

Program

Day 1 | Thursday 1st December 2022

8:15	Registration Open			
9:00	Opening			
9:30	Plenary 1 Dr Amina Taleb-Ibrahimi - Synchrotron SOLEIL and applications in Quantum Materials			
	NCSS Seminar Room		NCSS Auditorium	
	Session 1 Advanced Materials & Hard Matter Pimm Vongsvivut		Session 2 Biomedicine & Health Mark Tobin	
10:10	54	Invited: Using high-energy x-ray transmission imaging to unlock the complex relationship between spatial and chemical changes in a lead-acid battery.	Chad Stone	42 Invited: Metastatic Surveillance Post Microbeam Radiotherapy Elette Engels
10:40	49	Swift Heavy Ion Tracks in Polypropylene	Shankar Dutt	107 Theory to Reality; curative brain cancer treatment performed at the Australian Synchrotron Sarah Vogel
11:00	9	Swift heavy ion modified materials: applications and characterisation using small angle X-ray scattering	Patrick Kluth	45 Quantifying sample microstructure using x-ray single-grid dark-field imaging Ying Ying How
11:20	47	NEXAFS Spectroscopy of alkylated benzothienobenzothiophene thin films at the carbon and sulfur K-edges	Paul Chantler	53 Long-term effects of spinal cord microbeam irradiation Elette Engels
11:40	UAC Town Hall meeting			
12:10	Lunch Break			
	Session 3 Chemistry, Catalyses & Soft Matter David Turner		Session 4 Life Science & Structural Biology Christina Kamma-Larger	
1:00	108	Invited: The silver bullet: using silver doped lanthanum manganite to improve preclinical survival of glioma bearing rats	Abass Khochaiche	98 Invited: Tiny, Fast and Sweet: IMBL Cyberanatomy of one of the World's Smallest Marsupials Lucy Costello
1:30	87	Liquid crystal phase formation of Monoolein in protic ionic liquids	Stefan Paporakis	81 High-Resolution Phenotyping for Spatial Localisation and Quantification of Nutrients in Rice Grains Vito Butardo
1:50	37	Tuning the nanostructure and surface charge of phytantriol-based cubosomes using choline ionic liquids	Mohamad El Mohamad	33 Small-angle X-ray scattering (SAXS) measurements of APO-BEC3G provide structural basis for binding of single-stranded DNA and processivity Elena Harjes
2:10	13	Effect of cholesterol on Biomimetic Membrane Curvature and Coronavirus Fusion Peptide Encapsulation.	Izabela M ilogrodzka	2 Structure of the metastatic factor P-Rex1 reveals a two-layered autoinhibitory mechanism Tyler Chang
2:30	Coffee Break			
	Session 5 Chemistry, Catalyses & Soft Matter Annaleise Klein		Session 6 Manufacturing, Engineering & Cultural Heritage Jun Wang	
3:00	27	Invited: Designing new catalysts for energy storage- is the nature of the active site always the right question to ask?	Rosalie Hocking	26 Invited: LipSynch Battle: IRM vs XFM for the study of cosmetic traces for forensic purposes Simon Lewis
3:30	5	Following and Controlling the Assembly of Paddlewheel-Based Cages	David Turner	106 Application of Pilatus external trigger mode for real time dynamic materials testing Peter Lynch
3:50	64	Structures and Phase Transition in CaUNb2O8	Maria Nicholas	11 Three-Dimensional Phase Imaging with the Near Infrared Synchrotron Beam Using Phase-Retrieval Algorithm Molong Han
4:10	Plenary 2 Dr Qun Shen - Beamline Buildout Plan at NSLS-II			
4:40	Poster Slam & Poster Session			

Program

Day 2 | Friday 2nd December 2022

9:00	Plenary Lecture 3 Prof Carolyn Larabell – Title TBC								
	NCSS Seminar Room			NCSS Auditorium			AS Mezzanine		
	Session 7 Biomedicine & Health Eleanor Cambell			Session 8 Earth & Environment Vito Butardo			Session 9 BRIGHT Cameron Kewish		
9:40	46	Invited: Imaging the motion of the lung in 3D to assess the effectiveness of a bacteriophage therapy for lung infection	Stephanie Harker	112	Invited: Corals' Metallomic and Crystallographic Signatures: New Methodology for Investigating Coral Resilience	Annette Dowd			
10:10	73	The Mask of Zorro: Delivering Conformal Radiotherapy Fields with Synchrotron Radiation	Micha Barnes	6	Sequestration of arbuscular mycorrhizal fungal derived carbon in Fe ore tailings	Songlin Wu	4	The Nanprobe Beamline at the Australian Synchrotron	Martin de Jonge
10:30	57	Elucidating the antimicrobial mechanism of silver ions using synchrotron macro ATR-FTIR microspectroscopy	Ngoc Huu Nguyen	71	Eat your greens – thallium in cabbages by XFM and XANES	Lachlan Casey	101	MCT beamline at ANSTO/Australian Synchrotron: Commissioning & first user operations	Andrew Stevenson
10:50	50	Current and future capabilities of the IRM beamline at the Australian Synchrotron, and guidance on applying for use of the facility	Mark Tobin	3	Using the Australian Synchrotron to characterise low level radioactive by-products from a decommissioned subsea oil and gas pipeline	Amy MacIntosh	102	BioSAXS: High flux SAXS beamline dedicated to solution scattering at the Australian Synchrotron	Christina Kamma-Lorger
11:10	23	Quantifying Lung Aeration in Neonatal Lambs at Birth using Lung Ultrasound	Emily Pryor	60	Using infrared microspectroscopy to understand the cellular chemistry of alpine mosses for habitat selection	Annaleise Klein	96	6 Cats, 1 Dog, 3 Chickens – Scientific Computing at the Australian Synchrotron	Andreas Moll
11:30				105	Characterisation of the crystallisable water in precious opal using synchrotron terahertz spectroscopy	Paul Thomas	93	MX3 – the High Performance Macromolecular Crystallography Beamline	Daniel Eriksson
11:50	Lunch Break								
12:50	Plenary Lecture 3 2022 Australian Synchrotron Stephen Wilkins Medal								
1:20	Plenary Lecture 4 2022 Australian Synchrotron Research Award								
2:00	Coffee break								
	Session 10 Manufacturing, Engineering & Culture Heritage Rosalie Hocking			Session 11 Advanced Material & Hard Matter Benedicta Arhatari			Session 12 Advanced Material & Hard Matter Andrew Stevenson		
2:30	100	Invited: Orchestrating a synchrotron ready in-situ experiment in the laboratory environment: Case study on Mg alloy	Sitarama Raju Kada	18	Invited: Four-Angle Polarisation Synchrotron-FTIR Technique for Materials Orientation Analysis at Australian Synchrotron	Pimm Vongsvivut	99	Invited: Using in-situ loading methodologies to understand how metals deform	Michael Preuss & Agius Dylan
3:00	111	Imaging real-time plasticity onset and single twinning events within a bulk polycrystalline magnesium alloy	Jun Wang	34	Radiography tilt series used for depth determination during radiation testing	Chris Hall	91	High-energy x-ray studies of piezoelectric materials	John Daniels
3:20	86	XFM beamline capabilities and future directions	David Paterson	58	The XAS Beamline in 2023: Efficiency and Reliability	Bernt Johannessen	35	Strain measurement, depth-resolved diffraction, and in situ phase mapping of bulky samples – Energy-Dispersive XRD at the Australian Synchrotron	Renata Lippi
3:40	12	Rapid Polarization Imaging at the Infrared Beamline of the Australian Synchrotron	Soon Hock Ng	78	The Simultaneous Reconstruction and Structural Fitting of the Complex Atomic Fine Structure	Paul Di Pasquale	66	High-energy X-ray crystallography at the Australian Synchrotron: New capabilities for challenging single-crystal diffraction experiments	Josie Auckett
4:20	28	A comparison of residual stress in straight and curved laser clad light rail components using neutron diffraction	Olivia Kendall	90	Commissioning and first user operations on MEX	Chris Glover	80	Status of the BRIGHT Advanced Diffraction Beamlines for high energy X-ray diffraction and imaging research	Justin Kimpton
4:40	Plenary Lecture 5 2020 Australian Synchrotron Lifetime Contribution Award								
5:00	Student Poster Prize and Student Poster Snapshot Award Closing remarks Dr Courtney Ennis, UAC Chair								