

USER MEETING 2011

PROGRAM DAY 1: Thursday December 8

Registration			
9:00	Opening Session - Chair: Richard Garrett		
9:10	Australian Synchrotron Update: Andrew Peele and Keith Nugent		
9:45	Plenary 1: Prof James Whisstock, Monash University Membrane Attack Complex / Perforin-Like Proteins In Infection And Immunity		
10:30	Coffee		
	Plenary Hall	Grand Ballroom 3	Grand Ballroom 4
	Structural Biology I Chair: Tom Caradoc-Davies	Earth & Minerals Chair: Enzo Lombi	Imaging & Coherence Chair: Peter Kappen
11:00	Understanding how insulin binds to its receptor and the impact of the new proposed structural biology beamline MX3D Assoc Prof Mike Lawrence Walter + Eliza Hall Institute	An Introduction to the Micro Materials Characterisation Australian Synchrotron Beamline Prof Andrea Gerson University of South Australia	The High Coherence Nano-probe Beamline Dr Brian Abbey La Trobe University
11:30	Stealing Haem from Haemoglobin Ms Kaavya Krishna Kumar University of Tasmania	Development of a High-pressure Geoscience Research Program at the Australian Synchrotron Dr Simon Clark Lawrence Berkeley Lab	Violent Outbursts of Coherent Synchrotron Radiation at the Far-IR/THz beamline Mr Eugene Tan Australian Synchrotron
11:50	Alternative phasing method in macromolecular crystallography Dr Santosh Panjekar Australian Synchrotron	High-temperature and pressure spectroscopic cell for <i>in-situ</i> XAS study of supercritical fluids at the Australian Synchrotron Dr Joel Brugger University of Adelaide	Electronic damage in biomolecular samples due to irradiation by an XFEL pulse: Proof of concept experiment Ms Rebecca Ryan University of Melbourne
12:10	Structure of the Natural Killer Cell Receptor KIR3DL1 in complex with HLA-B*5701 Dr Julian Vivian Monash University	XPEEM/NEXAFS and ToF-SIMS Characterisation of Bornite at Oxidative and Reductive Pulp Potentials Mr Yogesh Kalegowda University of South Australia	Near Field Broadband Phase Imaging using Fresnel and Iterative Techniques Mr Aidan Carroll La Trobe University
12:30	Lunch		
	Biology on the Micron Scale Chair: Nigel Kirby	Device & Nano Materials Chair: Bridget Ingham	Environment & Cultural Heritage Chair: Daryl Howard
13:30	Synchrotron SEC-SAXS studies of mixtures of biomolecules Dr Nathan Cowieson Australian Synchrotron	Probing the interplay between charge transport and microstructure in organic field-effect transistors Dr Chris McNeill Monash University	Elemental mapping of paintings at the Australian Synchrotron Mr David Thurrowgood National Gallery of Victoria
14:00	The fate of dietary selenium: X-ray absorption and fluorescence studies Ms Claire Weekley University of Adelaide	The rare earth nitrides - ferromagnetic semiconductors for spintronics applications Dr James Downes Macquarie University	Clouds, crystals and cooling - far IR spectroscopy of nanoscale aerosol Dr Evan Robertson La Trobe University
14:20	The effect of ice formation on cryoprotectant distribution in a lipid membrane system Dr Ben Kent ANSTO	Determining the orientation of a chiral substrate using full-hemisphere angle-resolved photoelectron spectroscopy Dr Anton Tadich Australian Synchrotron	Use of XRF microtomography to assess distribution of arsenic in fresh plant roots Dr Peter Kopitke University of Queensland
14:40	Alignment and Stretching of Collagen Fibrils in Leather Prof Richard Haverkamp Massey University	Chemical and structural changes during the ion beam synthesis of Fe nanoclusters in SiO ₂ : An XPS, Fe L-edge XANES and TEM investigation Dr Jérôme Leveneur University of Auckland	Megapixel micro x-ray fluorescence mapping and XANES imaging of environmental samples such as soils, sediments and biosolids Dr Erica Donner University of South Australia
15:00	Coffee		
	Medical Applications Chair: Daniel Hausermann	Energy & Framework Materials Chair: James Downes	Instrumentation & Technique Chair: Chris Ryan
15:30	Imaging of diabetic vascular dysfunction Dr James Pearson Australian Synchrotron / Monash University	Securing Cheap, Renewable Sources of Energy: A Challenge for X-rays and Electrons Dr Rosalie Hocking CSIRO	Chemical Speciation Imaging using X-ray Fluorescence Microscopy Dr David Paterson Australian Synchrotron
16:00	Using Synchrotron imaging to put bone remodelling mechanisms under the mathematical microscope Dr Justin Fernandez University of Auckland	Crystallization Behaviour and Phase Stability in Cr- and In-Doped TiO ₂ Nanotubes Prof Jim Low Curtin University of Technology	Enhanced spatial resolution for sub-cellular FTIR microspectroscopy using dual-element ATR Dr Mark Tobin Australian Synchrotron
16:20	The Distribution and Metabolism of the Anti-cancer Platinum Complexes within Multi-cellular Spheroid Tumour Models Ms Jenny Zhang University of Sydney	Mesoporous films prepared by evaporation induced self-assembly technique Dr Cara Doherty CSIRO	X-tream: a real-time treatment monitoring system for synchrotron Microbeam Radiation Therapy Dr Marco Petasecca University of Wollongong
16:40	The Acute Effects of Synchrotron Radiation on Mouse Tumour Tissue Miss Monica Sharma University of Melbourne	Framework composites Dr Paolo Falcaro CSIRO	The Maia Detector System at XFM: Experience and Future Mr Robin Kirkham CSIRO
17:00	Poster Session - Vendor Exhibition - Reception		
19:00	DINNER		

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2011 DAY 2: Friday December 9

9:00	Opening Session Chair: Andrew Peele		
9:05	Plenary 2: Dr Jeff Tallon, Industrial Research Limited Synchrotrons and superconductivity		
9:50	AS Thesis Medal Presentation		
10:30	Coffee		
	Plenary Hall	Grand Ballroom 3	Grand Ballroom 4
	Complementary Techniques Chair: Andrew Stevenson	Structural Biology II Chair: Mike Lawrence	Extreme Conditions & <i>In-situ</i> Chair: Sarah Harmer
11:00	11:00 An Introduction to the Melbourne Centre for Nanofabrication Dr Gareth Moorhead Melbourne Centre for Nanofabrication	Molecular insights into self antigen recognition by natural killer T cells Mr Andrew Clarke Monash University	Liquids at high pressure: exploring melting and structure by x-ray absorption spectroscopy Dr Angela Trapananti CNR-Istituto Officina dei Materiali - OGG Grenoble
11:30	11:30 The Pros And Cons Of Using Fast Electrons To Study Matter Prof Joanne Etheridge Monash Centre for Electron Microscopy	Structure of spheroids: infectious <i>in vivo</i> microcrystals produced by insect poxviruses Dr Fasseli Coulibaly Monash University	<i>In situ</i> synchrotron X-ray diffraction investigation of the formation mechanisms of SFCA iron ore sinter phases Dr Nathan Webster CSIRO
11:50	12:00 Neutrons and X-rays: Why stop at one shining light?	Acyclic Nucleoside Phosphonates as Antimalarial Drug Leads Dr Luke Guddat University of Queensland	Co-crystallisation of CL-20, solving structures from powder diffraction Dr Helen Maynard-Casely Australian Synchrotron
12:10	Prof Mike James ANSTO	Adventures and misadventures with X-ray diffraction data from twinned protein crystals Prof Geoff Jameson Massey University	Bonding and electronic structure of Lanthanide Zirconates as studied by soft x-ray XANES Dr Paolo Imperia ANSTO
12:30	Lunch		
	Materials Analysis Chair: Sigg Schmid	Health & Ageing Chair: Stephen Best	Beamlines Chair: Kia Wallwork
13:30	Applications of high-energy synchrotron x-ray scattering and the future Advanced Diffraction and Scattering beamline of the AS Dr John Daniels University of New South Wales	Quantitation and localization of Intracellular redox active metals by X-ray fluorescence microscopy in cortical neurons derived from APP and APLP2 knock out tissue Dr Joe Ciccotosto University of Melbourne	A Micro-CT beamline for the Australian Synchrotron Dr Sherry Mayo CSIRO
14:00	Thermo-Mechanical Processing in a Synchrotron Beam Dr Klaus-Dieter Liss ANSTO	X-ray Fluorescence Microscopy - The role(s) of Fe and Zn in ageing and disease Dr Simon James CSIRO	The Far-IR & High-Resolution Beamline at the Australian Synchrotron Dr Dominique Appadoo Australian Synchrotron
14:20	Structural studies of Al:ZnO powders and thin films Dr Bridget Ingham Industrial Research Limited, New Zealand	Biological applications of X-ray Fluorescence Tomography Dr Martin de Jonge Australian Synchrotron	Quantitative characterisation of the X-ray beam from the APS wiggler at the Australian Synchrotron Imaging & Medical Beamline (IMBL) Dr Andrew Stevenson CSIRO
14:40	Quantification of Passivation Layer Growth in Inert Anodes for Molten Salt Electrochemistry by <i>In Situ</i> Energy-Dispersive Diffraction Dr Matthew Rowles CSIRO	Parkinson's Disease, Alpha-Synuclein and Small Angle Scattering Dr Cyril Curtain Mental Health Research Institute	Towards the future Advanced IR microscope beamline: Exploring FPA based infrared microspectroscopic imaging and near field scanning for improved spatial resolution Dr Ljiljana Puskar Australian Synchrotron
15:00	Coffee		
	Final Session Chair: David Cookson		
15:30	Plenary 3: Prof Andrea Di Cicco, Universita di Camerino Probing matter under extreme conditions at Fermi@Elettra: the TIMEX beamline		
16:15	UAC Town Meeting		
17:00	Close		