

PPC17 2022 PROGRAM

Sunday 11 December 2022

3:30:00 PM	3:35:00 PM	Opening - Andrew Whittaker, Convenor, PPC17	Chair: Andrew Whittaker	Plaza Auditorium
3:35:00 PM	3:45:00 PM	Welcome to Country - Shannon Ruska	Chair: Andrew Whittaker	Plaza Auditorium
3:45:00 PM	3:55:00 PM	Welcome from Professor Debbie Terry, Vice Chancellor, University of Queensland	Chair: Andrew Whittaker	Plaza Auditorium
3:55:00 PM	4:40:00 PM	Plenary Presentation Professor Christine Luscombe - 'Sustainable Syntheses of Semiconducting Polymers'	Chair: Jadranka Travas-Sejdic	Plaza Auditorium
4:40:00 PM	5:25:00 PM	Plenary Presentation Professor Ick Chan Kwon - 'Targeted Drug Delivery Inspired by Real-Time Molecular Imaging'	Chair: Jadranka Travas-Sejdic	Plaza Auditorium
5:25:00 PM	5:35:00 PM	Close of Day 1	Chair: Andrew Whittaker	Plaza Auditorium
5:40:00 PM	7:40:00 PM	WELCOME RECEPTION		Plaza-level Exhibition Foyer & Concourse





Monday 12 December 2022

8:55:00 AM	9:05:00 AM	Welcome to Day 2	Chair: Christine Luscombe	Plaza Auditorium
9:05:00 AM	9:50:00 AM	Plenary Presentation Professor Jadranka Travas-Sejdic - 'Novel conducting polymers biointerfaces for bioelectronics'	Chair: Christine Luscombe	Plaza Auditorium

9:50:00 AM	10:20:00 AM	MORNING REFRESHMENTS & TRADE EXHIBITION Today's Refreshment Breaks Sponsored By	   	
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Breakout Session 1

		New Polymerization Technologies	Polymers in Energy Conversion and Storage	Self-Assembly and Colloidal Systems	Composite Materials	Polyelectrolytes / Gels / Networks	Polymeric Nanomedicine/Drug Delivery	Wearable Electronics / Smart Textiles / Optoelectronic Polymers	Additive Manufacturing	Theory and Computational Modeling
		M1.1	M1.2	M1.3	M1.4	M1.5	M1.6	M1.7	M1.8	M1.9
		Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 10	Plaza 11	Boulevard 1	Boulevard 2
		Christopher Barner-Kowollik & Christopher Bowman	Mats Andersson	Atsushi Goto & Yukiya Kitayama	Tony McNally & Stuart Thickett	Erica Wanless & Georgina Such	Orlagh Feeney	Chris McNeill	Nathaniel Corrigan & Katharina Ehrmann	Fangfang Chen & Stephen Wu
10:20:00 AM	10:45:00 AM	invited Multi-Colour Synergistic, Antagonistic and Orthogonal Photochemistry for Macromolecular Synthesis Christopher Barner-Kowollik Queensland University of Technology	invited Organic Functional Polymers for Energy Storage Kenichi Oyaizu Waseda University	invited Self-Assemblies Synthesized via Organocatalyzed Living Radical Polymerization Atsushi Goto Nanyang Technological University	invited WS2 Nanotubes as a Functional Filler for Biopolymers Tony McNally University of Warwick	invited Engineering Dynamic Ligand Presentation into Supramolecular Polymer Hydrogels Patricia Dankers Eindhoven University of Technology - Netherlands	invited Tuning the Hydrophilic-Hydrophobic Balance of Molecular Polymer Bottlebrushes Enhances their Tumor Homing Properties Markus Mueller The University of Sydney	invited Development of Carbon Nanotube Yam-PEDOT:PSS Core-shell Fibers for Versatile Energy Storage Application Myung-Han Yoon Gwangju Institute Of Science And Technology	invited Advancing Macromolecular Synthesis for 3D Printing Cyrille Boyer University of New South Wales	invited Computational design of poly(ionic liquid) polymer electrolytes Fangfang Chen Deakin University
10:45:00 AM	11:10:00 AM	invited A Comprehensive, First-Principles Model of Free-Radical Photopolymerization with Applications to Bulk Polymerization, Additive Manufacturing, and Holography Christopher Bowman University of Colorado	invited Strategies for powerful organic polymer batteries Zhongfan Jia Flinders University	invited Stimuli-Responsive Capsule Polymer Particles Fabricated Through Interfacial Photocrosslinking of Photoreactive Particles Yukiya Kitayama Osaka Metropolitan University	invited Stretchable, Supratough and Healable Polymeric Materials Enabled by Dynamic Nanoconfinement Pingan Song University of Southern Queensland	invited PNIPAM brushes aid our understanding of specific ion effects in non-aqueous electrolytes Erica Wanless University of Newcastle	invited Proteins and Polysaccharides as Versatile Biopolymer Material in Drug Delivery Peter Wich University of New South Wales	invited Low Voltage Operating Hygroscopic Insulator OTFT Soniya Yambem Queensland University of Technology	invited Biomimetic scaffolds for heart valve tissue engineering using melt electrowriting Elena De Juan Pardo The University of Western Australia	invited Update and Critical Reanalysis of IUPAC Benchmark Propagation Rate Coefficient Data Simon Harrison Paul Sabatier University
11:10:00 AM	11:30:00 AM	long Solid-phase synthesis of iterative RAFT-SUMI adducts Karen Hakobyan University of New South Wales	long Development of Thermally Stable Composite Polymer Electrolyte for Li-ion Polymer Batteries Enabled by in-situ Polymerization Taeshik Earmme Hongik University	long Quantifying the Endosomal Escape of pH-Responsive Nanoparticles Using Bioluminescence Maximilian Beach The University of Melbourne	long Mode I static and cyclic interfacial toughening enhancement of hybrid titanium-composite 3D printed pinned joints Tiana Bagnato (presented by Dr. Anil Ravindran) RMIT University	invited (11.10 - 11.35) Designing Stimuli-Responsive Nanoparticles with Hybrid Building Blocks Georgina Such The University of Melbourne	long Development of hyaluronic acid-coated polymeric micelles for nasal vaccine delivery Yuichi Ohya Kansai University	long Multifunctional textiles that comprise a 'reflecting core' and an 'absorbing shell' capable of shielding EM and UV radiation Jagadeeshvaran P L Indian Institute Of Science, Bangalore	long 3D Printing via Photoinduced RAFT Polymerization for Multi-Functional Materials Nathaniel Corrigan University of New South Wales	long Reactive Molecular Dynamics Study on the Charring Process of Epoxy Composites Timothy Bo Yuan Chen University of New South Wales
11:30:00 AM	11:50:00 AM	long Macrocyclization Efficiency for Poly(2-oxazoline)s and Poly(2-oxazine)s Nick Huettner Queensland University of Technology	long Graphene-Based Composite Materials: Synthesis and Applications Yuta Nishina Okayama University	long Understanding polymer-membrane interactions as a target for polymeric antivirals Nathan Boase Queensland University of Technology	long Multifunctional properties of recycled crumb rubber integrated syntactic foam Nathaphon Buddhacosa RMIT University	invited (11.35 - 12.00) Biodegradable photocrosslinked hydrogels with adhesive properties for improved integration and function of tissue engineered constructs Andrea O'connor The University of Melbourne	long Poly-L-lysine-based polymeric system for the protection and delivery of proteins Robin Rajan Japan Advanced Institute of Science and Technology	long Pulse measurement and its signal processing with a flexible piezoelectric sensor for objective psychological assessment Jun Takarada Kansai University	long 3D Printed Microstructures Erasable by Darkness Steven Gauci Queensland University of Technology	long Development of an Automated Polymer Property Calculation System "RadonPy" and Data Platform Co-creation through Industry-Academia Collaboration Yoshihiro Hayashi The Institute of Statistical Mathematics
11:50:00 AM	12:15:00 PM	invited Multifunctional Hybrid Nanomaterials by Atom Transfer Radical Polymerization Krzysztof Matyjaszewski Carnegie Mellon University	invited Ion transport in mixed ionic-electronic polymer films for wearable thermoelectrics Eunyoung Kim Yonsei University	invited Mechanisms of Equilibration in Block Copolymer Micelles Timothy Lodge University Of Minnesota	invited Polymer-Organic and Polymer-Inorganic Colloidal Nanocomposites via Heterogenous Polymerization Methods and Emulsion Templating Stuart Thickett University of Tasmania	invited (12.00 - 12.25) Artificial cells with communicative features Jan Van Hest Eindhoven University of Technology	short Polymer-assisted Transformable Magnetic Nanohybrids for T1/T2 Switchable MR Imaging Xumin Huang The University of Queensland	invited Degradable conjugated polymers Helen Tran University of Toronto	invited 3D printing and 4D printing of high-performance polymer nanocomposites Rigoberto Advincula University Of Tennessee	long (11.50 - 12.10) Evaluating shear, relaxation, and recrystallization effects on the high-density polyethylene microstructure using molecular dynamics simulation Mohammed ALthaf Hussain Fukuoka University
12:15:00 PM	12:35:00 PM	long Machine-assisted RAFT-mediated synthesis of highly living multiblock copolymers Vianna Jafari The University of Melbourne	short High Thermoelectric Power Factor of Poly[[3-alkylthio]thiophene]]s/Carbon Nanotubes Composite Films Po-shen Lin National Taiwan University	long Temperature-Directed Formation of Anisotropic Kettlebell and Tadpole Nanostructures in the Absence of a Swelling-Induced Solvent Sung-Po (Rafael) Chen The University of Queensland	short (12.15 - 12.25) Mode I interlaminar fracture properties of composites tufted using Shape Memory Alloy wires Manatsawee Limprapuwattana RMIT University		short How photopolymerizations can be affected by cell culture media? Marzieh Monfared CSIRO	invited (12.15 - 12.40) Establishing structure/property interrelations of organic semiconductors for energy applications using fast calorimetry Natalie Singelin Georgia Institute of Technology	long 3D printing with Silicone-Based Resins Timothy Hughes CSIRO	long (12.10 - 12.30) Macromolecule iterative coupling: a general method for low dispersity polymer synthesis Nicolau Saker Neto The University of Melbourne

		short Pseudocapacitor Electrodes with High Capacity and Rate Capability via High-Energy Linker-mediated Assembly Jeongyeon Ahn Korea University		invited (12.25 - 12.50) Aggregation induced emission enabled smart fibers and composites Youhong Tang Flinders University						
12:35:00 PM	12:45:00 PM	long Expanding the Scope of Surface-Initiated Polymerization Harm-anton Klok Ecole Polytechnique Fédérale De Lausanne (epfl)	short Conductive 0D and 1D Nanomaterial Assembly-Induced Metallized Textiles with Scalable Active Surface Area for High Areal Capacity Battery Electrodes Euiju Yong Korea University	long Continuous flow polymersome manufacturing Chin Ken Wong University of New South Wales			short (12.40 - 12.50) Water-insensitive Electron Transport and Photoactive Layers for Improved Underwater Stability of Organic Photovoltaics Jia-Fu Chang National Taiwan University	long (12.30 - 12.50) Effects of Atmospheric Pressure Low Temperature Plasma Treatment on the Chemical Structure and Physical Properties of PTFE Surface Layer Shinichi Kuroda Gunma University	long (12.30 - 12.50) Design of liquid-crystalline polyimides by integrating expert knowledge to a data-driven machine learning framework Stephen Wu The Institute of Statistical Mathematics	
12:45:00 PM	12:55:00 PM			long (12.50 - 1.10) Multiscale composites for cryogenic liquid hydrogen fuel tank Chun Wang University of New South Wales						
12:55:00 PM	1:50:00 PM	LUNCH & TRADE EXHIBITION Today's Refreshment Breaks Sponsored By    								
Breakout Session 2										
		New Polymerization Technologies	Polymers in Energy Conversion and Storage	Self-Assembly and Colloidal Systems	Composite Materials	Polyelectrolytes / Gels / Networks	Polymeric Nanomedicine/Drug Delivery	Supramolecular Polymers	Additive Manufacturing	Polymers in Bioelectronics
		M2.1	M2.2	M2.3	M2.4	M2.5	M2.6	M2.7	M2.8	M2.9
		Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 10	Plaza 11	Boulevard 1	Boulevard 2
		Tae-lim Choi & Michael Cunningham	Grish Lakhwani	Emily Pentzer & Tatsuo Maruyama	Shuying Wu & Cheng Yan	Helen Tran & Zhongfan Jia	Peter Wich	Pol Besenius	Tania E. Lara Cenicerós & Timothy Lodge	Damia Mawad
1:50:00 PM	2:15:00 PM	invited Cascade Olefin Metathesis Polymerization Tae-lim Choi Eth Zurich	invited D-D' and D-A-type thermoelectric polymers based on indacenodithiophene substituted with bis(alkylsulfanyl)methylene side-chains Han Young Woo Korea University	invited Tailoring Capsule Shell Reactivity and Permeability with Polymer Chemistry Emily Pentzer Texas A&M University	invited Microstructural Design of Polymer Nanocomposites for Wearable Sensors Shuying Wu Macquarie University	invited Conductive bottlebrush elastomers for solvent-free ultrasoft electronics Helen Tran University of Toronto	Keynote Biomimetic polymersomes as smart functional therapeutics Sebastien Lecommandoux University of Bordeaux	invited Multicomponent Supramolecular Polymers as a Platform for the Design of Glycoconjugate Vaccines Pol Besenius Mainz University	invited Bottlebrush Copolymer Routes to Bicontinuous Nanostructured Materials Timothy Lodge University Of Minnesota	invited Thin Film Conducting Polymers: Towards Dermal Applications Drew Evans University of South Australia
2:15:00 PM	2:40:00 PM	invited Synthesis of diblock and triblock polymers from cyclooctadiene and norbornene via ROMP in miniemulsion Michael Cunningham Queen's University	invited Polymer solar cells made of completely amorphous donor polymers Mats Andersson Flinders University	invited Intracellular Synthesis of a Self-Assembling Peptide Amphiphile to Selectively Kill Cancer Cells Overexpressing Tyrosine Kinase Tatsuo Maruyama Kobe University	invited Development of graphene oxide-based nanocomposites Cheng Yan Queensland University of Technology	invited Tuning electrochemical properties of radical polymer gels and polyelectrolytes Zhongfan Jia Flinders University	invited Non-lamellar lipid nanoparticles as an innovative delivery platform for biopharmaceuticals Charlotte Conn RMIT	long (2.15 - 2.35) Stereochemical Pathway Selection in Chiral Nanotubular Supramolecular Polymerization: Metal-Organic Nanotubes from a Planar-Chiral Monomer and AgBF4 Yingluo Zhao The University of Tokyo	invited ECO-FRIENDLY 3D PRINTED HYDROCOLLOIDS BASED ON NANOCELLULOSE FOR WATER REMEDIATION Tania E. Lara Cenicerós Cimav, Sc (research Center For Advanced Materials)	invited Hygroscopic Insulator Field Effect Transistor Sensors for Soft Electronics Soniya Yambem Queensland University of Technology
2:40:00 PM	3:00:00 PM	long Switching Mechanisms for Tandem Frontal Polymerization Jacob Lessard University Of Illinois Urbana-champaign	long Semiconducting Polymer Photocatalysts for Solar-Driven Hydrogen Evolution from Water Ho-Hsiu Chou National Tsing Hua University	long RAFT emulsion polymerization as powerful tool for the preparation of nano-engineered multiblock copolymer particles Thiago Guimaraes Queensland University of Technology	long Nano-dimensional worms as fillers in polymer nanocomposites Fumi Ishizuka University of New South Wales	long One-pot Method to Prepared Polysaccharide-based Double Network Composite Hydrogels Natjaya Ekapakul Kasetsart University	long Degradable polymer assemblies by controlled radical ring-opening polymerization Craig Bell The University of Queensland	long (2.35 - 2.55) The Rise and Promise of Artificial Molecular Machines in Polymer Chemistry and Materials Science Yunyan Qiu National University of Singapore	long UV-Curable High-performance Biobased Benzoxazine Derivatives for Additive Manufacturing and Energy Storage Yong Lu Nanyang Technological University	long A flexible, soft and self-healable conducting polymer-based solid-state supercapacitor Bicheng Zhu The University of Auckland
3:00:00 PM	3:10:00 PM	long Radical polymerization of vinyl monomers mediated by cyclic RAFT agents and the topology Kota Oto Nagoya Institute of Technology	short Water-splitting Silk Electrodes via Carbonization/Interfacial Assembly-induced Metal Electroplating with High Operation Stability in Alkaline Media Jeongmin Mo Korea University	long Formation and manipulation of charged polymersomes in continuous flow Rebecca Lai University of New South Wales	long Multifunctional Coating for Polyurethane Foam towards Excellent Flame Retardant and Antibacterial Performances Bo LIN University of New South Wales	long Ice adhesion reducing amphiphilic Poly (Ionic Liquid)-based surfaces Zahra Mossayebi The University of Melbourne	long Cation-free mRNA delivery using zwitterionic arginine polymers Akihisa Otaka National Cerebral And Cardiovascular Center Research Institute	long (2.55 - 3.15) Supramolecular Polysulfide Polymers Yuichiro Kobayashi Osaka University	long Superior compressive properties of 3D printed plate lattice mechanical metamaterials and polymer-derived ceramics Hui Chen Nanyang Technological University	short Synthesis of conjugated polymers with phosphonate functionalities for bioelectronics Jonathan Hopkins University of New South Wales
3:10:00 PM	3:20:00 PM		short Copper Tetrahydroxyquinone Metal-Organic Frameworks grown on Edge Functional Graphene for CO2 Electrocatalysis at Low Potentials Lisha Jia University of Wollongong							short Conducting polymers functionalised with cholesterol for biointerface applications Carly Baker University of Wollongong
3:20:00 PM	3:30:00 PM	long Rewritable Macromolecular Data Storage with Automated Read-out Matthieu Soete Ghent University	short Design and synthesis of FRET based fluorescent polymer network of PMMA Rehana Pervin The University of Melbourne	long Controlled Growth of Highly Oriented Perovskite Crystals in Polymer Solutions via Selective Solvent Vapor Diffusion Yen-ting Li National Taiwan University of Science And Technology	long Fabrication of functional nanocomposites with photoinitiator-functionalized nanomaterials through one-step photopolymerization Xiaolong Peng Australian National University	long Developing a thermally responsive hydrogel with a rejection layer for sample preconcentration and storage Nupur Gupta Nanyang Technological University	short Acid-Responsive Micellar Nanoparticles for the Delivery of Self-Amplifying ROS-Responsive Prodrugs Vinod Kannaujya University of New South Wales	long (3.15 - 3.35) Synthesis of Ordered Mesoporous Metal-Phenolic Network Particles through Polymer Cubosomes Zhixing Lin The University of Melbourne	long "Living" Polymer Networks Based on a RAFT Crosslinker: toward 3D and 4D Printing Applications Ali Bagheri University of New England	short A stable graft structure conjugated copolymer synthesized by electropolymerization Modi Gu University of New South Wales
3:30:00 PM	3:40:00 PM		short Microporous poly(vinyl alcohol) thin film for efficient near-infrared to visible photon upconversion Takeshi Mori Industrial Technology Center of Wakayama Prefecture				short Comparative studies of topography and cellular response of biodegradable polymer coatings prepared by spin and spray coatings for biomedical applications Fatemeh Askaritouzani Monash University			short Hydrogel-based sensor for hydrogen peroxide detection Fariba Dehghani The University of Sydney

3:40:00 PM	3:50:00 PM	long Progress in Synthesis of Cyclic Vinyl Polymers via Ring-Closure without Highly Diluted Condition AKINORI Takasu Nagoya Institute of Technology	short Gelatin Methacryloyl-Based Thermogalvanic Hydrogel Thermocells Shao-Huan Hong National Central University	long Fabrication of polymer/reduced graphene oxide nanocomposite films: in situ surfactants vs. conventional surfactant Ngoc Tran University of New South Wales	long Creation of Gyroid Nanostructured Polymer Electrolytes Having a 3D Continuous Proton Conduction Pathway: Conduction Mechanism and New Functions Takahiro Ichikawa Tokyo University Of Agriculture And Technology	long Multicompartmental Microcarriers with Controlled Release for Efficient Management of Parkinson's Disease Nidhi Gupta National Chiao Tung University	long Influence of Post-printing Polymerisation Rate on Morphology and Thermo-mechanical Properties in a 3D Printable Dual-Cure Dimethacrylate/Epoxy Resin Kay Chen Flinders University	short Development and evaluation of low-cost, easily deployable molecularly imprinted polymer technologies for norovirus detection Sarbjee Kaur Newcastle University
3:50:00 PM	4:00:00 PM							

4:00:00 PM	4:25:00 PM	AFTERNOON REFRESHMENTS & TRADE EXHIBITION Today's Refreshment Breaks Sponsored By    							
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Breakout Session 3									
	New Polymerization Technologies	Polymers in Energy Conversion and Storage	Self-Assembly and Colloidal Systems	Composite Materials	Regenerative Medicine	Theory and Computational Modeling	Nano-structured and Self-Assembled Materials	Additive Manufacturing	Biofabrication
	M3.1	M3.2	M3.3	M3.4	M3.5	M3.6	M3.7	M3.8	M3.9
	Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 10	Plaza 11	Boulevard 1	Boulevard 2
	Laura Delafresnaye & Filip Du Prez	Zhongfan Jia	Nacho Martin-Fabiani & Michelle Calabrese	Jun Ma & Per Zetterlund	Brooke Farrugia	Tanja Junkers & Simon Harrison	Cheng Zhang & Markus Mueller	José Bonilla-Cruz & Valentin Bobrin	Richard Williams
4:25:00 PM	4:50:00 PM	invited Microspheres from (Sun)Light – A Sustainable Materials Platform Laura Delafresnaye Queensland University of Technology	invited Preparation of organic-inorganic perovskite materials for optical application and incorporation of polymer structure Yuko Takeoka Sophia University	invited The role of polymer rheology modifiers in the assembly of drying binary colloidal dispersions Nacho Martin-Fabiani Loughborough University	invited Modularly Aromatic-Knit Phenolic Network as a Tailored Graphitic Carbon Platform for Highly Enhanced Electrochemical Performance Pil Jin Yoo Sungkyunkwan University (skku)	long (4.25 - 4.45) Incorporation of Atomistic Gas Decompositions Data for Fire and Toxicity Predictions of a Graphite Oxide Polyethylene Composite Anthony Chun Yin Yuen University of New South Wales	invited The Importance of Controlled Structures in Polymer Science Cheng Zhang The University of Queensland	invited Additive Manufacturing with Aliphatic Polycarbonates Emily Pentzer Texas A&M University	invited Biofabrication approaches enabled by covalent crosslinking of silk Jelena Rnjak-kovacina University of New South Wales
4:50:00 PM	5:15:00 PM	invited New strategies for storing and reading data on sequence-defined macromolecules Filip Du Prez Ghent University	invited Molecularly Engineered Interfaces in Metal Halide Perovskite Optoelectronic Materials and Devices Hin-lap Yip City University Of Hong Kong	invited New routes for controlling block copolymer self-assembly and phase behavior via magnetic fields Michelle Calabrese University of Minnesota	invited Tailoring polymer/graphene (oxide) nanocomposites via emulsion based techniques Per Zetterlund University of New South Wales	long (4.50 - 5.10) Localized Delivery of Therapeutic Proteins to the Central Nervous System using Thermo-responsive Hydrogels Timothy Hughes CSIRO	invited Polymerization-Induced Self-Assembly for the Fabrication of Nanostructured Carbon-Coated Anatase Markus Mueller The University of Sydney	invited 3D Printed Parahydrophobic Surfaces as Multireaction Platforms José Bonilla-Cruz Research Center For Advanced Materials (cimav)	invited Understanding the impact of specific surface microtopographies on cell fate in vitro and in vivo Jessica Frith Monash University
5:15:00 PM	5:35:00 PM	long One-step synthesis of multiblock copolymers by ring-opening copolymerization using alkali metal carboxylate catalyst Toshifumi Satoh Hokkaido University	invited (5.15 - 5.40) Polymers for energy applications Ji-hyun Jang Ulsan National Institute of Science and Technology	long Co-assembly of a peptide amphiphile and a conventional antifungal drug creates selective toxicity to virulent fungi Kenta Morita Kobe University	long Graphene Nanoplatelets for Polymer Nanocomposites Jun Ma University of South Australia	short (5.10 - 5.20) Engineered myoglobin: peptide hydrogels as oxygen vectors Elizabeth Zoneff The University of Melbourne	long (5.05 - 5.25) Advanced Atomistic Modelling Approach to Study the In-depth Flame Retardant Mechanisms of Building Polymer Composites with Flame Retardant Additives Guan Yeoh University of New South Wales	long Designing Nanostructured 3D Printed Materials by Controlling Macromolecular Architecture Xiaobing Shi University of New South Wales	long 3D Printing Nanostructured Solid Polymer Electrolytes with High Modulus and Conductivity Kenny Lee University of New South Wales
5:35:00 PM	5:55:00 PM	long Multiblock copolymer synthesis via aqueous RAFT polymerization-induced self-assembly (PISA) Steven Thompson University of New South Wales		long A high throughput approach based on Förster resonance energy transfer for protein polyion complexes design Ahmed Mustafa University of New South Wales	invited (5.35 - 6.00) Cytomembrane-inspired MXene ink for 3D-printed microsupercapacitors Yu Lin Zhong Griffith University		long Nanometers-thin and transparent conductive polymer films using a surface grafted dopant templating approach George Greene Deakin University	long Nano- to Macro-scale Control of 3D Printed Materials Valentin Bobrin University of New South Wales	long Novel photoinitiators for bioadhesives and 3D printing Terry Steele Nanyang Technological University
6:00:00 PM	8:00:00 PM	POSTER NIGHT Plaza Concourse							

Tuesday 13 December 2022

8:55:00 AM	9:05:00 AM	Welcome to Day 3		Chair: Andrew Whittaker	Plaza Auditorium
9:05:00 AM	9:50:00 AM	Plenary Presentation Professor Tanja Junkers 'Digitalization of Polymer Synthesis: Challenges and Opportunities'		Chair: Andrew Whittaker	Plaza Auditorium
9:50:00 AM	10:35:00 AM	Plenary Presentation Professor Dongsheng Liu - 'DNA Supramolecular Hydrogels' - via Zoom Link		Chair: Andrew Whittaker	Plaza Auditorium

10:35:00 AM	11:05:00 AM	MORNING REFRESHMENTS & TRADE EXHIBITION Today's Refreshment Breaks Sponsored By  			
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Breakout Session 4									
	New Polymerization Technologies	Polymer Physics / Responsive/Adaptive Polymers	Self-Assembly and Colloidal Systems	Composite Materials	Nano-structured and Self-Assembled Materials	Polymeric Nanomedicine/Drug Delivery	Renewable and Sustainable Polymers (Including Biopolymers)	Polymer Characterisation	Biofabrication
	T1.1	T1.2	T1.3	T1.4	T1.5	T1.6	T1.7	T1.8	T1.9
	Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 10	Plaza 11	Boulevard 1	Boulevard 2
	Dominik Konkolewicz & Frank Leibfarth	Teruaki Hayakawa & Moon Jeong Park	Robert Chapman	Jeff Wiggins & Hao Wang	Robert Macfarlane & Lauren Zarzar	Angus Johnston	Hendrik Frisch & Suwabun Chirachanchai	Dario Arua & Thorsten Hofe	David Nisbet
11:05:00 AM	11:30:00 AM	invited Poly(vinyl ketones): Polymers with Wavelength Selective Photochemistry Dominik Konkolewicz Miami University (ohio)	invited Strongly-segregating Chemically Tailored Block Copolymers For Perpendicularly Oriented and Long-range Ordered Nanostructures in Thin Films Teruaki Hayakawa Tokyo Institute of Technology	invited Delivering peptide inhibitors of heat shock proteins Robert Chapman University of Newcastle	invited Dynamic Polybenzoxazine Networks for Sustainable Composite Materials Jeffrey Wiggins University of Southern Mississippi	invited Polymer Nanocomposite Superlattice Synthesis via Self-Assembly Robert Macfarlane Massachusetts Institute of Technology	invited Multifunctional Photonic Nanomedicines for Smart Healthcare Sei Kwang Hahn Pohang University of Science and Technology	invited Breaking the Chain: Inherent Polymer Degradation Hendrik Frisch Queensland University of Technology	invited Polymerizable Eutectics: A New Approach Towards Preparing Porous Polymer Monoliths Stuart Thickett University of Tasmania

11:30:00 AM	11:55:00 AM	invited X-induced molecular self-assembly into polymeric nanoparticles: Interpretation by LP-TEM Eunji Lee Gwangju Institute Of Science And Technology	invited Superionic polymer electrolytes with tailored intermolecular interactions Moon Jeong Park Pohang University of Science and Technology	invited Chemically programmable active behaviors of oil droplets Lauren Zarzar Pennsylvania State University	invited Carbon Fibre Composites: New Opportunities and Challenges Hao Wang University of Southern Queensland	invited Computational model for bottlebrush polymer and its self-assembly Su-mi Hur Chonnam National University	long (11.30 - 11.50) The protein corona leads to the deformation of spherical micelles Cheng Cao University of New South Wales long (11.50 - 12.10) Design of highly selective Zn-coordinated polyampholyte for cancer treatment and inhibition of tumor metastasis NISHANT KUMAR Japan Advanced Institute of Science and Technology	invited Applying Shape Memory Polymers as a Key Structure for Recoverable and Repeatable Multi-responsiveness through a Model Case of Polycaprolactone Suwabun Chirachanchai Chulalongkorn University	invited Development of porous polymer monoliths as stationary phases for Gel Permeation Chromatography Dario Arma University of South Australia	invited Micron-scale 3D printing using melt electrowriting (MEW) for biomimetic tissue engineering scaffold fabrication Naomi Paxton University of Oregon	
11:55:00 AM	12:15:00 PM	long Macromolecular Transformations under High Shear Thin Films Bryan Tuten Queensland University of Technology	long Photo-Crosslinking of Polymers Using Forbidden Electron Transition Boris Gorelik Mobichem Scientific Engineering Ltd	long Stimuli-responsive synthetic ion channels formed by fluorinated multiblock amphiphiles Kahei Sato Tokyo Institute of Technology	long Understanding the influence of melt dripping on UL94 behavior in a PA11 system Dean Seah Nanyang Technological University	long Methacrylate Monoliths by Spinodal Decomposition for Hydrodynamic Chromatography Ester Lubomirsky University of South Australia	short (12.10 - 12.20) Low-Fouling Fluoropolymer Grafted Metal-Organic Framework Nanotheranostics for 19F MRI-guided Cancer Therapy Qiaoyun Wang The University of Queensland	long Synthesis of Long-Chain Polyesters by Acyclic Diene Metathesis Polymerization and their ABA-Triblock Copolymers via Exclusive End Modification and Ring-Opening Polymerization Mohamed Soliman Tokyo Metropolitan University	long Investigating OTFT sensing mechanisms using confocal fluorescence microscopy Joshua Arthur Queensland University of Technology	long Programmed Sacrificial 3D-Bioprinting using Light-Activated Hydrogels Khoon Lim University of Otago	
12:15:00 PM	12:35:00 PM	long Nanoparticle Surface Cross-Linking: A Universal Strategy to Enhance the Mechanical Properties of Latex Films Ke Xu Monash University	invited (12.15 - 12.40) Dynamic Polymer Brushes Formed by Segregation of Block Copolymers to Interfaces Hideaki Yokoyama The University of Tokyo	long Versatile star polymer synthesis via high throughput rapid one-pot sequential aqueous RAFT (rosa-RAFT) IlzeDonderwinkel The University of Queensland	long Through thickness crystallinity distribution of in-situ consolidated CF/PEEK composites Shafaq Shafaq University of New South Wales	long Janus particles by simplified RAFT-based emulsion polymerization process for polymer coating Duc Nguyen The University of Sydney	short (12.20 - 12.30) Metal-Free Fluorinated Nanoparticles Prepared by PISA for Dual 19F MRI and Raman Imaging Yixin Chang The University of Queensland	long Vanillin: a biosourced building block for organic electronic materials David Gendron Cegep de Thetford - Kemitec	long Exploring the synthesis and characteristics of discrete oligo (meth)acrylates via a combined SUMI-Click strategy Iyomali Abeysekera Monash University	invited (12.15 - 12.40) Engineering cells and microgel matrices for tissue biofabrication Kristopher Kilian University of New South Wales	
12:35:00 PM	1:00:00 PM	invited Stereoselective Cationic Polymerization of Prochiral Monomers Frank Leibfarth University of North Carolina	invited (12.40 - 1.05) Unconventional Microdomains of Block Copolymers JinKon Kim Pohang University of Science and Technology	long (12.35 - 12.55) Aromatic network polymer (ArNP) colloidal nanoparticles and their applications Makoto Takafuji Kumamoto University	invited Fire Retardant Epoxy Resins Systems designed for RTM Composite Manufacture Russell Varley Deakin University	long (12.35 - 12.55) Nanocellulose Crystal Hydrogel Encapsulated Plasmonic Nanosensors for Detection of Reactive Oxygen Species (ROS): Towards a Sensing Bandage Yusra Rabhani Australian Institute for Bioengineering and Nanotechnology	short (12.40 - 12.50) Sequence-defined dendritic polymers for delivery of nucleic acids to cells Lennart Schaefer The University of Western Australia	invited Facilely prepared starch-based ionic conductive hydrogel, batteries, and self-powered sensors with strain-sensitivity Fengwei Xie Newcastle University	invited Hydrodynamic Chromatography an efficient separation method for determine particle size distributions in the sub-micron range Thorsten Hofe PSS	short (12.40 - 12.50) Sweat-stimuli Personalized Transdermal Patch Di Zhu Australian National University	
1:00:00 PM	1:20:00 PM	long PET-RAFT enables efficient and automated multiblock star synthesis Henry Foster University of New South Wales	long (1.05 - 1.25) Photoisomerization of a-Bisimine-based Polymer Nano-Objects: In situ Observation of Light-Induced Morphology Transitions Thiago Guimaraes Queensland University of Technology	long (12.55 - 1.15) Preparation of Photo-Functional Polymeric Capsules Based on Theoretical Design Tatsuo Taniguchi Chiba University	long In situ photochemical approach to polymer/inorganic hybrid materials Pu Xiao Australian National University	long (12.55 - 1.15) Stimuli-responsive Self-assembled Carbon Nanotube Construct on Sequential Interpenetrating Polymer Network for Green Electromagnetic Interference Shielding Kunal Manna Indian Institute Of Science Bangalore	short (12.50 - 1.00) Spatial control over peptide presentation in polymeric TRAIL mimics Zifei Han University of New South Wales	long Cyclization of Arabitol for the use as a Building Block in Bio-Polyester Tawwat Kunthong Chulalongkorn University	long Direct Visualisation of Chemical Distribution in Functional Polymeric Microspheres Joachen Kammerer 3DMM20	short (1.00 - 1.10) Sulfated Alginate gels particles for protein delivery Jiankun Yang The University of Queensland	short (1.00 - 1.10) Topical RNAi for Sustainable Animal Health in Australian Sheep Flystrike by Polymer Delivery Yunjia Yang The University of Queensland



LUNCH & TRADE EXHIBITION | Today's Refreshment Breaks Sponsored By

RACI Polymer Division Annual General Meeting (Plaza 7)

Breakout Session 5

	New Polymerization Technologies	Responsive/Adaptive Polymers	Self-Assembly and Colloidal Systems	Composite Materials	Supramolecular Polymers	Polymeric Nanomedicine/Drug Delivery	Bioinspired, Biomimetic and Bio-conjugates	Nano-structured and Self-Assembled Materials	Polymers in Energy Conversion and Storage
	T2.1	T2.2	T2.3	T2.4	T2.5	T2.6	T2.7	T2.8	T2.9
	Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 10	Plaza 11	Boulevard 1	Boulevard 2
	Moon Jeong Park & JinKon Kim	Hideaki Yokoyama	Robert Chapman	Russell Varley	Pall Thordarson	Georgina Such	Peter Kingstott	Hendrik Frisch	Mats Andersson
2:20:00 PM	2:45:00 PM	invited New Frontiers in Polymers Made from Sulfur Justin Chalker Flinders University	invited Macromolecular design of smart soft materials Zhen Jiang University of Wollongong	invited Constructing Schottky Junctions by Hybridizing Nanofillers for Improving the Electrical Performance of Composite Nanofibre Triboelectric Nanogenerators Jin Zhang University of New South Wales	invited Supramolecular Polymerization: Significance and Applications Takuzo Aida The University of Tokyo	Keynote Dendritic glycopolymers in bioconjugates, polyplexes and as therapeutics Brigitte Voit Leibniz Institute of Polymer Research	invited Self-assembled nanomaterials (Nanogels and Vesicles) of carbohydrate polymers for drug delivery system Kazunari Akiyoshi Kyoto University	invited Self-propulsion of oil droplets stabilized by surfactants and nanoparticles Lauren Zarzar Pennsylvania State University	invited High Performance Organic Thermoelectric Materials by Engineering Charge Transport Properties Kiwon Cho Pohang University of Science and Technology

2:45:00 PM	3:10:00 PM	invited Atom Transfer Radical Coupling: Harnessing ATRP for Organic Synthesis Michelle Coote Flinders University	long [2.45 - 3.05] 'Dumbbell' polymer brushes: understanding the origins of non-monotonic structures Edwin Johnson University of Sheffield	LATE START DUE TO AGM	invited Additive manufacturing of cardiac tissue engineering scaffolds using multilayer polymer composites Neil Cameron Monash University	invited From supramolecular polymers to functional systems and materials Bert Meijer Eindhoven University of Technology	invited Nanoscopy: Understanding nanoparticle trafficking in cells Angus Johnston Monash University short (3.10 - 3.20) Engineered Nanoscaffolds for Targeted Gene Delivery Shiva Soltani Dehnavi Australian National University	invited Bio-inspired Supramolecular Polymers for Regenerative Medicine Applications Tristan Clemens The University of Southern Mississippi	long (2.45 - 3.05) Automated Synthesis of Star Polymers for use in Polyurethane Coatings Don Eyckens CSIRO	invited Energetics of Organic Semiconductors in Solar Cells: A Conundrum Finally Solved Anirudh Sharma King Abdullah University of Science and Technology
3:10:00 PM	3:30:00 PM	invited (3.10 - 3.35) Expandable crosslinked polymer coatings on silicon nanoparticle anode Ghra Yi Pohang University of Science and Technology	long (3.05 - 3.25) Photopolymerizable aggregation-induced emission monomer with various application Liqiang Li Australian National University	long Preparation of nickel conductive particles coated with insulating layer with high mechanical stability Tomonao Naruhashi Chiba University	long Rapid Analysis and Discrimination of Polymeric Emulsifiers Used in Explosives with a Small Footprint Direct Ionisation Mass Detector Yan Li and Michael Gray Waters Australia	long Synthesis of Helical Supramolecular Polymers Takeharu Haino Hiroshima University	short (3.20 - 3.30) Understanding acquired immunity to polymer nanomedicines – management strategies and potential benefits James Humphries The University of Queensland Short (3.30 - 3.40) Enzyme-Responsive Self-Assembling Peptides as Smart Delivery Systems in Gene Therapy Zahra Eivazi Zadeh The University of Melbourne	long Combinatorial Synthesis of Polypeptoid Analogues via Ugi Four-Component Polymerization of Amino acid derivatives. Pierre Stiernet Stockholm University	long (3.05 - 3.25) Self-healable Anti-counterfeiting Coating via RAFT Mediated PISA Polymerization Nikhil Singha Indian Institute of Technology	short (3.10 - 3.20) Investigating the influence of molecular additives on the thermal stability of slot-die coated organic photovoltaics Bradley Kirk Flinders University
3:30:00 PM	4:00:00 PM	AFTERNOON REFRESHMENTS & TRADE EXHIBITION Today's Refreshment Breaks Sponsored By  								
Breakout Session 6										
		New Polymerization Technologies	Responsive/Adaptive Polymers	Renewable and Sustainable Polymers (including Biopolymers)	New Polymerization Technologies	Additive Manufacturing	Polymeric Nanomedicine/Drug Delivery	Bioinspired, Biomimetic and Bio-conjugates	Polymer Characterisation / Nano-structured and Self-Assembled Materials	Regenerative Medicine
		T3.1	T3.2	T3.3	T3.4	T3.5	T3.6	T3.7	T3.8	T3.9
		Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 10	Plaza 11	Boulevard 1	Boulevard 2
		Michael Monteiro & Eriko Sato	John Quinn & Zhen Jiang	Jiangtao (Jason) Xu & Kei Saito	Christine Jerome & Atsushi Goto	Tanja Junkers & Takeharu Haino	Peter Wich	Rona Chandrawati	Jochen Kammerer & Kazuo Tanaka	Jess Frith
4:00:00 PM	4:20:00 PM	long Machine-learning as a tool to predict rate coefficients in radical polymerization from basic physical properties of monomers Emma Van De Reydt Monash University	long Specific ion effects in the behaviour of (multi-)responsive polymer brushes in single and mixed electrolyte solutions Grant Webber University of Newcastle	invited (4.00 - 4.25) Photosynthetic synthesis and material design of spider silk as sustainable polymers Keiji Numata Kyoto University	invited (4.00 - 4.25) Polymer Synthesis via Radical Polymerizations Assisted by Halogen Bond Atsushi Goto Nanyang Technological University	invited (4.00 - 4.25) Diversifying Processing Parameters and Polymerization Mechanisms for SLA Printing Katharina Ehrmann Queensland University of Technology	long LCST-UCST-pH Stimuli-responsive through a Single Polymer Complex of Chitosan-Hyaluronic acid and its Performances for Delivery Applications Sarunya Phunpee The Petroleum and Petrochemical College, Chulalongkorn University	long Sulfoxide Polymers: A New Class of Low fouling Polymers for Biological Applications Changkui Fu The University of Queensland	long Inorganic-organic hybrid epoxy networks from cyclosiloxane tetrafunctional epoxy resin: synthesis, cure kinetics, rheology and properties Houlei Gan Deakin University	long Clinically desired small-diameter blood vessels for limb salvage: the ostrich carotid artery-derived acellular blood vessel with 2mm ID Tetsuji Yamaoka National Cerebral and Cardiovascular Center Research Institute
4:20:00 PM	4:40:00 PM	long The reversible-deactivation radical polymerization of vinyl acetate and methyl acrylate mediated by tropone derivatives Chi-How Peng National Taiwan University	long Amphiphilic Block-Random Copolymers: Impact of Structural Parameters on Emulsion Polymerization Stabilization Sandra Smeltzer Queen's University	invited (4.25 - 4.50) Exploring renewable vinyl monomers for sequence-defined polymer synthesis Jiangtao (Jason) Xu University of New South Wales	invited (4.25 - 4.50) Selectivity and oxygen tolerance of PET RAFT polymerization Min Sang Kwon Seoul National University	invited (4.25 - 4.50) Developing 3D printed ankle-foot orthoses for children Tegan Cheng The University of Sydney	short Design and evaluation of degradable, pH-sensitive camptothecin-loaded polymeric micelles from RAFT-based diblock polymers Salma Ahmed Thurecht Group at the University of Queensland short Development of polymeric micelle-based nanoparticles for monitoring cytokine release in vivo via FRET Mengdie Li UQ Chemical Engineering	long NATURAL POLYMERS AND HEALTH: HOW ENDOGENEOUS PROTEINS AFFECT STARCH DIGESTION IN GRAIN-BASED FOODS Robert G Gilbert The University of Queensland	long X-ray computed tomography for a cured epoxy resin containing water Satoru Hamamoto RIKEN Spring-8 Center	long Chitosan/polycaprolactone conduits as platforms for spatiotemporal controlled delivery of nerve growth factors Katarzyna Nawrotek Lodz University Of Technology
4:40:00 PM	5:00:00 PM	invited (4.40 - 5.05) Design of High-Performance Dismantlable Adhesive Materials Based on Reactive Polymers Eriko Sato Osaka Metropolitan University	long Volatile Organic Compound-Sensing Array and Optoelectronic Filter System Using Ion-Pairing Dyes With a Wide Visible Spectrum Donghyun Kim Korea Institute of Industrial Technology	long (4.50 - 5.10) Structure/Property Relationships of Bio-Based Flame Retardant Resins Tiffany Walsh Deakin University	invited (4.50 - 5.15) Accelerated photoredox catalysis using single-chain polymer nanoparticles Elizabeth Elacqua Pennsylvania State University	invited (4.50 - 5.15) Multi-materials 3D printing: Additive manufacturing of electronics Luke Connal Australian National University	short Dual pH-responsive Star Polymer-based Nanoparticles for Anticancer Therapy Umeka Nayanathara The University of Melbourne short Effects of loading drugs into single-chain nanoparticles: Preparation and delivery to cancer cells Yen Vo University of New South Wales	long Affinity membranes for separation of high value macromolecules from plasma Katrin Kockler The University of Queensland	long Influence of polymer microstructure on enzymatic degradation of poly(ethylene terephthalate) Jean-baptiste Lena Nanyang Technological University	invited (4.40 - 5.05) Polymer based selective delivery of catalysts to cancer cells for selective drug and fluorophore synthesis in Living Cells J.N.H. (Joost) Reek University Of Amsterdam
5:00:00 PM	5:10:00 PM	invited (5.05 - 5.30) Initiation of RAFT Polymerization Graeme Moad CSIRO	invited (5.00 - 5.25) Using Macromolecular Architecture to Enhance Dynamic and Chemically Fueled Polymer Materials Dominik Konkolewicz Miami University (ohio)	invited (5.10 - 5.35) Plant-based Bioplastics for Sustainable Development: Recent Progress and Advancement Hiroshi Uyama Osaka University	long (5.15 - 5.35) Studies on biodegradable polyester filament preparation, rheological response, and 3-D printability via fused deposition modelling Harshal Peshne Indian Institute of Technology	short Glypican-1 targeting polymeric micelle for delivery of immune-boosting peptides to manage lung cancer Feifei Liu The University of Queensland	short Denovo design of glycopolymer for controlled molecular recognition Yoshiko Miura Kyushu University	long (5.00 - 5.20) Optimising the performance and processing window of PHB co-polymers using rheology and thermal analysis Andrew Gillen NETZSCH Analyzing and Testing	invited (5.05 - 5.30) Melt electrowriting for regenerative medicine Tim Dargaville Queensland University of Technology	
5:10:00 PM	5:35:00 PM				invited (5.15 - 5.40) Combination of cationic and RAFT polymerizations for macromolecular engineering Priyadarshi De Indian Institute of Science Education and Research		invited Manipulating Protein-Gel Interactions for Controlled Release of Therapeutic Proteins from Injectable Gel Inchan Kwon Gwangju Institute Of Science And Technology (gist)	invited Development of biomimetic growth factor delivery systems Brooke Farugia The University of Melbourne	long (5.20 - 5.40) Analysis of Cyclic Polymer Purity by Size Exclusion Chromatography: A Model System Yanlin Shi The University of Queensland	invited (5.30 - 5.55) Modulation of stem cell behaviour for biomedical applications Giselle Yeo The University of Sydney

5:35:00 PM	6:00:00 PM	invited (5.30 - 5.55) Unique asymmetric nanostructures by the TDMT method Michael Monteiro The University of Queensland	invited (5.25 - 5.50) Responsive Polymers for the Amelioration of Oxidative Stress John Quinn Monash University	long (5.35 - 5.55) Monomer Design for Vinyl Polymers Chemically Recyclable by Hydrolysis Yasuhiro Kohsaka Shinshu University		invited (5.35 - 5.50) Bioprinting of Functional Tissue Constructs Anita Quigley RMIT University	invited Engineering Polymer Therapeutics for Infectious Disease and Cancer Patrick Stayton University of Washington	invited Structured Biolayer Emulsions: ultra-stable oil-in-water emulsions with biocatalytic interfaces Frank Sainsbury Griffith University	long (5.40 - 6.00) Polymeric Nanofibers of Various Degrees of Crosslinking as Fillers in Polymer Nanocomposites Hyun Jin Kim University of New South Wales	
6:00:00 PM	6:20:00 PM	invited (5.55 - 6.20) RAFT polymers via bismuth oxide photocatalysis Markus Mueller The University of Sydney	long (5.50 - 6.10) Photoswitchable Composite Polymer Electrolytes Using Spiropyran-Immobilized Nanoporous Membranes Jun-Tai Chen National Yang Ming Chiao Tung University	short (5.55 - 6.05) Development of bio-derived fire retardant for multifunctional composites Nattanan (becky) Chulkavit Royal Melbourne Institute of Technology		invited (5.40 - 6.05) CO2-based cyclic carbonates: building blocks of choice for tomorrow's materials Christine Jerome University of Liege	long Together or apart: Optimising the pre-targeting of polymeric nanocarriers Nicholas Fletcher The University of Queensland	long Enhancing the activity of surface immobilized antimicrobial peptides using thiolene 'photo-click' tethering to poly(ethylene glycol) chains Andrew Boden Swinburne University of Technology	long Controlling the 3D arrangement of pigments at interfaces: interrogating the functionalization of polymer brushes Edwin Johnson University of Sheffield	invited (5.55 - 6.20) A new class of hydrogel for soft and hard tissue repair Fariba Dehghani The University of Sydney
6:20:00 PM	6:40:00 PM	invited (6.20 - 6.45) Design of Transformable Monomers for Syntheses of Sequence-Controlled Vinyl Polymers and Creation of Sequence-Derived Functions Makoto Ouchi Kyoto University	long (6.10 - 6.30) Poly(L-lactide) based stimuli-responsive shape memory bioelastomer for esophageal stent Manje He Osaka University	short (6.15 - 6.25) Fully Bio-Based & Compostable, Catalyst-Free Vitrimers Coffee Composites Brett Pollard Australian National University			long Vesicle/sheet morphological control of lipid bilayers using polycation-chaperoned peptide system Atsushi Maruyama Tokyo Institute of Technology	short Radical Ring-Opening Copolymerization of Peptides Federica Sbordone Queensland University of Technology	long Sequential Infiltration Synthesis of Hybrid Materials for Photolithography Francis McCallum Australian Institute For Bioengineering And Nanotechnology	long (6.20 - 6.40) Hydrogel microconfinement triggers in vitro gastrulation in human pluripotent stem cells Kristopher Kilian University of New South Wales
6:40:00 PM	6:50:00 PM			short (6.25 - 6.35) Non-covalent modification of cellulose nanocrystals using block copolymers Olga Torres Rocha Queen's University				short A synthetic antifungal peptide mimic kills <i>Candida albicans</i> and synergistically prevents infection Sebastian Schaefer University of New South Wales		
6:40:00 PM	6:50:00 PM			long (6.35 - 6.55) Moisture Activated Autonomous Self-healing Boronic Ester Coatings Jane Zhang Deakin University						
6:30:00 PM	10:30:00 PM	PPF COUNCILLORS MEETING & DINNER By Invitation Only								
7:30:00 PM	9:30:00 PM	STUDENT NIGHT Tickets Required								

Wednesday 14 Decemer 2022

8:55:00 AM	9:05:00 AM	Welcome to Day 4							Chair: Jadranka Travas-Sejdic	Plaza Auditorium
9:05:00 AM	9:50:00 AM	Plenary Presentation Professor Takashi Kato - 'Liquid-Crystalline Polymers: Molecular Technology for New Functionalization of Ordered Soft Materials'							Chair: Jadranka Travas-Sejdic	Plaza Auditorium
9:50:00 AM	10:20:00 AM	David Sangster Award Winner Presentation Peter Wich - 'Biopolymer-based Nanomaterials for Drug Delivery, Immunotherapy and Biocatalysis'							Chair: Jadranka Travas-Sejdic	Plaza Auditorium
10:20:00 AM	10:50:00 AM	MORNING REFRESHMENTS & TRADE EXHIBITION								
Breakout Session 7										
		New Polymerization Technologies	Responsive/Adaptive Polymers	Polymer Physics	Composite Materials	Polymers for Membranes, Ion Exchange, Geotextiles, and Building and Construction	Polymeric Nanomedicine/Drug Delivery	Bioinspired, Biomimetic and Bio-conjugates	Circular Economy for Polymers, Waste Management & Minimization	Optoelectronic Polymers
		W1.1	W1.2	W1.3	W1.4	W1.5	W1.6	W1.7	W1.8	W1.9
		Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 10	Plaza 11	Boulevard 1	Boulevard 2
		Tsutomu Yokozawa	Jason (Jiangtao) Xu & Hannes Houck	Bradley Olsen	Luke Henderson & Neil Cameron	Jonghwi Lee & Eniya Listiani Dewi	Patrick Stayton	Georgina Such & Angus Johnston	Bronwyn Laycock	Mats Andersson
10:50:00 AM	11:15:00 AM	invited MXene-Stabilized Pickering Emulsions as Platforms for Composite Fabrication Emily Pentzer Texas A&M University	long (10.50 - 11.10) Smart membrane with permeate flux control through a redox switch Sheung Yin Li The University of Auckland	invited Towards Quantitative Structure-Property Relationships for Polymer Biodegradability Bradley Olsen Massachusetts Institute of Technology	invited Examining surface modification strategies for carbon fibre-based capacitors Luke Henderson Deakin University	invited Hydrogel water purification systems operated by diurnal temperature variation Jonghwi Lee Chung-ang University	invited Chasing a moving target - directing polymeric therapeutics to the lymphatics to treat lymph-resident disease. Orlagh Feeney Monash Institute of Pharmaceutical Sciences	long (10.50 - 11.10) Smart nature-inspired biomaterials for light-activated nanomedicine Filippo Pierini Polish Academy of Sciences	long (10.50 - 11.10) Circular Economy for Plastics: Development of Mechanical Recycling Process by Regeneration of Lamellar Structure and Mechanical Properties Patchiya Phanthong Fukuoka University	invited Edge effects create barrier to delocalisation in conjugated polymer aggregates Girish Lakhwani The University of Sydney
11:15:00 AM	11:40:00 AM	invited Vinyl Protection via Sulfoxide Chemistry Hyun-jong Paik Pusan National University	long (11.10 - 11.30) Photo-responsive Self-healing Polymer Designed from Lignin Pallabi Sinha Roy Monash University	invited Thermal Molecular Motion of Well-defined Epoxy Resins Keiji Tanaka Kyushu University	long (11.15 - 11.35) Transforming Emulsion Dispersed Phase into Three-Dimensional Polymer/Reduced Graphene Oxide Nanocomposite Foams Vipul Agarwal University of New South Wales	invited Producing Hydrogen While Solving Waste Problem with Photocatalysis Process Eniya Listiani Dewi National Research And Innovation Agency (brin)	invited There is no escape – controlled drug release from nanoparticles within endosomes provides superior pain relief Nicholas Veldhuis Monash Institute of Pharmaceutical Sciences	long (11.10 - 11.30) Controlling biopolymer networks Jan Lauko The University of Queensland	long (11.10 - 11.30) The effect of toxic phthalates on the biodegradability of polyhydroxyalkanoate (PHA) Clement Matthew Chan The University of Queensland	invited Non-Volatile Photomemory with Ultrafast and Multi-Level Memory Behavior Jung-Yao Chen National Cheng Kung University
11:40:00 AM	12:00:00 PM	long Optimization of Multiblock Copolymer Synthesis and Applications in Automation Glenn Clothier University of New South Wales	long (11.30 - 11.50) Reversible Transformations of Polymer Topologies Using Visible Light and Darkness Evelina Liarou University of Warwick	long Polymer matrix dependent photo-switching properties of negative photochromics Rowan McDonough Flinders University	long (11.35 - 11.55) Novel Polymer Encapsulation of Chlorothalonil Using RAFT-mediated Controlled Radical Emulsion Polymerization Vien Huynh The University of Sydney	invited (11.40 - 12.05) Photo-switchable membranes for gas permeation control Kei Saito Kyoto University	long Stimuli-responsive and low-fouling protein-polymer conjugates for cancer therapy Gayathri Ediriweera The University of Queensland	long (11.30 - 11.50) Biocompatible and Antibacterial Multilayer Fibrous Polymeric Wound Dressing with Optimally Embedded Silver Nanoparticles Peter Kingshott Swinburne University of Technology	long (11.30 - 11.50) Photochemical Macromolecular Synthesis for Plastic Tracing Joshua Holloway Queensland University of Technology	long Resonant Tense X-ray Scattering of Conjugated Polymers Chris McNeill Monash University

12:00:00 PM	12:20:00 PM	invited (12.00 - 12.25) Novel Controlled Polymerization Systems by Switching Active Species Kotaro Sato Tokyo Institute of Technology	long (11.50 - 12.10) Red-Light Induced Folding of Single Polymer Chains Ishraath Mohamed Irshadeen Queensland University of Technology	invited (12.00 - 12.25) Topological defects of soft matter in the confined geometries Dong Ki Yoon Korea Advanced Institute of Science and Technology	long (11.55 - 12.15) Tribological performance of polymeric composites in dry and wet conditions Hadis Khakbaz The University of Queensland	short (12.05 - 12.15) Controlled fabrication of ultra-permeable membranes for gas separation Hoseong Han The University of Melbourne	long (11.50 - 12.10) Antimicrobial Polyacrylamides with Secondary Amine Cationic Functionality Edgar Wong University of New South Wales	long (11.50 - 12.10) Positioning of cationic units in antimicrobial star copolymers influences structure-activity relationship and cell aggregation Sophie Charlotte Laroque University of Warwick	long (11.50 - 12.10) Life Cycle Assessment of High-Performance Rigid Polyurethane Insulation Foams with Kraft Lignin incorporated through Enhanced Dispersion Methodology Pratheep Annamalai The University of Queensland	invited (12.00 - 12.25) DNA-Driven Photonics of Organic Semiconductor Hybrids Dong June AHN Korea University
12:20:00 PM	12:45:00 PM	invited (12.25 - 12.50) Dendritic Hyperbranched Polymers. Synthesis and Properties Shigeru Yamago Kyoto University	long (12.10 - 12.30) Multilayered barrier-resistant pH-responsive films as freshness indicators for food packaging Vikram Singh Thakur Indian Institute of Technology	invited (12.25 - 12.50) Nanostructured Block Polymer Muscles Exhibiting Reversible Actuation Robert Hickey Pennsylvania State University	long (12.15 - 12.35) NATURE INSPIRED PIN GEOMETRY FOR HYBRID SLM ADDITIVELY MANUFACTURED Ti6Al4V - COMPOSITE PIN JOINTS MODE I & II STATIC ENHANCEMENT Dimitri Ioannidis RMIT University	short (12.25 - 12.35) Dual-crosslinked Starch/Carboxymethyl Cellulose Blend Film with Ion-responsive Dissolution Properties Yuxiang Jia Osaka University	long (12.20 - 12.40) Helix-induced uniform assembly of disk-like polymeric micelles for improved platinum anticancer drug delivery Yuki Mochida Innovation Center of NanoMedicine	long (12.20 - 12.40) Synthesis of Side-Chain Crystalline Block Copolymers (SCBCs) as surface modifiers for biomaterials Aki Kashiwazaki Fukuoka University	long (12.20 - 12.40) Rigid Polyurethane Foams from Agricultural Waste Lalehvash Moghaddam Queensland University of Technology	invited (12.25 - 12.50) Regulating Microstructure and Charge Transport of Naphthalenediimide-based Conjugated Polymers by the Compatibility Principle Yu-Ying Lai National Taiwan University
12:45:00 PM	1:05:00 PM	invited (12.50 - 1.15) Importance of reversible reaction for the synthesis of telechelic polymer free from cyclic polymer in polycondensation Tsutomu Yokozawa Kanagawa University	long (12.30 - 12.50) The role of the solvent in specific ion effects: PNIPAM brushes in non-aqueous electrolytes Hayden Robertson University of Newcastle		long (12.35 - 12.55) Synthesis of Metal Nanoparticles and Patterning in Polymeric Films Induced Electron Beam Hiroki Yamamoto National Institutes for Quantum Science and Technology	short (12.35 - 12.45) Stimuli-Responsive IPN Membranes for Tunable Antibiotic and Dye Removal Ria Sen Gupta Indian Institute of Science, Bangalore	long (12.40 - 1.00) New approaches for the synthesis of catechol-functional polymers as defined building blocks for composite metal-phenolic network materials (MPNs). Francesca Ercole Monash Institute of Pharmaceutical Sciences	short (12.40 - 12.50) Systematic design of amphiphilic dendrons as antibacterial agents Charmaine Hee The University of Western Australia	long (12.40 - 1.00) Advanced mechanical recycling process using new type of extruder - extended to virgin plastics- Shigeru Yao Fukuoka University	short (12.50 - 1.10) One-Pot Synthesis of Fully Conjugated Amphiphilic Block Copolymers Using Asymmetrically Functionalized Push-Pull Monomers David Jones The University of Melbourne
1:05:00 PM	1:15:00 PM		long (12.50 - 1.10) Photoinduced Unveiling of Cationic Groups to Confer Antimicrobial Activity: A Proof-of-Concept Study Edgar Wong University of New South Wales		long (12.55 - 1.15) Fast curing epoxy adhesives for composite applications: Thermal, rheological, adhesive and transient mechanical properties. Masihullah Jabarulla Khan Deakin University	short (12.45 - 12.55) Surface functionalization of polymer hydrogels for water retention Mengnan Zhang University of New South Wales	short (1.00 - 1.10) High-Throughput Synthesis and Screening of Broad-Spectrum Polymeric Antivirals Paul Denman Queensland University of Technology	short (1.00 - 1.10) RNase S-decorated Artificial Viral Capsid Self-assembled from beta-Annulus Peptide KAZUNORI Matsuura Tohoku University	short (1.00 - 1.10) Development of Precipitation and Separation Materials for Platinum Group Metals Using Reactive Polymers Naoya Kaneko Chiba University	invited (1.10 - 1.35) Engineering Conjugated Polymer using Autonomous Platform for Future Electronics Jie Xu Argonne National Lab

1:15:00 PM 2:15:00 PM LUNCH & TRADE EXHIBITION

Breakout Session 8

		New Polymerization Technologies	Responsive/Adaptive Polymers	Polymer Physics	Optoelectronic Polymers	Characterization and Environmental Remediation	Polymeric Nanomedicine/Drug Delivery	Bioinspired, Biomimetic and Bio-conjugates	Circular Economy for Polymers, Waste Management & Minimization	Self-Assembly and Colloidal Systems
		W2.1	W2.2	W2.3	W2.4	W2.5	W2.6	W2.7	W2.8	W2.9
		Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 10	Plaza 11	Boulevard 1	Boulevard 2
		Shigeru Yamago	Kristian Kempe	Jadranka Travas-Sejdic	Chris McNeill	Lalehvash Moghaddam	Brigitte Voit	Peter Wich	Michael Monteiro	Heather Aitken
2:15:00 PM	2:40:00 PM	invited Sequence Matching Problem in Random Copolymer Sequence Myungeun Seo Korea Advanced Institute of Science and Technology	invited Light-Stabilised Dynamic Materials at the Macro-, Micro- and Nanoscale: Breaking covalent bonds with the mildest trigger of all? Hannes Houck University of Warwick	invited Complex Low-symmetry Structures in Silicone and Fluorine-containing Block Copolymers with High- χ and High- ϵ Properties Du Yeol Ryu Yonsei University	invited High Performances Organic Photovoltaics Over 18% Efficiency Enabled by a Carbazole-Based Third Component and Asymmetric Non-Fullerene Acceptors Jiun-Tai Chen National Yang Ming Chiao Tung University	invited Characterization of recyclates via GPC, one way for the control of the multiple use of environmental critical polymer Thorsten Hofe PSS	invited Nanozymes and polymers for nitric oxide delivery from prodrugs Rona Chandrawati University of New South Wales	invited Biomimetic Materials Controlling Cellular Activity Alan Rowan University of QLD - AIBN	invited Thinking circular Luke Connal Australian National University	long (2.15 - 2.35) Just Add Water: Polymer-solvent interactions as a tool to engineer material properties Heather Aitken The University of Queensland
2:40:00 PM	3:05:00 PM	invited Polymer degradation through end-to-end depolymerization of self-immolative polymers Elizabeth Gillies The University of Western Ontario	long Re-entrant swelling in polyelectrolyte brushes Joshua Willott University of Newcastle	invited Structure and Dynamics of Molecular Bottlebrushes: Scattering and DPD Simulations Michael Hore Case Western Reserve University	invited Tuning dielectric constants for organic semiconductor-based solar cells Paul Burn The University of Queensland	long (2.40 - 2.55) Aggregation States and Degradation Behaviors of Melt-spun Polyamide 4 Microfibers in Water Jinhyeok Hong Kyushu University	invited Developing polymeric nanomaterials to probe the biological interface Kris Thurecht The University of Queensland	invited Self-limiting polymerisation of DNA origami subunits with strain accumulation Lawrence Lee University of New South Wales	invited Life Cycle Assessment of Plastic Waste Management in Australia Leonie Barner Queensland University of Technology	long (2.35 - 2.55) New Design Principles for Mechanically Robust and Humidity-Tolerant Self-Healing Polymer Glasses Yuta Fujisawa The University of Tokyo
3:05:00 PM	3:25:00 PM	invited (3.05 - 3.30) Formation of Colloidal Structures of Disc-like Particles utilizing Hydrogen Bonding Interactions between Steric Stabilizers Hideto Minami Kobe University	long CO ₂ -responsive polymers and their use in catalytic systems Matthew Sanger Queen's University	invited (3.05 - 3.30) Effects of elasticity on biological assemblies Svetlana Morozova Case Western Reserve University	short Improving the performance of perovskite light-emitting diodes using polymeric interlayers and natural additives Chiung-Han Chen National Taiwan University	invited (3.05 - 3.25) A Controlled Approach to Understanding Microplastics in the Environment Theme: Polymers for the Environment George Vamvounis James Cook University	long Radiation Activated Chemistry for Depth Independent Triggered Drug Delivery Nathan Boase Queensland University of Technology	long Biomimetic Glyco- and Lipo-protein bioconjugates for biomaterials and artificial cells design Sebastien Lecommandoux University of Bordeaux	long Aminated Porous Poly(ionic liquids) for Synergistic Promotion of CO ₂ Capture. Pierre Stiernet Stockholm University	long (2.55 - 3.15) Harnessing of Spatially Confined Perovskite Nanocrystals using Polysaccharide-based Block Copolymer Systems Chih-Chien Hung National Taiwan University

3:25:00 PM 3:55:00 PM AFTERNOON REFRESHMENTS & TRADE EXHIBITION

Breakout Session 9

		New Polymerization Technologies	Supramolecular Polymers	Polyelectrolytes / Gels / Networks	Composite Materials	Characterization and Environmental Remediation	Biinspired, Biomimetic and Bio-conjugates	Circular Economy for Polymers, Waste Management & Minimization	
		W3.1	W3.2	W3.3	W3.4	W3.5	W3.7	W3.8	
		Plaza Auditorium	Plaza 6	Plaza 7	Plaza 8	Plaza 9	Plaza 11	Boulevard 1	
		Shigeru Yamago	Bert Meijer	Katharina Ehrmann	Vipul Agarwal	Leonie Barner	Jan Lauko	Luke Connal	
3:55:00 PM	4:20:00 PM	invited Bacteria-driven RAFT process and 3D nano-printing Greg Qiao The University of Melbourne	Invited Supramolecular Bioactive Polymer Materials and Coatings - from Rational Design to Library Screening Patricia Dankers Eindhoven University of Technology - Netherlands	invited Photoplasticity: The use of light to alter material shape, structure and state in dynamic liquid crystalline polymer networks Christopher Bowman University of Colorado	Invited Polyurethane based wearable composite energy harvester Lingxue Kong Deakin University	short (3:55 - 4:05) Investigating the influence of delignification degree on the carbonisation behaviour, structure, and properties Rana Afzal The University of Queensland short (4:05 - 4:15) The extensional rheology of biopolyesters offers insight into their propensity to be film blown Samuel Lawless The University of Queensland	short (3:55 - 4:05) Biomimetic Polymeric Hydrogels at Physiological Stiffness Reprogram Melanoma Cells Yiling Liu University of New South Wales Wales short (4:05 - 4:15) Self-Immolative Nanoparticles: Precise Control over pH Response Samuel Smith The University of Melbourne	invited Understanding the controlled release of actives from melt processed PHA formulations Bronwyn Laycock The University of Queensland	
4:20:00 PM	4:40:00 PM	invited (4:20 - 4:45) Precision Polymer Synthesis by Cationic RAFT Polymerization Mineto Uchiyama Nagoya University	long Controlled folding of single chain nanoparticles using peptides as guiding motifs Sheguffa Farazi University of New South Wales	long Strong Durable Underwater Adhesion by Hydrophobic Hydrogen Bonding Motif Kahei Kikkawa The University of Tokyo	long Multi-scale Strengthening of Composite T-joints Using 1D Carbon Nanofillers and Z-pins Anil Ravindran RMIT University	short (4:15 - 4:25) Magnetic Cationic Fluorinated Polymer Grafted Iron Oxide Nanoparticles for Efficient Multiple PFAS Removal Xiao Tan The University of Queensland short (4:25 - 4:35) Polymeric Adsorbents for PFAS (perfluoroalkyl substances) adsorption from Water Kirti Thakur Monash University short (4:35 - 4:45) Polystyrene microplastics preparation using a solvent dissolution - precipitation method KavithaKaranam The University of Queensland		invited (4:20 - 4:45) Development of Chemical Sensors for Plastic Materials Kazuo Tanaka Kyoto University	
4:40:00 PM	5:00:00 PM				long Rational analysis of lignin dispersion in polyols for polyurethane applications: Experimental evidence vs Molecular dynamics simulations Pratheep Annamalai The University of Queensland				
5:00:00 PM	5:20:00 PM				long Conductive carbon fibre composites for electromagnetic interference protection Chun Wang University of New South Wales				
6:30:00 PM	11:30:00 PM	PPC-17 CONFERENCE DINNER Tickets Required							