

UIM 2026

Australian Synchrotron
User Meeting

Mon 9 – Tue 10 November 2026



PROGRAM

*Note: Timetable subject to change

With thanks to the following sponsors



User Meeting 2026 Program

Day 1 | Monday, 9 November

Sunday 8th November | Pre-conference welcome event in the NCSS Exhibition Space from 5pm - 7pm

8:00	Registrations open						
9:00	Welcome & House Keeping						
9:15	Plenary Lecture 1 Mid-career Research Award – Mark Hackett: <i>A (Spectroscopic) Picture Paints a Thousand Words: Studying Metal Ion Speciation in Brain Tissue with XANES Spectroscopic Mapping</i>						
9:45	Facility update – Danielle Martin, Andreas Moll						
10:30	Break (30 mins) & Tunnel Tours						
11:00	NCSS Auditorium				NCSS Seminar Room		
	Chair: Session 1 Spectroscopy				Chair: Session 2 Imaging & Microscopy		
	87	Insights into a Ru single-Atom Artificial Leaf for solar Upcycling of Oceanic Plastic Waste	Jingrun Ran		11:00	Beamline Group Workshop	Keith Bambery, Andrew Langendam
	23	Unveiling Catalytic Active Structures across Multiple Length Scales Using Synchrotron X-ray Spectroscopy	Haijiao Lu		MICROSCOPY		
	20	Probing Sub-Nanoscale Catalytic Active Sites for Water and carbon dioxide Electrolysis	Porun Liu		11:30	Beamline Group Workshop	Adam Round
11:45	46	Promotion on the Understanding and Synthesis of High-Loading Single-Atom Catalysts based on Synchrotron Analysis	Hongzhe He	IMBL			
12:00	Lunch Break (60 mins) & Tunnel Tours						
13:00	Plenary Lecture 2 Australian Synchrotron Lifetime Contribution Medal – Richard Garrett: <i>Lifetime Contribution talk</i>						
13:45	AINSE Update – Richard Garfield						

Day 1 cont | Monday, 9 November

	NCSS Auditorium				NCSS Seminar Room		
	Session 3 Diffraction, Scattering & Crystallography				Session 4 Imaging & Microscopy		
14:00	90	Resonant Grazing Incidence Wide-Angle X-ray Scattering of Semiconducting Polymers	Chris McNeill		57	Progress Towards the World's First Live-Human Synchrotron Breast CT: From Research Platform to Clinical Trial Readiness	Adam Round
14:15	12	Using small-angle X-ray scattering to characterise binding of DNA aptamers to small-molecule targets	Bruce Chilton		4	Dual-sample multimodal X-ray imaging for high-throughput acquisition	Marie-Christine Zdora
14:30	13	Modelling the Curvature Tuning Strategy of Monoolein-Based Lipid Nanoparticles by Tricosene Doping: Insights from High-Throughput Synchrotron SAXS	Natinael Koyra		100	Enabling Real-Time Patient-Specific Dosimetry for Synchrotron Breast CT: 23-Fold Faster Mean Glandular Dose Estimation	Amir Hassan Entezam
14:45	63	First Contact: Lipid Nanoparticles Orient and Restructure at Interfaces	Brendan Dyett		110	Extracting Microstructure Properties by Quantifying the Scattering in X-Ray Dark-Field Images	Caitlyn Smith
15:00	10	Decoding protein crystallisation and aggregation in ionic liquids with high-throughput SAXS, GISAXS and machine learning	Hank Qi Han		102	Understanding diaphragmatic hernias using phase-contrast CT and neural network airway segmentation.	James Pollock
15:15	Afternoon Tea (30 mins) & Tunnel Tours						
	NCSS Auditorium				NCSS Seminar Room		
	Chair: Session 5 Imaging & Microscopy				Chair: Session 6 Diffraction, Scattering & Crystallography		
15:45	16	The Nanoprobe beamline at the Australian Synchrotron	Cameron Kewish		15:45	Beamline Group Workshop	
16:00	47	A new spin on quantitative 3D elemental imaging with laminographic XRF	Nick Phillips			DIFFRACTION	
16:15	15	Synchrotron-based X-ray techniques for studies of arsenic distribution and speciation in the novel extremophile nematode Tokorhabditis tufae	Ani Baker		Chair:	Session 7 Spectroscopy	
16:30	78	X-ray Fluorescence Diagnostics for Flashing Channel Flows	James Puli		16:15	Beamline Group Workshop	
						SPECTROSCOPY	
16:45	Break (10 mins)						
16:55	Plenary Lecture 3 Stephen Wilkins Thesis Medal – Han Wu: Understanding Aqueous Battery Chemistry through Operando Synchrotron-Based Characterisation						
17:40	Finish (20 mins)						
18:00	BBQ Buffet Dinner on site						
20:00	Day 1 Close						

Day 2 | Tuesday, 10 November

8:30	Town Hall – Michael James							
9:00	Plenary Lecture 4 Early-career Research Award – Yameng Fan: Seeing Batteries in Action: Multiscale Mechanistic Insights from Synchrotron Techniques							
	NCSS Auditorium					NCSS Seminar Room		
	Chair: Session 8 Spectroscopy					Chair: Session 9 Diffraction, Scattering & Crystallography		
	9:30	29	Conversion of Epitaxial Graphene to 2D diamane on Silicon Carbide by Ultra High Vacuum hydrogenation	Nunzio Motta		9:30	Beamline Group Workshop Crystallography	Rachel Williamson
	9:45	75	Ionic Liquid Precursor Films on Graphite: Formation Mechanisms and Interfacial Properties	Sowbarnika Senthilkumar				
	10:00	119	Deciphering Depth-Dependent Degradation in Layered Oxides with X-ray Spectroscopy	Wesley Dose		10:00	Beamline Group Workshop Scattering	Ashish Sethi
10:15	109	Collective dynamics in biological membranes: lessons from a decade of low frequency vibrational spectroscopy	Annette Dowd					
10:30	Morning Tea (30 mins)							
	NCSS Auditorium					NCSS Seminar Room		
	Chair: Session 10 Diffraction, Scattering & Crystallography					Chair: Session 11 Imaging & Microscopy		
	11:00	81	Watching hundreds of grains at once: energy-resolved Laue diffraction turns a single exposure into a grain-resolved map of a polycrystal	Jun Wang		56	Neural network based 4D CT reconstruction at the synchrotron	Chris Hall
	11:15	36	Absorption effects on Fluctuation X-ray Scattering	Ryan Hogg		65	Exploring pumice textures through Synchrotron Micro-Computed Tomography	Shannen Mills
	11:30	22	Using in situ synchrotron powder diffraction to study the hydration of Portland cement with seawater CO2 mineralisation precipitate replacement at very early ages	Yue Wang		83	Beyond Porosity: Synchrotron Micro-CT Characterisation of Multi-Scale Defect Architecture and Fibre-Matrix Interfacial Discontinuities in 3D-Printed Continuous Fibre Thermoplastic Composites	Demeke Abay Ashebir
	11:45	73	Fluctuation X-ray scattering as an indexing-free extension of serial crystallography	Alan Salek		105	Synchrotron microangiography to assess cerebral haemodynamic responses to delivery-room resuscitation in extremely preterm lambs	Zoe Johnson
12:00	101	Probing Atomic Coordination and Chirality Evolution in Hierarchical Metal–Amino Acid Complexes	Shangcheng Yan	111	Enhancing Lung Cancer Diagnostics Through Dynamic Region-of-Interest CT Imaging	Lucy Costello		
12:15	Lunch Break and POSTER SESSION (90 mins)							

Day 2 Cont | Tuesday, 10 November

	NCSS Auditorium				NCSS Seminar Room		
	Chair:	Session 12 Accelerator Science & Radiotherapy			Chair:	Session 13 Diffraction, Scattering & Crystallography	
13:45	53	Enhancing the treatment efficacy of synchrotron microbeams by adjuvant anticancer therapy	Helen Forrester	42	A $\gamma\delta$ T cell receptor recognises the side of the CD1b lipid antigen presenting molecule		Michael Rice
14:00	82	Unleashing the Potential of Microbeam Radiation Therapy in Spontaneous Canine Sarcoma Treatment	Elette Engels	6	The antigen presenting molecule MRI binds host-generated riboflavin catabolites		Mohamed Abdelaal
14:15	35	Dose-rate dependence of Gafchromic film within ultra-high dose-rate FLASH irradiation fields at PEER	James Cayley	74	Optimizing the connectivity of alternate conformations to untangle protein ensemble models		Spencer Passmore
14:30	77	High-Spatial-Resolution Dosimetry for Microbeam Radiotherapy with a Multi-Channel Hydrogenated Amorphous Silicon Detector	Rabia Sandhu	76	Room-temperature serial crystallography of the antivirulence drug target DsbA by in-tray serial crystallography		Christopher Szeto
14:45	45	Geant4 Modelling and Experimental Validation of Synchrotron Minibeam Radiation Therapy with Clinically Relevant Treatment Scenarios	Vincent de Rover	1	Targeting cancer's metabolic rewiring: structure-guided discovery of malic enzyme inhibitors at the AS		Ben Krinkel
15:00	Break (10 mins)						
	NCSS Auditorium				NCSS Seminar Room		
	Chair:	Session 14 Imaging & Microscopy			Chair:	Session 15 Spectroscopy	
15:10	69	Heavy element-tagged fluorescent probes for correlative optical and X-ray fluorescence microscopy	Samuel Nitschke	34	Thermal Transformation of Scorodite (FeAsO4.2H2O) During Bushfire-Relevant Conditions: An Impact on Arsenic Transformation and Mineral Stability		Usman Faryad
15:25	117	Benchmarking Naturally Weathered Polysiloxane and Polyurethane Coatings using Synchrotron IRM, XFM and GiSAXS/GiWAXS against Tabletop Techniques	Kilahney Murphy	106	Protonation Thermodynamics Guide Amine Selection for Reactive CO2 Capture and Electroconversion		Yitong Li
15:40	18	Reconstructing Late Holocene eruption histories at Mt Taranaki using synchrotron X-ray fluorescence microscopy of speleothems	Nathan Collins	21	Thermal evolution of amorphous ferric arsenate in the presence of inorganic and organic phosphorus		Purba Anindita Khan
15:55	61	Prompt gamma ghost imaging on the DINGO beamline	Cheng-I Chiang	86	Evolution of length-dependent microstructure of PNDIT2 oligomers		Setegn Geta Aragaw
16:10	Student awards & closing remarks						
16:30	CLOSE						