

## SYMPOSIUM PROGRAM

Wednesday 15<sup>th</sup> –Friday 17<sup>th</sup> February 2012

<b>Registration–Percy Baxter Lecture Theatre Foyer, Waterfront Campus, Deakin University</b>	
<b>Wednesday 15<sup>th</sup> February 2012</b>	
<b>8:00</b>	<b>Registration</b>
<b>8.30</b>	<b>Professor Lee Astheimer Deputy Vice-Chancellor (Research), Deakin University</b>
<b>8.45</b>	<b>Professor Gordon Wallace: Remarks and Highlights</b>
<b>8.55</b>	<b>Professor Maria Forsyth: Welcome and Electromaterials Introduction</b>
<b>Plenary Session</b>	
<b>9.00</b>	<b>Prof. Michel Armand</b> Laboratoire de Réactivité et de Chimie des Solides (LRCS), France Hydrocarbon-Miscible ILs as Antistatics
<b>9.30</b>	<b>A/Prof. Rachel A. Caruso</b> School of Chemistry, The University of Melbourne and Materials Science and Engineering, CSIRO Morphological Control of the Titania Electrode for Dye-Sensitized Solar Cells
<b>10.00</b>	<b>Prof. Simon de Leeuw,</b> Leiden Institute of Chemistry, Leiden University, The Netherlands Examining the Efficiency of sII and sH Promoters for Hydrogen Clathrate Hydrates with Monte Carlo Simulations
<b>10.30</b>	<b>Morning tea</b>
<b>Morning Session 2</b>	
<b>11.00</b>	<b>Prof. Austen Angell (Plenary)</b> Arizona State University, USA Proton potentials in ionic liquids and glasses, and fuel cell applications
<b>11.30</b>	<b>Prof. Mark Cook (Plenary)</b> St Vincent's Hospital Title TBA
<b>12.00</b>	<b>Prof. Ian Chen</b> Institute for Technology Research and Innovation, Deakin University Nanostructured Electrode Materials for Batteries and Supercapacitors
<b>12.20</b>	<b>Mr. Simon Gallagher</b> National Centre for Sensor Research, Dublin City University, IRELAND Physiochemical Properties of Ionic-Liquid Water Mixtures
<b>12.40</b>	<b>Dr. Youssef Shekibi</b> Defence Science and Technology Organisation

	Effect of separator for rechargeable lithium metal, Azo-Spiro Mixed ionic liquids and LiFePO <sub>4</sub> High temperature battery
<b>1.00</b>	<b>Lunch</b>
<b>Afternoon Session 1 (Plenary)</b>	
<b>2.00</b>	<b>Professor Ari Ivaska</b> Åbo Akademi University, Turku-Åbo, Finland Spectroelectrochemistry at sensors and sensor materials
<b>2.30</b>	<b>A/Prof. Yair Ein-Eli</b> Department of Materials Engineering, Technion-Israel Institute of Technology, Israel <i>Towards 2030...Metal-air Battery Technology</i>
<b>3.00</b>	<b>Prof. Robert Slade</b> Department of Chemistry, University of Surrey Temperature Dependence of Key Performance Indicators for Aqueous Supercapacitors Containing Nanostructured Birnessite MnO <sub>2</sub>
<b>3.30</b>	<b>Afternoon tea</b>
<b>Afternoon Session 2</b>	
<b>4.00</b>	<b>Professor Richard B. Kaner</b> Departments of Chemistry & of Materials Science and Engineering, UCLA, USA, Exploring the synthesis and applications of graphene
<b>4.20</b>	<b>A/Prof. Bjorn Winther-Jensen</b> Department of Materials Engineering, Monash University, Australia Light enhanced electro-catalysis on conjugated polymer hetero-junction composites
<b>4.40</b>	<b>Dr. Mike Lyons</b> School of Chemistry, University of Dublin, Trinity College, Dublin 2, Ireland, Redox switching and oxygen evolution at hydrous nickel and iron oxide films in aqueous alkaline solution
<b>5.00</b>	<b>A/Prof. Yu-Kuei Hsu</b> National Dong Hwa University, Taiwan, Facile Synthesis of Lotus-Like CuO/ Cu (OH) <sub>2</sub> Structures as hierarchical electrode for electrochemical capacitors
<b>5.20</b>	<b>Poster Session</b>
<b>Thursday 16<sup>th</sup> February 2012</b>	
<b>Morning Session 1</b>	
<b>9.30</b>	<b>Dr. Dirk Fiedler (Plenary)</b> Assessing Zinc/Air Batteries For Use In Cochlear Implant Sound Processors, Cochlear Limited NSW, Australia
<b>10.00</b>	<b>Dr. Michele Sessolo</b> Department of Bioelectronics, Centre Microélectronique de Provence, Ecole Nationale Supérieure des Mines de Saint Etienne France Organic Electronic Devices as for Neural Interfacing

10.20	<p><b>A/Prof. Jadranka Travas-Sejdic</b>          Polymer Electronics Research Centre, Department of Chemistry, University of Auckland, New Zealand          Applications of scanning ion conductance microscopy to conducting polymers: electropolymerization and ion flux measurement</p>
10.40	<p><b>Prof. Ray Baughman</b>          The University of Texas at Dallas          Title TBA</p>
11.00	<p><b>Morning tea</b></p>
<p><b>Morning Session 2</b></p>	
11.30	<p><b>Prof. Mario Romero-Ortega (Plenary)</b>          University of Texas at Arlington          Understanding Signal Decay in Peripheral Neural Interfacing</p>
12.00	<p><b>Professor Dermot Diamond</b>          National Centre for Sensor Research, Dublin City University, Ireland          Title TBA</p>
12.20	<p><b>Dr. Wren Greene</b>          Institute for Technology Research and Innovation, Deakin University,          Pressure solution – the importance of the electrochemical surface potentials</p>
12.40	<p><b>Dr. Anita Quigley</b>          St Vincent's Hospital          Nano and microstructured conductive polymers for guidance and stimulation of neuronal growth</p>
1.00	<p><b>Lunch</b></p>
<p><b>Thursday 16<sup>th</sup> February 2012</b></p>	
<p><b>Afternoon Session 1</b></p>	
2.00	<p><b>Prof. Byung-Ki Na, Dr. Byung-Won Cho</b>          Dept. of Chemical Engineering, Chungbuk National University, Korea          Synthesis and electrochemical Characteristics of Ru doped <math>\text{Li}_4\text{Ti}_5\text{O}_{12}</math></p>
2.20	<p><b>A/Prof. Dan Li</b>          Department of Materials Engineering, Monash University, Australia          Solvated Graphene-Based Soft Materials</p>
2.40	<p><b>Dr. Adam Best</b>          Energy Technology Division, CSIRO          In-Situ NMR for the detection of Lithium microstructures and dendrites in Lithium metal batteries</p>
3.00	<p><b>Dr. Tim Bastow</b>          CSIRO Materials Science Engineering, CSIRO          Structural property gradients in alloys investigated by <math>^7\text{Li}</math>, <math>^{27}\text{Al}</math> and <math>^{63}\text{Cu}</math> NMR and powder XRD observation of intermetallic precipitate formation in Al(Li) and Al(Cu,Li) alloys</p>
3.20	<p><b>Afternoon tea</b></p>

Afternoon Session 2	
3.50	<b>Dr. Jenny Pringle</b> Department of Materials Engineering, Monash University, Australia Redox active ionic liquids for dye-sensitized solar cells and thermoelectrochemical cells
4.10	<b>Dr. Ho Seok Park</b> Kyung Hee University, Korea Title TBA
4.30	<b>Dr. Lathe A. Jones</b> RMIT University Direct Electodeposition of Porous Platinum,
4.50	<b>Dr. Jani Pelto</b> Advanced Materials, VTT Technical Research Centre of Finland Electrical Stimulaton of adipose stem cells in 3D geometry,
5.10	<b>Dr. Drew Events</b> University of South Australia Insight into vacuum vapour phase polymerization delivers ito equivalent conductivity from an inherently conducting polymer
7.00	<b>Symposium Dinner</b>
Friday 17 <sup>th</sup> February 2012	
Morning Session 1	
9.00	<b>Mr. Liyu (Leo) Jin</b> , Department of Materials Engineering, Monash University Recent Studies on Application and Theory of Organic Ionic Plastic Crystals as a Solid-State Electrolyte
9.10	<b>Mr. Rob Kerr</b> , Department of Materials Engineering, Monash University Working towards enhanced electrocatalysis of the oxygen reduction reaction using structured poly(3,4-ethylenedioxythiophene) (PEDOT) electrodes
9.20	<b>Mr. Alex Izgorodin</b> , Department of Materials Engineering, Monash University Water oxidation using manganese oxide catalyst prepared by electrodeposition from ionic liquids
9.30	<b>Ms. Mega Kar</b> , Department of Materials Engineering, Monash University Ionic Liquids for Metal/Air batteries
9.40	<b>Cathal Oconnell</b> , University of Wollongong Patterning conducting polymers at micro- and nano-scales via dip-pen nanolithography
9.50	<b>Amy Gelmi</b> , University of Wollongong Hydrogen generation using porphyrin/polymer films
10.00	<b>Cameron Ferris</b> , University of Wollongong Bio-ink for ink jet printing of living cells
10.10	<b>Robin Gorkin</b> , University of Wollongong Additive fabrication to enable the development of implantable electromaterial devices

<b>10.20</b>	<b>Lei Tong</b> , University of Wollongong Tandem water splitting photo-electrochemical device utilizing a dye-sensitized NiO photocathode
<b>10.30</b>	<b>Morning tea</b>
<b>Morning Session 2</b>	
<b>11.00</b>	<b>St Vincent's Hospital</b>
<b>11.10</b>	<b>St Vincent's Hospital</b>
<b>11.20</b>	<b>Mr. Frederic Gilbert</b> , University of Tasmania Is it too soon to ponder the ethical implications of optogenetics?
<b>11:30</b>	<b>Dr. Jaka Sunarso</b> , Deakin University Characterizing oxygen reduction reaction activity of La-based perovskite oxides in alkaline medium
<b>11.40</b>	<b>Dr. Paul Bayley</b> , Deakin University Title TBA
<b>12.00</b>	<b>Mr. Tristan Simons</b> , Deakin University Title TBA
<b>12:10</b>	<b>Ms. Yafei Zhang</b> , Deakin University Control of biodegradation of Mg alloys for degradable stents application in simulated body fluid
<b>12.20</b>	<b>Symposium Closing</b> <b>Prof. Maria Forsyth</b>