



28th AINSE Winter School

Online Program: July 2024

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 (South Australia, Northern Territory): subtract 30 minutes from listed times.
 - AWST (Western Australia): subtract 2 hours from listed times.
- We will using Zoom for every session of the event
 - [Zoom link](#)
 - Meeting ID: **875 9934 5433**
 - Passcode: **010724**
- 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.

Day 1: Monday 1st July

9:00am – 10:00am	<p>Opening</p> <ul style="list-style-type: none"> • Acknowledgement of Country Brett Rowling, <i>Analytical Chemist, ANSTO</i> Dr Alana Gall, <i>Postdoctoral Research Fellow, SCU</i> • Welcome and Opening Address Michelle Durant, <i>Managing Director, AINSE</i> • Housekeeping & Code of Conduct Dr Michael Rose, <i>Communications and STEM Manager, AINSE</i>
10:00am – 10:40am	<p>NST Overview Dr Jamie Schulz <i>Director, Australian Centre for Neutron Scattering, ANSTO</i></p> <p>An overview of ANSTO’s Nuclear Science & Technology, covering ANSTO’s major research themes and landmark research infrastructure.</p>
10:40am – 11:00am	<i>Break</i>
11:00am – 12:30pm	<p>Discovery Centre Tour of ANSTO Led by: Bridget Murphy, <i>ANSTO Discovery Centre</i></p> <p>Virtual Tour of ANSTO facilities, including the OPAL Multipurpose Reactor. Hosted by the ANSTO Discovery Centre.</p>
12:30pm – 1:30pm	<i>Lunch Break</i>
1:30pm – 2:45 pm	Social activity
2:45pm – 3:00pm	<i>Break</i>
3:00 pm – 3:40 pm	<p>ANSTO Research (part 1) Presentations from leaders across ANSTO’s three Research Groups.</p> <ul style="list-style-type: none"> • Health Research and Technology Group Dr John Bennett <i>Co-Director, Health Research and Technology Group, ANSTO</i>
3:40pm – 4:00pm	<i>Break</i>
4:00 pm – 5:00pm	<p>Guest Presentation: Introduction to Nuclear Science Dr Ed Simpson <i>Australian National University</i></p>
5:00pm	<i>Approximate finish (Zoom meeting remains open for casual networking).</i>

Day 2: Tuesday 2nd July

<p>9:00am – 1:00pm</p>	<p>Overview and Facility Session 1 The Australian Synchrotron <i>Including morning tea break</i></p> <p>Led by: Dr Helen Brand and Dr Rosemary Young <i>Senior Scientist and Beamline Scientist, Australian Synchrotron</i> Featuring: Dr Danielle Martin <i>Science Operations Manager, Australian Synchrotron</i></p>
<p>1:00pm – 2:00pm</p>	<p><i>Lunch Break</i></p>
<p>2:00 – 2:15pm</p>	<p>Australian Young Generation in Nuclear (AusYGN) Presentation Raya Tasnim <i>Industry and Research Officer, AusYGN</i></p>
<p>2:15pm – 4:15pm</p>	<p>Overview: Health Research and Technology Group</p> <p>Led by: Dr John Bennett <i>Co-Director, Health Research and Technology Group, ANSTO</i></p>
<p>4:15pm – 4:30pm</p>	<p><i>Break</i></p>
<p>4.30pm – 5:00pm</p>	<p>ANSTO Research (part 2) Presentations from leaders across ANSTO’s three Research Groups.</p> <ul style="list-style-type: none"> • Environment Research and Technology Group Dr Karina Meredith <i>Director, Environment Research and Technology Group, ANSTO</i>
<p>5:00pm</p>	<p><i>Approximate finish (Zoom meeting remains open for casual networking).</i></p>

Day 3: Wednesday 3rd July

<p>9:00am – 1:00pm</p>	<p>Overview and Facility Session 2 Australian Centre for Neutron Scattering <i>Including morning tea break</i></p> <p>Led by: Dr Anton Stampfl <i>Senior Instrument Scientist, ANSTO</i></p> <p>Featuring: Dr Jamie Schulz <i>Director, Australian Centre for Neutron Scattering, ANSTO</i></p>
<p>1:00pm – 2:00pm</p>	<p><i>Lunch Break</i></p>
<p>2:00 – 2:15pm</p>	<p>WiN (Women in Nuclear) Australia Presentation Lt. Col. Jasmin Diab <i>President, WiN Australia</i></p>
<p>2:15pm – 4:15pm</p>	<p>Overview: National Deuteration Facility</p> <p>Led by: Dr Anwen Krause-Heuer and Karyn Wilde <i>Organic Synthetic Chemist and User Program Manager & Protein Labelling Specialist, National Deuteration Facility, ANSTO</i></p>
<p>4:15pm - 6:00pm</p>	<p><i>Break</i></p>
<p>6:00pm – 7:30pm</p>	<p>Social Evening – Trivia</p>

Day 4: Thursday 4th July

<p>9:00am – 1:00pm</p>	<p>Overview and Facility Session 3 Centre of Accelerator Science <i>Including morning tea break</i></p> <p>Led by: Dr Ryan Drury <i>Space Radiation Test Engineer, ANSTO</i></p> <p>Featuring: David Child <i>Acting Leader, Centre for Accelerator Science, ANSTO</i></p>
<p>1:00pm – 2:00pm</p>	<p><i>Lunch Break</i></p>
<p>2:00 – 2:15pm</p>	<p>Ignite Network Presentation + AINSE Programs Overview Dr Michael Rose</p>
<p>2:15pm – 4:15pm</p>	<p>Overview: Nuclear Stewardship</p> <p>Led by: Jennifer Harrison <i>Leader, Nuclear Stewardship, ANSTO</i></p>
<p>4:15pm – 4:30pm</p>	<p><i>Break</i></p>
<p>4:30pm – 4:45pm</p>	<p>Winter School on-site application process Dr Michael Rose</p>
<p>4:45pm</p>	<p><i>Approximate finish (Zoom meeting remains open for casual networking).</i></p>

Day 5: Friday 5th July

9:00am – 12:00pm	Overview and Facility Session 4 Use of natural radioactivity in environmental studies <i>Including morning tea break</i> Led by: Patricia Gadd <i>Program Manager and Instrument Scientist, ANSTO</i>
12:00pm – 1:00pm	<i>Lunch Break</i>
1:00pm – 4:00pm	Overview and Facility Session 5 Nuclear materials and characterisation Led by: Dr Dhriti Bhattacharrya and Prof. Gordon Thorogood <i>Senior Research Leaders, Nuclear Fuel Cycle Research, ANSTO</i>
4:00 pm – 4:15 pm	Winter School on-site application process (repeat) Dr Michael Rose
4:15pm	<i>Approximate finish (Zoom meeting remains open for casual networking).</i>

Day 6: Monday 8th July

<p>9:00am – 10:30am</p>	<p>Facility Session 6 Heavy Ion Accelerator</p> <p><i>Including morning tea break</i></p> <p>Led by: Dr Tom McGoram <i>Nuclear Physics & Accelerator Applications, Australian National University</i></p>																		
<p>10:30am – 11:00am</p>	<p>ANSTO Research (part 3) Presentations from leaders across ANSTO’s three Research Groups.</p> <ul style="list-style-type: none"> • Nuclear Research and Technology Group Prof. Gordon Thorogood <i>Senior Research Leader, Nuclear Fuel Cycle Research, ANSTO</i> 																		
<p>11:00am – 11:30am</p>	<p>Social Activity: Facility Session Discussion</p>																		
<p>11.30am – 12.00pm</p>	<p>Overview: Australian Radioactive Waste Agency (ARWA)</p> <p>Led by: Amanda Fortanier <i>Safety and Technical Officer, ARWA</i></p>																		
<p>12:00pm – 1:00pm</p>	<p><i>Lunch Break</i></p>																		
<p>1:00pm – 3:30pm</p>	<p>Research Roundup Networking Event and Facility Roundtable Sessions Networking opportunity with ANSTO researchers to discuss postgraduate research opportunities, and an opportunity for extended Q&A with the ANSTO facility session staff.</p> <table border="1" data-bbox="379 1435 1425 1977"> <thead> <tr> <th>TIME</th> <th>ACTIVITY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1:00pm – 1:10pm</td> <td>Welcome</td> <td>Welcome address and instructions.</td> </tr> <tr> <td>1:10pm – 1:15pm</td> <td colspan="2">Researchers split into pre-assigned breakout rooms. Students join breakout room of their choice.</td> </tr> <tr> <td>1:15pm – 3:25pm</td> <td>Networking Sessions</td> <td>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.</td> </tr> <tr> <td>3:25pm – 3:30pm</td> <td colspan="2">Countdown to close of breakout rooms.</td> </tr> <tr> <td>3:30pm</td> <td colspan="2">Close of roundtable sessions followed by close of Winter School.</td> </tr> </tbody> </table> <p><i>(continued on next page)</i></p>	TIME	ACTIVITY	DESCRIPTION	1:00pm – 1:10pm	Welcome	Welcome address and instructions.	1:10pm – 1:15pm	Researchers split into pre-assigned breakout rooms. Students join breakout room of their choice.		1:15pm – 3:25pm	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.	3:25pm – 3:30pm	Countdown to close of breakout rooms.		3:30pm	Close of roundtable sessions followed by close of Winter School.	
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Research Roundup Networking Event and Facility Roundtable Sessions

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3:30pm – 4:00pm

Close of the Winter School

- **Michelle Durant** | *Managing Director, AINSE*
- **Shaun Jenkinson** | *CEO, ANSTO*
- **Prof. Ian Gentle** | *President, AINSE*

Speaker Biographies

Dr Alana Gall



Dr Alana Gall is a Truwulway woman and Postdoctoral Research Fellow at Southern Cross University where she leads a research program focussed on the protection and preservation of Indigenous Traditional Medicines, and access via Australian policy. Alana is the Vice President (First Nations) of the Public Health Association of Australia, the Vice Chair of the Indigenous Working Group for the World Federation of Public Health Associations, and the Indigenous Traditional Medicines representative in the TCIH Coordination Council.

Amanda Fortanier



Amanda Fortanier has more than 20 years' experience in nuclear safety management and leadership in ARWA and across State and Federal agencies, Amanda has a solid record of driving safety performance in order to establish, foster and continuously improve nuclear safety culture in Australia. Amanda's strong technical grounding in radiation safety and compliance was founded in roles including at the South Australian Environment Protection Authority (EPA) and the Defence Department's Defence Science and Technology Group (DSTG). Since starting work in 2021 at ARWA, Amanda has led multidisciplinary teams and is leading ARWA's Safety and Technical branch as General Manager.

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 a direct descendent of national figures of Bungoree and Matora from the GuriNgai Awabakal peoples, on the central coast of NSW. Professionally, Brett is an Environmental Research Chemist from Australia's Nuclear Science and Technology Organisation (ANSTO) which collaborates with universities and industries globally. Specifically, he is working to identify and promote cultural parallels between First Nations and Western scientific practices. This is undertaken using modern scientific instrumentation to validate our First Nations science and engineering – or more succinctly, walking in the footsteps of Australia's first scientists.

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.

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 Dhriti Bhattacharyya



Dhriti Bhattacharyya is a senior scientist working in the Nuclear Fuel Cycle Research theme. He is the Research Lead on “Radiation effects in structural materials”, where his main focus is to understand the microstructural and mechanical property changes in metallic materials due to neutron and ion irradiation.

Dr Ed Simpson



Dr. Ed Simpson is a nuclear physicist and Senior Lecturer at the Department of Nuclear Physics and Accelerator Applications at the Australian National University. His research focuses on nuclear collisions and how they can be used in fundamental science, from the quantum mechanics that govern fusion to the reactions that power stars. Increasingly, his research seeks to build a bridge between foundational nuclear science and nuclear applications, from particle beam cancer therapies to understanding the effects of radiation on spacecraft.

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. His expertise is in solid-state chemistry, crystallography, X-ray diffraction, neutron diffraction, surface science, superconductors, nuclear waste forms, radionuclides and their production and hard condensed matter physics.

Dr Helen Brand



Helen's research interests focus on determining the thermoelastic properties and crystal chemistry of a range of minerals which are of interest in a variety of environmental, planetary geology and industrial settings.

Helen is a Planetary Geologist by training. She was awarded a PhD from the Earth Sciences department of University College London for investigations of the thermo-elastic properties of highly-hydrated sulphate minerals with relevance to geological processes within the Galilean satellites of Jupiter. Following this, she took up an OCE Postdoc position at CSIRO Process Science and Engineering, jointly co-funded by the former Bragg Institute, ANSTO. The aim of the project to investigate the formation mechanisms of Jarosite minerals. On Earth, jarosites are an important mineral to a range of industries. However, jarosites are also an important key to unlocking role of water in the geological history of Mars.

Since joining the Australian Synchrotron she has extended this study to encompass the behaviour of these minerals within the context of the Martian crust and surface. To explore the properties of these materials Helen uses a suite of both experimental (in situ diffraction and small-angle scattering), and theoretical (ab initio density-functional theory) techniques to cover a range of temperatures and pressures. These crystal chemistry and thermoelastic properties can then be used as the inputs for geological models, both small scale within-crust and large-scale, whole planetary evolution models.

Dr Jamie Schulz



Jamie Schulz is the Leader of the Australian Centre for Neutron Scattering (ACNS) at the Australian Nuclear Science and Technology Organisation (ANSTO). ACNS uses neutrons from Australia's multi purpose research reactor, OPAL, to solve complex research questions and industrial problems for Australian and International users. Neutron scattering techniques allow the structure and dynamics materials to be determined, permitting scientists and industry to understand why materials have the properties they do, and helping tailor new materials, devices and systems. He joined

ANSTO in 2002 as an instrument scientist at the HIFAR reactor, transitioned to Operations Manager in 2006 and moved to his current role in 2016. His early career was focused on understanding the behaviour of complex fluids systems in the bulk and at interfaces, throughout his PhD at the University of Sydney/Oak Ridge National Laboratory and postdoc at the NIST Center for Neutron Research, USA. He has taken on additional roles whilst at ANSTO including Manager of the ANSTO Safety & Radiation Protection Division, Secondment to NSW Office of Science & Medical Research as well as Director of the Access to Major Research Facilities Program.

As Leader of the ACNS he is responsible for the strategic direction and management of the research, scientific research infrastructure, facilities, equipment through an asset management framework and improvement program to ensure high reliability of assets, productivity, and availability to users.

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).

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



Dr Karina Meredith is the Director of the Research and Technology Group for Environment, ANSTO. Dr Meredith was previously the Leader of the Environment Group at ANSTO and a Principal research scientist with expertise in hydrochemistry, hydrogeology and environmental site investigations. Nuclear research techniques are an important tool for environmental scientists to understand past climates and anticipate the future. She is an isotope hydrogeologist that has been involved in applying a variety of chemical and isotopic tracers in water to investigate water resource sustainability and water quality in a variety of natural and contaminated environments. She is a technical expert in radiocarbon hydrochemistry and age calculations International collaboration identifies potential threat to water quality.

Over the past 20 years, she has led and contributed to a variety of research and commercial water projects throughout Australia (including the Sub-Antarctic) and internationally, including Sri Lanka and Antarctica Partnering in Antarctic research. She is involved in major partnerships and collaborations with domestic and international universities, government departments and the International Atomic Energy Agency.

Recent research projects include understanding the role of groundwater in contributing to kidney disease in the rural areas of Sri Lanka New partnership, providing expertise for state-wide groundwater investigations using isotopes ANSTO contributes to state-wide survey of groundwater resources in NSW to discovering the hydrochemical secrets of Antarctic lakes and how these unique environments are changing

Karyn Wilde



Karyn is a microbiologist in the National Deuteration Facility currently specialising in recombinant protein production for deuteration, multiple and selective labelling (2H , 13C , 15N) of proteins for neutron scattering, NMR and other applications. Karyn is a member of the Biodeuteration group and has been a key team member in the establishment and development of the National Deuteration Facility at ANSTO.

Karyn's current interests are in the capability development of protein labelling methods for the application of neutron scattering, X-ray scattering and NMR to investigate the structure-function relationships of biomolecules. Karyn also has research experience in environmental microbiology/biotechnology areas including: algae toxicology investigating the effects and mechanisms of action of metals on freshwater alga and the use of microbial measures as bioindicators of mine-related pollution.

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.

Patricia Gadd



Patricia Gadd leads the Water Resource Sustainability Program within the Environment research group, whilst running the Itrax Core Scanner Laboratory at ANSTO. She is a much sought after expert in X-ray Fluorescence Spectroscopy (XRF). At the Itrax Core Scanner Laboratory, Patricia undertakes studies on paleo, volcanic, food, tissue and climate samples. The materials analysed range from traditional sediment cores, corals, tree-ring samples and stalagmites to materials previously never studied using this technique.

Patricia developed a world-first non-destructive technique to evaluate tissue. Her use of this technique on seafood profiles led to a new and growing research field at ANSTO, seafood provenance. The novel technique can distinguish the region a seafood is from and whether it is wild or farmed fish (based on the XRF fingerprint of the sample). Other unusual samples Patricia has successfully studied include Kakadu plums. In a collaboration between Taronga Zoo, ANSTO and UNSW, Patricia contributed to the prevention of the illegal trading of animals by analysing echidna quills to determine if animals were raised in captivity or came from the wild.

Patricia's unique skills in analysing a wide variety of samples and difficult-to-study samples (such as, unusually shaped) to a very high resolution, sees her expertise in high demand within the environmental, paleo and life science research communities.

Raya Tasnim



Raya joined ANSTO as a Graduate in 2021 after completing degrees in Mechanical and Manufacturing Engineering and Materials Science at UNSW. She has been attempting to put them to good use while working on the SyMo Project (a first of its kind treatment for nuclear medicine waste) and currently at the Australian Centre for Neutron Scattering as part of the Sample Environment team. When she's not hitting tri-clamps with a wrench, she can be found probing scientists about their research, occasionally providing assistance.

As an AusYGN committee member, Raya hopes to promote the applications of nuclear science and technology, while building connections across industry and research sectors. She aims to introduce the many paths available to students wishing to pursue careers in STEM, and provide those already in the field with access to crucial development and networking opportunities – AusYGN is a great initiative to help them shape the future.

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 key 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.

Dr Tom McGoram



Dr Tom McGoram is the CEO Of Heavy Ion Accelerators, which is hosted at the Australian National University. Tom joined HIA in January 2023, after 22 years in the Australian Public Service, including six years in the Senior Executive Service. Tom held senior roles at Defence in intelligence and policy areas and Services Australia as General Manager Health Programmes. Tom is a graduate of the ANU with a PhD in nuclear physics obtained at the Heavy Ion Accelerator Facility in 2002. Tom is married to Sarah and they have a son, George, and a dog, Winston