



XIV International Symposium on Polymer Electrolytes (ISPE14) Program

Sunday 24th – Friday 29th August 2014

Sunday 24th August 2014	
2:00pm	Registration opens
4:30	Professor Maria Forsyth: Welcome and Electromaterials Introduction
4:40	Prof Jane den Hollander, Deakin University Vice-Chancellor ISPE 14 formal opening
Plenary 4:50	Prof Gordon Wallace-University of Wollongong, Australia Flexible Electromaterials – Stretching the Limits of Human Performance
5:35	Evening drinks and Nibbles
Monday 25th August 2014	
Morning Session 1	
Chair: Prof. Doug MacFarlane, Monash University, Australia	
Plenary 8:45-9:30	Prof Peter Bruce-University of St Andrews, Scotland Crystalline Polymer Electrolytes
Invited 9:30-9:55	Prof Robert Slade- University of Surrey, UK Anion exchange membranes and ionomers for alkaline polymer electrolyte fuel cells and for flow batteries
Invited 9:55-10:20	Dr Daniel Brandell-Uppsala University, Sweden Functionalized Polymer Electrolytes for Large and Small Li-Battery Applications: Experiments and Modelling
Contributed 10:20-10:35	Dr Adam Weber- Lawrence Berkeley National Laboratory, USA Structure-Function Relationship of PFSA Thin Films
Morning tea 10:35-11:00	
Morning Session 2	
Chair: A/Prof Masahiro Yoshizawa-Fujita, Sophia University, Japan	
Invited 11:00-11:25	A/Prof Idriss Blakey, The University of Queensland, Australia Phase Behaviour and Morphologies of Ionic Liquid Containing Block Copolymers: Blends and Polymeric Ionic Liquids
Contributed 11:25-11:40	Miss Melody Leclere, CEA-Grenoble France Properties of New Ionic Polymer-based electrolytes swelled with Ionic Liquids
Contributed 11:40-11:55	Prof Monika Schonhoff- University of Munster, Germany A Polymerizable Ionic Liquid with State of the Art Transport Properties: Ion transport and dynamics of IL and Poly-IL
Contributed 11:55-12:10	Dr Rebeca Marcilla- Imdea Energy Institute, Spain Synthesis of Polymer Electrolytes based on Polymeric Ionic Liquids & ILs and their application in all-solid Supercapacitors
Invited	Prof Dale Teeters- The University of Tulsa, USA



12:10-12.35	Increased Ionic Conduction and Battery Fabrication Using Ceramic/Polymer Interpenetrating Networks
Lunch 12:35-2:00	
Afternoon Session 1	
Chair: Prof Patrik Johansson, Chalmers University of Technology, Sweden	
Plenary 2:00-2:45	Prof Joachim Maier- Max Planck Institute for Solid State Research Germany The Soggy Sand Story: Composite Solid-Liquid Electrolytes
Invited 2:45-3:10	Prof Michel Armand, CIC Energigune, Albert Einstein 48, 0150 Miñano, Spain Lithium in the race again?
Invited 3:10-3:35	Dr Michael Popall, ISC-International, Germany Hybrids for Improved Battery Performance
Afternoon tea 3.35-4.00	
Afternoon session 2	
Chair: Dr Patrick Howlett, Deakin University, Australia	
Invited 4:00-4:25	Dr Agnieszka Pawlicka, IQSC-USP, Brazil DNA-dye-based membranes for electrochemical devices
5 minute poster introductions	
4:25	Mr Martin Bergman, Department of Applied Physics, Chalmers University, Sweden, Characterization of PMMA: PEGMA and LiTFSI based comb polymer electrolytes for high temperature applications
4:30	Dr Hong Ngee Lim, Department of Chemistry, University Putra Malaysia Supercapacitor Device Using Polyvinyl Alcohol Polymer Electrolyte Based on Potassium Hydroxide
4:35	MSc Joao Arthur Batalha, Instituto de Macromoleculas, Universidade Federal do Rio de Janeiro, Brazil, Polymer Electrolytes based on Poly(ether sulfone) and Protic Ionic Liquid for Anhydrous Fuel Cell Application
4:40	Miss Luciano T. Costa, Instituto de Quimica, Universidade Federal Fluminense, Brazil, MD simulation of the ternary battery electrolyte systems: polymer, salt and ionic liquids
4:45	Ms Nerea Casado, Polymat Fundazioa, Spain PEDOT derivative TEMPO Polymer for electrochemical energy storage
4:50	Dr Shogo Takamuku, Max Planck Institute for Polymer Research, Germany Hypersulfonation: Exploring the limits of Sulfonated Aromatic Polymers
4:55	Dr Safir Ahmad Hashmi, Department of Physics and Astrophysics, University of Delhi, India, Solid-state electric double layer supercapacitors based on plastic-crystal-incorporated lithium-ion-conducting gel polymer electrolytes
5:00	Mr Mitsutake Suematsu, Sophia University, Japan Liquid Zwitterion Effect in PEO-based Electrolytes = Electrochemical Properties and Conduction Mechanism
Poster Session 5:00-7:00 pm	



Tuesday 26th August 2014

Morning session 1

Chair: Dr Luke O'Dell, Deakin University, Australia

Plenary 8:45-9:30	Prof Patrik Johansson-Chalmers University of Technology, Sweden Computational modelling of polymer electrolytes – what do 30 years of research efforts provide us today?
Invited 9:30-9:55	Dr Fangfang Chen, Deakin University, Australia Recent progress in the fundamentals of organic ionic plastic crystals by modelling investigations
Contributed 9:55-10:10	Mr Liyu Jin, Monash University, Australia An unusual heat capacity change in an organic ionic plastic crystal electrolyte
Contributed 10:10-10:25	Dr. Jiaye Li, Monash University, Australia, Synthesis of Sodium-ion, Ionic Liquid Type Polymer Electrolyte

Morning tea 10:30-11:00

Morning session 2

Chair: Prof Huanting Wang, Monash University, Australia

Invited 11:00-11:25	A/Prof Masahiro Yoshizawa-Fujita , Sophia University, Japan Design of soft electrolytes as lithium ion transport materials
Invited 11:25-11:50	A/Prof Aninda Bhattacharyya, Indian Institute of Science, India Solid-like Electrolytes for Electrochemical Systems
Contributed 11:50-12:05	Mr Bing Sun- Department of Chemistry Angstrom Laboratory, Sweden The polymer electrolyte SEI-layer: a comparative XPS study of the surface chemistry in solid-state Li-batteries
Contributed 12:05-12:20	Dr Jonas Mindemark- Angstrom Advanced Battery Centre, Uppsala University Sweden, Development of functional polycarbonate-based electrolytes for lithium-ion batteries
Contributed 12:20-12:35	Prof Ramesh T. Subramaniam- Centre for Ionics University of Malaya, Malaysia Influence of Different Functionality Nanofillers in the Properties of Triblock Copolymer Electrolytes

Lunch 12:35-2:00

Afternoon session 1

Chair: Dr Millicent Firestone, Los Alamos, USA

Plenary 2:00-2:45	A/Prof Louis Madsen-Virginia Tech USA Understanding transport from molecular to micron scales in polymeric ion conductors
Invited 2:45-3:10	Dr Luke O'Dell, Institute for Frontier Materials, Deakin University, Australia New insights into novel solid electrolyte materials from magnetic resonance experiments
Invited 3:10-3:35	A/Prof Yoichi Tominaga, Tokyo University of Agriculture and Technology, Japan, Fast Li-Ion Conductive Polycarbonate-based Electrolytes



Afternoon tea 3:35-4:00

Afternoon session 2

Applications – Electrochromics and DSSCs

Chair: Dr Caiyun Wang, IPRI, University of Wollongong, Australia

Invited 4:00-4:25	Prof Huanting Wang-Monash University, Australia High-flux Nanoporous Membrane Induced by Slow Hydration of Polyelectrolyte
	5 minute poster introductions
4:25	Mr Ikhwan Syafiq Mohd Noor- Centre for Ionics, University of Malaya, Malaysia Dye Sensitized Solar Cells with Poly(vinyl alcohol) Based Gel Polymer Electrolyte Containing Lithium Bis(oxalato)borate Salt
4:30	Mr Wayne Francis, School of Chemical Sciences, Dublin City University, Ireland Electro-Guided Self Propelled Droplets
4:35	Anna Bitner-Michalska, Warsaw University of Technology, Poland, Basic Properties of liquid and PEO-Sodium 4,5-dicyano-1,2,3-Triazolates as an electrolyte for new generation of Sodium batteries
4:40	Mr Ryo Sano, Yokohama National University, Japan Polymer Electrolytes of Ionic Liquids Having Uniform Network Structures for Soft Actuators
4:45	Miss Yajing Yan, Institute for Frontier Materials, Deakin University, Australia Ionic Liquid Electrolytes in Mg-Air Batteries
4:50	Mr Nicolas Goujon – Institute for Frontier Materials, Deakin University, Australia, Liquid crystalline ionic liquids with polymerizable groups: understanding the phase behaviour
Poster session 5:00-7:00pm	



Wednesday 27th August 2014

Morning session 1

Chair: Prof David Mecerreyes- Institute of Polymer Materials (Polymat) Spain

Plenary 8:45-9:30	Prof Vito Di Noto-University of Padua, Italy Charge transfer mechanisms in ion conducting materials by broadband electrical spectroscopy (BES)
Invited 9:30-9:55	Dr Mallory Gobet- Hunter College of CUNY, USA Recent advances in nuclear magnetic resonance studies of polymer electrolytes
Contributed 9:55-10:10	Dr Andreas Wohlfarth- Max Planck Institute for Solid State Research, Germany, Dissociation behavior of highly sulfonated polyelectrolytes in H ⁺ , Li ⁺ and Na ⁺ form
Invited 10:10-10:35	Prof Eugene Smotkin, Northeastern University, Boston, USA Mechanically coupled internal coordinates: Adding colour to ionomer infrared spectroscopy

Morning tea 10:35-11:00

Morning session 2

Chair: Prof Andrew Herring, Colorado School of Mines, USA

Invited 11:00-11:25	A/Prof Azizan Ahmad-The National University of Malaysia, Malaysia Preparation and Characterization of Green Polymer Electrolyte Based on Biopolymer and its Derivatives
Invited 11:25-11:50	Dr George. Q. Chen-The University of Melbourne, Australia Electrodialysis for Amine Contaminant Removal and Demineralization of Dairy Effluents
Contributed 11:50-12:05	Dr Jelena Popovic-Max Planck Institute for Solid State Research, Germany Towards composite lithium electrolytes with high transference numbers: infiltration of mesoporous solids
Invited 12:05-12:30	Prof San Ping Jiang - Curtin University Australia Highly Ordered 3D-Mesoporous Nafion Membranes for Fuel Cells

Excursion 1:00



Thursday 28th August 2014

Morning session 1

Chair: Dr Cristina Pozo-Gonzalo, Deakin University, Australia

Plenary 9:00-9:45	Prof David Mecerreyes- Institute of Polymer Materials Spain Polymeric ionic liquids: Broadening the Properties and Applications of Polyelectrolytes
Contributed 9:45-10:00	Anna Latoszynska - Faculty of Chemistry, Warsaw University of Technology, Poland Methacrylic copolymer based gels as electrolytes in Electrochemical Double-Layer Capacitors
Invited 10:00-10:25	Prof Dr. Alexander S. Shaplov, Russian Academy of Sciences, Russia Truly all-solid state thin-film electrochromic devices based on polymeric ionic liquids

Morning tea 10:25-11:00

Morning session 2

Chair: Dr Agnieszka Pawlicka, IQSC-USP, Brazil

Invited 11:00-11:25	Dr Caiyun Wang, IPRI, University of Wollongong, Australia Organic Conductors for Flexible/Wearable Energy Storage
Invited 11:25-11:50	Dr Drew Evans-University of South Australia, Australia Conducting Polymers for Energy Applications
Contributed 11:50-12:05	Dr Federico Bella- Department of Applied Science and Technology DISAT, Italy Light-produced polymer electrolytes for light-conversion in dye-sensitized solar cells
Invited 12:05-12:30	A/Prof Bjorn Winter-Jensen, Monash University, Australia Enhancing ion mobility in conducting polymer composites

Lunch 12:30-2:00

Afternoon session 1

Chair: Dr Daniel Brandell-Uppsala University, Sweden

Invited 2:00-2:25	Prof Jean Le Bideau, Universite De Nantes, France Confined ionic liquids within host networks: enhancing ILs properties for all solid devices.
Invited 2:25-2:50	Dr Millicent Firestone, Los Alamos National Laboratory, USA Nanostructured Polymerized Ionic Liquids as Electrode Materials and Electrolytes
Contributed 2:50-3:05	Prof Noriyoshi Matsumi- Japan Advanced Institute of Science and Technology Japan Design of Ionic Liquid/Borane Binary Electrolytes and Their Properties
Contributed 3:05-3:20	Ms Aminah Noor, Monash University Australia Decoupled ion conduction in poly (2-acrylamido-2methyl-1-propane-sulfonic acid) (PAMPS) homopolymers

Afternoon tea 3:30-4:00

Afternoon session 2



Chair: Dr Drew Evans, University of South Australia, Australia	
Invited 4:00-4:25	A/Prof Andrew Herring, Department of Chemical and Biological Engineering, Colorado School of Mines USA Progress Towards Robust Anion Exchange Membranes for Fuel Cell Applications.
Contributed 4:25-4:40	Dr Isabella Nicotera- Department of Chemistry and Chemical Technologies, University of Calabria, Italy Layered fillers based on Graphene Oxide for the preparation of nanocomposite membranes in the PEMFCs application: a study on the water and methanol transport properties
Contributed 4:40-4:55	Dr Xiaon Wang, Deakin University, Australia Composite Polymer Electrolytes for Lithium-ion Batteries
Contributed 4:55-5:10	Dr Shogo Takamuku-Max Planck Institute of Polymer Research, Germany From Polyelectrolytes to Robust, Highly Proton Conducting Hydrocarbon Membranes for PEM Fuel Cell applications
Contributed 5:10-5:25	Miss Siti Zulaikha Mohd Yusof- Centre for Ionics, University of Malaya, Malaysia Methylcellulose (MC) Based Gel Polymer Electrolyte and Application in Dye-Sensitized Solar Cells
Symposium dinner at The Pier Geelong 7:00-11:30pm Presentation of the ISPE-14 Galileo Galilei Award	



Friday 29th August 2014

Morning session 1

Chair: Prof Louis Madsen, Virginia Tech, USA

Plenary 9:00-9:45	Prof Ralph H. Colby-Penn State University, USA Dynamics of Polymerized Ionic Liquids and their Monomers
Invited 9:45-10:10	Dr Zofia Zukowska, Warsaw University of Technology, Poland Spectroscopic and structural studies of solid and organized systems- complexes of the novel salts with five-membered, heteroaromatic rings and oligoethers
Invited 10:10-10:35	Prof Greg Qiao, The University of Melbourne, Australia New polymer synthesis and their relations to morphology in films

Morning tea 10:35-11:00

Morning session 2

Chair: Prof Peter Bruce, University of St Andrews, Scotland

Invited 11:00-11:25	Prof Geoff Spinks- University of Wollongong Australia Pumping Ions – artificial muscles from electroactive polymers and hydrogels
Plenary 11:25-12:10	Prof Masayoshi Watanabe- Yokohama National University, Japan Polymer Electrolyte of Ionic Liquid: Solvate Ionic liquid and Protic Ionic Liquid

Closing address