Detailed Programme

ICEAN-2022

ICEAN-2022 Program

Time	Date: 16th of October 2022
18.00-20.00	Registration (The Venue: The Arena at the NEX)
	Date: 17th of October 2022
	Venue: The Arena at the NEX
7.00-9.30	Registration
9.30-10.00	Opening Ceremony (The Arena)
10.00-10.45	Chair: Prof. Benjamin Eggleton, The University of Sydney, Australia Plenary Lecture 1 Prof. Peidong Yang, University of California Berkeley, USA *Nanowire (Bio)photoelectrochemistry*
10.45-11.30	Plenary Lecture 2 Prof. Debra Bernhardt, AIBN, University of Queensland, Australia *Diffusion and Ionic Conductivity in Heterogeneous systems: Insight from Molecular Computation*
11.30-11.50	Photo session & Coffee Break
11.50-12.30	Chair: Prof. Huijun Zhao, Griffith University, Australia ARC Laureate Lecture 1 Prof. Dmitri Golberg, Queensland University of Technology, Australia *Analysis of Nanomaterial Properties and Functions in a Transmission Electron Microscope*
12.30-13.10	ARC Laureate Lecture 2 Prof. Huanting Wang, Monash University, Australia *Polymer Composite Membranes for Molecular Separations*
13.10-14.00	Lunch

14.00-14.45	**Chair: Prof. Peidong Yang, University of California Berkeley, USA** **Plenary Lecture 3** **Prof. Benjamin Eggleton, The University of Sydney, Australia** *New Frontiers in Smart Sensor Technology for a Healthier, Safer and Sustainable Future*
14.45-15.30	**Plenary Lecture 4** **Prof Huijun Zhao, Griffith University, Australia** *Endowing Nonprecious Materials with Catalytic Power for Commodity Chemicals Production*
15.30-16.10	**ARC Laureate Lecture 3** **Prof. Yun Liu, Australian National University, Australia** *Defect Design of Functional Materials: Complexity and Challenges*
16.10-16.25	**Coffee Break**
16.25-17.05	**Chair: Prof. Yun Liu, Australian National University, Australia** **ARC Laureate Lecture 4** **Prof. Christopher Barner-Kowollik, Queensland University of Technology, Australia** *Multi-Colour Synergistic, Antagonistic and Orthogonal Photochemistry for Macromolecular Synthesis*
17.05-17.45	**ARC Laureate Lecture 5** **Prof. Lianzhou Wang, The University of Queensland, Australia** *Semiconductor Nanomaterials for Solar Energy Conversion*
17.45-19.00	**Poster Session I** **(Posters should be placed before the Lunch time)**

	18th of October 2022				
	The Arena	**The Extra**	**The Vivid**	**The King St**	**The Extra1**
8.00-8.45	**Chair: Prof. Dmitri Golberg, Queensland University of Technology, Australia** **Plenary Lecture 5** **Prof. Douglas Macfarlane, Monash University, Australia** *Title: The Future of Fuel – Ionic Materials for Green Ammonia Synthesis*				
	3A	**3B**	**3C**	**3D**	**3E**
	Chair: Prof. Xiwang Zhang	**Chair: Prof. Baohua Jia**	**Chair: Prof. Karen Wilson**	**Chair: Prof. Zhenguo Huang**	**Chair: A/Prof. Yulin Zhong**
8.50-9.20	3A-KL-1: Towards CO_2-Neutral World: Deciphering the Role of Nanoscale Tandem Catalysis for Hybrid Feeds (CO/CO_2) To Methanol And Dimethyl Ether. **Prof. Kamal Kishore Pant,** Indian Institute of Technology Delhi, India	3B-KL-1: Engineering Sustainable Electrocatalysts for Renewable Energy Storage in E-Fuels. **Prof. Antonio Tricoli,** The University of Sydney Sydney, Australia	3C-KL-1: Striving for Perfection: The Role of Promoters in Heterogeneous Catalysis. **Prof. Adam Lee,** Royal Melbourne Institute of Technology, Australia	3D-KL-1: New Trends in Thermochemical Conversion of Biomass. **Prof. Michael Stöcker,** SINTEF Materials and Chemistry, Norway	3E-IL-1: Functional Evaluation of Efflux Pumps in Liposomes and Native Membrane Nanodiscs Formed Using Amphiphilic co-polymers. **Dr. Karl Hassan,** The University of Newcastle, Australia
9.20-9.45	3A-IL-1: Morphology-Controlled Nitrogen-Containing Polymers as Synthetic Precursors for Oxygen Reduction Electrocatalysts. **Prof. Yuta Nabae,** Tokyo Institute of Technology, Japan	3B-IL-1: Fused Aromatic Building Block Based Semiconducting Polymers for Organic Electronics. **Prof. Prashant Sonar,** Queensland University of Technology, Australia.	3C-IL-1: Carbon Nanoribbons as Effective Catalysts for Catalytic Oxidation of Organics. **Prof. Shaobin Wang,** The University of Adelaide, Australia	3D-IL-1: Scaled Production of Advance Carbon Adsorption Material from Waste Streams for PFAS Removal. **Prof. Kalpit Shah,** Royal Melbourne Institute of	3E-IL-2: Liquid Metal: New Toolbox of Antimicrobial Nanomaterials. **Dr. Vi Khanh Truong,** Flinders University, Australia

				Technology, Australia	
9.45-10.10	3A-IL-2: Stable Cu Coordination Polymer for CO_2 Electroreduction to Ethylene. **Dr. Fengwang Li,** The University of Sydney, Australia	3B-IL-2: Functional Organic Nanostructures on Surfaces: Towards Atomically Designed Nanoelectronics, Optoelectronics and Catalysis. **Dr. Agustin Schiffrin,** Monash University, Australia	3C-IL-2: Seeing the light: Designing catalysts for the photo-thermal conversion of carbon dioxide. **Dr. Emma Lovell,** The University of New South Wales, Australia	3D-IL-2: Recent Development of Nanomaterials for Removal of Aqueous Arsenate. **Prof. Hideaki Yoshitake,** Yokohama National University, Japan	3E-IL-3: Borophene: The New Sensation in Flatland. **Dr. Prashant Kumar,** The University of Newcastle, Australia
10.10-10.35	3A-IL-3: Li Anode's Dilemma in Solid-State Batteries – Can Alloys Help? **Dr. Dipan Kundu,** The University of New South Wales, Australia	3B-IL-3: Closing the Loop on Sustainable Materials: Renewably Driven Manufacturing Options for Advanced Carbon in Energy Storage Applications. **Dr. Jessica Allen**, The University of Newcastle, Australia	3C-IL-3: Low-cost and Scalable Single-Atom Catalysts for Green Remediation of Emerging Micropollutants in Water. **Dr. Xiaoguang Duan**, The University of Adelaide, Australia	3D-IL-3: Chiral Amplification and Separation properties of Nanoporous Folic Acid Materials. **Dr. Alf Garcia-Bennett,** Macquarie University, Australia	3E-IL-4: CCU Research Activities in CSIRO Energy Resources Program. **Dr. Yunxia Yang,** CSIRO, Australia
10.35-10.50	**Coffee Break**				
	Chair: Prof. K.K. Pant	**Chair: Prof. Hideaki Yoshitake**	**Chair: Prof. Shaobin Wang**	**Chair: Alf Garcia-Bennett**	**Chair: Prof. Adam Lee**
10.50-11.15	3A-IL-4: 2D Nanomaterials for Sustainable Energy Storage and Conversion. **Prof. Ziqi Sun,** Queensland University of Technology, Australia	3B-IL-4: Advancing Electrochemical Engineering of Functional 2D Nanomaterials. **A/Prof. Yulin Zhong**, Griffith University, Australia	3C-IL-4: Low-Dimensional Materials for Nano/Opto-Electronic Devices. **Prof. Sumeet Walia**, Royal Melbourne Institute of	3D-IL-4: Hydrogen-rich B Containing Systems for Hydrogen Storage. **Prof. Zhenguo Huang**, The University Technology Sydney,	3E-IL-5: Crystalline Molecular Gyrotops with a Fluorescent Rotor. **Prof. Setaka Wataru**, Tokyo Metropolitan University, Japan

			Technology University, Australia		
11.15-11.40	3A-IL-5: Electrolyte and Interface Engineering for Emerging Aqueous Zinc Metal Batteries. **Dr. Jianfeng Mao**, The University of Adelaide, Australia	3B-IL-5: New-Generation Thermoelectric Materials and Devices. **Prof. Zhigang Chen**, Queensland University of Technology, Australia	3C-IL-5 Revealing the Correlation Between Metallic Catalyst Microstructure and CO_2 Electroreduction Activity. **Dr. Minkyung Kang**, Deakin University	3D-IL-5 Graphene Oxide Membranes For Purification and Separation. **A/Prof. Rakesh Joshi,** The University of New South Wales, Australia	3E-IL-6: Polyurethane and its Ability to Absorb and Dissipate High Impact Energy for Damage Prone Structures, **Dr. Damith Mohotti,** The University of New South Wales, Australia
11.40-12.05	3A-IL-6: Battery-Waste Recycling – Opportunities and Challenges. **Prof. Deepak Dubal,** Queensland University of Technology, Australia	3B-IL-6: Efficient Electrocatalysts Achieving High Current Density for A Water Splitting Electrolyser System. **Dr. Asim Riaz**, The Australian National University, Australia	3C-IL-6: Oxidation and Degradation of Layered 2D Materials. **Dr. Munkhbayar Batmunkh**, Griffith University, Australia	3D-IL-6: Molecularly Imprinted Polymers: Selective Functional Materials. **A/Prof. Clovia Holdsworth,** The University of Newcastle, Australia	3E-IL-7: Alloyed Single-Layer Transition Metal Dichalcogenide Nanosheets for Methanol-Storable Solar Hydrogen Fuel. **Dr. Guohua Jia**, Curtin University, Australia
12.05-12.30	3A-IL-7: Nanospace Confinement: From Material Design to Energy Storage Applications. **Dr. Bin Luo**, The University of Queensland, Australia	3B-IL-7: Rational Design of Temperature-Adaptive Flexible Zinc-Air Batteries. **Dr. Zengxia Pei,** The University of Sydney, Australia	3C-IL-7: New Applications of Halloysite Nanotubes and How Its Changing Various Industries, **A/Prof. Pooria Pasbakhsh**, Monash University, Malaysia	3D-IL-7: Hierarchically Porous Zeolites: From Direct to Post Synthetic Method. **Dr. Rino Mukti**, The Bandung Institute of Technology	3E-IL-8: Redox Behaviour of (Non)-PGM Three-Way Catalysts. **Dr. Hiroyuki Asakura,** Kyoto University, Japan

12.30-12.55	3A-IL-8: Electrochemical Manufacturing of Hydrogen Peroxide. **Dr. Xunyu Lu,** The University of New South Wales, Australia	3B-IL-8: rGO Decorated Nanoparticles: An Advanced Catalyst For The Hydrogen Evolution Reaction. **Dr. Ken Aldren Usman,** Deakin University, Australia	3C-IL-8: Discovering Direct Air Capture Materials Using Computational Modelling. **Dr. Aaron Thornton,** CSIRO, Australia	3D-IL-8: Deciphering The Self-Assembly of Nanoporous Organic Polymers. **A/Prof. Abhijit Patra**, Indian Institute of Science Education and Research, Bhopal, India	3E-IL-9: Two Photon Polymerization-based 3D Printing of Small-Scale Medical Devices. **Prof. Roger Narayan,** North Carolina University, USA
12.55-13.10	3A-OP-1: 3D Printing Nanostructured Solid Polymer Electrolytes with High Modulus and Conductivity. **Nathaniel Corrigan,** The University of New South Wales, Australia	3B-OP-1: Overcoming the Activity-Selectivity Trade-Off of Hydrogen Peroxide Electrosynthesis on Vertical Graphene Edges. **Ding Zhang,** The University of New South Wales, Australia	3C-OP-1: A Visible Light Photocatalytic Degradation of Endocrine Disruptor, Methylparaben by Green Synthesized Reduced Graphene Oxide-Silver Nanoparticle Composite. **Sadaf Aiman Khan**, University of Queensland, Australia	3D-OP-1: Investigation of Electrochemical Properties of $CoMoO_4$ Nanomaterials As a Reversible Faradic Battery-Type Electrode Material for Hybrid Supercapacitor. **Dr Periyasamy Sivakumar**, Dongguk University, South Korea	3E-OP-1: Stabilizing the Unstable: Chromium Coating on Nimo Electrode for Enhanced Stability in Intermittent Water Electrolysis. **Lingyi Peng,** The University of New South Wales, Australia
13.10-14.00	**Lunch**				
14.00-14.45	**Chair: Prof. Karen Wilson, RMIT University, Australia** **Plenary Lecture 6** **Prof. Prashant V. Kamat, University of Notre Dame, USA** *Title: Tuning Halide Perovskite-Molecular Hybrids for Light Energy Conversion*				

	The Arena	The Extra	The Vivid	The King St	
	4A	**4B**	**4C**	**4D**	
	Chair: A/Prof. Yuta Nabae	**Chair: Dr. Agustin Schiffrin**	**Chair: Prof. Setaka Wataru**	**Chair: Dr. Zhenguo Huang**	
14.50-15.20	4A-KL-1: Hydrogen Production from Used Water via Water Electrolysis: Benefits and Challenges. **Prof. Xiwang Zhang,** The University of Queensland, Australia	4B-KL-1**:** Scalable Graphene for Optoelectronics and Beyond. **Prof. Baohua Jia**, Royal Melbourne Institute of Technology, Australia	4C-KL-1: Tunable Mesoporous and Nanoparticulate Zirconia Catalysts for Biorefining. **Prof. Karen Wilson**, Royal Melbourne Institute of Technology, Australia	4D-KL-1: Carbon nitride Photocatalysts for Overall Water Splitting. **Prof. Xinchen Wang** Fuzhuo University, People's Republic of China	
15.20-15.45	4A-IL-1: Tunning of Electron Configurations in Transition Metal Oxides for Higher OER. **Prof. Zhenxiang Cheng,** University of Wollongong**,** Australia	4B-IL-1: Nanostructured High-capacity Positive Electrode Materials for Li Storage Applications. **Prof. Naoaki Yabuuchi,** Yokohama National University, Japan	4C-IL-1: GQDs as effective Photosensitizer for Photodynamic theory for Cancer. **Prof. Dhirendra Bahadur**, Indian Institute of Technology Goa, India	4D-IL-1: Framework Solids for Energy and Environment. **Prof. Ramanathan Vaidhyanathan,** Indian Institutes of Science Education and Research Pune, India	
15.45-16.10	4A-IL-2: Challenges and Opportunities of Electrochemical Water Splitting for Green Hydrogen Production. **Prof. Chuan Zhao,**	4B-IL-2: Sustainability and Lithium-ion/Sodium-ion batteries. **A/Prof. Neeraj Sharma**, University of New South Wales, Australia	4C-IL-2: 2D Vertical Heterojunctions of Bismuth-Based Semiconductors for Photo-catalysis. **Dr. Liang Wang,**	4D-IL-2: Sustainable Technologies for the Synthesis of Ammonia — The Energy Carrier of the Future.	

	The University of New South Wales, Australia		Griffith University, Australia	**Dr. Alexander Simonov,** Monash University, Australia	
16.10-16.35	4A-IL-3: Effect of Porous Structure on Photocatalytic Hydrogen Evolution Activity of Graphitic Carbon Nitride. **Dr. Jae-Hun Yang,** The University of Newcastle, Australia	4B-IL-3: Vertically Aligned Hybrid Catalysts for Electrochemical Energy Conversions. **Dr. Zhaojun Han,** The University of New South Wales, Australia	4C-IL-3: Formation and Optical Characterization of ZnO Nanoporous Thin Films. **Prof. Yudi Darma,** The Bandung Institute of Technology, Republic of Indonesia	4D-IL-3: Two-Dimensional Materials for Membrane-Based Molecular Separation. **A/Prof. Sui Zhang** National University of Singapore, Singapore	
16.35-16.50	**Coffee Break**				
	Chair: Prof. Zhenxiang Cheng	**Chair: Prof. Naoki Yabuuchi**	**Chair: Prof. Dhirendra Bahadur**	**Chair: A/Prof. Neeraj Sharma**	
16.50-17.15	4A-IL-4: Organic and Organic-Inorganic Ferroelectric Materials for Piezoelectric Energy Harvesting and Storage. **Prof. Boomi Shankar Ramamoorthy**, Indian Institutes of Science Education and Research Pune, India	4B-IL-4: Two Dimensional Nanocomposite Functional Materials For Energy Storage Applications. **Prof. Ramasamy Jayavel**, Anna University, India	4C-IL-4: Low-dimensional Materials: from Lab to Industry. **Prof. Silvija Gradečak** National University of Singapore, Singapore	4D-IL-4: Selective Photoreforming. **Dr. Cui Ying Toe,** The University of Newcastle, Australia	

17.15-17.40	4A-IL-5: Poly(ionic liquids)-in-salt, from Basics to Computational Design of Electrolytes for Na-Metal Batteries. **Dr. Fangfang Chen,** Deakin University, Australia	4B-IL-5: Single-atom Electrocatalysts for Efficient Oxygen Reduction and Hydrogen Evolution Reactions. **A/Prof. Porun Liu,** Griffith University, Australia	4C-IL-5: Multifunctional Materials And Composites For Efficient Water Management. **A/Prof. Sandeep Kumar,** Guru Jambheshwar University of Sc. & Technology, India	4D-IL-5: Breaking Molecular Nitrogen with an Atomically Clean Lanthanide Surface. **Dr. Frank Natali,** Victoria University of Wellington, New Zealand	
17.40-18.05	4A-IL-6: Assessment of Characteristics of The Organic Coatings Based on Acrylic Emulsion Resin and New Polythiophenes/Rice Husk Silica Nanocomposites. **Dr Vu Quoc Trung,** Hanoi University of Education, Vietnam	4B-IL-6: Understanding the Mechanisms Driving Plasmon-Enhanced Photocatalysis. **Dr. Zelio Fusco,** The Australian National University, Australia	4C-IL-6: Nanoionics of Layered Hybrid Conductive Polymers for Energy Storage. **Prof. Da-wei Wang**, The University of New South Wales, Australia	4D-IL-6: Role of RuO2 Nanosheet in Direct Electron Extraction From Thylakoid Membrane for Photosynthetic Energy Harvesting. **Dr. Jangmee Lee,** The University Of Newcastle, Australia	

18.05-18.20	4A-OP-1: Single-atom Pt Supported on Holey Inorganic Nanosheets as Efficient Electrocatalyst for Hydrogen Evolution Reaction. **Jihyeong Lee,** Yonsei University, South Kore	4B-OP-1: Holey Inorganic Nanomaterials as Highly Efficient Substrates for Strongly-Coupled Electrocatalyst. **Dr. Xiaoyan Jin,** Yonsei University, South Korea	4C-OP-1: Manipulating Stable Layered P2-Type Cathode via a Co-Substitution Strategy for High Performance Sodium Ion Batteries. **Jun Xiao,** University of Technology Sydney, Australia	4D-OP-1: A Lattice Engineering Way to Improve the Supercapacitor Performance of MXene Nanosheets, **Sun Yiang,** Yonsei University, South Korea	
18.30-19.30	**Chair: Prof. Douglas Macfarlane, Monash University, Australia** **Nobel Laureate Lecture: Prof. Jean-Marie Lehn** **Grand Officer of the French Legion of Honour, University of Strasbourg, Alsace, France**				

	19th of October 2022			
	The Arena	**The Extra**	**The Vivid**	**The King St**
8.00-8.45	**Chair: Prof. Samuel Adeloju** **Plenary Lecture 7 – Prof. Mauricio Terrones, Penn State University, USA** *Title: The Past and Future of Carbon Science and Technology*			
	5A	**5B**	**5C**	**5D**
	Chair: Prof. Saurabh Lodha	**Chair: Dr. Kentaro Tashiro**	**Chair: Prof. Ramanathan Vaidhyanathan**	**Chair: Prof. Jun Ma**
08.50-09.20	5A-KL-1: Graphene Coatings: A Disruptive Approach to Remarkable Corrosion Resistance. **Prof. Raman Singh,** Monash University, Australia	5B-KL-1: Enhanced Interactions of Interlayer Excitons in Free-standing Hetero-bilayers. **Prof. Yuerui Lu,** The Australian National University, Australia	5C-KL-1: Graphene-based Membranes – Structure, Nanofludics Properties,and Applications. **A/Prof. Slaven Garaj,** National University of Singapore, Singapore	5D-KL-1: Bio-Multifunctionalisation of Nanowires Array with Enzymes For Ultrasensitive Electrochemical Detection. **Prof. Samuel Adeloju,** Charles Sturt University, Australia
09.20-09.45	5A-IL-1: Stabilizing the Interfaces of Cathode/Binder/Electrolyte for Advanced Lithium-ion Batteries. **Prof. Seung-Wan Song,** Chugnam National University, South Korea	5B-IL-1: Novel Approaches to High-Efficiency Singlet Fission Materials. **A/Prof. David Jones,** The University of Melbourne, Australia	5C-IL-1: Nonlinear Optics in Layered Materials. **Dr. Alexander Solntsev**, University of Technology, Sydney, Australia	5D-IL-1: Surface Enhanced Raman Optical Activity (SEROA). **Prof. Ewan Blanch**, Royal Melbourne Institute of Technology, Australia
09.45-10.10	5A-IL-2: Bio-inspired Moisture Electric Generators: From Nanoionic Materials to Devices. **Prof. Dewei Chu,** The University of New South Wales, Australia	5B-IL-2: Synthesis and Applications of Substituted Shape-Shifters. **Dr. Thomas Fallon**, The University of Adelaide, Australia	5C-IL-2: Plasma Assisted Graphene Fabrication and Applications. **Prof. Mohan Jacob,** James Cook University, Australia	5D-IL-2: Linking Nanoscience to Neuroscience with Tiny Diamonds. **Dr. Lindsay Parker**, Macquarie University, Australia

10.10-10.35	5A-IL-3: Reactive Membranes in Separation- A Supramolecular Approach. **Prof. Uma Sharma,** Vikram University, India	5B-IL-3: Femtosecond Laser Processing of Diamond and Graphite. **Dr. Maksym Rybachuk**, Griffith University, Australia	5C-IL-3: Macro, Meso and Micro-level Enablers and Barriers of Nanotechnology Commercialization. **Prof. Ashish Malik,** The University of Newcastle, Australia	5D-IL-3: Photoactive Materials for Hydrogen Gas Sensing. **A/Prof. Mahnaz Shafiei,** Swinburne University of Technology, Australia
10.35-10.50	**Coffee Break**			
	Chair: Prof. Seung-Wan Song	**Chair: Prof. Slaven Garaj**	**Chair: Prof. Mohan Jacob**	**Chair: Prof. Ewan Blanch**
10.50-11.15	5A-IL-4: Few-layer 2D Semiconductors and Their Heterostructures for Enhanced Photodetection Performance. **Prof. Saurabh Lodha,** Indian Institute of Technology Bombay, India	5B-IL-4: Macroscopic Chiral Symmetry Breaking That Emerges in Gelation. **Dr. Kentaro Tashiro,** National Institute for Material Science, Japan	5C-IL-4: Deposition of Silicon and Germanium from Solution using Novel Bottleable Hydride Precursors. **Prof. Eric Rivard,** The University of Alberta, Canada	5D-IL-4: Nanoelectrochemistry for Precision Gas Sensor Manufacturing. **Prof. Guangzhao Mao.** The University of New South Wales, Australia
11.15-11.40	5A-IL-5: Two Dimensional Layered Semiconducting Materials and Their Heterostructures: Intriguing Photophysics and Applications. **Prof. Pravat Kumar Giri**, Indian Institute of Technology, Guwahati, India	5B-IL-5: Polymerization-Induced Self-Assembly and Cellulose Nanocrystals for the Fabrication of Nanostructured Carbon-Coated Anatase. **A/Prof. Markus Muellner**, The University of Sydney, Australia	5C-IL-5: Van der Waals Heterostructures on Graphene: From Epitaxial Growth to Applications. **Prof. Nunzio Motta,** Queensland University of Technology, Australia	5D-IL-5: Rational Design of Nanozyme-Based Aptasensors. **A/Prof. Rajesh Ramanathan**, Royal Melbourne Institute of Technology, Australia

11.40-12.05	5A-IL-6: Rationally-designed Self-Shaped Ceramics Through Heterogeneous Green Body Compositions. **Dr. Mohammad Mirkhalaf,** Queensland University of Technology, Australia	5B-IL-6: Oh, The Wonderful Things Pristine Graphene Can Do!. **Dr. Amir Karton**, The University of Western Australia, Australia	5C-IL-6: Manipulating Anistropic Polaritons in Layered Materials. **Dr. Qingdong Ou,** Monash University, Australia	5D-IL-6: **Dr. Siddulu Naidu Talapaneni,** The University of New South Wales, Australia
12.05-12.30	5A-IL-7: Ultrathin 3C SiC Films on Large Diameter Si Wafers: Growth, Characterisation and Applications. **Prof. Sima Dimitrijev**, Griffith University Australia	5B-IL-7: Development of High Magnetisation Materials by Nanoengineering. **A/Prof. Jiabao Yi**, The University of Newcastle, Australia	5C-IL-7: F-diamane from Graphite. **Dr. Sam Chen**, The University of Newcastle, Australia	5D-IL-7: Silicon Carbide Fluorescent Nanomaterials and Their Applications. **Dr. Stefania Castelletto**, Royal Melbourne Institute of Technology, Australia
12.30-12.55	5A-IL-8: Single Molecule Eletrochemistry From the Design of Nanostructure Electrodes to the Formation of Chemical Bonds. **A/Prof. Wenrong Yang,** Deakin University, Australia	5B-IL-8: Quantum Dots and Extracellular Vesicles as Detection Strategies For Disease and Bacteria. **Dr. Renee Goreham**, The University of Newcastle, Australia	5C-IL-8: Organic Photovoltaic Materials for Green Energy Sources. **Prof. Han Young Woo**, Korea University, South Korea	5D-IL-8: Lanthanide Nanoparticles for Bioimaging: Multiplexing, Super-Resolution, and Deep-Tissue Imaging. **Dr. Yiqing Lu,** Macquarie University, Australia
12.55-13.10	5A-OP-1: Mn engineered Cu0 /Cu+ Active Sites and Oxygen Vacancy Defects for CO_2 Rich Syngas Hydrogenation to Dimethyl Ether via Tandem Catalysis. **Komal Tripathi**, Indian Institute of Technology Delhi, India	5B-OP-1: High Quality Micromachining of CVD Diamond by an Ultrashort 30- fs Pulsed Laser. **Bakhthir Khan,** Griffith University, Australia	5C-OP-1: Thermoelectric PEDOT: PSS/CuI Nanocomposites. **Alam Md. Joherul,** University of South Australia, Australia	5D-OP-1: Improved Benzene Selectivity for Methane Dehydroaromatization via Modifying the Zeolitic Pores by Dual Templating Approach. **Deepti Misra**, IIT Delhi-University of Queensland, India-Australia

13.10-14.00	Lunch			
14.00-14.45	**Chair: Prof. Mauricio Terrones** **Plenary Lecture 8 – Prof. Katsuhiko Ariga** *Title: Interfacial Magic: Nanocar, Molecular Machine, and Stem Cell*			
	6A	**6B**	**6C**	**6D**
	Chair: Prof. Sima Dimitrijev	**Chair: Prof. Wenrong Yang**	**Chair: Prof. Han Young Woo**	**Chair: Prof. Eric Rivard**
14.50-15.20	6A-KL-1: 2D MoS_2: What do we Understand of its Properties. **Prof. Dipankar Das Sarma,** Indian Institute of Science, Bangalore, India	6B-KL-1: Quantum Well Nanowires for Optoelectronic Applications. **Prof. Lan Fu,** The Australian National University, Australia	6C-KL-1: 3D Printing and Photonics **Prof. John Canning.** University of Technology Sydney, Australia	6D-KL-1: Evolutionary Polymer/Nanosheet Composites. **Prof. Jun Ma,** University of South Australia, Australia
15.25-15.45	6A-IL-1: Nanosheet-enabled Catalytic Nanomedicine. **Dr. Zi Sophia Gu,** UNSW, Australia	6B-IL-1: Design of Multiblock Amphiphilic Molecules for Ion Transportation Across Membranes. **Prof. Kazushi Kinbara,** Tokyo Institute of Technology, Japan	6C-IL-1: Van der Waals Materials for Infrared (IR) Photodetection. **Dr. James Bullock,** The University of Melbourne, Australia	6D-IL-1: Three-dimensional Nanoporous Graphene and their Applications. **Prof. Hyun Jung,** Donguk University, South Korea
15.45-16.10	6A-IL-2: Nanoscale Polar Interfaces for Non-volatile Data Storage. **A/Prof. Pankaj Sharma**. Flinders University, Australia	6B-IL-2: Fluorinated Additives for Perovskite Solar Cells. **Dr. Paul Shaw,** The University of Queensland, Australia	6C-IL-2: Phosphate-modified Polymeric Carbon Nitride: A Multifunctional Material. **Dr. Lakshminarasimhan N,** Council of Scientific and Industrial Research, India	6D-IL-2: 2D Vertical Heterojunctions of Bismuth-Based Semiconductors for Photo-catalysis. **Dr. Kang Liang**, The University of New South Wales, Australia
16.10-16.35	6A-IL-3: Engineering the 2D Hole Gas on Diamond for Carbon-Based Electronics. **A/Prof. Dongchen Qi,**	6B-IL-3: Selective Wavelength Perovskite Solar Cells and Potential Applications. **Prof. Maan Alkaisi,**	6C-IL-3: Faraday Rotation in Lead Halide Perovskites. **A/Prof. Girish Lakhwani,** University of Sydney, Australia	6D-IL-3: Revealing Carbon Doping-induced Active Trap Centres in Porous Alumina for Radiation Dosimetry. **Prof. Aloke Kanjilal,**

	Queensland University of Technology, Australia	The University of Canterbury, New Zealand		Shiv Nadar University, India
16.35-16.50	**Coffee Break**			
	Chair: Prof. Dipankar Das Sarma	**Chair: Prof. Kazushi Kinbara**	**Chair: Prof. Boomi Shankar Ramamoorthy**	**Chair: Prof. Ramasamy Jayavel**
16.50-17.15	6A-IL-4: Advanced Functional Materials Research at the University of Southern Queensland. **Prof. John Bell**, The University of Southern Queensland, Australia	6B-IL-4: Catalytic Materials for Fuel Production and Power Generation. **Dr. Dattatray Dhawale**, CSIRO, Australia	6C-IL-4: Crystallization of Nanocomposite Polymers: Effects of Nanoparticles Volume Fraction and Size. **A/Prof. Ahmad Jabbarzadeh**, The University of Sydney, Australia	6D-IL-4: Supercapacitor Behaviour of CeO_2 and Ni - doped CeO_2 Nanostructures Grown by Low Cost Modified Combustion Method. **A/Prof . D. Sajan**, Bishop Moore College, India
17.15-17.40	6A-IL-5: Angstrom-scale capillaries: Ion selectivity and Memory effects. **Dr. Radha Boya,** Manchester University, United Kingdom	6B-IL-5: Ultrafast Exciton Dynamics in Semiconductor Nanocrystals. **Prof. Anindya Datta,** IIT Bombay, India	6C-IL-5: Entrance Effects in Concentration-gradient-Driven Flow Through 2D Membranes. **Dr. David Huang**, The University of Adelaide, Australia	6D-IL-5: Porous Carbon-based Materials for Carbon Dioxide Capture. **Dr. Gurwinder Singh,** The University of Newcastle, Australia
17.40-18.05	6A-IL-6: Recent Advances in Single-Molecule Electronics. **Dr. Nadim Darwish,** Curtin University, Australia	6B-IL-6: Light-induced Reversal of Ion segregation in Mixed-halide Perovskite. **Dr. Wenxin Mao,** Monash University, Australia	6C-IL-6: Quantum Emitters in Hexagonal Boron Nitride and Diamond: Applications in Nanoscale Thermometry. **Dr. Trong Toan Tran,** The University of Technology Sydney, Australia	6D-IL-6: Turning Invention to Innovation in Materials Science. Dr. **Mobin Nomvar,** Scimita ventures

18.05-18.20	6A-OP-1: Harnessing Kinetic Energy via Electromechanically Active Polymers. **Dr. Peter C. Sherrell,** The University of Melbourne, Australia	6B-OP-1: Regression Modelling of Electrical Properties of CeO2 co-doped with Sm^{3+} and Y^{3+} Using Supervised Learning. **Sandhya Kottooli,** DET NSW	6C-OP-1: Novel Solar Reflective Paints Based on Acrylic Emulsion Polymer Using Synergistic Effectiveness of Organically Modified Titania and Zirconia Nanoparticles. **Phi Hung Dao,** Institute for Tropical Technology, Vietnam	6D-OP-1: Designing Tungsten Carbide Embedded 3D Mesoporous Graphene Nanohybrids and Their Hydrogen Evolution Reaction Properties. **Jeongown Park,** Dongguk University, South Korea
18.20-19.20	**Poster session II**			

	20th of October 2022			
	The Arena	**The Extra**	**The Vivid**	**The King St**
8.00-8.45	**Chair: Prof. Brett Neilan, The University of Newcastle, Australia** **Plenary Lecture 9** **Prof. Frank Caruso, University of Melbourne, Australia** *Title: Advancing Therapeutic Delivery via Nanoengineered Particles*			
	7A	**7B**	**7C**	**7D**
	Chair: Prof. Nam-Trung Nguyen	**Chair: Prof. Per Zetterlund**	**Chair: A/Prof. Steven Wise**	**Chair: Prof. Lan Fu**
8.50-9.20	7A-KL-1: Advancing Macromolecular Synthesis for 3D Printing. **Prof. Cyrille Boyer**, University of New South Wales, Australia	7B-KL-1: Conformal Wearable and Nearable Sensors for Aged Care and Health Care. **Prof. Madhu Baskaran,** Royal Melbourne Institute of Technology, Australia	7C-KL-1: Biomanufacturing of Valuable Chemicals by Photosynthetic Bacteria. **Prof. Brett Neilan,** University of Newcastle, Australia	7D-KL-1: Metallophosphate Clusters, Polymers, and Layered Materials for Energy Applications. **Prof. Ramaswamy Murugavel**, IIT Bombay, India
9.20-9.45	7A-IL-1: Aqueous Dispersions of Organic Nanoparticles: Green Manufacturing of Printed Solar Cells. **Prof. Paul Dastoor**, The University of Newcastle, Australia	7B-IL-1: Thin and Flexile Organic Photovoltaics: Advanced Applications For Wearable Electronics and Soft Robots. **Prof. Kenjiro Fukuda**, National Institute for Material Science, Japan	7C-IL-1: Lipid Nanoparticles for RNA Medicines – the Future of Therapy. **Prof. Nigel McMillan**, Griffith University, Australia	7D-IL-1: Electronic Structure of Titania Surfaces Modified by Metal Clusters. **Prof. Gunther Andersson**, Flinders University, Australia
9.45-10.10	7A-IL-2: Thin Film Conducting Polymers: From Ion Interactions to Sensing and Energy Storage. **Prof.**	7B-IL-2: Light Controlled Polymers: From Single Chains to Materials.	7C-IL-2: Stimuli-Responsive Delivery Systems – Designing Smarter Materials.	7D-IL-2: Observation of Excitonic Insulating Phase in Atomically Thin Sb Nanoflakes. **Dr. Zhi Li**,

	Drew Evans, The University of South Australia, Australia	**Dr. Hendrik Frisch**, Queensland University of Technology, Australia	**A/Prof. Georgina Such**, The University of Melbourne, Australia	The University of New South Wales, Australia
10.10-10.35	7A-IL-3: Innovations and optimisations in TEM and PFIB Technology for Materials Science. **Dr Ryan Shaw,** Thermofisher Scientific Australia	7B-IL-3: Sustainable Bionanocomposites for Environmental Applications: An Alternative to Non-Biodegradable Plastic Products. **Dr Sudhakar Muniysamy,** CSIR, South Africa	7C-IL-3: Uterine-Targeted Nanoparticles: A Novel Therapeutic Intervention Strategy for Preventing Preterm Birth. **Dr. Jonathan Paul**, The University of Newcastle, Australia	7D-IL-3: Observing Graphite form through Annihilation of Screw Dislocations. **Dr. Jacob Martin**, Curtin University, Australia
10.35-10.50	**Coffee Break**			
	Chair: Prof. Drew Evans	**Chair: Prof. Paul Dastoor**	**Chair: Prof. Madhu Baskaran**	**Chair: Prof. Rongkun Zheng**
10.50-11.15	7A-IL-4: Solution-less Perovskite Processes for Tandem Cell Architectures. **Dr. Gregory Wilson**, CSIRO, Australia	7B-IL-4: High Efficiency Photovoltaic And Thermoradiative Power Conversion: Extracting the Maximum Power From Sunlight. **A/Prof. N. J. Ekins-Daukes**, The University of New South Wales , Australia	7C-IL-4: Isolation and Characterization of The Acellular Matrix From Organs for Therapeutic and Surgical Applications. **Prof. Pradeep Tanwar**, The University of Newcastle, Australia	7D-IL-4: Nanowires, Quantum Phase Slips and Electromagnetic Duality in Quantum Circuits. **Prof. Jared Cole**, Royal Melbourne Institute of Technology, Australia
11.15-11.40	7A-IL-5: Effect of rGO Distribution on Electrical Conductivity of Polymer/rGO Nanocomposite Films. **Prof. Per Zetterlund**, The University of New South Wales, Australia	7B-IL-5: Supramolecular Polymerization in Liquid Crystalline Media for Functional Materials. **A/Prof. Yoshimitsu Itoh**, University of Tokyo, Japan	7C-IL-5: Local Nanoparticle Delivery of Anti-inflammatory Therapies for Cardiovascular Applications. **Prof. Steven Wise**, University of Sydney, Australia.	7D-IL-5: Lanthanide Ion Modulated Dielectric Resonance Enhancement on Upconversion Nanoparticles for Biophotonics Applications. **Dr. Fan Wang**, University of Technology, Sydney

11.40-12.05	7A-IL-6: In situ Photochemical Approach to Photopolymer Nanomaterials. **A/Prof. Pu Xiao**,The Australian National University, Australia	7B-IL-6: Novel Electrode Materials Design for Rechargeable Batteries (Na-ion, K-ion and Li-S batteries). **Dr. Dawei Su**, University of Technology Sydney, Australia	7C-IL-6: Plasma Nanoengineering for Energy and Biotechnology industries. **A/Prof. Melanie MacGregor**, Flinders University, Australia.	7D-IL-6: Halloysite-Kaolin templated Heteroatom Functionalised Nanoporous Carbon for CO_2 and Energy Storage. **Dr. Kavitha Ramadass**, The University of Newcastle, Australia
12.05-12.30	7A-IL-7: Multifunctional Memories Using Halide Perovskites and Their Heterostructures. **Dr. Xinwei Guan**, The University of Newcastle, Australia	7B-IL-7: Carbon Dot-Based Nanostructures and Their Applications. **Dr. Lei Bao**, Royal Melbourne Institute of Technology, Australia	7C-IL-7: Bacteriophage as A Treatment for Antimicrobial Resistant Infections. **A/Prof. Ian Grainge**, The University of Newcastle, Australia	7D-IL-7: Enhancing Thermoelectric Materials via Magnetism and Their Usage for IoT Energy Harvesting. **Prof. Takao Mori**, National Institute for Materials Science, Japan
12.30-12.55	7A-IL-8: Publishing Research with Impact and Integrity. **Dr. Esther Levy**, Wiley, Australia	7B-IL-8 Longwave Infrared Multispectral Imaging Sensors. **Dr. Ranjith R Unnithan**, The University of Melbourne, Australia	7C-IL-8: Building a Universal Platform for Precision Medicine in Chronic Disorders. **Prof. Murray Cairns**, The University of Newcastle, Australia	7D-IL-8: Microbial Modulation of The Properties and Behaviour of Plastic Materials in The Environment: A Global Environmental Health Perspective. **Dr. Geetika Bhagwat**, The University of Newcastle, Australia
12.55-13.10	7A-OP-1: Sb_2S_3 Solar Cells Using 2D Materials. **Purevlkham Myagmarsereejid,** Queensland Micro- and	7B-OP-1: Quantum Chemical Investigations of The Optoelectronic and Photovoltaic Properties of Small Molecule Based Organic Solar Cells **Dr. Daniel Dodzi Yao Setsoafia**,	7C-OP-1: 3-D printed Amyloid-Aloe vera Hydrogel As a Personalized Chronic Wound Dressing. **Dr. Kaustubh Naik**, Indian Institute of Technology	7D-OP-1: Surfaces Containing Sharp Nanostructures Enhance Antibiotic Efficacy. **Dr. Richard Bright**, Flinders University, Australia

13.10-14.00	**Lunch**			
14.00-14.45	**Chair: Prof. Frank Caruso** **Plenary Lecture 10 – Prof. Chennupati Jagadish** Title: Semiconductor Nanostructures for Optoelectronics Applications			
	8A	**8B**	**8C**	**8D**
	Chair: Prof. N. J. Ekins-Daukes	**Chair: Prof. Pradeep Tanwar**	**Chair: Prof. Jared Cole**	**Chair: Prof. Kenjiro Fukuda**
14.50-15.20	8A-KL-1: Micro Elastofluidics: Elasticity and Flexibility for Efficient Microscale Liquid Handling. **Prof. Nam-Trung Nguyen**, Griffith University, Australia	8B-KL-1: Nanoengineering of Plasma Polymers for Medicine and Beyond. **Prof. Krasimir Vasilev**, Flinders University, Australia	8C-KL-1: From Batch to Flow-Based Methods For Production and Modification of 2D Materials. **Prof. Mainak Majumder**, Monash University, Australia	8D-KL-1**:** Single-atom and Single-atom Dimer Electrocatalysts for Sustainability. **Prof. Hyoyoung Lee**, Sungkyunkwan University, South Korea
15.20-15.45	8A-IL-1: Gold Nanoparticle Probes for Nanometre Scale Raman Spectroscopy. **Prof. Andrew Fleming**, The University of Newcastle, Australia	8B-IL-1: Smart Materials for Cardiovascular Disease Therapy. **Prof. Christoph Hagemeyer**, Monash University, Australia	8C-IL-1: Selective Hydrogen Production from Formate Using Platinum Nanoparticle Homogeneously Dispersed by Polyvinylpyrrolidone and Polydiallylcation. **Prof. Yutaka Amao**, Osaka City University, Japan	8D-IL-1: Hydrogen Defects in Halide Perovskites. **Prof. Rongkun Zheng,** University Of Sydney, Australia

15.45-16.10	8A-IL-2: Porous Crystalline Materials for Storage, Sensing and Separation Applications: Integrating Modeling and Experiments. **Dr. Ravichandar Babarao**, Royal Melbourne Institute of Technology, Australia	8B-IL-2: Nanotechnology and Biopharmaceutics: Molecular Engineering of Self-assembling Therapeutic Peptides for Intrinsic Nano-formulation. **Dr. Celine Valery**, Royal Melbourne Institute of Technology	8C-IL-2: Fluid and Birefringent Gold Nanoparticles: A New Class of Functional Organic-Inorganic Hybrids. **Dr. C. V. Yelamaggad**, Centre for Nano and Soft Matter Sciences, India	8D-IL-2: Efficient Generation of Emissive Many-Body Correlations in Copper Doped Colloidal Quantum Wells for Low Threshold Lasing and Entangled Photon Pairs Generation. **Dr. Manoj Sharma,** Monash University, Australia
16.10-16.35	8A-IL-3: Water-Splitting Photocatalysts with Atomic Precision. **Prof. Greg Metha,** The University of Adelaide, Australia	8B-IL-3: An Adhesive and Thermally Responsive Biomaterial for Biomedical Applications, **Prof. Fariba Dehghani**. The University of Sydney, Australia	8C-IL-3: Novel Antifouling Paint using Inorganic Nanoparticles and Ag-Zn/zeolite. **Prof. Thai Hoang**, Institute for Tropical Technology, Vietnam	8D-IL-3: Carbon Composites With a Digital Signature. **Dr. Nishar Hameed**, Swinburne University of Technology, Australia
16.35-17.00	**Coffee Break**			
17.00-18.00	**Chair: Prof. Ajayan Vinu, University of Newcastle, Australia** **Nobel Laureate Lecture** **Prof. Andre Geim,** Regius Professor & Royal Society Research Professor, The University of Manchester, England. *Title: Random Walk to Graphene*			
18.30-20.30	**Banquet (The Arena Room)**			

	21st of October 2022			
	The Arena	**The Extra**	**The Vivid**	**The King St**
8.00-8.45	**Chair: Prof. Debra Bernhardt, University of Queensland, Australia** **Plenary Lecture 11** **Prof. Sean Smith, Australian National University, Australia** *Title: High Performance Computing Drives Insights Into Novel and Superior Material Electrocatalytic Properties*			
	9A	**9B**	**9C**	**9D**
	Chair: Prof. Andrew Fleming	**Chair: A/Prof. Yoshimitsu Itoh**	**Chair: Prof. Krasimir Vasilev**	**Chair: Dr. Marco Fronzi**
8.50-9.20	9A-KL-1: Density Functionals with Asymptotic-Potential Corrections are Required for The Simulation of Spectroscopic Properties of Materials. **Prof. Jeffrey Reimers**, The University of Sydney, Australia	9B-KL-1: Heterogeneous Electrocatalysts: Going Beyond Single Atoms. **Prof. John Wang**, National University of Singapore, Singapore	9C-KL-1: Biomimetic NanoZymes as Promising Sensors, Stimuli-Responsive Antimicrobial Agents and Pro-Drug Therapies. **Prof. Vipul Bansal**, RMIT University, Australia	9D-KL-1: A New Electrolyte Platform for Electrochemical Energy Storage. **Prof. Thomas Nann**, The University of Newcastle, Australia
9.20-9.45	9A-IL-1: Structure, Properties and Growth of 1D van der Waals Heterostructures – Computational Challenges. **Prof. Alister Page**, The University of Newcastle, Australia	9B-IL-1: Role of Plastic Alternate Products in the Circular Economy. **A/Prof. Thava Palanisami**, The University of Newcastle, Australia	9C-IL-1: Understanding the Mechanisms and Applications of Green Synthesis of Nanomaterials Using Plant Extracts. **Dr. Franklin Gregory**, Institute of plant genetics, Poland	9D-IL-1: Towards Predictive Design of Electrolyte Solutions by Accelerating Ab Initio Simulation with Neural Networks. **Dr. Tim Duignan**, The University of Queensland Australia

9.45-10.10	9A-IL-2: Moisture Migration within Bulk Materials Handling Systems. **Prof. Kenneth Williams**, The University of Newcastle, Australia	9B-IL-2: Nanoengineered Amendments to Address Multiple Soil Constraints in Farming Systems. **Dr. Ehsan Tavakkoli**, Department of Primary Industries, NSW, Australia	9C-IL-2: Controllable Synthesis of Mesoporous Metal Oxide Spheres for Sensing Applications. **Prof. Jing Wei,** Xi'anJiaotong University P.R China	9D-IL-2: Advanced Analysis and Characterisation Tools for Nano and Biomaterials Research. **Dr. Tomer Simovich Perkin Elmer,** Australia
10.10-10.35	9A-IL-3: Understanding and Designing Catalysts Using Theoretical Methods. **Dr. Priyank Vijayakumar,** The University of New South Wales, Australia.	9B-IL-3: Super-resolution Imaging to Visualise Microplastics and Nanoplastics. **Dr. Cheng Fang**, The University of Newcastle, Australia	9C-IL-3: Quantum Dot based Materials for High Efficiency Tandem Solar Cell Applications. **Prof. Jatin Rath**, Indian Institute of Technology Madras,India	9D-IL-3: Heat Energy Storage Using Cold Crystallisation of Nickel (II) Complex Substituted by Long Alkyl Chains. **Prof. Kazuo Miyamura,** Tokyo University of Science, Japan
10.35-10.50	**Coffee Break**			
	Chair: Prof. Alister Page	**Chair: A/Prof. Thava Palanisami**	**Chair: Dr. Prashant Kumar**	**Dr. Ehsan Tavakkoli**
10.50-11.15	9A-IL-4: Machine Learning and Density Functional Theory for Novel 2 Dimensional Heterostructures Discovery. **Prof. Marco Fronzi**, The University of Technology Sydney, Australia	9B-IL-4: TLR7 Agonist Loaded Airway Epithelial Targeting Nanoparticles Stimulate Innate Immunity and Suppress Viral Replication in Human Bronchial Epithelial Cells. **A/Prof. Roger Liang**, The University of Newcastle, Australia	9C-OP-1: A Rigid Calcium Organophosphate One-Dimensional Polymer: Synthesis, Structure and Thermal Behaviour. **Navneet Matharoo,** Indian Institute of technology, Bombay, India **[10.50-11.05]**	9D-OP-1: Electrocatalytic CO_2 Reduction Reaction for Fuels and Value-Added Chemicals Production by Oxide-Derived Cu. **Han Chen**, The University of New South Wales, Australia **[10.50-11.05]**
11.15-11.40	9A-IL-5: Employing Artificial Intelligence to	9B-IL-5: Manipulating Membranes. **Dr. Khay Fong**,	9C-OP-2: Reticular Chemistry for Improving the Activity of Biocatalysts,	9D-OP-2: Enhanced Catalytic Performance of Hierarchical YFI-type Titanosilicate for

	Develop Intelligent Nanomaterials. **Dr. Tu Le**, Royal Melbourne Institute of Technology, Australia	The University of Newcastle, Australia	**Jieying Liang,** University of New South Wales, Australia **[11.05-11.20]**	Cycloalkene Epoxidation. **Shengxiang Zhang**, Yokohama National University, Japan **[11.05-11.20]**
11.40-12.05	9A-IL-6: Computational Insights into Solid/Liquid Interfaces Relevant to Clean Water Generation and Cultural Heritage Conservation. **Dr. Martina Lessio**, The University of New South Wales, Australia	9B-IL-6: A Nanotopography Design of Silica Nanoparticles Boosting Gene Delivery and Vaccines. **Dr. Hao Song**, The University of Queensland, Australia	9C-OP-3: Visible-light Driven Poly-3-hydroxybutyrate Monomer Production from CO_2 and Acetone with Photo/bio-hybrid Catalysts. **Yu Kita**, Osaka City University, Japan **[11.20-11.35]**	9D-OP-3: Investigation of Hierarchical Porous Carbon-based CO_2 Adsorber and Supercapacitor Derived from Solid-Phase-Treated Synthesis. **Dr. Xun (Rex) Geng**, The University of Newcastle **[11.20-11.35]**
12.05-12.30	9A-IL-7: Modelling Dye-sensitized Solar Cells. **Prof. Natalie Thamwattana**, The University of Newcastle, Australia	9B-IL-7: Visible-Light Water Splitting Using Dye-Sensitized Oxide Nanosheets. **Prof. Kazuhiko Maeda**, Tokyo Institute of Technology, Japan	9C-OP-4: Catalytic Synthesis of 3D Graphene Nanostructures from Biomass- Based Activated Carbon with Excellent Lithium Storage Performance. **Salman Khoshk Rish**, The University of Newcastle, Australia **[11.35-11.50]**	9D-OP-4: A thick, Flexible Book-like Electrode for Lithium-ion Batteries and Sodium-ion Batteries. **Tao Huang**, UTS Australia **[11.35-11.50]**
12.30-12.55	9B-IL-8: Ligand Effects on the Colloidal Stability of Apolar Nanoparticles. **Dr. Asaph Widmer-Cooper**, The University of Sydney, Australia	9B-IL-8: Plasma Bio-Engineering: Development of biomimetic interfaces. **Dr. Behnam Akhavan**, The University of Newcastle, Australia	9C-OP-5: Improved Carrier Dynamics in Nickel/Urea-Functionalized Carbon Nitride for Ethanol Photoreforming. **Denny Gunawan**, UNSW Australia **[11.50-12.05]**	9D-OP-5: Preparation of Gallium Encapsulated Mesoporous Carbon CMK-3 and CMK-8 for Lithium-Ion battery. **Ajayan Mano**, National Cheng Kung University, Taiwan **[11.50-12.05]**

12.55-13.10	9A -OP-1: Continuum Modelling of Molecular Interactions with Heterogeneous Molecules. **Kyle Stevens**, The University of Newcastle	9B-OP-1: Designing Novel Tissue Engineering Substrates for Peripheral Nerve Regeneration, **Manasa Nune,** Manipal Academy of Higher Education, India	9C-OP-6: Recent Developments in Nanostructured Materials Fabrication and Near Ambient Pressure XPS Solution for Surface Characterization. **Dr. Naveed Aziz Khan,** Nano Vacuum Pty Ltd, Australia **[12.05-12.20]**	9D-OP-6: Plastic degradation promotes nanoplastic formation and toxic chemical flux in-situ. **Maddison Carbery**, The University of Newcastle, Australia **[12.05-12.20]**
			9C-OP-7: Inter-laboratory Comparisons for Development of 2D Materials Standards. **Malcolm A. Lawn**, National measurement institute, Australia **[12.20-12.35]**	9D-OP-7: Defect Electrocatalytic Mechanism: Concept, Topological Structure and Perspective. **Dr. Kiran Sreedhar Ram**, Charles Darwin University **[12.20-12.35]**
			9C-OP-8: Synergistic Effect of Graphitic Carbon Nitride and Reduced Graphene Oxide to Enhance Visible Light Harvesting of Hematite for Environmental Remediation. **Abdul Asif**, Edith Cowan University **[12.35-12.50]**	9D-OP-8: Interaction Mediator Assisted Synthesis of Mesoporous Molybdenum Carbide: Mo-Valence State Adjustment for Optimizing Hydrogen Evolution. **Seongbeen Kim,** KAIST Korea **[12.35-12.50]**

13.10-14.00	**Lunch**			
14.00-14.45	**Chair: Prof. Vipul Bansal, RMIT University, Australia** **Plenary Lecture 12 - Prof. Dongyuan Zhao** *Title: Asymmetry Structures of Functional Mesoporous Materials*			
	10A	**10B**	**10C**	**10D**
	Chair: A/Prof. Jiabao Yi	**Chair: Dr. P. Kumar**	**Chair: Prof. R. Jayavel**	**Chair: A/Prof. Thava Palanisami**
14.50-15-20	10A-KL-1: Chemical Gas Sensors Using Tailored Nanomaterials. **Prof. Il-Doo Kim,** Korea Advanced Institute of Science and Technology, Korea	10B-KL-1: Carbon Composites for 1D Wearable Energy Storage Devices. **Prof. Yuan Chen**, University of Sydney, Australia	10C-KL-1: From Batch to Flow-Based Methods for Production and Modification of 2D Materials. **Prof. Colin Raston**, Flinders University, Australia	10D-KL-1: Design and Synthesis of Advanced Nanostructured Energy Storage Materials Towards a Zero-Emission Future. **Prof. Mir Fazlollah Mousavi,** Tarbiat Modares University, Iran
15.20-15.35	10A-OP-1: Nanostructured Layered Double Hydroxide (LDH) as A Binder-Free Electrode for Electrochemical Sensing. **Nasir Rafique,** Edith Cowan University, Australia	10B-OP-1: Novel Hierarchical Copper- Based Metal-Organic Frameworks for Improved Catalytic Performance. **Huan Doan,** University of Bristol, United Kingdom	10C-OP-1: Layered Double Hydroxides-gold Nanoparticles (LDH-AuNPs) for Cellular Uptake and Bioimaging. **Nana Lyu,** The University of New South Wales, Australia	10D-OP-1: Influence of Nanoparticulate Selenium on Photosynthesis and its Biotransformation in Wheat. **Marjana Yeasmin,** The University of Newcastle, Australia
15.35-15.50	10A-OP-2: Engineering Kesterite-Based Photocathodes for Photoelectrochemical	10B-OP-2: Rationale Design of Vanadium (IV) and Erbium (III)-based Paramagnetic Complexes.	10C-OP-2: Real-Time Imaging of Nanoparticle Transcytosis in a Microfluidic Blood–Brain Barrier Model.	10D-OP-2: Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) in food containers.

	Ammonia Synthesis from Waste NO_x Reduction. **Shujie Zhou,** The University of New South Wales, Australia	**Priya Pandey** Indian Institute Technology Bombay, India	**Yueying Cao,** Macquarie University, Australia	**Dr. Zahra Sobhani,** The University of Newcastle, Australia
15.50-16.05	10A-OP-3: Metal-free Oxidative Desulfurization With Molecular Oxygen by Using N-Enriched Porous Carbons Derived from Ionic Liquid-Loaded Covalent-organic Polymer. **Dr. Imteaz Ahmed,** Kyungpook National University, South Korea	10B-OP-3: Structural Evolution of Graphene Oxide Probed by Isotopic Labelling. **Bristy Mukherjee,** National University of Singapore, Singapore	10C-OP-3: Azide–Alkyne Cycloaddition Reaction: Does it Click with External Electric Fields?. **Tiexin Li,** Curtin University, Australia	10D-OP-3: Mechanism of Mild Steel Corrosion Protection in Hydrochloric Acid Solution by Vildagliptin: Experimental and Theoretical Studies. **Dr. Nkem B. Iroha,** Federal University Otuoke, Nigeria
16.05-16.20	**Coffee Break**			
16.20-17.05	**Chair: Prof. Michael Stöcker, SINTEF, Norway** **Plenary Lecture 13 - Prof. Ferdi Schüth, Max Planck Institute, Germany** *Title: Nanostructuring and More by Mechanochemistry*			
17.05-17.50	**Plenary Lecture 14 - Prof. Luis M. Liz-Marzán, CIC biomaGUNE, Spain** *Title: Seeded-Growth of Chiral Plasmonic Gold Nanorods*			
17.50-17.55	**Closing Remarks**			

Session Details

Sessions	Topics	Sessions	Topics
	17th of October 2022		
1 and 2	**Plenary Lectures 1 & 2 and ARC Laureate Symposium**		
	18th of October 2022		
3A	Energy Storage and Conversion I	**4A**	Electrocatalysis I
3B	Energy Applications	**4B**	Energy Storage Conversion II
3C	Heterogeneous Catalysis I	**4C**	Heterogeneous Catalysis II
3D	Nanostructured Materials I	**4D**	Nanocatalysis
3E	Nanomaterials/Biomaterials I		
	19th of October 2022		
5A	Layered Materials/Electrocatalysis II	**6A**	Layered Materials I
5B	Photonic Materials/Optoelectronic I	**6B**	Photonic Materials/Optoelectronic II/Electrocatalysis
5C	Layered Materials II	**6C**	Optoelectronic Materials III
5D	Nanosensors I	**6D**	Nanostructured Materials II
	20th of October 2022		
7A	Soft and photovoltaic materials	**8A**	Nanomaterials/Nanodevices
7B	Heterogeneous Catalysis-A	**8B**	Biomaterials III
7C	Biomaterials II	**8C**	Nanostructured Materials III
7D	Nanostructured Materials-IV	**8D**	Optoelectronic Materials IV
	21st of October 2022		
9A	Theoretical Calculations/Modelling	**10A**	Nanostructured Materials-V
9B	Nanomaterials/Biomaterials/Environmental Applications	**10B**	Nanostructured Materials-VI
9C	Nanostructured Materials	**10C**	Nanostructured Materials-VII
9D	Energy Storage and Conversion III	**10D**	Nanostructured Materials-VIII

PL- Plenary Talk (45 Minutes); **LL** – Laureate Lecture (40 Minutes); **KL -** Keynote Lecture (30 minutes)
IL- Invited Lecture (25 Minutes); **OP -** Oral Presentation (15 Minutes)

Note 1: Opening Ceremony, the Plenary Talks (1-13), ARC Laureate Symposium, Nobel Laureate Talks, the Banquet and the closing ceremony will be held at the Arena Hall.

Platinum Sponsors

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

PerkinElmer For the Better

JEOL

Andromeda

Gold Sponsors

City of Newcastle

Other Sponsors

ThermoFisher SCIENTIFIC

NANOVACUUM ENABLING NANOFABRICATION

AVT SERVICES VACUUM & CRYOGENIC SPECIALISTS

Griffith UNIVERSITY Queensland Micro- and Nanotechnology Centre

bio-strategy delivering technology

JASCO

ZEISS Seeing beyond

Australian Nanotechnology Network

Scimita VENTURES | Cutting edge science. Leading edge innovation.