

**2014 Australian Nanotechnology Network
Early Career Researchers Meeting
10-11 July, Guthrie theatre, University of Technology Sydney**



Thursday 10 July 2014

08:30 – 09:00 Registration

09:00-09:15 Session I: Welcome and introduction (Professor Chennupati Jagadish)

09:15 – 09:50	Invited: Prof Francois Ladouceur	UNSW	From sensors to transducers: understanding the job to be done
9:50 – 10:05	Mr Teera Butburee	UQ	Well-defined metal-TiO ₂ Core-shell Structures with Plasmonic Hotspots as Efficient Visible-light Responsive Photocatalysts
10:05 – 10:20	Mr Binbin Li	UWA	A novel drug delivery system for scar therapy: PXS64-loaded PGMA nanoparticles
10:20 – 10:35	Dr Arne Laucht	UNSW	High-fidelity single-atom spin qubits in silicon

10:35 – 11:00 Coffee and refreshments

Session II: Materials and Devices

11:00 – 11:35	Invited: A/Prof. Fu Lan	ANU	Nanostructure solar cells based on III-V semiconductor materials
11:35 – 11:50	Dr Almantas Pivrikas	UQ	Transport of hot carriers in polymer-based organic solar cells
11:50 – 12:05	Mr Sujith Kalluri	UoW	'Mn' doped P2-type Na _x FeO ₂ hierarchical nanofibers as a potential cathode for sodium-ion batteries
12:05 – 12:20	Mr Majid Mortazavia	Monash	Ab Initio Characterization of Layered MoS ₂ as Anode for Sodium-Ion Batteries
12:20 – 12:35	Mrs Bahrati Gupta	QUT	An UHV-STM study of epitaxial graphene formation on 3C SiC (111) substrate
12:35 – 12:50	Mr Michael Stuiber	UoM	Development Of Nanowire Devices With Quantum Functionalities

13:00 – 14:00 Networking Lunch

Session III: Nanobiotechnology

14:00 – 14:15	Dr Jackie Knobloch	Flinders University	Investigating biomimetic cellular membranes using neutron reflectometry
14:15 – 14:30	Dr Megan Osmond	CSIRO	Dermal absorption and short-term biological response in hairless mice following topical application of sunscreens containing zinc oxide nano- or larger particles
14:30 – 14:45	Dr Renee Goreham	Flinders University	Investigating Biomechanics of Biological Samples Using Peak-Force Quantitative Nanomechanical Atomic Force Microscopy (PF-QNM AFM)
14:45 – 15:00	Dr Sarvesh Kumar Soni	RMIT University	'Self-Assembled Bio-macromolecules in Ionic Liquids and Applications'
15:00 – 15:15	Mr Akash Bacchuka	UniSA	Effect of nanotopography on cell-surface interaction

15:20 – 15:50 Afternoon tea

15:50-16:40 **Session III: Panel discussion on industry careers & careers outside academia**

Dr Warren McKenzie, Business Development Manager, Australian Nanofabrication Facility;
Dr James Rabeau, Director of Strategic Planning, Macquarie University;
Dr Vicki Coleman, Project Leader, Nanometrology, National Measurement Institute of Australia;
Dr Danielle Kennedy, Senior Research Scientist, CSIRO;
A/Prof François Ladouceur, Entrepreneur

16:40 – 18:30 Poster session with drinks and nibbles

18:30 – 21:00 Barbeque, Universal cafeteria, level 4, Building 6, UTS

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Friday 11 July 2014

08:30 – 09:00 Registration

Session IV: Optics and photonics

09:00 – 09:35	<i>Invited:</i> A/Prof Heike Ebendorff-Heiderpriem	UoA	Pushing the limits in glass properties and structures for laser, sensing and nonlinearity applications
09:35 – 9:50	Mr Chris Baldwin	Macquarie University	Atomic-scale nanostructuring of diamond surfaces via two-photon UV technique
9:50 – 10:05	Mr Adam Taylor	Swinburne University	Electron-beam lithography of plasmonic nanorod arrays for multilayered optical storage
10:05 – 10:20	Miss Sarah Walden	QUT	Enhanced Nonlinear Absorption and Refraction from semiconductor nanocomposites
10:20 – 10:35	Miss Monishka Narayan	Charles Darwin University	Design of Organic Solar Cells for Optimum Photovoltaic Performance
10:35 – 10:50	Mr Yesaya (Ian) Wenas	ANU	Dependence of Nanowire Solar Cell Parameters on Nanowire Orientation and Diameter

10:50 – 11:20 Coffee and refreshments

Session V: Catalysis

11:20 – 11:55	<i>Invited: Dr Danielle Kennedy,</i>	CSIRO	High-Throughput Development of nanoparticulate mesostructured silicas and catalysts
11:55 – 12:10	Mr EisaZarepour	UNSW	Effective communication Protocols for Nano-scale Sensor Networks
12:10 – 12:25	Dr Tian Yi Ma	UoA	High-Performance Metal-Free Oxygen Evolution Electrocatalysts Based on Ultrathin Graphitic Carbon Nitride Nanosheets
12:25 – 12:40	Dr Yu Yang	Flinders	SAP nanocomposites with super-adsorption and excellent recyclability for heavy metal ions removals
12:40 – 12:55	Mr Minsu Jung	UNSW	Exploring Cu Oxidation State and Its Dynamic Change in Cu/TiO ₂ for Photocatalytic H ₂ Production
12:55 – 13:10	Mr Habib Dalal	UoA	Graphene oxide membranes with advanced controllable properties for ionic and molecular transport

13:10 – 14:00 Networking Lunch

13:10 – 15:00 Poster session parallel with Lunch

15:00 – 15:20 **Best Poster/Presentation Awards; Meeting Close**

15:30 – 16:30 **Scientific writing workshop** (for all those interested in hanging around)

The workshop is kindly sponsored by:

