Christopher Sumby

From: Society of Crystallographers in Australia and New Zealand <newsletter@scanz.org>
Sent: Wednesday, 17 December 2025 1:59 PM
To: Christopher Sumby
Subject: SCANZ Newsletter Dec 2025, No. 83

View this email in your browser

President's Report

Chris Sumby, SCANZ President

The first year of my presidency has raced by and my mind is increasingly occupied with organising the next Crystals Meeting here in Adelaide later in 2026.

As I write this Prof Richard Robson is on the eve of being presented the Nobel Prize *"for the development of metal–organic frameworks"*. This was shared with Profs. Kitagawa and Yaghi from Kyoto University and the University of California Los Angeles, respectively. The importance of crystallography in the Nobel Prize is immense, and it

was notable from Prof. Robson's initial comments how much the crystallographic work of Dr Bernard Hoskins and more recently Prof. Brendan Abrahams enabled his research.

To the slightly more mundane. As Public Officer for SCANZ, I lodged the changes to the constitution that were proposed at Crystal 35 and voted upon by society members this year. Hopefully the constitution is now in a fit state for a modern society.

SCANZ ran a Crystallography School jointly with Australian Synchrotron MX beamlines team. This was a lite version of the school to help bridge to the main Crystallography School which will be held in 2027. There was a mix of online lectures and in person practical components, but this did not dampen enthusiasm in the slightest and we were well oversubscribed. Thanks to the Education Committee and the MX team for pulling this together for our members and the community.

The Outreach Committee have been busy and active throughout the year. A main activity has been sharing the Crystal Explorer Kits that were developed following the successful world record breaking construction of the world's largest crystal structure model (over 60,000 atoms). Kits have made their way to the Chatham Islands about 800 km to the east of New Zealand and to many rural and remote schools all over Australia and New Zealand. Learn more about this project here: https://braggyourpattern.com/crystal-explorer-kits/

Another topic of focus has been the ANSTO financial sustainability proposals. SCANZ made a submission (link to submission) and we are hopeful that the loss of critical infrastructure, capabilities and expertise can be averted for Australian (and New Zealand) science.

It is my pleasure to be able to announce that Dr Thomas Ve from Griffith University is the recipient of the Sandy Mathieson Medal awarded for distinguished contributions to science involving X-ray, neutron, or electron diffraction and/or imaging by a researcher within 15 years of the award of their PhD. Thomas is a structural biologist and research leader at the Institute for Biomedicine and Glycomics at Griffith University. Thomas will be invited to give a talk and receive his medal at the Crystals Meeting in Adelaide next year.

Looking ahead to 2026, the SCANZ Council will hold a planning session in early 2026 (likely February) to plan the next two years of activities and initiatives. This will be our second planning session, with the first conducted during the presidency of Charlie Bond. The planning sessions have happened midterm in our presidency for both Charlie and I and have provided me, and hopefully will provide Emily Parker (current vice-president), with plans for our presidencies. If you have ideas for activities or initiatives that SCANZ should consider or support, then please reach out.

The other area of focus for me is the organisation of the next SCANZ Crystals Meeting. The SCANZ Council have agreed to partner with the Australian X-ray Analytical Association and to hold a joint meeting – Crystal36-AXAA2026 – in Adelaide in late November/early December 2026. Now that the spectre of COP31 has been removed, we are pushing ahead with plans for Adelaide in 2026 looking at venues in Adelaide (National Wine Centre, Glenelg) or in the regions (Barossa, Adelaide Hills). We will hopefully be able to announce the dates and venue in early January.

Once again, please engage with SCANZ where possible.

- Encourage people in your local communities to apply for SCANZ awards and travel support.
- Suggest Honorary Life Members. The Council has a list which it will action.
- Let us know about crystallographers that should be recognised with national honours. Again, Council is actively working on nominations, but we would also like help with this.

Have a happy and relaxing summer break and a successful 2026!

SCANZ is on LinkedIn!

SCANZ is now on LinkedIn!

Check out and join our new group on LinkedIn.

Crystal School

by Stephen Moggach

The recent Crystal School workshop, held at the Australian Synchrotron from Monday, October 13th, to Wednesday, October 15th, was a highly successful event. This particular event was a lite version of the standard workshop, specifically scheduled to get the SCANZ school back to its regular bi-annual schedule. The next main school is planned for 2027.

Out of 102 applicants, 43 were selected as participants. The participants were split between 28 for Protein Crystallography (PX) and 15 for Chemical Crystallography (CX), demonstrating a strong focus on biological applications. The workshop achieved a good-gender balance with 22 men and 21 women participating. Participation was geographically diverse, with attendees from all states mentioned, including 19 from VIC, 6 from NSW, 5 from ACT, 4 from NZ, 3 QLD, 2 TAS, 2 SA and 2 WA.

The comprehensive schedule included essential training, with all participants undergoing Beamline Inductions split into three groups across the first two days. Core content included lectures on Synchrotron overview, Protein crystallisation, Data collection, and Indexing & integration. Practical sessions featured dedicated MX beamline workshops (MX1, MX2, and MX3) for both PX and CX streams, as well as specialised tutorials on Refinement and Data processing.

Overall feedback was exceptionally strong, indicating the high quality of the instruction provided, and I'd like to especially thank the local organisers, especially the whole of the MX team, but especially those I met on a weekly basis to help coordinate and organise the school (Steph, Cat and Rosie). Your hard work really paid off. A big thank you to all the lecturers, staff and folks at the Australian synchrotron for a stellar effort. The quality of the lecturing and training afforded to these students is evident from the feedback survey, with the quality of lectures received a rating of 4.7/5, and the quality of beamline tutorials rated 4.6/5. The main recommendation for future schools, based on participant requests, was to incorporate more hands-on and practical content.

Crystal School Maslen Awardees

Chantelle Monteith

A couple of months ago, I had the amazing opportunity to go to the SCANZ crystallography school at the Australian Synchrotron. I learnt so much about protein sample preparation, data acquisition and the best way to process any crystallography data. I really enjoyed the hands-on sessions at the MX-1, MX-2 and MX-3 beamlines and the talks on molecular replacement were also a highlight.

I am so grateful to have been awarded the Maslen scholarship to help with me attending this school. I had such a great time with the team at the ANSTO synchrotron and everyone else who attended!

Vittorio Albano

Being able to attend the SCANZ crystallography school in September at the Australian Synchrotron as a recipient of the Maslen Scholarship was an amazing opportunity to gain a deep and broad understanding of all aspects of crystallography, from fundamental principles through to data processing. I participated in the Crystal/Chemical XRD (CX) stream, which was highly relevant to my research, and particularly valued the hands-on workshops on structural solutions, data processing, PXRD, CCDC, and refinement, where we could immediately apply what we learned with experts available to troubleshoot and offer guidance. The refinement tutorials were a standout, providing practical strategies to resolve common and challenging structural issues effectively, while sessions delivered by a diverse group of presenters offered a broad range of perspectives. Additional highlights included Stuart Batten's lecture on the history of crystallography, the detailed tour of the synchrotron tunnels that showcased the impressive science behind the facility, and the excellent venues that fostered networking and interaction with the vibrant Australian and New Zealand crystallography community. Overall, the school was exceptionally well run, educational, and inspiring, and I am very grateful to the Maslen Scholarship for enabling me to attend this invaluable experience.

Luca Macri

Despite having some of the theoretical knowledge one learns in their undergraduate degree, I was completely new to the actual *practice* of crystallography. I found the workshop immensely useful because it covered the entire process from how to make crystals in my home lab to shooting them at the synchrotron through to the data analysis. The beamline inductions from the beamline scientists were also invaluable because they bridged the gap between the beamline and all its technicalities to the experimental possibilities for my own research *beyond* just getting a structure. The tour of the synchrotron also let me truly appreciate the engineering marvel that it is with all its cables and cables and cables and magnets! Ultimately, the workshop has empowered me to pursue crystallography projects in my own research.

Yvonne Mukuka

I was grateful to attend the Crystal School 2025 through the Maslen Scholarship, which provided a valuable introduction to crystallographic principles and their practical applications. Coming from a computational background, the school gave me a strong foundation in crystallography and helped me understand the experimental workflow. This was especially timely at an early stage of my PhD. The structured training in areas such as data collection, structure determination, and refinement allowed me to connect these methods with my existing knowledge of modelling and data analysis.

I enjoyed the lectures, which, although intensive and packed, were highly informative. I also appreciated the opportunity to learn directly from experienced crystallographers and to engage with other early-career researchers. Highlights included touring the ANSTO Synchrotron, an experience supported by friendly and knowledgeable staff, gaining hands-on experience with crystal mounting, and learning about SCANZ outreach activities to promote crystallography. It was also inspiring to hear about Stuart Batten's academic journey as a former student of the newly appointed Chemistry Nobel Laureate, Professor Richard Robson. Overall, the Crystal School was an enriching experience that has positively contributed to my research development.

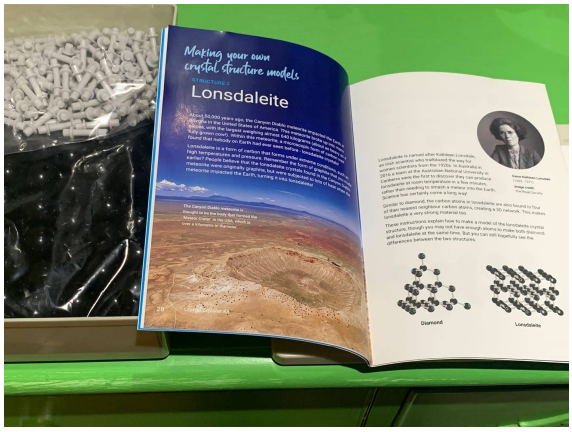
Ting Shu Ming Javier

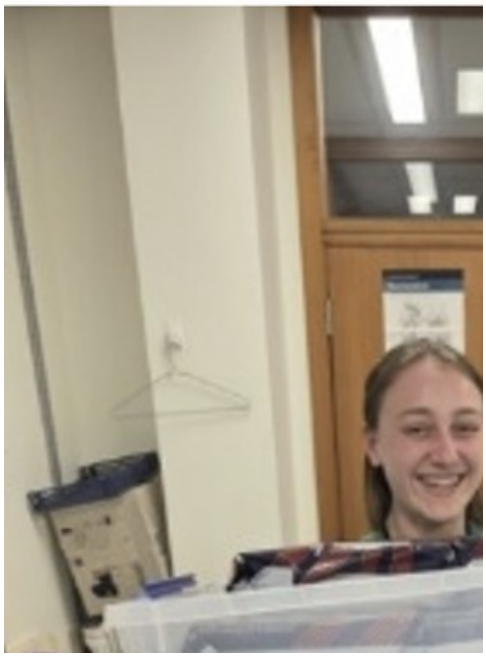
The crystallography workshop provided valuable, extensive training in protein crystallography, with a strong focus on practical use of the MX2 and MX3 synchrotron beamlines. The beamline workshops and on-site inductions were a highlight, as they improved my confidence in preparing samples, collecting data efficiently, and understanding how beamline setup and automation influence data quality. Talks on crystallisation, radiation damage, and data collection strategies helped connect experimental decisions made at the beamline with downstream structure solution and refinement. Sessions covering data processing, refinement, and validation gave a clear overview of the full structure determination pipeline and reinforced good practice for producing reliable, publication-ready structures. Overall, the workshop strengthened my ability to plan and carry out protein crystallography experiments independently as part of my PhD research.

Bragg Your Pattern 2025 Highlights

Helen Maynard-Casely

Do you recall the giant diamond crystal structure model from IUCr2023? Well, this has now been dismantled and packed into nearly 800 ‘Crystal Explorer kits’ for Primary Schools. With distribution starting in earnest mid-2025, the kits have now reached every state, territory and major island, spanning from Tom Price (WA) to the Chatham Islands (East of NZ), a distance of 6,700 km. In total, 285 sets have been distributed across Australia and NZ, with particular success in NZ, where the uptake has been considerably higher.





The rollout of Crystal Explorer kits. Stuart (left image) is preparing kits to be sent out in Australia, and Ben and Kate (right image) are preparing a large shipment of 50 kits in New Zealand.

Kits were also sent to the Victorian Statewide vision resource centre, an educational service specialising in resources for blind students, where the staff are also planning to translate the teaching booklet into braille. We hope to follow up with them on how that is going during 2026. We have also had interest from a Tasmanian school group in developing more activities in 2026. There's still ~400 kits to distribute and we'd love for members to get in touch with their local primary schools to see if they would like one! We have now emailed all very remote, remote, outer, and inner regional primary schools in the area – and have opened the scheme to metropolitan schools too (but have not emailed them yet). The plan in February is to market to the metropolitan schools through email and teachers' groups.

Our next project is already brewing - 90 of the kits have been kept aside for the Crystal-A-Con in a box program. Following experience of previous school visits (Fremantle in 2024) our plan is to have 9 'Crystal-A-Con' in a box kits, one in each state/territory/island. We plan to collate resources so that people can run activities like those run during the Crystal-A-Con at IUCr2023. Each box will contain 10 crystal explorer kits as a starter, along with information on how to run activities for a range of age groups. We hope to collate the boxes in early 2026 and distribute them in time for the start of the school year. A pilot box was constructed and an activity day run for three primary schools in regional NSW in October.

SCANZ members can read more about the Sci Comm committee's achievements (and costs) in the report tabled for the AGM.

How to get involved with the committee activities:

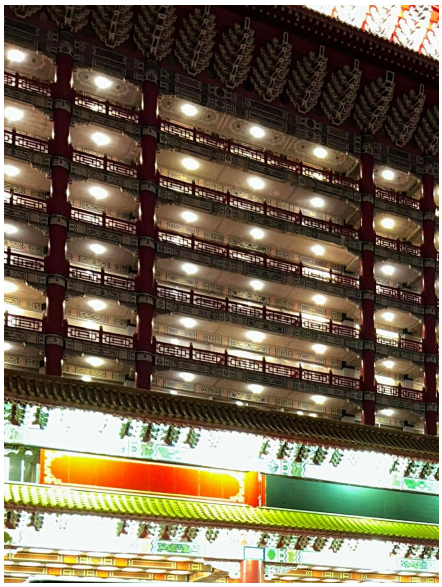
- Sign up to be on the SCANZ sci-comm list
- Use #BraggYourPattern to tag patterns and crystal structure posts on social media
- Contact your old primary school - would they like a crystal explorer kit (and could you deliver it?) - get them to fill out the form
- Do you have content suggestions for the website (video resources, etc?) - do get in touch with the Sci Comm team

---

AsCA2025 Maslen Awardees

Mei Tieng Yong

AsCA 2025 in Taipei was my first conference overseas and quickly became one of the most memorable and rewarding conferences I've attended. There were many outstanding talks, but two in particular caught my attention, both from the "Materials for the Future" session. One was by Jeong-Eun Park, focusing on multiscale manipulation of gold nanocubes, while the other was by Masaki Kawano, who presented on using MOFs as crystalline sponges for the structural elucidation of natural products. I also had a great time presenting my poster on developing new indium-based MOFs for post-synthetic metalation, which gave me the chance to discuss my work in detail and network with researchers from diverse backgrounds, an experience that was both inspiring and valuable. I feel incredibly honoured and grateful that my poster was selected for the Best Poster Award. On a lighter note, the conference dinner was fantastic. It was held at The Grand Hotel with a stunning view of the Taipei skyline, and the food was delicious! Overall, attending AsCA 2025 was an enriching and valuable experience, and I am truly grateful to SCANZ for the opportunity to attend the conference in Taipei.



Rebecca Blake

The AsCA 2025 conference was my first international conference and my first time travelling to Taiwan. I was given the opportunity to give an oral presentation on some of the work we have done recently at the Australian Synchrotron which was a really rewarding experience. Throughout the conference we attended numerous talks on a diverse range for crystallographic topics, my favourite sessions included the micro symposia on short range order in materials and structure-property relationships in materials. We also had a fantastic time exploring Taipei, including going to the 89th floor of Taipei 101, visiting the Chiang Kai-shek Memorial and attending the conference dinner at the Grand Hotel. A particular highlight was visiting the Taiwan Photon Source and the Xiangshan Wetlands. Thank you to SCANZ for providing me with a Maslen Scholarship for this conference.

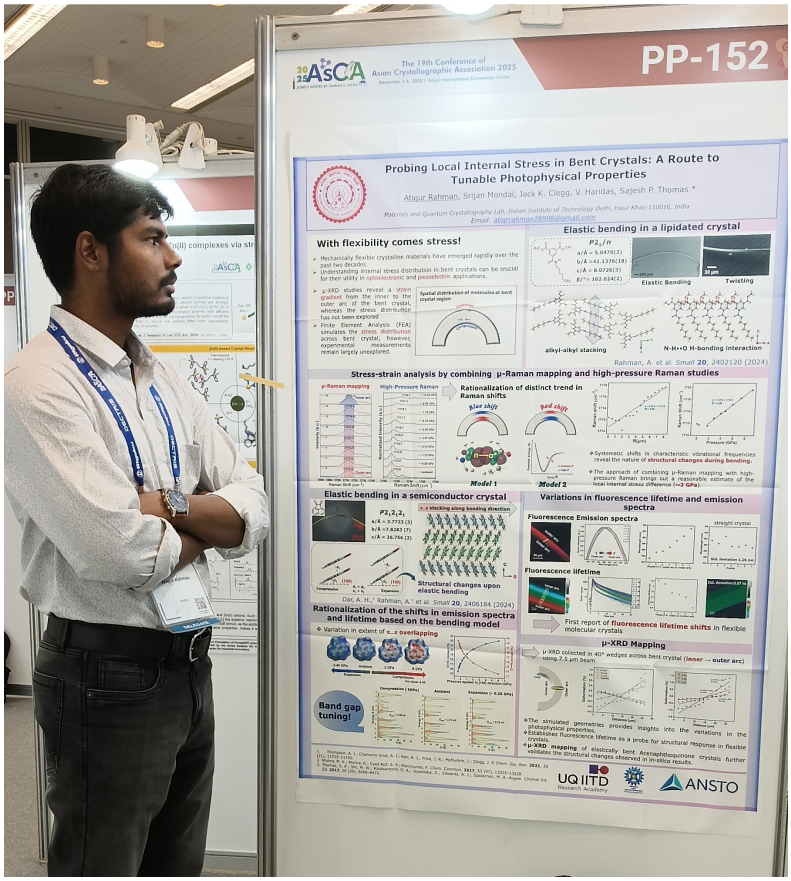
James Brookes

I was honoured to receive the Maslen Scholarship from SCANZ to attend the 19th AsCA conference in Taipei, Taiwan. This conference was a truly wonderful experience, the breadth of interesting and cutting-edge crystallography that was on display was remarkable. The Asian Crystallographic Society was very welcoming, with a great communal spirit, welcoming those from all around the world. I heard many great talks from very interesting people, including Panče Naumov's keynote on dynamic and functional small molecular crystals, and Jeong-Eun Park's talk on gold nanocube synthesis. Presenting my own work alongside great scientists was an honour. This

conference was a great experience, and I would urge people to apply for the Maslen scholarship and attend the next AsCA meeting!

Atiqur Rahman

At the 19th AsCA 2025 (Asian Crystallographic Association) conference, I presented my work as a poster titled "*Probing Local Internal Stress in Elastically Flexible Crystals: A Route to Tunable Photophysical Properties*," which sparked engaging discussions among young researchers and experts in the crystallography community. I also attended several insightful talks, including one by Prof. Panče Naumov on cutting-edge advances in mechanically responsive molecular crystals, and another by Prof. Simon Grabowsky on the quantum-crystallographic technique of Hirshfeld atom refinement and X-ray wavefunction refinement—methods that provide deeper insight into the strength of intermolecular interactions and yield more accurate geometries compared to the conventional IAM (Independent Atom Model) refinements. A major highlight was the NSRC (National Synchrotron Radiation Research Center) tour, where we visited the Taiwan Synchrotron and explored its world-class beamline facilities and ongoing research initiatives. Overall, the conference provided an excellent platform for scientific exchange, enriching our understanding of emerging methodologies in crystallography. I would like to acknowledge the Maslen scholarship for providing the travel grant that enabled me to attend such an insightful conference, which has significantly advanced my understanding and motivation for future research in crystallography.



Alexandra Perry

Attending the AsCA conference in Taipei was an amazing and unforgettable experience. The conference offered an excellent program of incredible talks, workshops, and provided valuable opportunities to connect with fellow researchers in the same field.

A highlight of the conference was the opportunity to present my research during the poster sessions. This allowed me to share my work with a diverse scientific audience and receive insightful feedback from other scientists. These discussions were extremely valuable and have helped to shape the next steps of my PhD project.

Overall, attending AsCA significantly contributed to my academic and professional development, expanding my knowledge and strengthening my research direction. I am sincerely grateful to SCANZ and the Maslen Fund for providing the financial support that enabled me to attend this conference.

Ahmadi Jaya Permana

Attending the 19th Conference of the Asian Crystallographic Association (AsCA 2025) in Taipei, Taiwan was an inspiring and memorable experience for me. I learned so much from the sessions that covered not only structure determination but also the broader

impact of crystallography in energy and health research. Listening to experts share their work on single-crystal analysis, electron microscopy, and total scattering techniques helped me see how versatile and powerful crystallography can be. It was exciting to realize how these methods connect to my own research interests and open new possibilities for future studies.

What made this experience even more meaningful was the opportunity to meet and exchange ideas with scientists from across Asia. I was especially happy to build new connections with researchers from Japan and Taiwan, which may lead to future collaborations after completing my PhD in Australia. Presenting my poster and receiving thoughtful feedback from experienced crystallographers gave me fresh insights, particularly for exploring local structure studies in greater depth. Overall, AsCA 2025 motivated me to keep growing as a researcher and strengthened my commitment to contributing to the crystallography community.

New Members Welcome!

SCANZ warmly welcomes new members. Benefits of membership include:

- Global representation through AsCa, IUCr and STA
- Prestigious awards

- Discounted conference fees
- Exceptional generous student travel support
- Information and job vacancy sharing
- Membership from as little as $10 per year for students.

Membership applications can be made through the SCANZ website. Contact your friendly SCANZ committee members if you require a sponsor for your application.

SCANZ Committee

President: Chris Sumby (christopher.sumby@adelaide.edu.au)

Past President: Charlie Bond (charles.bond@uwa.edu.au)

Vice-President: Emily Parker (emily.parker@vuw.ac.nz)

Secretary: David Turner (david.turner@monash.edu)

Treasurer: Jack Clegg (j.clegg@uq.edu.au)

Council Members:

Stephanie Gras (s.gras@latrobe.edu.au)

Lauren Macreadie (l.macreadie@unsw.edu.au)

James Hester (jxh@ansto.gov.au)

NZCC REP: Kurt Krause (kurt.krause@otago.ac.nz)

ANCC REP: Megan Maher (megan.maher@unimelb.edu.au)

NEWSLETTER EDITOR: Michelle Miller (miller.m@wehi.edu.au)


INTUIT
mailchimp