

**SYMPOSIUM PROGRAM**

**Monday 11<sup>th</sup> – Wednesday 13<sup>th</sup> February 2019**

<b>Registration–The Pier Geelong Waterfront</b>	
<b>Monday 11<sup>th</sup> February 2019</b>	
<b>8:00</b>	<b>Registration</b>
<b>9:00</b>	<b>Welcome Remarks</b> <b>Prof. Maria Forsyth and A/Prof. Jenny Pringle</b>
<b>9.05</b>	<b>Opening Remarks</b> <b>Deakin University Vice Chancellor Prof. Jane den Hollander</b>
<b>9:15</b>	<b>Prof. Gordon Wallace</b>
	<b>Chair: Prof. Maria Forsyth</b>
<b>9:20</b>	<b>A/Prof Leigh Johnston (Plenary)</b> Biomedical Engineering, The University of Melbourne, Australia <i>Efficient magnetic resonance imaging of sodium in the brain</i>
<b>9:50</b>	<b>Dr. Tamar Greaves</b> School of Science Cluster, Department of Physics, RMIT University, Australia <i>High throughput and machine learning approaches in the characterisation of neat ionic liquids and their mixtures</i>
<b>10:10</b>	<b>Dr. Anthony Burrell</b> Electrochemical Energy Storage, Oklahoma State University <i>Silicon Anodes: Where to Next?</i>
<b>10:30</b>	<b>Prof Zaiping Guo</b> Institute for Superconducting & Electronic Materials, University of Wollongong, Australia <i>Advanced Electrode Materials for Metal-ion Batteries</i>
<b>10:50</b>	<b>Morning tea</b>
	<b>Chair: Prof. Simon Moulton</b>
<b>11:20</b>	<b>Dr. Alex Harris</b> The University of Melbourne, Australia <i>Electrochemical Methods for Analysing and Controlling Charge Transfer at the Electrode-Tissue Interface ~ and their Application to Cochlear Implant Electrode Arrays</i>
<b>11:40</b>	<b>Dr Ben Sherlock</b> Living Systems Institute, University of Exeter <i>Translating microscopy from bench-to-bedside: developing multiphoton microscopes for in vivo assessment.</i>
<b>12:00</b>	<b>Dr. Kyle Wedgwood</b> Centre of Biomedical Modelling and Analysis, University of Exeter, UK <i>Blueprints for islets: using mathematics to design islets</i>
<b>12:20</b>	<b>Dr. Adrian Panow</b> Director of Energy Deakin University, Australia <i>The Deakin Waurm Ponds Microgrid</i>
<b>12:40</b>	<b>Lunch</b>

<b>Chair: Dr. Xiaoen Wang</b>	
<b>1:40</b>	<p><b>Prof Mauricio Isaacs Casanova</b> Pontificia Universidad Catolica de Chile <i>Copper (i) oxide and copper nanostructures modified electrodes for the electrochemical reduction of carbon dioxide</i></p>
<b>2:00</b>	<p><b>Dr. Nikhil Medhekar</b> Department of Materials Engineering, Monash University, Australia <i>In Silico Materials Design for Next Generation Batteries</i></p>
<b>2:20</b>	<p><b>Prof. Alexei Sokolov</b> Department of Chemistry, University of Tennessee, USA <i>Mechanisms of Ionic Conductivity in Polymer Electrolytes</i></p>
<b>2:40</b>	<p><b>Dr. John Chiefari</b> CSIRO, Australia <i>The use of controlled free radical polymerisation to prepare novel polymerised ionic liquid block copolymers as solid polymer electrolytes</i></p>
<b>3:00</b>	<b>Afternoon tea</b>
<b>Chair: Dr. Luke O'Dell</b>	
<b>3:30</b>	<p><b>Prof. Kondo-Francois Aguey-Zinsou (Plenary)</b> Materials Research Laboratory in Nanaoscale, University of New South Wales, Australia <i>Designing better hydrogen storage materials</i></p>
<b>4:00</b>	<p><b>Prof. Melanie Britton</b> School of Chemistry, University of Birmingham, UK <i>In Operando Visualization of Battery Chemistry by Magnetic Resonance Imaging.....Turning the heroic into routine.</i></p>
<b>4:20</b>	<p><b>Dr. Shanqing Zhang</b> Centre for Clean Environment and Energy, School of Environment and Science, Gold Coast Campus, Griffith University, QLD, Australia <i>Confining SI and S in polymer composite frameworks for Li Ion batteries</i></p>
<b>Burster session</b>	
<b>4:40</b>	<p><b>Dr. Robert Kerr</b> <i>Advanced battery prototyping at BatTRI-Hub</i></p>
<b>4:43</b>	<p><b>Dr. Faezeh Makhlooghiazad</b> <i>Improved high temperature cycling sodium vanadium phosphate cathodes using NaFSI rich organic ionic plastic crystal electrolyte</i></p>
<b>4:46</b>	<p><b>Rebecca Y. Hodgetts</b> <i>Engineering the solvent electrolyte system for efficient electrocatalytic dinitrogen reduction to ammonia under ambient conditions</i></p>
<b>4:49</b>	<p><b>Vipul Gupta</b> <i>Three-dimensional Bifurcating Microfluidic Distributor</i></p>
<b>4:52</b>	<p><b>Leire Meabe</b> <i>Single Ion Conducting Solid Polymer Electrolyte films based on Poly(ethylene oxide carbonates)</i></p>

<b>4:55</b>	<b>Bijan Shekibi</b> <i>Neuromuscular Junction Development for a Prosthetics Interface</i>
<b>5:00</b>	<b>Miss Molly Patton</b> Patton'd Studios <i>Science, Innovation and Creative Design</i>
<b>5:15-7:00</b>	<b>Poster Session</b>

Tuesday 12 <sup>th</sup> February 2019	
	<b>Dr. Danah Al-Masri</b>
9:00	<b>Dr. Cara Doherty (Plenary)</b> CSIRO, Melbourne Australia <i><u>Porous Materials for Energy Applications and Sensing Devices</u></i>
9:30	<b>Prof Min Gu</b> Research and Innovation, RMIT University, Melbourne Australia <i><u>Laser patterning in nanomaterials for nanophotonics</u></i>
9:50	<b>Dr. Cristina Pozo_Gonzalo</b> Institute for Frontier Materials, Deakin University, Australia <i><u>Carbon-based materials for air cathodes in Na-O<sub>2</sub> batteries</u></i>
10:10	<b>Prof. Dan Li</b> Chemical Engineering, University of Melbourne, Australia <i><u>When graphene meets electrolytes---From colloidal processing, energy storage to nanoionics</u></i>
10:30	<b>Morning tea</b>
	<b>Prof. Geoff Spinks</b>
11:00	<b>Prof. Mario Romero-Ortega</b> Department of Bioengineering, University of Texas at Dallas, USA <i><u>Bioelectronic Applications of Graphene Fiber electrodes</u></i>
11:20	<b>Prof. Jean Le Bideau</b> University of Nantes, France <i><u>UV-cured ionogels' host networks: effects of mesh size and ethylene oxide content.</u></i>
11:40	<b>Prof. Buzz Palmer</b> MedTech Innovator, Melbourne Australia <i><u>Entrepreneurship - the Great Australian Hippopotamus</u></i>
12:00	<b>Prof. Dermot Diamond</b> National Centre for Sensor Research, Dublin City University, Ireland <i><u>Materials Based Sensing and Control</u></i>
12:20	<b>Prof. Ray Baughman</b> University of Texas at Dallas, USA <i><u>Energy Harvesting, Energy Storing, and Actuating Yarns and Textiles</u></i>
12:40	<b>Lunch</b>
	<b>Dr. Anita Quigley</b>
1:40	<b>Prof. Lianzhou Wang</b> Australian Institute for Bioengineering and Nanotechnology, The University of Queensland, Australia <i><u>Designing Semiconductor Photoelectrodes for Integrated Photo-electrochemical Water Splitting</u></i>
2:00	<b>Dr. Nerea Casado Perez</b> POLYMAT, Donostia-San Sebastián, Spain

	<u><i>Poly(3,4-Ethylenedioxythiophene)Materials For Electrochemical Energy Storage</i></u>
2:20	<b>A/Prof. Drew Evans</b> Future Industries Institute, University of South Australia, SA <u><i>Anion interactions with vapour deposited PEDOT</i></u>
2:40	<b>Dr. Soniya Yambem</b> Queensland University of Technology (QUT) <u><i>Proton sensitive organic thin film transistors using sulfonated mesoporous silica</i></u>
3:00	<b>Afternoon tea</b>
	<b>A/Prof. Jenny Pringle</b>
3:30	<b>Prof. Austen Angell (Plenary)</b> School of Molecular Sciences, Arizona State University, USA <u><i>A new anion for ionic liquids and a new alkali cation conductor for lithium batteries</i></u>
4:00	<b>Prof. Kyoko Fujita</b> Department of Pathophysiology and School of Pharmacy, Tokyo University, Japan <u><i>Hydrated Ionic Liquid for the Re-naturation of Aggregated Proteins</i></u>
4:20	<b>Prof. Hwan Kyu Kim</b> Department of Advanced Materials Chemistry, Korea University <u><i>Carbon-based Nanomaterials for Superior Performance Dye-Sensitized Solar Cells</i></u>
4:40	<b>Prof. Richard Kaner</b> University of California, Los Angeles, USA <u><i>Conducting Polyaniline and Oligoanilines: Morphologies and Emergent Applications</i></u>
7:00	<b>Symposium Dinner at The Pier</b>

<b>Wednesday 13th February 2019</b>	
<b>ACES Showcase</b>	
<b>Chair: A/Prof. Michael Higgins</b>	
<b>8:15</b>	<b>Welcome and Introduction</b> <b>Prof. Gordon Wallace</b> Director of ARC Centre of Excellence for Electromaterials Science
<b>8:30</b>	<b>Electromaterials Theme Leader</b> Prof. David Officer
<b>8:35</b>	<b>Dr. Fangfang Chen</b> Using Molecular Dynamics to investigate transport and structure in bulk electrolyte materials and at interfaces
<b>8:55</b>	<b>Electrofluidics and Diagnostics Theme Leader</b> <b>Prof. Brett Paull</b>
<b>9:00</b>	<b>Dr. Umme Kalsoom</b> 3D printable composite materials for applications in environmental monitoring and humidity sensing
<b>9:07</b>	<b>Shaun Gietman</b> Polymer Composites for NIR Activated Drug Delivery
<b>9:14</b>	<b>Dr Zhilian Yue</b> e-sutures for controlled delivery
<b>9:21</b>	<b>Soft Robotics Theme Leader</b> <b>Prof. Gursel Alici</b>
<b>9:26</b>	<b>Dr Hao Zhou</b> Developing a soft robotic prosthetic hand with intuitive myoelectric control.
<b>9:33</b>	<b>Mr Charbel Tawk</b> 3D Printable Soft Actuators
<b>9:40</b>	<b>Mr Gerardo Montoya Gurrola</b> Neural interfaces: On the recovery of haptic sense
<b>9:47</b>	<b>Synthetic Energy Systems Theme Leader</b> <b>Prof. Doug Macfarlane</b>
<b>9:52</b>	<b>Dr. Alexander Simonov</b> Robust catalysts for water oxidation at pH below zero and temperatures up to 80 °C"
<b>9:59</b>	<b>Kalani Achchige</b> High Energy Density Anodic Redox Couples in Ionic -Liquid Electrolytes for Application in Redox Flow Batteries
<b>10:06</b>	<b>Colin Kang</b> High Nitrogen Solubility Electrolytes for Electrochemical Nitrogen Reduction

<b>10:13</b>	<b>Morning tea</b>
	<b>Chair: A/Prof. Attila Mozer</b>
<b>10:45</b>	<b>Synthetic Bio Systems Theme Leaders</b> <b>Prof. Mark Cook / Prof. Rob Kapsa</b>
<b>10:50</b>	<b>Dr. Justin Bourke</b> 3D Printing an Implantable Living Neuro-Electrode Interface for Limb Prosthetics
<b>10:57</b>	<b>Jianfeng Li</b> Development of graphene-cellulose paper-based electrical stimulation device
<b>11:04</b>	<b>Daniela Duc</b> Electrical and NIR co-stimulation for Neural Applications
<b>11:11</b>	<b>Ethics Policy Public Engagement Theme Leader</b> <b>Prof. Susan Dodds</b>
<b>11:16</b>	<b>Dr. Eliza Goddard</b> Ethical analysis of a survey of Australians with upper-limb difference – Implications for prosthetic design
<b>11:23</b>	<b>Linda Wollersheim</b> Policy Pathways for Locally-anchored, Low-carbon Energy Systems
<b>11:30</b>	<b>Mathew Cherian</b> India: A framework for design of energy critical infrastructure to inform disaster policy making
<b>11:37</b>	<b>Certificate in Entrepreneurship Presentations</b>
<b>12:20</b>	<b>Symposium Closing – Prof. Maria Forsyth</b>
<b>12:25</b>	<b>Lunch</b>