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Scatter Matters

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From the Director's desk

It's been a while since the last Scatter Matters and we've had some significant events occurring over the past 3 years. I would like to thank the community for their support and feedback whilst we have made some difficult and challenging decisions to allow us to support ANSTO's financial sustainability. In an ideal scenario, we wouldn't stop any activities. However, the escalating direct and indirect costs of undertaking science must be managed.

We extend our appreciation to those who have engaged with and provided their input in the 2026 National Research Infrastructure Roadmap. Both the ACNS and NDF are partially supported through the National Collaborative Research Infrastructure Strategy (NCRIS) which is informed by the 5-year roadmapping process. We are expecting the Roadmap Exposure Draft to be released shortly, which will be another opportunity to provide feedback of the future of Australia's national research infrastructure.

We have been making good progress with the Wombat replacement neutron detector, control systems upgrades and the annual refresh of capabilities enabled through the annual ACNS Asset Management project.

The 2026-2 Proposal Round call is currently open for beamtime from August 2026 to January 2027 and closes on 16th March with proposals submitted to the ACNS Portal.

We are continuing to run a number of schools, workshops & meetings this year which can be found later in the newsletter.

Thanks to Helen Maynard-Casely to taking on the reins of the Scatter Matters again!

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Updates from the groups

Diffraction

The diffraction instruments at ACNS are Echidna (high-resolution powder diffraction), Wombat (high-intensity diffraction) and Koala (Laue diffraction). The group also includes the Scientific Computing staff and runs the Physical Properties Measurement System (PPMS). They can all be reached at acnsdiffraction@ansto.gov.au

Wombat paper published

Helen Maynard-Casey

After 17 years, and having contributed to over 400 publications, reports and thesis – the Wombat instrument paper is here. The team have compiled resolution curves of all the monochromator, crunched the data of the instrument use and highlighted the science applications that the instrument has been used for over the years.

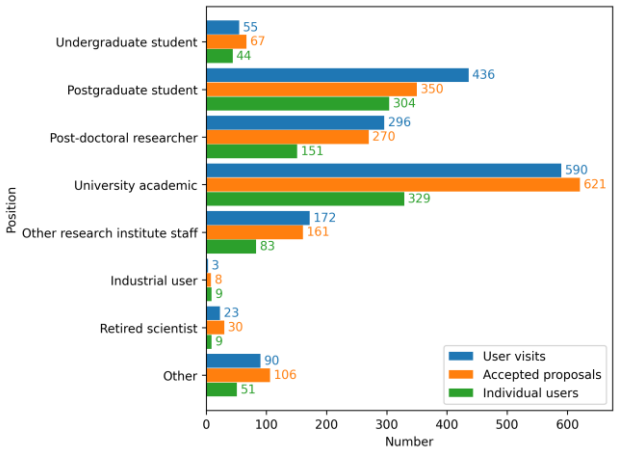


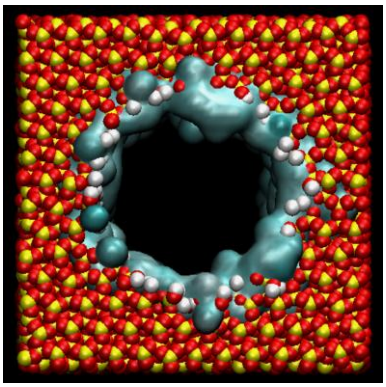
Chart showing the stages of career of Wombat users from 2008-2024.

The paper is published in the Journal of Applied Crystallography https://doi.org/10.1107/S1600576725010337

Scientific Computing update

Pablo Galaviz

At ACNS, we offer scientific computing services. Users can request the service via the ANSTO Research Portal during proposal submission. Our scientific computing scientist will provide the computational work in collaboration with the user. The service includes project planning, software configuration, simulation production, data analysis, visualisation, and interpretation. In addition, we can provide Ph.D. students and ECRs with training via a collaboration to perform the computational work.



Molecular dynamics simulation of a silica nanopore with adsorbed H_2O.

The calculations will be performed in our recently upgraded HPC. Our cluster has 34 nodes with AMD Epyc CPUs (256 processing units) and 250 GB of RAM each. We also have access to Pawsey's Setonix HPC. We can perform single-point energy calculations, structure determination, geometry optimisation, phonon calculations (lattice dynamics), molecular dynamics (ab initio and classical MD), Monte Carlo simulations, and other atomistic calculations.

https://www.ansto.gov.au/scientific-computing

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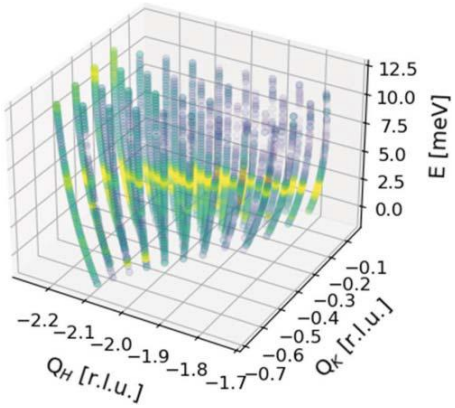
Inelastic

The inelastic instruments at ACNS are Taipan (triple-axis spectrometer), Emu (high-resolution back-scattering spectrometer), Pelican (time-of-flight spectrometer) and Sika (cold triple-axis spectrometer). The team can be contacted at acnsinelastic@ansto.gov.au

TasVisAn and InsPy

Guochu Deng



3D visualisation of multiplexing data collected on the Sika spectrometer and processed using the TasVisAn software package

TasVisAn provides a comprehensive set of tools for data import and reduction, data manipulation and normalisation, as well as visualisation and fitting. Importantly, it includes dedicated data-reduction functionality for the multiplexing operation mode on Sika, a task that is technically demanding and time-consuming when handled manually.

InsPy focuses on essential TAS instrumental resolution calculations and convolution fitting. Its design is not instrument-specific, allowing it to be applied broadly across different TAS instruments.

Used together, TasVisAn and InsPy enable users to analyse experimental data from Taipan and Sika more efficiently and with improved consistency. The combined workflow significantly reduces the time required from data collection to final analysis, supporting faster interpretation and more streamlined preparation of publication-quality results.

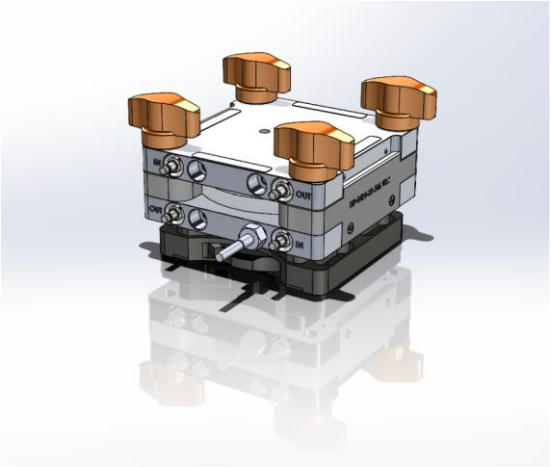
The full paper is available at: https://doi.org/10.1107/S1600576725008180

Reflectivity

The reflectivity instruments at ACNS are Platypus, Spatz and the X-ray reflectometer. The group also includes the ^{3}He polarisation staff, and they can all be reached at acnsreflectivity@ansto.gov.au.

New Solid-Liquid Cells Coming to a Reflectometer Near You Soon

Anton LeBrun



If anyone has used the solid-liquid cells on the neutron reflectometers, you'll know that you have become experts in gluing small tubes into tiny holes in the side of silicon backing wafers. To some this is one of the many transferrable skills you learn as a PhD student or post-doc. To others it's a major irritation as the leaky cell can potentially ruin the sample you have spent so much time putting together. Let's face it. Most of you will be in the latter category.

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Well, the good news is that soon the faint whiff of Araldite in the West Chemistry Lab will become a thing of the past. The Sample Environment Group and the Neutron Reflectometry Group currently have a project to design and fabricate the next generation of solid-liquid cells. The new solid-liquid cells will be compatible on both Platypus and Spatz and have integrated fittings for connecting to water baths for temperature control (no more cable tying heating mantles on Platypus), better fittings for the HPLC pump (no more little O-rings), and crucially, no more gluing tubes into silicon wafers. The new solid-liquid cells will still contain the things we do like about the current cells such as low sample volume, low background, and easy mounting.

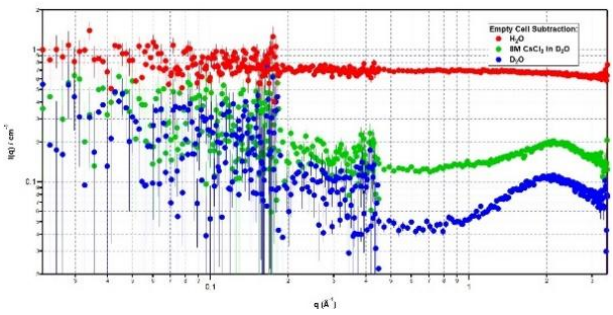
The project is currently in the advanced design stages with a prototype being tested. We'll soon be going into manufacturing, and the new cells will be rolled out across the reflectometers later in the year, so watch this space.

Small Angle

The small-angle-scattering instruments at ACNS are Quokka, Bilby, Kookaburra (ultra-small angle) and the X-ray small-angle camera. The team can be reached at acnssmallangle@ansto.gov.au

Extension to maximum scattering vector on Quokka

Joshua King, Elliot Gilbert, Dan Barlett, Ferdi Franceschini



The Quokka small-angle neutron scattering instrument uses a neutron velocity selector (NVS) to provide a monochromatic neutron beam incident to the sample. The NVS is a solid drum with helical blades that are coated in a neutron absorbing material. The drum is rotated at high speed and only neutrons with the right velocity to stay between a pair of helical blades are transmitted – too slow or too fast and they will hit a blade before traversing the length of the drum.

The mean wavelength can be adjusted by controlling the rotational speed of the NVS – faster rotational speeds provide shorter wavelengths and vice-versa. However, there is a limitation to how fast the NVS can rotate and this in turn limits the shortest accessible wavelength and therefore the maximum accessible scattering vector, qmax.

The other important NVS parameter that determines the selected wavelength is the helical pitch angle of the blades. Although the helical pitch of the blades is fixed, the effective pitch angle can be adjusted by tilting the NVS with respect to the incoming neutron beam. Some recently developed in-house control software (thanks to Dan Bartlett) has enabled safe and reliable tilt control of the Quokka NVS. This has allowed us to access wavelengths down to 1.08 Å, corresponding to a qmax of 3.5 Å-1 – approximately 5x greater than the standard configuration. The extended qmax unlocks new capability on Quokka for the study of structures on a molecular length scale, such as ionic liquid and deep eutectic solvent structure.

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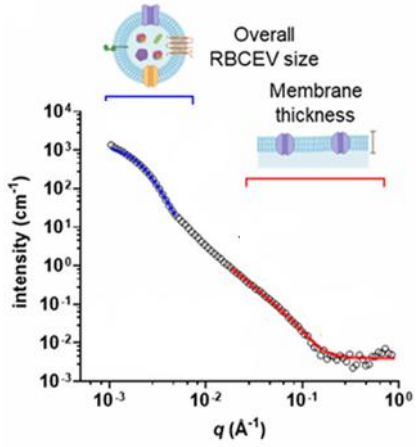
Science Highlight: Looking for blood ghosts

Liliana De Campo



Red blood cells (RBCs) are increasingly being used as the basis for drug delivery vehicles, because materials derived from them are naturally well-tolerated by the body and can circulate in the bloodstream for extended periods without triggering an immune response. A team lead by researchers at the Baker Heart and Diabetes Institute, Mark Vidallon and Xiaowei Wang, in collaboration with Monash University and ANSTO have recently investigated two types of human RBC derived structures using Small-Angle Neutron Scattering and Ultra-Small-Angle Neutron scattering (DOI: 10.1002/sstr.202500369):

"RBC ghosts", which are essentially empty RBC shells made by carefully removing the cell's contents; and RBC-derived extracellular vesicles (RBCEVs), which are bubble-like particles naturally shed by red blood cells.

To design these structures as effective drug carriers, a detailed picture of the structure is required. Using contrast variation, the study showed that signals could be used to differentiate the signals stemming from entrapped proteins and membrane components. This work revealed that RBCEVs are spherical particles about 260 nanometres across with a 3-nanometre membrane, and that roughly 87% of their interior is water, with around 10% of the internal contents likely made up of proteins. Notably, the membrane structure of RBCEVs was found to differ from that of RBC ghosts, offering new clues about how these particles form. These findings provide a detailed structural blueprint that could help rationally engineer RBC-derived materials for more effective drug delivery, diagnostics, and other medical applications.

Engineering & Imaging

The engineering and imaging instruments at ACNS are Dingo (imaging) and Kowari (strain scanning). The group can be contacted at acnsimagingandengineering@ansto.gov.au

Operations

The operations team at ACNS includes the technical group, laboratory group and sample environment group.

ACNS lab staff are available to assist with access to the laboratories and advise on chemical safety in support of your neutron proposals, and can be reached at acns_laboratories@ansto.gov.au

TG1 safety interlock upgrade

Frank Darmann

After 20 years of reliable service, the first ACNS beam line safety interlock system (SIS) on thermal guide 1 (TG1), which delivers neutrons to Wombat and Echidna has been replaced with new hardware, new safety field devices, and a new documentation and commissioning paradigm. The original SIS on TG1 was programmed and commissioned by Dino Ius in 2006. The brains and effort this time behind the new safety control system is David Federici with a huge help from Blake Plumb, Ravi Pushparaj, David Witchard to deploy. We also had Toby Oste as one of the Team's brains trust and master of

controls systems and safety control systems engineering to guide us across all aspects of the SIS. A great thanks also to Rodrigo Felippe of RCF automation as our technical document writer. We are also so lucky to have Dan Bartlett with us who programmed the first monochromator shielding wedge logic to guide David in programming the new safety encoder based system.

Image shown is the set of 127 commissioning manuals required to be proven on the new SIS

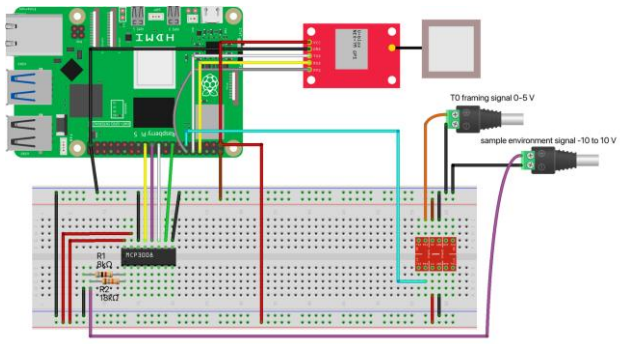
Since the first SIS was deployed, the field of Safety control systems has grown as has the associated compliance. The testing and commissioning regime in 2006 was completed over a period of five days with two people. The new commissioning process on TG1 was completed over 20 working days and involved proving over 127 different safety functionalities and contingencies.

Equipment for sub-second stroboscopic/pump experiments on ACNS instruments

Andrew Nelson, Elliot Gilbert, Josh King

ACNS instruments can use a neutron event mode capability (where the X/Y pixel location, time-of-flight, and frame information is recorded for every detected neutron) that enables fast measurements of dynamics in condensed matter systems.

Historically we've used this approach to obtain scattering patterns that vary on timescales as low as a few seconds. Such timescales are ideal for single-shot experiments, such as non-reversible chemical reactions, thermal/solvent annealing, etc. However, for systems changing on faster time scales, and that respond reversibly, stroboscopic, or pump-probe, measurements are needed. In a stroboscopic experiment repeated stimuli are applied to a sample, and the scattering patterns are acquired at different points through the stimulus period. These approaches require appropriate synchronisation between sample environment (SE) and the neutron data acquisition. We have recently developed a device based on a Raspberry Pi that carries out event mode streaming for SE information. Here, SE information (temperature, shear rate, voltage, current, etc) is recorded at a high rate (~500 Hz) in such a way that, for each neutron that is detected, the associated information on the parameter being applied to the sample is precisely known at the time when the neutron passed through it.



The device was developed on the Platypus neutron reflectometer and was successfully used on the Quokka SANS instrument to study the structure of worm-like micelles undergoing oscillatory shear. Oscillatory shear (1 Hz) was applied using an Anton-Paar rheometer, with the sinusoidal shear strain being followed by the Raspberry Pi. Processing of the neutron and sample environment event files allowed us to generate scattering

patterns at ~25 points throughout the 1 s oscillation period (i.e. a SANS pattern represents 40 ms). The patterns are strongly anisotropic close to the maximum shear strain applied (indicative of elastic deformation). The anisotropy lessens approaching the end of the oscillation stroke as the sample returns to its initial state.

The device should be usable on most neutron scattering instruments at ACNS, and should be considered whenever fast sample logging, or stroboscopic experiments, are required.

Achievements

10 years of Taiwan collaboration

A delegation of Taiwanese officials and ANSTO staff celebrated the 10th anniversary of the operation of the cold neutron triple axis spectrometer, Sika, on 4 September 2025.

The Taiwanese dignitaries (who also joined the event online from Taiwan) included Dr. Chia-Hung Hsu Director, National Synchrotron Radiation Research Center (NSRRC) and Dr. Chen-Kang Su, Vice Minister of the National Science and Technology Council (NSTC) and Chairman of the NSRRC Board. The collaboration was forged following the termination of Taiwan's Research Reactor II (TRR II) project in 2002, the NSTC initiated plans to develop advanced neutron experimental facilities through international collaboration to address the needs of Taiwanese researchers in neutron science. In 2005, facilitated by the Taipei Economic and Cultural Office (TECO) in Australia and the Australian Commerce and Industry Office, Taiwan and Australia signed a bilateral agreement.

A team led by National Central University carried out the design and construction of Sika. The NSRRC assumed responsibility for operation and maintenance after the instrument was successfully commissioned and officially opened in 2013. Sika serves as a key platform for Taiwanese scientists conducting neutron scattering experiments. Taiwanese researchers are also granted access to other neutron instruments operated by ANSTO, through what is now an on-going bilateral agreement.

Read more on the celebration on the ANSTO website.

Grant successes

ACNS scientists, partnering with our user community, have been successful on several grants since the last Newsletter. These include:

Discovery Project DP210101312 3D elemental mapping by prompt-gamma ghost imaging, awarded to A/Prof Andrew Kingston (Australia National University), Prof David Paganin (Monash University), Dr Daniele Pelliccia and Dr Glenn Myers (Australia National University). This project aims to achieve safer, faster, and cheaper 3D X-ray imaging through a technique known as ghost imaging. X-ray imaging provides valuable information about internal structures; however, X-rays are carcinogenic and exposure (or dose) should be limited. Ghost imaging is an unconventional technique developed with visible light that has many potential benefits over conventional imaging.

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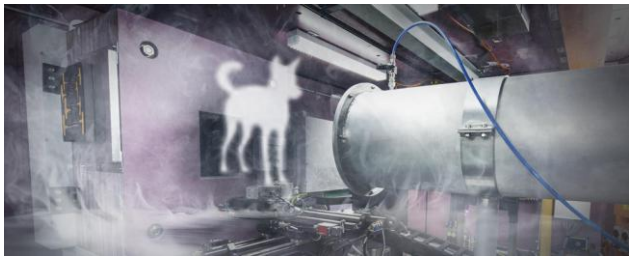
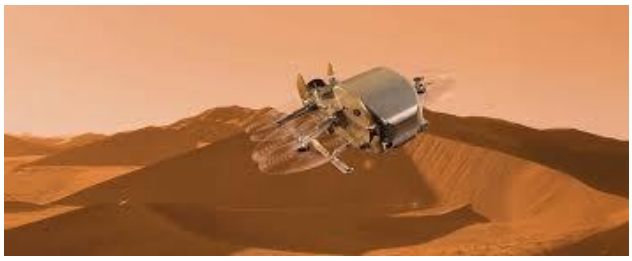


Read more how the DINGO team will be involved in this on the ANSTO website

Marsden grant 25-UOO-171 Could New Zealand's offshore energy source have played a role in the origin of life? awarded to Dr Courtney Ennis (Otago University), Dr Helen Maynard-Casely (ACNS), Professor Stephen Moggach (University of Western Australia) and Dr Tuan Vu (Jet Propulsion Laboratory).

The Dragonfly spacecraft will embark in 2028 to Saturn's largest moon Titan with a primary objective to locate chemical species central to astrobiology and the origin-of-life.



To assist in this mission, our laboratory research will explore chemical pathways toward proteinogenic amino acids within Titan's icy terrain. Compound (mixed) clathrate hydrates are molecular minerals thought particularly conducive to condensed-phase chemistry due to the proximity of methane and ammonia within its ice structure. Formed under high-pressure within Titan's interior before transported to the surface by geological processes, we propose that the exposure of clathrates to high-energy particle radiation provides an efficient pathway to the glycine precursor methylamine, as well as other related compounds. Read more about this on the ANSTO website

ARC Research Hub IH250100006 for Intelligent Contaminant-Sensing in complex Environments (IC-SensE Hub) awarded to Professor Sumeet Walia, (RMIT).

Andrew Nelson and Jitendra Mata (both ACNS) and Pimm Vongsvivut (Australian Synchrotron) are part of a newly established research hub that brings together a large group of academic, government and industry partners. The hub aims to transform Australia's environmental monitoring into a user-responsive industry spanning key users in agriculture, water and built environments. The Hub will achieve this transformation by delivering end-user centric, miniaturised sensing technologies integrated with AI for real-time assessment of chemical/biological contaminants in air, water and soil while predicting potential hazards before they occur. Expected outcomes include new autonomous sensing and forecasting capabilities allowing industries to monitor, analyse and respond to contaminants. This should provide a dramatic increase in industrial productivity, lower emissions and enhanced environmental public health opening new markets and building a skilled workforce.

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Staff awards

AONSA Science Award 2025

Prof Vanessa Peterson. The AONSA Science Award 2025 honours Prof. Vanessa K. Peterson for her remarkable achievement in advancing neutron techniques, her leadership in energy materials research, and her dedicated service to professional organizations and the broader scientific community.

ANSTO 2025 Awards

Distinguished Achievement – Dr Jamie Schulz. Jamie's stewardship of the NCRIS Industry Support Program, has brought direct benefits to numerous sectors, including advanced manufacturing and materials engineering. His strategic vision has ensured the facility can continue to offer unique services to Australian researchers and commercial clients. Jamie has helped position ANSTO as a key facility in Australia's suite of sovereign scientific infrastructure.

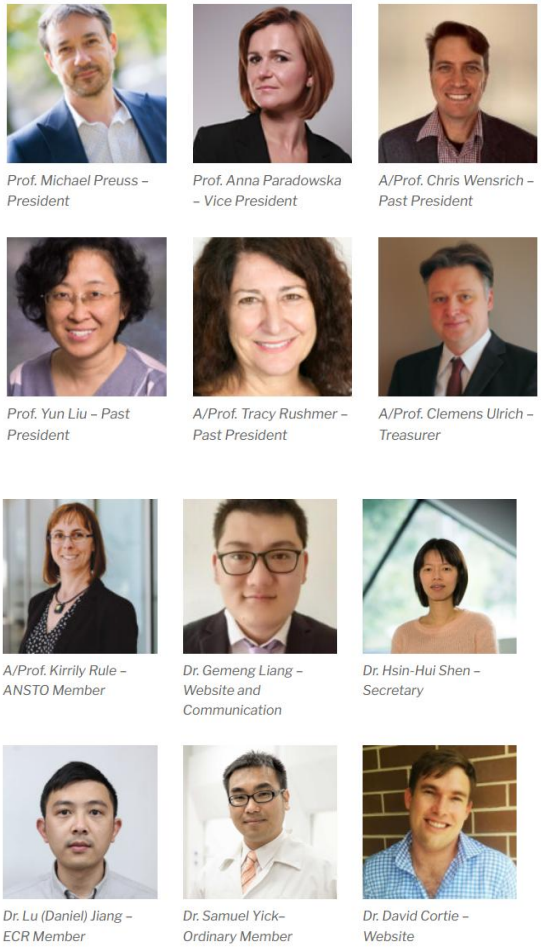
Excellence in Research Award – Prof Max Avdeev. Max is a world authority in the field of neutron scattering—especially for cutting-edge energy materials destined for advanced battery technologies. His pioneering leadership has sparked a wave of progress, reflected in a remarkable record of peer-reviewed publications, vibrant national and international collaborations, and transformative advances that are shaping the future of science.

George Collins Award for Innovation – Toby Oste. Toby has pioneered a groundbreaking approach to neutron beam monochromation and focusing, introducing an ingenious technique never before utilised in the field. His design outshines international counterparts—offering unmatched resilience, robustness, and cost-efficiency. Remarkably straightforward to manufacture, it eliminates the need for specialised machining or extreme component tolerances, making advanced technology more accessible than ever.

Australian Neutron Beam Users Group (ANBUG)

Reconnecting with the Community

After a three-year absence from Scatter Matters, this update provides an overview of ANBUG's recent activities and priorities as we continue to represent and support the Australian neutron scattering community. Over the past year, ANBUG has focused on strengthening engagement with academia and industry, advocating for the sustainability of Australia's neutron capabilities, and maintaining strong international connections.



Current ANBUG Executive Committee

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International Engagement – AONSA Executive Committee Meeting 2025

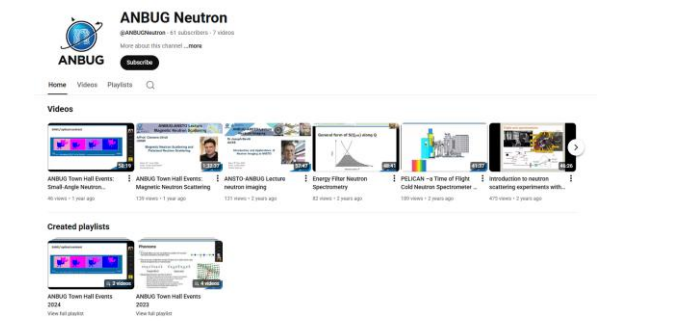
ANBUG was represented at the 35th Executive Committee Meeting of the Asian-Oceanian Neutron Scattering Association (AONSA), held on 15 November 2025 in Tokyo, Japan. This meeting provided an important opportunity to discuss regional collaboration, facility developments, and strategic priorities across the Asia-Oceania neutron community

ANBUG–ANSTO Engagement with Academia and Industry

Since July 2025, ANBUG has worked closely with ANSTO to support engagement activities with both academia and industry. A hybrid ANBUG–ANSTO event was held on 4–5 November, bringing together researchers, facility scientists, and industry representatives.

Targeted outreach activities included engagement with the Australian Composites Manufacturing CRC (21 October 2025) and the Australian Robotic Inspection and Asset Management Hub (17 October 2025). These interactions highlighted the value of neutron scattering for advanced manufacturing, infrastructure integrity, and materials innovation.

In addition, ANBUG lectures and recorded presentations are available via the ANBUG YouTube channel, extending access to educational content and strengthening community visibility.



Advocacy and Community Coordination

During the recent ANSTO consultation period regarding proposed structural changes and potential instrument closures, ANBUG coordinated feedback from the neutron user community. This included facilitating structured input, drafting an open letter to the ACNS Director, ANSTO CEO, and Board, and supporting broader public awareness.

The community response highlighted the national importance of neutron infrastructure for fundamental research, advanced materials, energy technologies, manufacturing, and industry.

Looking Ahead – 2026 Priorities

Looking ahead to 2026, ANBUG will continue to support the community through the ongoing transition period and decisions associated with the NCRIS 2026 Roadmap. We remain committed to constructive engagement with ANSTO leadership and to ensuring that user perspectives are clearly articulated.

Key priorities for 2026 include continued schools and workshops, preparation for AANSS 2026 (scheduled for November 2026), and the ANBUG Awards 2026.

ANBUG remains focused on sustaining excellence in neutron science in Australia, supporting early-career researchers, strengthening industry engagement, and reinforcing Australia's international position within the global neutron community.

To join ANBUG and to keep up to date with news from the group please see their website.

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National Deuteration Facility (NDF) Update

The National Deuteration Facility has expertise in both chemical deuteration and biodeuteration techniques, enabling access to a wide range of deuterated molecules. The diversity of molecules available can be found in our extensive NDF Product List, which provides examples of the types of molecules and labelling possible. Although NDF is a separate ANSTO research infrastructure platform to ACNS, we share many users and collaborators thus we are using this corner of the ACNS newsletter to get in touch with you all! Along with provision of deuterated molecules for neutron scattering experiments, the NDF can also provide deuterated and multiple stable isotope labelled molecules for applications including mass spectrometry (MS) and nuclear magnetic resonance (NMR) or for investigation of the deuterium kinetic isotope effect (DKIE) on material properties.

NDF News and Science Highlights

NDF Science News and Highlights can be found here on the ANSTO website.

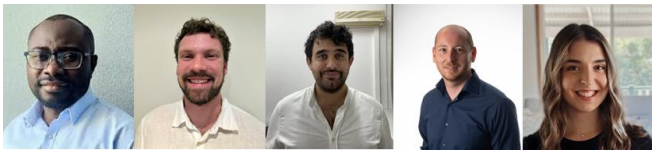
NDF Access Modes and Proposal Types

There are three modes of access available to NDF capabilities – **Merit**, **Discretionary** and **Commercial**. NDF access conditions have been recently updated, with more detailed information on user access available here.

Reminder for the open ACNS & NDF 2026-2 Round closing 16th March 2026 – if you wish to request deuterated molecules from NDF for use with ACNS experiments, the combined NDF and ACNS Proposal Type '**Deuteration/Neutron**' needs to be submitted.

The NDF team

In the past 18 months, the NDF has welcomed several new members to the team who are replacements for staff who departed during this period and new staff focussed on expansion of existing capabilities (utilising flow chemistry and synthetic biology) supported by NCRIS uplift funding: Jim Mensah (*Organic Synthetic Chemist* - leading development of production and purification of deuterated molecules using flow chemistry), Robert Rourke (*Organic Synthetic Chemist* - custom synthesis of deuterated molecules in support of the NDF user program), Damian Van Raad (*Synthetic Biologist* - leading molecular engineering of yeast strains to biosynthesise isotopically labelled small molecules), Robbie Rodger (*Analytical Chemist* - responsible for chemical analysis at the NDF and managing critical analytical instruments) and Alyssa Morellini (*Deuteration Facility Chemist* - production of deuterated molecules using Parr reactors and lab support).



Enquiries

For any NDF related questions (e.g. regarding access, molecule options) or assistance with proposal submissions, please contact the NDF team at ndf-enquiries@ansto.gov.au.

Further information about the NDF can be found at www.ansto.gov.au/ndf

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Event Reports

First ACNS Reflectometry School

On 4-5th November an inaugural neutron reflectometry (NR) school was run by the Australian Centre for Neutron Scattering. On the first day 21 students were given lectures on surface scattering, the various sample environments used for NR, NR for hard and soft matter, and NR instrumentation. At the end of the day four invited speakers gave inspiring talks about the use of reflectometry in a diverse range of scientifically important areas. At the conclusion of the day we all sat down together for a great dinner at 1942-Cronulla RSL. The second day comprised of two practical sessions. The morning session had students visiting the Platypus and Spatz reflectometers to see how they operated. In the afternoon the final session had students learning the basic principles of data analysis with refnx. The success of the school will result in further editions in future years.

The school organisers thank ACNS, NCRIS, and AINSE for funding that enabled the school to be run.

Small Angle Scattering Workshop as a part of ACIS 2026 symposium in Adelaide in February 2026

Recently, A/Prof. Jitendra Mata and Dr Andrew Clulow (both from ANSTO) have co-organised the Small Angle Scattering Workshop, which was one of the major highlights of The Australasian Colloid and Interface Symposium (ACIS 2026), bringing advanced characterisation methods into sharp focus for the Australasian colloid and interface community. Held on 5 February 2026 at the Adelaide University's Mawson Lakes campus, the workshop introduces participants to Small-Angle Neutron Scattering (SANS), Small-Angle X-ray Scattering (SAXS) and Neutron Reflectometry (NR) — techniques that are foundational for probing structure across nano- and micro-length scales in soft matter and interfacial systems.

The workshop featured contributions from four current ANSTO staff speakers — Dr Anton le Brun, Dr Josh King, alongside A/Prof. Mata and Dr Clulow — supported by talks from regular scattering users and advocates of X-ray and neutron methods. Their sessions bridged theory and application, equipping early career researchers and experienced practitioners alike with tools to apply scattering techniques confidently in their own research.

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ACIS 2026 itself , held from 1–4 February 2026 at the Stamford Grand in Glenelg, South Australia, brought together a vibrant interdisciplinary mix of scientists working across colloid, surface and interface science. The symposium featured a rich programme of plenary lectures, theme sessions and poster presentations spanning seven key research areas, from formulated products and biomaterials to sustainability and advanced scattering methods.

The conference saw strong participation from ANSTO staff and user community members from both Lucas Heights and the Australian Synchrotron, reflecting ANSTO's significant engagement with the ACIS community. A notable highlight was A/Prof. Jitendra Mata's keynote presentation, which showcased cutting-edge results from the colloids-in-space project — experiments conducted on the International Space Station.

Upcoming Events

ANSTO Small Angle Scattering Workshop 2026 (SAS2026)

We are excited to announce that the 2026 ANSTO Small Angle Scattering (SAS) Workshop will be held from June 3–5 at the Australian Synchrotron. This three-day event offers a unique opportunity for researchers and students to engage with cutting-edge techniques in Small Angle X-ray and Neutron Scattering. Participants will gain direct insight into world-class instrumentation and learn from leading experts in the field, covering everything from fundamental theory to advanced data analysis for complex systems.

This workshop is designed to be more than just a series of lectures; it is a collaborative forum for the scientific community to share expertise in areas ranging from biomacromolecules to materials science and beyond. Attendees will benefit from dedicated practical sessions and consultations, providing the tools needed to refine research proposals and elevate experimental outcomes. Stay tuned for the final program and registration details, which will be shared on our webpage and social media channels shortly.

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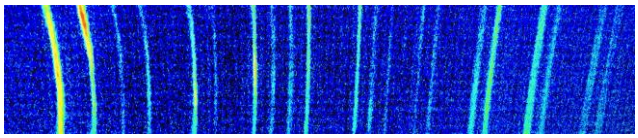
Powder diffraction workshop

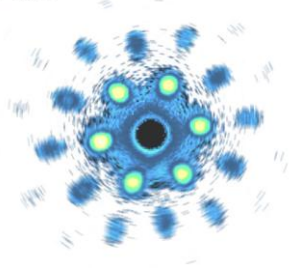


Save the date – the next Australian Synchrotron-ACNS workshop on Powder Diffraction data analysis is set for Mon 24 - Wed 26 August 2026. This year it will be held at the Australian Synchrotron in Clayton, Melbourne. Look out for expressions of interest to be open in the next few months. This is the perfect workshop for those who have data from PD, Wombat or Echidna and are looking to deepen their analysis of it all!

ANSTO/HZB/AONSA Neutron School

Another save the date! The neutron school is back and will be bigger (and more international) than ever! Joining together the fourth edition of our ANSTO-HZB neutron school with the long-established AONSA neutron school is a fantastic opportunity for students and early career researchers in the region. Added to this is the opportunity to attend the AANSS2026 which takes place the next week. The ANSTO/HZB/AONSA Neutron School will take place on 16th – 20th November 2026, keep an eye out for expressions of interest to open later in the year.

2026 ANBUG-AINSE Neutron Scattering Symposium (AANSS2026)



And one more Save the date! Our biannual neutron scattering users meeting will take place on the 23rd & 24th November 2026. Giving all our users an opportunity to connect with the wider neutron scattering community, there will be talks and poster and updates from the facility.

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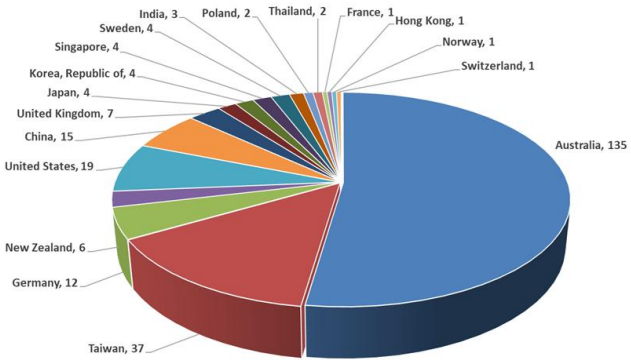
Applying for Instrument time

Results from last proposal round

In the 2026-1 proposal round ACNS received 258 proposals, covering 1471 of experiment days. Our instruments are in good demand with 142% average subscription for the experimental days. The 2026-1 round has been administered through our new portal (neutron.ansto.gov.au). International and domestic demand for instrument time remains in a good balance and demonstrates the breadth of ACNS's user base.



Pie chart showing the range of countries from where the principal researcher is applying for time on our ACNS instruments.

2026-2 ACNS & NDF Merit Access Proposal Round

We are welcoming applications for merit-based instrument time in our 2026-2 round,

ACNS & NDF are accepting proposals for access from August 2026 through January 2027. A range of neutron-beam instruments and deuteration capabilities are available to support your research proposal.

Applications close: 16 March 2026 at 11:59 PM AEST.

If you do not already have an account in the ACNS Portal you will need to create a new account. Please refer to the ACNS & NDF ARP user guide.

Editor

Scatter Matters is edited by Dr Helen Maynard-Casely. If you have a story or event you would like to share with the ACNS user community in our next newsletter (to be compiled in August 2026), do get in touch ACNSenquires@ansto.gov.au