



International Conference on
**Nanoscience and
Nanotechnology**

International Conference on
**BioNano
Innovation**

HOSTED BY



POSTER LISTING

BRISBANE CONVENTION & EXHIBITION CENTRE

9-13 FEBRUARY 2020

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Poster presenters will be positioned at their poster during the poster session on both Monday and Tuesday between 6:45pm - 8:00pm.

POSTER NUMBER	PAPER TITLE
P1	Synthesis and characterisation of graphene-based composites for high performance lithium-ion capacitors (LICs) ▶ Mrs Saaad Alomari, <i>Queensland University of Technology, QLD</i>
P2	Exploring 2D nanostructured functional materials with high charge-selectivity for high-performance perovskite solar cells ▶ Mr Abdulaziz Bati, <i>The University of Queensland, QLD</i>
P3	Graphene-based hybrid electrode materials for high-performance supercapacitor systems ▶ Ms Syeda Wishal Bokhari, <i>University of Auckland, New Zealand</i>
P4	Electrospun materials as cathodes for aluminium-ion batteries ▶ Mr Nicolo Canever, <i>The University of Newcastle, NSW</i>
P5	Investigation into energy transfer process between UCNPs and TiO₂ hybrid nanomaterials for photocatalysis ▶ Mr Matthew Cappadona, <i>University of Technology Sydney, NSW</i>
P9	Nano porous electrocatalysts prepared from zeolitic imidazolate framework ▶ Prof Hyungkoun Cho, <i>Sungkyunkwan University Gyeonggi-Do, South Korea</i>
P13	A positive outlook for aluminium-ion electrolytes ▶ Mr Jacob Johnston, <i>The University of Newcastle, NSW</i>
P15	Differentiated electrochemical activity of microporous Pt layers towards oxygen evolution reaction in acidic and basic media ▶ Prof Jongwon Kim, <i>Chungbuk National University, South Korea</i>
P16	Hierarchical catalyst architectures for sustainable chemical transformations ▶ Mr Alexander Lamb, <i>RMIT University, VIC</i>
P17	Microstructural characteristics of Cu-In-Se based materials ▶ Prof Ho Seong Lee, <i>Kyungpook National University, South Korea</i>
P19	Single atom Ag as a cocatalyst for photocatalytic and thermophoto hydrogen evolution ▶ Mr Xiaojie Li, <i>Curtin University, WA</i>
P20	An NDIR methane gas sensor using Near-IR LED ▶ Miss Yan Liu, <i>The University of Western Australia, WA</i>
P22	Efficient undoped and uncatalyzed BiVO₄ photoanodes: Remarkable improvements in photoelectrochemical performance from facile borate modification ▶ Mr Qijun Meng, <i>Royal Institute of Technology (KTH), Sweden</i>
P23	Electrocatalytic CO₂ reduction to formate on one dimensional Cu based surface alloys ▶ Mr Venkata Sai Sriram Mosali, <i>Monash University, VIC</i>
P24	The effect of guanidinium cations on photovoltaic performance and current-voltage hysteresis of perovskite solar cells ▶ Mr Ngoc Duy Pham, <i>Queensland University of Technology, QLD</i>
P25	Radial Junction InP nanowire solar cells using an electron selective contact ▶ Prof Hoe Tan, <i>The Australian National University, ACT</i>
P29	Visible-light-driven BiOCl/BiPO₄ nanocomposites used for removal of rhodamine B ▶ Mrs Titipun Thongtem, <i>Chiang Mai University, Thailand</i>
P30	Energy transfer within QDs-organic dye assemblies ▶ Ms Na Wu, <i>The University of Melbourne, VIC</i>
P31	The function of BiVO₄/rGO interfacial property in photo(electro)catalytic water oxidation ▶ Mr Zhirun Xie, <i>University of New South Wales, NSW</i>
P32	Self-propelled sulfur-encapsulated zeolite janus micromotors for the removal of cesium from water ▶ Dr Hee-Man Yang, <i>Korea Atomic Energy Research Institute, South Korea</i>
P33	Cobalt@Cucurbit[5]uril complex as highly efficient catalyst for electrochemical and photoelectrochemical water splitting ▶ Mr Hao Yang, <i>KTH - Royal Institute of Technology, Sweden</i>
P34	Polyamine-functionalized graphene composites for effective water remediation ▶ Miss Pei Lay Yap, <i>The University of Adelaide, SA</i>
P39	Vanadium oxide nanobelts as a highly reversible cathode for rechargeable aqueous zinc batteries ▶ Prof Ning Zhang, <i>Hebei University, China</i>

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POSTER NUMBER	PAPER TITLE
P40	<p>Simulating the electrical response of aluminium oxide tunnel junctions in three dimensions: how atomic disorder leads to localised conduction channels</p> <p>▶ Dr Martin Cyster, <i>RMIT University, VIC</i></p>
P41	<p>Rare earth nitride heterostructures for cryogenic memory storage</p> <p>▶ Mr Sam Devese, <i>Victoria University of Wellington, New Zealand</i></p>
P42	<p>Scalable screen-printed silver structures on elastomers for stretchable sensor</p> <p>▶ Dr Dashen Dong, <i>RMIT University, VIC</i></p>
P43	<p>Multi-electrode chips and complex self-organised neuromorphic networks of Sn nanoparticles for unconventional computing</p> <p>▶ Mr Edoardo Galli, <i>University of Canterbury, New Zealand</i></p>
P46	<p>First ion-wind powered boat (iBoat)</p> <p>▶ Dr Khoa Nguyen, <i>Griffith University, QLD</i></p>
P47	<p>Covalent attachment of graphene-based materials on diazonium salt-modified electrodes</p> <p>▶ Ms Soraya Rahpeima, <i>Flinders University, SA</i></p>
P48	<p>Disruption of helical edge states in topological insulators by magnetic impurities</p> <p>▶ Mr Jesse Vaitkus, <i>RMIT University, VIC</i></p>



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POSTER NUMBER	PAPER TITLE
P49	Cold atmospheric plasma assisted silver nano particle synthesis ▶ Mr Janith Sajitha Weerasinghe Adikaram Mudiyansele, <i>Queensland University of Technology, QLD</i>
P50	Manipulating boron nitride nanotubes (BNNTs) and hexagonal-BN in dynamic thin films ▶ Mr Ahmed Al-antaki, <i>Flinders University, SA</i>
P51	Role of quantum dot surface chemistry in reversible trap state formation ▶ Mr Arun Ashokan, <i>ARC Centre of Excellence in Exciton Science, The University of Melbourne, VIC</i>
P52	Stoichiometric terbium-europium binuclear complex as molecular thermometer ▶ Mr Guochen Bao, <i>University of Technology Sydney, NSW</i>
P53	Electrostatic self-assembly of nanoparticle monolayers for free form near-perfect absorber design ▶ Mr Gus Bonin, <i>RMIT University, VIC</i>
P55	Autonomous graphene vessel for collecting liquid body of spilled oil ▶ Miss Younjeong Choe, <i>Seoul National University, South Korea</i>
P56	High temperature spectral hole-burning properties of x-ray generated Sm²⁺ in nanocrystalline Ba_{0.8}Sr_{0.2}LiF₃:Sm³⁺ ▶ Nishita Chowdhury, <i>University of New South Wales, NSW</i>
P57	Pulsed ultrasonic vapour deposition of atomically precise, chemically synthesized metal clusters in vacuum ▶ Mr Jesse Daughtry, <i>Flinders University, SA</i>
P59	Small-angle neutron-scattering study of precipitation in a β-Titanium alloy ▶ Dr Rezwanul Haque, <i>University of the Sunshine Coast, QLD</i>
P60	Influence of vortex fluidics on protein and polysaccharide interactions ▶ Ms Xuejiao Cao, <i>Flinders University, SA</i>
P61	Robust and inexpensive microsubstrates for molecular self- assembly ▶ Miss Vishakya Jayalatharachchi, <i>Queensland University of Technology, QLD</i>
P62	3D textile structures as electrophoresis platforms for selective delivery and separation of complex matrices ▶ Ms Jawairia Khan, <i>University of Wollongong, NSW</i>
P63	Film Performance and Exciton Interactions at High Excitation Flux ▶ Mr Junhan Kong, <i>Monash University, VIC</i>
P65	Fabrication of functional nanomaterials using vortex fluidic devices and their biomedical application ▶ Dr Xuan Luo, <i>Flinders University, SA</i>
P66	NanoZymes as an alternative antibacterial to conventional antibiotics ▶ Mrs Pyria Rose Divina Mariathomas, <i>RMIT University, VIC</i>
P67	Asymmetric tip growth of gold nanospheres on gold nanorods ▶ Miss Lesly Melendez, <i>RMIT University, VIC</i>
P68	Enhancing the conversion efficiency of solar cells optimizing the parameter of plasmonic nanoparticle and structure ▶ Mr Rabiul Islam Jony, <i>Queensland University of Technology, QLD</i>
P69	Investigation of light emission properties of nanowire array light emitting diodes ▶ Miss Marika Niihori, <i>The Australian National University, ACT</i>
P70	Upconversion nanoparticles coated with mesoporous silica layer encapsulating near-infrared absorbing dye ▶ Michał Olk, <i>Hirsfeld Institute of Immunology and Experimental Therapy, Polish Academy of Sciences, Poland</i>
P71	Nanoparticle size dependent energy transfer from surface attached sensitizing organic dyes to upconversion nanoparticles ▶ Dr Katarzyna Prorok, <i>Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Poland</i>
P72	Controlling the morphological and redox properties of CuTCNQ through solvent engineering ▶ Dr Rajesh Ramanathan, <i>RMIT University, VIC</i>
P73	Aqueous synthesis of doped barium stannate perovskite oxide nanoparticles for optoelectronic applications ▶ Mr William Shepherd, <i>RMIT University, VIC</i>
P74	The role of scale in the production of biomimetic, superhydrophobic surfaces ▶ Miss Kaili Stacey, <i>Flinders University, SA</i>
P76	Interplay of mechanical and chemical tuneability of phosphorene for flexible nanoelectronic applications ▶ Mr Patrick Taylor, <i>RMIT University, VIC</i>
P77	PVP-assisted microwave-hydrothermal synthesis of visible-light-driven BiOBr/BiOCl photocatalyst ▶ Mrs Titipun Thongtem, <i>Chiang Mai University, Thailand</i>
P78	MZF@SiO₂/BiOBr_{0.5}Cl_{0.5} nanocomposites used for photonic absorption and photocatalysis ▶ Prof Somchai Thongtem, <i>Chiang Mai University, Thailand</i>
P79	Water dissolution of silica: a green approach for the fabrication of polydopamine hollow capsules ▶ Mr Huy Tran, <i>Swinburne University of Technology, VIC</i>

NANO
CARBON

NANO CARBON

POSTER NUMBER	PAPER TITLE
P80	Self-supporting covalent organic framework membranes synthesized through two different routes ▶ Ms Nikka Turangan, <i>Queensland University of Technology, QLD</i>
P81	Continuous growth synthesis of zinc oxide colloidal nano crystals with tuneable size and doping ▶ Mr Pierce Wainer, <i>RMIT University, VIC</i>
P84	Spontaneous emission enhancement of luminophore monolayers by plasmonic nanocavities ▶ Mr Michael Wilms, <i>RMIT University, VIC</i>
P87	Fixable electrospun carbon nanofiber membranes for air filtration application ▶ Mr Riyadh Al-Attabi, <i>Deakin University, VIC</i>
P88	Fabricating and processing of carbon nanomaterials using vortex fluidic device (VFD) ▶ Mr Thaar Alharbi, <i>Flinders University, SA</i>
P89	Extrusion microprinting of conductive graphene composites for wearable electronics and sensing applications ▶ Mr Kamrul Hassan, <i>The University of Adelaide, SA</i>
P90	Investigating the surface area of graphitic supercapacitor electrodes ▶ Mr Michael Horn, <i>Queensland University of Technology, QLD</i>
P91	Preparation methods for carbon materials possessing turbostratic graphite and graphene nanodomains via combustion of magnesium in carbon dioxide ▶ Dr Tak Kim, <i>Griffith University, QLD</i>
P92	Chemical etchant-induced nanopores on the structure of activated carbon cloths ▶ Mr Milad Laghaei, <i>Deakin University, VIC</i>
P93	Photoluminescence study of UV laser etched single crystal diamond surfaces ▶ Mr Mojtaba Moshkani, <i>Macquarie University, NSW</i>
P94	Synthesis of 2D array of carbon from waste material and its application in organic light emitting diodes ▶ Mr Amandeep Singh Pannu, <i>Queensland University of Technology, QLD</i>
P95	Isocyanate functionalised graphene for the facile development of graphene composites ▶ Dr Greg Ryder, <i>University of Wollongong, NSW</i>

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POSTER NUMBER	PAPER TITLE
P96	Incorporation of pAzF into stable protein 1 to develop functional nanostructures ▶ Miss Anusree Anil, <i>University of Auckland, New Zealand</i>
P97	2D membranes in bioseparations ▶ Ms Christine Jurene Bacal, <i>Deakin University, VIC</i>
P98	Anti-metastasis therapy via nanoparticle mediated drug delivery ▶ Mr Stefan Bader, <i>Olivia Newton-John Cancer Research Institute, VIC</i>
P99	Atomic force microscopy-infrared spectroscopy (AFM-IR) characterization of matrix/mineral domain sizes: Relationship to nanomechanics? ▶ Prof Mark Banaszak Holl, <i>Monash University, VIC</i>
P100	Hybridization based electrochemical biosensor for the detection of microRNA-21 using gold-platinum bimetallic nanoparticles coated (3-Aminopropyl) triethoxysilane ▶ Miss Anu Bharti, <i>Panjab University, India</i>
P102	Targeting glycans on glioblastoma cells with nanodiamonds ▶ Mrs Mina Ghanimi fard, <i>Macquarie University, NSW</i>
P103	Visualising alzheimer's disease using upconversion nanosensor ▶ Mr Seyed Mostafa Hosseinpour Mashkani, <i>University of Technology Sydney, NSW</i>
P104	Carbon nanotube/conducting polymer hybrid nanofibers as novel organic bioelectronic interfaces for efficient removal of protein-bound uremic toxins ▶ Prof Yu-Sheng Hsiao, <i>Ming Chi University of Technology, Taiwan</i>
P105	In situ monitoring of the self-detachment of bacterial cell debris from nanostructured surfaces ▶ Dr Denver Linklater, <i>RMIT University, VIC</i>
P106	Near-infrared nonlinear structured illumination microscopy for in-depth super-resolution imaging ▶ Mr Baolei Liu, <i>University of Technology Sydney, NSW</i>
P107	CaP nanocomposites as photothermal actuators for dox delivery to enhance the combination cancer treatment ▶ Mr Jie Liu, <i>The University of Queensland, QLD</i>
P108	Extracellular matrix and its role in focal adhesions and mesenchymal stem cell differentiation ▶ Romanthi Madawala, <i>The University of Queensland, QLD</i>
P109	lanthanide nanoparticles for improved sensitivity of mass cytometry ▶ Mrs Mahnaz Maddahfar, <i>University of Technology Sydney, NSW</i>
P110	Peptide – modified gold nanorods for selective photothermal therapy of cancer ▶ Miss Miché Meyer, <i>University of the Western Cape, South Africa</i>
P111	Degradation of cellulose nanofibers synthesized by ball-milling ▶ Mrs Elmira Mohamed, <i>The Australian National University, ACT</i>
P112	Probing the optical property of silver and gold nanoparticle and their biological applications ▶ Mr Rabiul Islam Jony, <i>Queensland University of Technology, QLD</i>
P113	Metal-organic frameworks as a non-viral delivery vehicle for gene therapy in prostate cancer cells ▶ Ms Arpita Poddar, <i>RMIT University, VIC</i>
P114	2D cobalt sulfide nanosheets as peroxidase-mimics for colorimetric detection of L-Cysteine ▶ Dr Rajesh Ramanathan, <i>RMIT University, VIC</i>
P115	Mesoporous silica nanoparticles (MSN) for antimicrobial therapy: The influence of PEG crosslinker on activity and payload-release ▶ Mrs Vanitha Selvarajan, <i>National University of Singapore, Singapore</i>
P116	Rapid formulation of nanomedicines combining multiple immune checkpoint inhibitors by utilisation of α-PEG bispecific antibodies ▶ Ms Merryn Strange, <i>Australian Institute for Bioengineering and Nanotechnology, The University of Queensland, QLD</i>
P117	Development of nanoparticle platforms for targeted delivery and immune enhancement of nucleic acid vaccines ▶ Mr Bing Sun, <i>The University of Queensland, QLD</i>
P118	Studying fish hearing using optical forces in the inner ear ▶ Dr Michael Taylor, <i>The University of Queensland, QLD</i>
P119	A novel assay for quantifying endosomal escape ▶ Miss Serena Lee Yong Teo, <i>Monash University, VIC</i>
P120	Applying recombinant venom proteins to form a well-defined fibrin network for 3D cell growth and cell behaviour studies ▶ Mr Zhao Wang, <i>Australian Institute for Bioengineering and Nanotechnology, The University of Queensland, QLD</i>
P121	Ultrasensitive electrochemical immunosensor using nitroso reductase-like nanocatalyst ▶ Prof Haesik Yang, <i>Pusan National University, South Korea</i>



NANO CHARACTERISATION AND MANUFACTURING

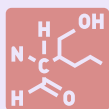
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POSTER NUMBER	PAPER TITLE
P122	Cathodic dissolution of silicon oxide nano-film on silicon wafer ▶ Prof Taek Dong Chung, <i>Seoul National University, South Korea</i>
P123	Ge and BaF₂ thin films toward fabry-pérot filters operating in the long-wave infrared region ▶ Mr Gurpreet Singh Gill, <i>The University of Western Australia, WA</i>
P124	Dimensional nanomaterial metrology with AFM ▶ Mr Malcolm Lawn, <i>National Measurement Institute Australia, NSW</i>
P125	Candida albicans biofilm formation on nanoscopically smooth titanium surfaces ▶ Mr Phuc Le, <i>RMIT University, VIC</i>
P126	Low-energy electron-beam induced damage to organic molecules – limits to IPES application to organic molecules ▶ Mr Gabriele Motta, <i>Queensland University of Technology, QLD</i>
P127	4H-SiC nanowire for nanoelectromechanical sensing ▶ Dr Khoa Nguyen, <i>Griffith University, QLD</i>
P128	The non-stoichiometry of superconducting FexSe ▶ Dr Mahboobeh Shahbazi, <i>Institute For Future Environment, QLD</i>
P129	Study of electrical isolation layer in porous silicon thin films ▶ Dr Xiao Sun, <i>The University of Western Australia, WA</i>
P130	GaN surface charge as a function of pH probed by atomic force microscopy imaging of adsorbed ionic surfactants ▶ Mr Jianan Wang, <i>The University of Western Australia, WA</i>
P131	Nano-mechanical properties of equiatomic AlCoCrFeNi tri-phase high-entropy alloy characterized by nano-indenter and simulated by density function theory ▶ Prof Shioh-Kang Yen, <i>National Chung Hsing University, Taiwan</i>
P132	Luminescence enhancement of MgZnO/ZnO multiple quantum wells by hydrogenation ▶ Mr Muhammad Zakria, <i>University of Technology Sydney, NSW</i>
P134	Direct assembly of nanoparticle arrays ▶ Mr Heyou Zhang, <i>The University of Melbourne, VIC</i>



NANO COMPUTATION

POSTER NUMBER	PAPER TITLE
P136	Structure identification of nanoparticles by graphene liquid cell electron microscopy (3DSINGLE) reveals critical differences of Pt nanocrystals at atomic level ▶ Dr Hans Elmlund, <i>Monash University, VIC</i>
P137	Direct capture of oxygen from air using metal-organic frameworks ▶ Dr Gopalsamy Karuppasamy, <i>RMIT University, VIC</i>
P138	QUANT: Quantitative unsupervised analysis of atomic-resolution nanoparticle maps ▶ Miss Chiara Machello, <i>Monash University, VIC</i>
P139	Simulation of several CNT based macro-structures using slip-link model and discrete element method ▶ Assoc Prof Canh-Dung Tran, <i>University of Southern Queensland, QLD</i>
P140	Two-dimensional CuTe₂X (X=Cl, Br and I): Potential photocatalysts for water splitting under the visible/infrared light ▶ Mr Lei Zhang, <i>Queensland University of Technology, QLD</i>



NANO
PHOTONICS

NANO PHOTONICS

Poster presenters will be positioned at their poster during the poster session on both Monday and Tuesday between 6:45pm - 8:00pm.

POSTER NUMBER	PAPER TITLE
P141	Identification of defect species in h-BN based on the comparison with ODMR and HF experiments ▶ Dr Sajid Ali, <i>University of Technology Sydney, NSW</i>
P142	Integrating high efficiency single infrared photon detectors with fast reset times ▶ Mr Ian Berkman, <i>Centre for Quantum Computation and Communication Technology, NSW</i>
P143	Carrier density dependent UV enhancement of Al-coated ZnO ▶ Dr Saskia Fiedler, <i>University of Southern Denmark, Denmark</i>
P144	The effect of nitrogen density on the fluorescence and spin properties of the nitrogen-vacancy centre in diamond ▶ Dr Philipp Reineck, <i>RMIT University, VIC</i>
P147	Fabrication and electrically tuning of ultra-pure quantum emitters in hBN ▶ Dr Zaiquan Xu, <i>University of Technology Sydney, NSW</i>



NANO
POLYMERS

NANO POLYMERS

POSTER NUMBER	PAPER TITLE
P149	Photo-initiated thiol-dibromomaleimide conjugation for the production of photowritable polymers ▶ Mr Tze Kwang Gerald Er, <i>The University of Queensland, QLD</i>
P150	Plasma-enabled on-surface polymerization ▶ Mr Hugo Hartl, <i>Queensland University of Technology, QLD</i>
P151	A study on the fabrication of breathable porous polyimide films with low dielectric constant ▶ Mr Junuk Lee, <i>Punsan National University, South Korea</i>
P152	Specific ion interaction in conducting polymers for in situ nutrient monitoring ▶ Mr Vithya Saahar Sethu Madhavan, <i>University of South Australia, SA</i>
P153	A versatile PDMS submicrobead/graphene oxide nanocomposite ink for the direct ink writing of wearable micron-scale tactile sensors ▶ Dr Ge Shi, <i>Griffith University, QLD</i>