was appointed Group Executive for ANSTO Nuclear Science and Technology in July 2021 and has been Director of the Australian Synchrotron since 2013. He is an adjunct Professor of Physics at La Trobe University. In his current role Andrew leads ANSTO's research and development capability in support of national research priorities including health and the use of nuclear medicines, environment, and the use of nuclear technologies and materials as well delivering real-life benefits to Australian research and industry through access to ANSTO's unique research infrastructure capabilities such as the Australian Centre for Neutron Scattering, the Australian Synchrotron, the Australian Centre for Accelerator Science and the National Deuteration Facility.

Andrew's previous appointments include leading the X-ray Science group in La Trobe University's Department of Physics, a Queen Elizabeth II Research Fellowship held at the University of Melbourne and La Trobe University and post-doctoral research at NASA's Goddard Space Flight Centre. Prior to undertaking his PhD studies at the University of Melbourne, Andrew was a qualified lawyer and practiced as a solicitor.

Andrew's research improves the versatility and quality of x-ray imaging, including new methods in phase imaging and coherent diffractive imaging with applications such as tomographic imaging of cells and materials. He has published over 100 refereed articles and has been involved as a node leader, principal investigator and advisory board member in the Australian Research Council Centres of Excellence for Coherent X-ray Science, Advanced Molecular Imaging and Future Low-Energy Electronics Technologies respectively.

He has served as a president of the Australian Institute of Physics and the Asia-Oceania Forum for Synchrotron Radiation Research, is a board member of the Australian Institute of Nuclear Science and Engineering, the Stawell Underground Physics Laboratory Company and the Australian Mathematical Sciences Institute. He is a fellow of the Australian Academy of Technology and Engineering.

### Dr. Anton Stampfl



Anton is an experimental solid state physicist working in the field of neutron, electron, and photon-based instrumentation and measurement. He has built and developed a variety of UHV photoemission spectrometers, as well as other synchrotron-based, and recently neutron-based instrumentation that is being used at different international facilities. Over six hundred experiments have been conducted in the last 15 years on instruments that he built and developed.

Anton is currently President of the Vacuum Society of Australia and the International Union for Vacuum Science, Technique, and Application (IUVSTA) councillor for Australia.

He is also currently one of the scientific contacts on TAIPAN, a thermal neutron triple-axis spectrometer and filter spectrometer



### Dr. Anwen Krause-Heuer



Anwen joined the Chemical Deuteration team at the National Deuteration Facility as a synthetic chemist in January 2014. Anwen is responsible for the custom synthesis of deuterated molecules as requested through the user access program.

Anwen has experience in organic synthesis, Parr deuteration, flash chromatography, high pressure liquid chromatography, mass spectrometry and nuclear magnetic resonance.

Anwen joined ANSTO in 2011 as part of the Graduate Development program and worked in the Radiochemistry group of ANSTO LifeSciences from 2011-2013. Her research involved the synthesis and radiolabelling of new fluorinated radiopharmaceuticals to investigate diseases including Alzheimer's, depression and stroke.

Anwen was awarded a 2013 Science and Industry Endowment Fund – Australian Academy of Science Fellowships to the Lindau Nobel Laureate Meetings. Anwen was selected by Scientific American as one of the 30 most promising young chemists attending the 63rd Lindau Nobel Laureate Meeting, and was profiled in their series '30 under 30'. Anwen was awarded the Royal Society of NSW Scholarship in 2012 and the University Medal from the University of Western Sydney in 2008. Anwen is a member of the Royal Australian Chemical Society (MRACI) and Women in Nuclear (WiN).

### Brett Rowling



Brett Rowling is an active elder of the Wannungine/guri ngai people of the central coast of NSW, whose people are part of Australia's first scientists, mathematicians and engineers. His primary activities are to identify and promote these cultural parallels which could enhance current engineering and scientific practices towards more sustainable options, in the Australian context. More formally this is recognised through the Indigenous Engineers Group of Engineers Australia and also the Indigenous Engineering Summer Schools co-ordinated by Engineering Aid Australia.

Professionally Brett is a research chemist from Australia's Nuclear Science and Technology Organisation (ANSTO) which collaborates with universities and industries globally. He has over a decade of experience developing and applying novel analytical techniques to a variety of samples including ground and surface waters, soils and biota. A key area of interest is the reliable identification of organic compounds within industrial wastewaters and their potential impact upon water resources due to their persistence. With this detailed understanding it may be possible to develop new treatment materials from natural sources. This work builds upon the knowledge and practical abilities of Indigenous Australians towards sustainable processes in the modern context.

### Dr Ceri Brenner



Dr Ceri Brenner leads the Centre for Accelerator Science – ANSTO’s research infrastructure platform dedicated to ion beam accelerator applications that enable research and innovation communities to explore the past, understand the present, and design solutions and technology for the future. She oversees a multi-disciplinary team of scientists and engineers who support academic and industry users across Australia and the world with a suite of ion beam instrumentation for ultra-sensitive analysis and precision irradiation applications that drive forward knowledge, innovation, and inform policy, in areas such as environment, climate and health sciences, space technologies, advanced energy, nuclear and quantum materials, and cultural heritage.

Prior to starting at ANSTO, Ceri spent over 12 years at the Harwell Campus in UK, first as a PhD student and eventually as Group Leader for Industry Partnerships and Innovation at the Central Laser Facility – the UK’s user facility for high-power and ultra-short pulse lasers applied for fundamental and applied research in physics, chemistry, materials science, and biology. She is a laser-plasma physicist specialising in novel and next generation concepts for proton and ion acceleration from petawatt laser interactions with matter. She first visited ANSTO in August 2018 during her national tour as the 2018 Australian Institute of Physics Women in Physics lectureship recipient. In 2017 she received the UK Institute of Physics Clifford-Paterson Medal for exceptional early-career contributions to the application of physics in an industrial or commercial context.

### Ciara Collins



Ciara is Nuclear Mechanical Project Engineer who has been at ANSTO for over 5 years, where she manages projects in both the OPAL reactor and Waste Management groups, as well as currently working in regulatory affairs. Ciara has also been the president of the Australian Young Generation in Nuclear (AusYGN) since 2020, and held the events officer position prior to this.

Ciara is actively involved in providing networking and developments events for young professionals engaged in the nuclear industry. She holds a Bachelor of Mechanical Engineering and a Graduate Certificate in Nuclear Engineering, both from the University of New South Wales.

### Dr. Danielle Martin



Danielle is currently responsible for the operational management of the Science team at the Australian Synchrotron, working as part of the ANSTO - Clayton Senior Management Team and closely with the Senior Principal Scientist, with a view to strategic developments; managing, prioritising and facilitating team interactions, capital and asset management programs and leading improvement initiatives across the ANSTO Melbourne facility. She has extensive experience in scientific communication with strong networking and collaboration skills. She also has a multidisciplinary research background spanning spectroscopy (microwave, THz, mid-IR and UV), microbiology, theoretical chemistry and multivariate data analysis.

### Dr Elisabeth Tondl



Elisabeth is a Radiochemist in NST Biosciences at ANSTO and an alumna of the 2013 AINSE Winter School program. She works with the Radioisotopes Research & Development team to process radioactive isotopes from OPAL for human health and environmental applications, and with the Radiochemistry Translation team to develop automated process and facilities for the advanced manufacture of nuclear medicines.

Elisabeth grew up caring for and riding horses on the rocky ridges in far north west Sydney on Darug country. She is happiest either in the lab, or photographing sea creatures while scuba diving. She likes learning about the effects of pressurised gas on the human body underwater, loves a good challenge, is an avid reader, and finds spreadsheeting very relaxing.

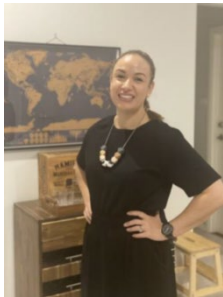
Elisabeth previously worked at Sydney Institute of Marine Science in analysis of marine biotoxins in shellfish, and was Project Officer for a Scoping Study on anthropogenic contaminants of emerging concern in marine and estuarine systems as part of the National Environmental Science Program. For her PhD research at the University of Sydney, she developed a chemical targeting vehicle to deliver models of chemotherapeutics and radioactive drugs to prostate cancer cells for diagnosis and therapy.

### Prof. Gordon Thorogood



Gordon is a Senior Research Leader in the Nuclear Fuel Cycle Research at ANSTO. He is currently assigned to the Nuclear Fuel and Waste Forms group and has been involved with Nuclear Materials research at ANSTO since 1989. While at ANSTO he has conducted research in solid state chemistry/physics with a focus on radionuclides produced via the nuclear fuel cycle.

### **Lt. Col. Jasmin Diab**



Jasmin is a mum, leader, nerd and diversity advocate. Jasmin joined the Australian Army in 2001 and after graduating from the Australian Defence Force Academy and Royal Military College Duntroon, was allocated to the Royal Australian Engineers as a Combat Engineer.

With a background in explosive ordnance disposal, Jasmin has spent the majority of her career providing operational and training support in countering chemical, biological, radiological, nuclear and explosive threats and has seen operational service both domestically and overseas. She has just completed her tenure as a Commanding Officer of an Engineer Regiment and for her leadership, was awarded a Conspicuous Service Cross in the Kings Birthday Honours 2023.

Jasmin is a big advocate for thinking differently and is a co-founder of the Defence Entrepreneurs Forum Australia (DEF Aus) which encourages bottom-up conceptual innovation. She is also the President of Women in Nuclear Australia, the Oceania representative on the Women in Nuclear Global executive, a member of the ARPANSA Nuclear Safety Committee and a Fellow with Engineers Australia. Jasmin has a Bachelor of Science, in physics and chemistry, a Masters in Defence and Military Studies and a Masters in Engineering Science (Nuclear Engineering).

### **Dr. Jennifer Harrison**




Jen is the Leader of the Nuclear Stewardship Research Infrastructure team. Nuclear Stewardship maintains national capabilities to provide trusted advice, detection and measurement capabilities to ANSTO, industry, government and researchers. These capabilities are either mandated by Government, regulators or otherwise considered essential to ongoing ANSTO operations.

Jen has a background in environmental radiochemistry and has worked at ANSTO since 2001. Jen studied Chemistry, Geoscience and Environmental Science at the University of Technology, Sydney and has a B.Sc. (Hons) and has completed post-graduate courses on isotopes and radioactivity in the environment as well as geochemistry.

Jen's career at ANSTO started in the Environmental Monitoring team followed by a move into a research project in the former Institute for Environmental Research with a focus on natural and anthropogenic fallout radionuclides and reconstructing modern environmental change. Jen then joined the Little Forest Legacy Site research project and implemented a range of new measurement capabilities for difficult to measure anthropogenic radionuclides typically found at nuclear installations and legacy sites. With the formation of NSTLI in 2016, Jen became part of Nuclear Stewardship as the Manager of the Radioanalytical Chemistry team. In 2018 Jen became the acting Leader of the Isotope Tracing in Natural Systems team and then in 2020 the Leader of the Nuclear Stewardship team.

Jen as expertise in environmental radiochemistry, difficult to measure radionuclides, contaminant migration, environmental and pollution reconstruction and environmental monitoring.





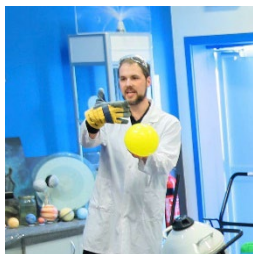
Jen is currently the Asia-Pacific regional coordinator for the IAEA ALMERA network, the President of the South Pacific Environmental Radioactivity Association and an AINSE WISE Mentor. Jen studied Chemistry, Geoscience and Environmental Science at the University of Technology, Sydney and has a B.Sc. (Hons) and has completed post-graduate courses on isotopes and radioactivity in the environment as well as geochemistry.

#### **Dr. Karina Meredith**



Karina Meredith is a Principal research scientist and currently leads the Environment Research Theme at ANSTO. Karina holds a PhD from the University of New South Wales in hydrogeology and hydrochemistry and her work has taken her to some of the most remote and beautiful environments in the world. Recent research projects include understanding the role of groundwater in contributing to kidney disease in the rural areas of Sri Lanka to discovering the hydrochemical secrets of Antarctic lakes and how these unique environments are changing.

#### **Dr Michael Rose**



Dr Michael Rose is a Science Communicator with a passion for mathematics. In his current role as the Communications and STEM Manager for AINSE, Michael oversees the coordination of AINSE's Australia- and New Zealand-wide programs for tertiary STEM students, including the AINSE Winter School and Women in Science and Entrepreneurship (WISE) School.

Michael obtained his Ph.D. in Mathematics (Fractal Geometry) at the University of Newcastle and Masters in Science Communication at the Australian National University. Michael has communicated popular science on ABC Newcastle radio and ABC breakfast television, written mathematical explainer articles for The Conversation and the Australian Academy of Science, and taken part in numerous school outreach programs, including acting as a Challenge Ambassador for the Science and Engineering Challenge and volunteering for the Newcastle University Mathematics Outreach program and Canberra Mathematics Enrichment programme. Michael has also spent time working at Questacon and lecturing mathematics at the University of Newcastle, University of Canberra, and Australian National University, and he is always eager to discuss all things mathematical and explore opportunities in Science Communication and education.



## Michelle Durant



Michelle commenced her role as Managing Director of AINSE in April 2016. Michelle has been instrumental in leading AINSE in the development of new programs to further enhance the scholarship and collaboration opportunities for researchers at all levels to engage with ANSTO.

Michelle has a wide range of leadership experience working both nationally and internationally prior to joining AINSE. Michelle gained a Bachelor of Science from Flinders University in 1992. Following this she worked in museum administration and science communication at the Investigator Science and Technology Centre in Adelaide. During this time, she studied Japanese and had the opportunity to work in Japan for a year.

In 1997 Michelle travelled to California and worked at the University of California, Berkeley in a robotics laboratory. In 1998 Michelle moved further north to Alaska, where she spent 3 years working at the Institute for Arctic Biology at the University of Alaska, Fairbanks. Michelle collaborated on a scientific project helping to investigate the effects of fire disturbance in the boreal forest zone.

Since returning to Australia in 2000 Michelle has worked in Sydney, firstly at the Australian National Maritime Museum and then in other various business management and leadership roles prior to the role at AINSE. During this time, she also completed a Bachelor of Financial Administration at the University of New England and a Graduate Diploma in Applied Corporate Governance. Michelle is a Fellow of the Governance Institute of Australia and a Member of the Australian Institute of Company Directors.

## Dr. Mihail Ionescu



Mihail is a senior researcher in ANSTO, where he is the leader of the Nuclear Fuel Cycle Research. He has a BSc (Physics/Mathematics), MSc in Physics of Materials, and a PhD in Experimental Physics from the University of Wollongong. He has an Adjunct Professorship at the Western Sydney University, Computer Science and Mathematics. He has 25 years research experience in ion beam interaction with matter, materials under extreme conditions, ion accelerator physics, ion beam instrumentation, ion beam analysis, thin films characterizations.

Mihail is the founding member of the Institute for Superconductors and Electronic Materials at the University of Wollongong, and served as its Deputy Director until 2004 when he joined the Australian Nuclear Science and Technology Organisation. He has over 350 publications in peer-reviewed scientific literature.

### Dr. Paul Callaghan



Paul applies PET/CT and SPECT/CT multimodal molecular imaging techniques for investigating animal models of neurological and psychiatric disease.

After graduating with a B.Sc. (Hons.) from the University of Adelaide, Paul commenced a PhD jointly between the University of Adelaide and University of Texas Health Science Center at San Antonio, USA.

This work involved understanding the acute and long term pharmacology of the substituted amphetamine ("Ecstasy") p-methoxyamphetamine (PMA or 'Death'). Subsequently, Paul worked at Flinders University investigating novel autonomic neural pathways involved in neuroinflammation (pain).

Prior to working at ANSTO, he was at the University of Sydney, investigating the neurochemistry underlying long term behavioural changes in social anxiety produced by the substituted amphetamines, methamphetamine ('ice') and MDMA ('ecstasy').

Paul's expertise lies in PET/SPECT longitudinal imaging, monoamine pharmacology, drug abuse, in vivo voltammetry, neuroanatomy, in vivo and in vitro pharmacological models, quantitative autoradiography, and immunohistochemistry.

### Shaun Jenkinson



Shaun Jenkinson is currently Chief Executive Officer of ANSTO. Shaun Jenkinson joined ANSTO in March 2010 and worked with the team in ANSTO Health to ensure a reliable supply of radioisotopes to the domestic market, as well as delivering export sales growth.

As Group Executive Nuclear Business, his responsibilities covered all commercial operations including ANSTO Health, ANSTO Minerals, ANSTO Silicon, Mo-99 Operations, ANSTO Radiation Services, Business Development and International business partnerships.

Shaun has a degree in Biotechnology and is a graduate of the Australian Institute of Company Directors. He has over 25 years of experience in the pharmaceutical industry, medical equipment and medical devices. During that time, Shaun held senior positions with large global companies, both in the UK and Australia, delivering top and bottom line growth across a range of products in different market segments.

Shaun has whole of business experience and most recently has focused on driving excellence through business integration, process redesign, removing waste and implementing quality management within organisations. The output of which is to deliver competitive advantage by meeting the customers' needs and building long term business partnerships for sustainable future growth.

### Robert Chisari



Robert has worked at ANSTO for more than 28 years, he has a Bachelor of Applied Science (Chemistry) Degree from UTS. Robert has extensive experience in running laboratories conducting a range of low-level radionuclide, stable isotope and elemental analyses. Robert has a passion for science that helps us better understand the impact of humans on our planet.

Robert also believes it is important to mentor the next generation of analysts. He is keen to provide opportunities for women and the neurodiverse.