

W 2016 : OVERALL TIMETABLE

Tuesday 2nd February

16:00 – 18:00	Registration desk open <i>Conference bar open</i>
18:00 – 19:30	<i>Dinner</i>
19:00 -	Posters WP1- WP33 to be mounted
19:30 – 21:00	<i>Charles Sturt University Wine Tasting</i>

Wednesday 3rd February

07:30 – 08:45	<i>Breakfast</i>
08:45 – 09:00	Conference opening
09:00 – 10:30	Oral Session: WM1 – WM4
10:30 – 11:00	<i>Morning tea</i>
11:00 – 12:30	Oral Session: WN1 – WN5
12:30 – 14:00	<i>Lunch</i>
14:00 – 15:30	Oral Session: WA1 – WA4
15:30 – 16:00	Poster Slam
16:00 – 18:00	Poster Session: WP1 – WP33 <i>Afternoon Tea</i> <i>Conference bar open</i>
18:00 -	Posters: TP1 – TP37 to be mounted
18:30 – 22:00	<i>Wagga 2016 Conference Dinner</i>

Thursday 4th February

07:30 – 08:45	<i>Breakfast</i>
08:45 – 10:30	Oral Session: TM1 – TM6
10:30 – 11:00	<i>Morning tea</i>
11:00 – 12:30	Oral Session: TN1 – TN5
12:30 – 14:00	<i>Lunch</i>
14:00 – 15:30	Oral Session: TA1 – TA5
15:30 – 16:00	Poster Slam
16:00 – 18:00	Poster Session: TP1 – TP37 <i>Afternoon Tea</i> <i>Conference bar open</i>
18:00 – 19:30	<i>Dinner</i>
19:30 – 22:00	Trivia Quiz (Lindsay Davis Cup)

Friday 5th February

07:30 – 08:45	<i>Breakfast</i>
08:45 – 10:30	Oral Session: FM1 – FM6
10:30 – 11:00	<i>Morning tea</i>
09:30 – 12:15	Oral Session: FN1 – FN4
12:15 – 12:30	Awards and Closing
12:30 –	<i>Lunch</i>

2016 : PROGRAM DETAILS

Tuesday 2nd February

16:00 –	Registration desk opens
16:00 – 18:00	Welcome reception
18:00 – 19:30	Dinner
19:30 – 21:00	Wine Tasting

Wednesday 3rd February

08:45 – 09:00	Opening : Anton Tadich, Australian Synchrotron
09:00 – 10:30	WM Chairperson : Garry McIntyre, ANSTO
09:00 – 09:30	WM1 The Australian Synchrotron in 2015 – Turning Bright Ideas into Brilliant Outcomes <i>Michael James, Australian Synchrotron</i> <i>INVITED</i>
09:30 – 09:45	WM2 Reactions of dihalogenated 3,4-ethylenedioxythiophenes on metal surfaces <i>Jennifer Macleod, Queensland University of Technology</i>
09:45 – 10:00	WM3 Microsecond-resolved insights by SAXS and WAXS into the early stages of CdS quantum dot formation <i>Andreas Magerl, University Erlangen-Nürnberg, Germany</i>
10:00 – 10:30	WM4 Crystalline self-stratification in polymer thin films <i>Eliot Gann, Australian Synchrotron</i> <i>INVITED</i>
10:30 – 11:00	Morning tea
11:00 – 12:30	WN Chairperson : Patrick Tung, UNSW
11:00 – 11:30	WN1 Quantitative Femtosecond Charge Transfer Dynamics at Organic/Electrode Interfaces Studied by Core-Hole Clock Spectroscopy <i>Dongchen Qi, La Trobe University</i> <i>INVITED</i>
11:30 - 11:45	WN2 Unconventional Molecular Weight Dependence of Charge Transport in a High Mobility <i>n</i> -type Semiconducting Polymer <i>Masrur Nahid, Monash University</i>
11:45 - 12:00	WN3 An Approach to Degradation Mechanisms using Numerical Model Fitting in Thermally Activated Delayed Fluorescence (TADF) Organic Light Emitting Diodes (OLEDs) <i>Tadahiko Hirai, CSIRO</i>
12:00 – 12:15	WN4 Solvent restructuring at colloidal nanoparticle surfaces <i>Mirijam Zobel, University Erlangen-Nürnberg, Germany</i>

40th Annual Condensed Matter and Materials Meeting

12:15 – 12:30	WN5	Supramolecular assembly of small molecular gelators mediated by additives <i>Jingliang Li, Deakin University</i>	
12:30 – 14:00		Lunch	
14:00 – 15:30	WA	Chairperson : <i>Francesca Iacopi, Griffith University</i>	
14:00 – 14:30	WA1	Engineering the Diamond Surface for Quantum Technologies <i>Alastair Stacey, University of Melbourne</i>	<i>INVITED</i>
14:30 – 14:45	WA2	Vacancy-mediated electrical conductivity in lithium fluoride upon moderate heating <i>David Hoxley, La Trobe University</i>	
14:45 – 15:00	WA3	One-step synthesis of n-type Mg ₂ Ge <i>Rafael Santos, University of Wollongong</i>	
15:00 – 15:30	WA4	Towards Realisation of High-Performance Thermoelectrics for Energy Conversion <i>Zhigang Chen, University of Queensland</i>	<i>INVITED</i>
15:30 – 16:00		Poster Slam	
16:00 – 18:00		Poster Session WP1 – WP33	
18:30 – 22:00		Conference dinner After Dinner Talk “Pluto: The Next Frontier for Condensed Matter “ <i>Helen Brand, Australian Synchrotron</i>	

Thursday 4th February

08:45 – 10:30	TM	Chairperson : <i>Dongchen Qi, La Trobe University</i>	
08:45 – 09:15	TM1	The endless possibilities of graphene on heteroepitaxial silicon carbide <i>Francesca Iacopi, Griffith University</i>	<i>INVITED</i>
09:15 – 09:30	TM2	Capturing the transition from 3C SiC(111) to graphene by XPS and STM in Ultra High Vacuum <i>Nunzio Motta, Queensland University of Technology</i>	
09:30 – 09:45	TM3	NEXAFS characterisation of CVD graphene on copper <i>Hud Wahab, University of New South Wales, Canberra</i>	
09:45 – 10:00	TM4	Quest for Zero Loss: The Materials selection problem in plasmonics <i>Michael Cortie, University of Technology Sydney</i>	
10:00 – 10:15	TM5	Graphene Nanoplatelet Biodegradable Nanocomposites: A Comparative Study <i>Sima Kashi, Royal Melbourne Institute of Technology</i>	
10:15 – 10:30	TM6	Development of Hydrophilic Materials for Nanofiltration Membrane Achieving Dual Resistance to Fouling and Chlorine <i>Xi Quan Chen, Harbin Institute of Technology, China</i>	

40th Annual Condensed Matter and Materials Meeting

10:30 – 11:00		Morning tea	
11:00 – 12:30	TN	Chairperson : <i>Gail Iles, ANSTO</i>	
11:00 – 11:30	TN1	Atomic-scale understanding of CO ₂ adsorption processes in metal-organic framework (MOF) materials using neutron scattering and ab initio calculations <i>Josie Auckett, ANSTO</i>	<i>INVITED</i>
11:30 - 11:45	TN2	Crystallographic and magnetic structure study in SrCoO _{3-x} by high resolution X-ray and neutron powder diffraction <i>Fenfen Chang, University of New South Wales, Kensington</i>	
11:45 - 12:00	TN3	Hydrates under pressure – new insights from sulfuric acid hydrates <i>Helen Maynard Casely, ANSTO</i>	
12:00 – 12:15	TN4	Inelastic neutron scattering as a means for determining the magnetic exchange interactions in the frustrated quantum spin chain, Linarite. <i>Kirrily Rule, ANSTO</i>	
12:15 – 12:30	TN5	An investigation of magnetic structure and spin reorientation in Cr and Mn doped rare earth ferrites using neutron powder diffraction <i>Xinzhi Liu, ANSTO</i>	
12:30 – 14:00		Lunch	
14:00 – 15:30	TA	Chairperson : <i>Helen Maynard-Casely (ANSTO)</i>	
14:00 – 14:30	TA1	X-radiation in health and disease: Novel approaches to the study of disease processes and therapy <i>Damian Myers, University of Melbourne</i>	<i>INVITED</i>
14:30 – 14:45	TA2	Investigation of Targeting Capabilities of Peptide-conjugated Endocannabinoid-based lipid Nanoassemblies in the Treatment of Arthritis <i>Nicola Barrie, CSIRO</i>	
14:45 – 15:00	TA3	Sodium for securing future renewable energy supply <i>Manickam Minakshi, Murdoch University</i>	
15:00 – 15:15	TA4	Bi(III)-containing lanthanum germanium apatite-type oxide ion conductors and their structure-property relationships <i>Matthew Tate, ANSTO</i>	
15:15 – 15:30	TA5	Low temperature effect of lithium diffusion in 18650-type MNC battery <i>Chun-ming Wu, National Synchrotron Radiation Research Centre, Taiwan</i>	
15:30 – 16:00		Poster Slam	
16:00 – 18:00		Poster Session TP1 – TP37	
18:00 – 19:30		Dinner	
19:30 – 22:00		Trivia Night	

Friday 5th February

08:45 – 10:30	FM	Chairperson: Tilo Soehnel, The University of Auckland	
08:45 – 09:15	FM1	A Morphotropic Phase Boundary in Samarium-modified Bismuth Ferrite Thin Films <i>Nagarajan Valanoor, University of New South Wales</i>	<i>INVITED</i>
09:15 – 09:30	FM2	Reversible electrochromism, elasto-optic and thermo-optic effects in BiFeO ₃ films <i>Daniel Sando, University of New South Wales, Kensington</i>	
09:30 – 09:45	FM3	Effects of ¹⁸ O isotope substitution in multiferroic RMnO ₃ (R=Tb, Dy) <i>Paul Graham, University of New South Wales, Kensington</i>	
09:45 – 10:00	FM4	Growth and Properties of Strain-tuned SrCoO _x (2.5 ≤ x <3) Thin Films <i>Hu Songbai, University of New South Wales, Kensington</i>	
10:00 – 10:15	FM5	Experimental observations of grain-scale property coupling in electroceramics <i>John Daniels, University of New South Wales, Kensington</i>	
10:15 – 10:30	FM6	Gamma irradiation effect on optical and laser damage performance of KDP crystals <i>Xiaodong Yuan, China Academy of Engineering Physics, China</i>	
10:30 – 11:00		Morning tea	
11:00 – 12:30	FN	Chairperson: Claudio Cazorla, UNSW	
11:00 – 11:30	FN1	Two-dimensional Coulomb gas at negative temperature <i>Tapio Simula, Monash University</i>	<i>INVITED</i>
11:30 - 11:45	FN2	Multimode photon-assisted tunnelling in superconducting quantum circuits <i>Matthew Woolley, University of New South Wales, Canberra</i>	
11:45 - 12:00	FN3	Focusing of electrons and holes in semiconductors: from semi-classical dynamics to spintronics <i>Samuel Bladwell, University of New South Wales, Kensington</i>	
12:00 – 12:15	FN4	Amplitude of charge density wave in cuprates <i>Yaroslav Kharkov, University of New South Wales, Kensington</i>	
12:15 – 12:30		Awards and closing : Anton Tadich, Australian Synchrotron	
12:30 – 14:00		Lunch	

WV 2016 : POSTER SESSIONS

Wednesday 3rd February : WP1 - WP34

- WP1 Ion irradiation induced porosity in Ge/SiGe alloys
H. Alkhalidi, F. Kremer, J. Williams and M. Ridgeway
- WP2 Synthesis and characterisation of CoMoO₄ nanospheres with improved supercapacitive performance
M. Barmi and M. Minakshi
- WP3 Electrolytic manganese dioxide from secondary sources suitable for energy storage applications
A. Biswal, M. Minakshi and B. Tripathy
- WP4 Do porosity templates improve the performance of supercapacitor electrode materials?
S. Albohani, D. Laird and M. Minakshi
- WP5 Multigelator organogels-mixture of gelators assembled by different driving forces
J. Chen and J. Li
- WP6 In situ characterisation of calcium carbonate prenucleation clusters around the solubility limit using Small Angle X-ray Scattering technique.
J. Avaro and A. Rose
- WP7 Terahertz Characterisation of 3D Printed Plastics
J. Colla, A. Squires and R. Lewis
- WP8 THz Spectroscopy of Artists' Pigments, Binders and Canvas
A. Squires, M. Kelly and R. Lewis
- WP9 Steels and intermetallics under extreme conditions
K-D. Liss, A. Shiro, R. Dippenaar, K. Akita, K. Funakoshi, M. Reid, H. Suzuki, T. Shobu, Y. Higo, H. Saitoh, S. Zhang and Y. Tomota
- WP10 Improved Micro-CT of SiC/SiC Ceramic Matrix Composites
J. Thornton, M. Zonneveldt, B. Arhatari, J. A. Kimpton, M. Sesso, S. Y. Kim and C. Hall
- WP11 Mechanical meta-materials: beyond conventional property
L. Wang and J. Daniels
- WP12 Curing of large size construction for space exploitation
A. Kondyurin
- WP13 Polyurethane medical implants improved by plasma immersion ion implantation
I. Kondyurina, B. Bao, A. Kondyurin and M. Bilek
- WP14 In-situ diffuse scattering experiment on stress-induced ferroelastic transformation in Ti-15Nb-2.5Zr-4Sn
E. Obbard, R. Burkovsky, H. Wang and Y. Hao

40th Annual Condensed Matter and Materials Meeting

- WP15 Prodrug Amphiphile Nanoparticles of Gemcitabine and 5- Fluorouracil
J. Bulanadi, M. Moghaddam, A. Xue, S. Julovi, S. Bal, X. Gong and R. Smith
- WP16 Spin-polarized single and double electron spectroscopies
J. Williams and S. Samarin
- WP17 Structures of Silane SAMs on Oxide Surfaces
A. Magerl, H-G. Steinruck, M. Deutsch and B. Ocko
- WP18 Biocompatible magnesium based ultrastable metallic glass (SMG) thin films
S. Gleason, K. Laws, J. Jiang and M. Ferry
- WP19 Epitaxial Growth of Spinel Iron Vanadate Thin Films on Perovskite Substrate
D. Zhou, Y. Zhou, N. Valanoor, Q. He and Y-H. Chu
- WP20 Fingering instability in solid state dewetting of single crystal Ni films
S. Jahangir, N. Valanoor, C. Thompson, G.H Kim
- WP21 Modelling TiO₂ supported Au cluster photocatalyst using DFT and SCC-DFTB approaches
J. Li, G. Metha and S. Irle
- WP22 Photoconductivity of nanoscale grain boundaries in two dimensional ZnO platelets
N. Faraji Ouch Hesar
- WP23 A Novel method for the preparation of a monolithic alumina catalyst support
M. H. Amin, S. Bhargava, J. Patel and M. Mazur
- WP24 Refractive index of graphite and graphene at wavelengths spanning the carbon 1s edge
H. Wahab, C. Jansing, H. Timmers and H. C. Mertins
- WP25 Terahertz Spectroscopic Characterizations for Graphite Nanofibers and Graphite
H. Zhang, J. Horvat and R. Lewis
- WP26 Optical bistability due to nonlinear surface plasmon polaritons in graphene
M. Sanderson, Y. Sin Ang and C. Zhang
- WP27 Quantitative 3D Strain Mapping in Nanodiamonds using Bragg Coherent Diffractive Imaging (BCDI)
M. S. Maqbool, D. Hoxley, N. Phillips, A. Stacey, J. Clark, B. Chen, D. Langley, R. Harder, E. Balaur and B. Abbey
- WP28 The role of dielectric function for the control of coupled dipole resonances in dimers of dissimilar metallic nanorods
G. Fletcher, M. Cortie and M. Arnold
- WP29 Helium ion implantation dose dependent microstructure and laser damage of sapphire
Z. Sui
- WP30 Theory of controlling avalanche process of carrier in short pulse laser irradiated dielectrics
X. Yuan, H. Deng and X. Xu
- WP31 Cooperative Behaviour of Physical Systems
T. Finlayson and J. Lashley

- WP32 EPR Study of a 'Capsule' Brewed Coffee and its Decaffeinated Version
G. Troup and S. Drew
- WP33 An EPR Study of Tawny Ports, and Coffee Favoured Liqueurs
G. Troup and S. Drew

Thursday 4th February : TP1 – TP37

- TP1 First spectrum measured on EMU, the cold-neutron backscattering spectrometer at the Bragg Institute, ANSTO
N. De Souza, A. Klapproth, G. Iles
- TP2 Development of high-pressure single-crystal neutron diffraction on the Laue diffractometer, KOALA, at OPAL
J. Binns, G. McIntyre, K. Kamenev, S. Moggach and S. Parsons
- TP3 Advanced Sample Environment Support for Neutron Instruments at the Bragg Institute, ANSTO
P. Imperia, N. Booth, G. Davidson, S. Lee, T. D'Adam and A. Manning
- TP4 Vibrational studies using neutrons
A. Stampfl
- TP5 Development of a compact X-ray source
E.W.J. Yap, R. Preston, J. Tickner and J. Daniels
- TP6 Phase Transition studies of $\text{MnSb}_{2-x}\text{Ta}_x\text{Sb}_2\text{O}_6$
H-B. Kang, T. Soehnel and F. Suzuki
- TP7 Low Pressure Synchrotron X-ray Powder Diffraction of $\text{Cu}_{5-x}\text{M}_x\text{SbO}_6$ (M = Cr, Mn, W)
D. J. Wilson, T. Soehnel, K. Smith, H. E. A. Brand, C. Ulrich, P. Graham, F. Chang, M. Allison and N. H. Vyborna
- TP8 Neutron diffraction study of double tungstates $\text{Li}_2\text{M}^{\text{II}}(\text{WO}_4)_2$ (M=Co and Ni)
C-W. Wang, S. Karna, F. C. Chou and R. Sankar
- TP9 Low-energy crystal-field excitations observed using inelastic Neutron Scattering
G. Iles, G. Stewart, R. Mole, W. Hutchison and S. Cadogan
- TP10 Dynamical Mechanism of Phase Transitions in A-site Ferroelectric Relaxor $(\text{Na}_{0.5}\text{Bi}_{0.5})\text{TiO}_3$
G. Deng, S. Danilkin, H. Zhang, P. Imperia, X. Li, X. Zhao and H. Luo
- TP11 Kaolinite and halloysite – does octahedral Fe^{2+} introduce the extra water into halloysite?
J. Cashion, W. Gates, S. Cadogan, J. Churchman and L. Aldridge
- TP12 An ^{57}Fe Mössbauer Study of the Ordinary Chondrite meteorite Lynch-001
N. Elewa and S. Cadogan

40th Annual Condensed Matter and Materials Meeting

- TP13 Spin transitions in cementite
S. Clark
- TP14 Non-equilibrium field theory and decay widths: a new golden rule
H. Scammell and O. Sushkov
- TP15 Incommensurate magnetic order in PrNiAl₄
R. White, W. Hutchison, M. Avdeev and K. Nishimura
- TP16 Skyrmions and Hopfions in frustrated ferromagnets
Y. Kharkov, M. Mostovoy and O. Sushkov
- TP17 The magnetic properties and magnetocaloric effect in (Mn_{1-x}Ni_x)CoGe
Q. Ren, W. Hutchison, J. Wang, A. Studer and S. Campbell
- TP18 Azimuthal dependence of planar orbits in the crossed fields diamagnetic Kepler problem in silicon
C. Bleasdale and R. Lewis
- TP19 Temperature and magnetic field dependent magnetization of nanoparticulate ZnFe₂O₄ produced by mechanochemical synthesis
F. Nesa, X. Wang, J. Wang, S. Kennedy, S. Campbell and M. Hofmann
- TP20 Pressure induced, reversible, fourfold enhancement of the magnetic ordering temperature in transition metal monomers
C. Woodall, J. Martinez Lillio, A. Prescimone, M. Misek, J. Cano, J. Faus, S. Parsons, K. Kamenev and E. Brechin
- TP21 Physical, thermal and ⁵⁷Fe Mössbauer studies of Y₂Fe₂Si₂C
R. Susilo, S. Cadogan, C-H. Hsu, H. lin, W. Hutchison and S. Campbell
- TP22 Mechanism of enhancement of the electron g-factor in quantum point contacts
G. Vionnet and O. Sushkov
- TP23 Towards understanding the magnetic structure of DyN, a ferromagnetic semiconductor
J. Evans, G. Stewart, S. Cadogan, W. Hutchison, E. Mitchell and J. Downes
- TP24 G-factors of hole bound states in spherically symmetric potentials in cubic semiconductors
D. Miserev and O. Sushkov
- TP25 A ¹⁶¹Dy-Mössbauer spectroscopy investigation of DyCrO₄
G. Stewart, S. Cadogan, W. Hutchison and D. Ryan
- TP26 Spin drift in Rashba systems with tilted magnetic fields
S. Bladwell and O. Sushkov
- TP27 Epitaxial (001) BiFeO₃ thin-films with excellent ferroelectric properties by chemical solution deposition-The role of gelation
Q. Zhang and N. Valanoor
- TP28 Complex Magnetic Structure in strained nanoscale bismuth ferrite thin films
C. Ulrich, J. Bertinshaw, R. Maran, S. Callori, V. Ramesh, J. Cheung, S. Danilkin, S. Hu, J. Seidel and N. Valanoor

- TP29 Nanoscale Ferroelectric domain structure of bismuth ferrite BiFeO₃ under different strains
A. Alsubaie, P. Sharma and J. Seidel
- TP30 Generalised requirements for ferroelectric domain sharing over grain boundaries
S. Mantri and J. Daniels
- TP31 Rational design of multiferroic superlattices
C. Cazorla
- TP32 Positive effect of an internal depolarization field in ultrathin epitaxial ferroelectric films
G. Liu and N. Valanoor
- TP33 Determining fundamental properties from diffraction: electric field induced strain and piezoelectric coefficient
M. Hinterstein, A. Studer and M. Hoffman
- TP34 Diffuse X-ray Scattering: Probing the Nano-scale Disorder in the Lead-Free Piezoelectric Na_{0.5}Bi_{0.5}TiO₃
P. Tung, M. Major, J. Hudspeth and J. Daniels
- TP35 Combinatorial synthesis of piezoelectric materials using an inkjet printer
F. Marlton, J. Daniels and O. Standard
- TP36 Stress and electric-field dependence of the induced phase symmetry in BNT-xBT
M. J. Hossain, Z. Wang, N. Khansur, P. Tung and J. Daniels
- TP37 Contrasting strain mechanisms in lead-free piezoelectric ceramics
N. H. Khansur and J. Daniels