

Nanomaterials and Nanodevices for Sustainable Environment (NNSE) 2023 workshop program (7th September)

Venue: Ground floor, SEB building (E8), UNSW

Session 1 - Nanodevices for Smarter IoT (G05, SEB Building)			
Time	Name	Institution	Title
9:00	Registration/Welcome session		
9:30	Opening speech: Prof. Michael Ferry (Head of MSE), Ms Lucy Zhang (School Manager)		
9:40	Plenary Talk: Prof. Chun Wang (Scientia Professor, Head of ME)		
10:00	Zengxia Pei	UNSW	Functional electrolyte design for efficient Zn batteries
10:15	Md Arifur Rahim	UNSW	Self-Assembled Functional Nanomaterials Based on Natural Polyphenols
10:30	Priyank Kumar	USYD	Engineering hot-carrier transfer to improve plasmonic catalysis
10:45	Chun-Ho Lin	UNSW	Multilayer Graphene Oxide-Based Moisture-Enabled Nanogenerator with Enhanced Performance and High Flexibility
11:00	Morning Tea/Lab Tour		
11:20	Rongkun Zheng	USYD	Halide perovskite optoelectronics
11:35	Zhenxiang Cheng	UOW	Ferroic materials and their catalysis applications
11:50	Shuai He	UNSW	International Hydrogen Industry Collaboration Opportunities
12:05	Yunxiao Wang	UOW	Electrocatalyzing S redox reactions toward superior room-temperature sodium-sulfur batteries
12:30	Lunch		
13:30	Yuan Chen	USYD	Tailoring carbon materials for energy and environmental applications
13:45	Limei Yang	UTS	FIB preparation: Key for high-quality transmission electron microscopy and atom probe tomography
14:00	Li Wei	USYD	Producing H2O2 from Heterogeneous Molecular Electrocatalysts
14:15	Yahua He	UOW	Controllable flow and manipulation of liquid metals
14:30	Dawei Zhang	UNSW	Nanoscale electrical and mechanical properties of van der Waals ferroelectric CuInP2S6
15:00	Afternoon Tea (Lab Tour)		
15:20	Jiabao Yi	UON	Layered materials for hydrogen evolution reaction
15:35	Moein Seyfour	UNSW	Ferroelectric Solitons in Oxide Superlattices
15:50	Tiziana Musso	UNSW	Novel Magnetic Topological Phases in BFO: A Computational Approach
16:05	Long Hu	UNSW	Nanocrystals as bricks for electronic applications
16:20	Award (G05, SEB Building)		
17:30	Dinner (Kingsford Peking Restaurant, 498 Anzac Parade Kingsford, NSW)		
Session Chairs: Dawei Su, Shuhua Peng, Zhi Li, Tao Wan			

Session 2 - Nanomaterials for Better Environment (G02, SEB Building)			
Time	Name	Institution	Title
9:00	Registration/Welcome session		
9:30	Opening speech: Prof. Michael Ferry (Head of MSE), Ms Lucy Zhang (School Manager)		
9:40	Plenary Talk: Prof. Chun Wang (Scientia Professor, Head of ME)		
10:00	Sarina Sarina	USYD	Plasmonic optical trapping in photocatalysis
10:15	Jun Huang	USYD	Tailored nano catalyst for CO2 conversion
10:30	Mengyao Li	UNSW	MoS2 based electrocatalysts
10:45	Yichao Wang	WSU	Advanced chemical sensing enabled by low-dimensional nanomaterials
11:00	Morning Tea/Lab Tour		
11:20	Wei Kong Pang	UOW	Site-specific Doping Strategy for Better-performance Energy Materials: A Root-cause Analysis Using Neutron and X-ray Scattering
11:35	Peggy Zhang	CSIRO Lindfield	Engineering Ferroelectric Heterostructures for Low-Energy Electronic Device Applications
11:50	Yangyang Liu	CSIRO Lindfield	Sustainable seawater utilization: Enabling high efficiency chlorine electrosynthesis through single-atom catalysts.
12:05	Jian Pan	UNSW	Engineering in Power to X
12:30	Lunch		
13:30	Jinjiang Zhang	UTS	Refining structures of electrochemical catalysts for energy storage and conversion
13:45	Bing Sun	UTS	Electrode and Catalyst Design for Metal–air Batteries
14:00	Rui Tang	USYD	Nanosteucture-Interface engineering of halide perovskite catalysts toward solar-fuel generation
14:15	Jiaquan Li	USYD	Transition-metal single atom catalysts for valorization of biomass-derived chemicals.
14:30	Yong Zhao	CSIRO Newcastle	Integrated CO2 capture and electrolysis for syngas production
15:00	Afternoon Tea /Lab Tour		
15:20	Emma Lovell	UNSW	Using visible light to enhance thermal catalytic CO2 conversion
15:35	Simin Moradmand	UON	From CO2 Electrolysis to Magnetic Carbon Formation
15:50	Zhengbiao Peng	UON	Gas-liquid-solid flow at microscale towards applications in micro- and nano-reactors
16:05	Xunyu Lu	UNSW	Sustainable manufacturing of hydrogen peroxide: where are we now?
16:20	Award (G05, SEB Building)		
17:30	Dinner (Kingsford Peking Restaurant, 498 Anzac Parade Kingsford, NSW)		
Session Chairs: Zhaojun Han, Jianbo Tang, Jiabao Yi, Zhenxiang Chen			

Session 3 - Biomaterials and Devices for Healthier Life (G07, SEB Building)			
Time	Name	Institution	Title
9:00	Registration/Welcome session		
9:30	Opening speech: Prof. Michael Ferry (Head of MSE), Ms Lucy Zhang (School Manager)		
9:40	Plenary Talk: Prof. Chun Wang (Scientia Professor, Head of ME)		
10:00	Lingqing Zong	UNSW	Oxygen-Vacancy-Rich MXene Nanonetworks: A Novel Strategy for Antimicrobial Sonodynamic Therapy.
10:15	Cindy Gunawan	UTS	Adaptation of Biofilm-Forming Pathogen to Antimicrobial Nanoparticle
10:30	Peter Su	UTS	Intracellular Temporal, Spatial and Thermal Dynamics Revealed by Biophysical Nanotools and Advanced Imaging
10:45	Lining Ju	USYD	Inspiration from the Past: Harnessing Ancient Movable Type Printing for Future Personalised Diagnosis of Stroke and Cerebral Thrombosis
11:00	Morning Tea/Lab Tour		
11:20	Shuying Wu	USYD	Wearable sensors based on polymer nanocomposites
11:35	Thanh Nho Do	UNSW	TBC
11:50	Hoang-Phuong Phan	UNSW	Inorganic nanomembranes for wearable and implantable applications
12:05	Tao Wan	UNSW	Wearable battery for health monitoring
12:30	Lunch		
13:30	Yuling Wang	MQ	Small extracellular vesicles as new biomarkers in cancer diagnosis and therapy
13:45	Ying Zhu	UTS	Optical strategies for single extracellular vesicle detection towards early cancer diagnosis
14:00	Xiaoxue Xu	UTS	Dynamic Nonlinearity in Upconversion Nanoparticles for Advanced Biomedical Optical Imaging
14:15	Bingyang Shi	MQ	New Strategies for Brain Disease Drug Development from new target discovery to Blood-Brain Barrier (BBB) Penetrative Nanomedicine
14:30	Zhen Jiang	UOW	Designing Soft Robotic Materials
15:00	Afternoon Tea/Lab Tour		
15:20	Tianruo Guo	UNSW	Advances in biology, Not Devices, Will Determine the Effectiveness of Neural Prostheses
15:35	Ming Li	MQ	High-Throughput Single-Cell and Single-Molecule Assays with Droplet Microfluidics
15:50	Zihao Wang	USYD	Developing Personalized Vein-Chips for Enhanced Cerebral Venous Sinus Thrombosis Diagnosis using a Movable Type Manufacturing Technique
16:05	Wenqian Wang	UNSW	Retrograde transport protein activates fast axonal transport of gold nanoparticles in live neurons
16:20	Award (G05, SEB Building)		
17:30	Dinner (Kingsford Peking Restaurant, 498 Anzac Parade Kingsford, NSW)		
Session Chairs: Sophia Gu, Kang Liang, Jiangtao Xu, Bingyang Shi			