

| | | | |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8:30 | REGISTRATIONS OPEN | | |
| 9:00 | WELCOME: Professors Maria Kavallaris, Cyrille Boyer & Kris Kilian | | |
| 9:15 | OPENING: Professor Hugh Durrant-Whyte, NSW Chief Scientist & Engineer | | |
| 9:30 | PLenary: Kazunori Kataoka - Kawasaki Institute of Industrial Promotion <i>Engineered Nanosystems and Nanoconjugates with Smart Functionalities for Targeted Therapy of Intractable Diseases</i> CHAIR: Justin Gooding ROOM: Water@Pier One | | |
| 10:10 | MORNING TEA | | |
| SESSION Chair Room | Drug Delivery Weibo Cai Water@Pier One | BIONANO INTERACTIONS David Nisbet Dawes Point 1&2 | SENSORS & IMAGING Kristofer Thurecht Dawes Point 3&4 |
| 10:40 Keynote | Liangfang Zhang - University of California San Diego - Cellular Nanoparticles for Drug and Gene Delivery | Xing-Jie Liang - Chinese Academy of Sciences - Nanostructures with Unique Biomedical Characterizations in vitro and in vivo | Jeff W.M. Bulte - Johns Hopkins University - In Vivo Cellular Imaging using Magnetic Nanoparticles: From MRI Contrast Agents to MPI Tracers |
| 11:10 Invited | Chun Xu - University of Queensland - Designer Porous Nanomaterials for Drug and Gene Delivery | Jess Frith - Monash University - Hydrogel Delivery of microRNA: Nanoparticle Complexes to Modify Cell Fate and Improve Tissue Repair | Hyung-Jun Im - Seoul National University - Nanomedicine: Bioimaging and Spatial Transcriptomics |
| 11:30 Invited | Jodi Saunus - University of Queensland - | Jonathan Choi - Chinese University of Hong Kong - Scavenger Receptor-targeted Plaque Delivery of microRNA-coated Nanoparticles for Alleviating Atherosclerosis | Peter Harvey - University of Nottingham - Imaging the Brain with Paramagnetic Nanoparticles |
| 11:50 Invited | Kara Vine-Perrow - University of Wollongong - Using Image-guided Focused Ultrasound to Enhance Delivery of Antisense Oligonucleotides to the Murine Brain | Megan Lord - UNSW Sydney - Understanding Bio-nano Interactions at the Blood Vessel Wall | Nicholas Fletcher - University of Queensland - Development of Polymeric Nanomedicine Targeted Alpha Therapeutics |
| 12:10 | LUNCH | | |
| 1:10 | PLenary: Kristi Anseth - University of Colorado Boulder <i>Materials to Study Biology in 4D: Photoresponsive Hydrogels to Study and Direct the Growth of Intestinal Organoids</i> CHAIR: Tom Davis ROOM: Water@Pier One | | |
| SESSION Chair Room | DRUG DELIVERY Liangfang Zhang Water@Pier One | BIOACTIVE MATERIALS Richard Tilley Dawes Point 1&2 | TISSUE ENGINEERING & ORGANOID TECHNOLOGY Khoon Lim Dawes Point 3&4 |
| 1:55 Keynote | Michelle S. Bradbury - Weill Cornell Medical College of Cornell University - Advances and Challenges in the Development and Translation of Molecularly Engineered Nanomaterials for Clinical Applications | Killugudi Swaminatha Iyer - University of Western Australia - | Tim Woodfield - University of Otago - Harnessing Cell-instructive Hydrogels and Spheroid Bioassembly Technologies for Biofabrication of Functional Tissues |
| 2:25 Invited | Changkai Fu - University of Queensland - Cationic Polymers for mRNA Delivery | Benjamin Thierry - University of South Australia - Teaching Old Dogs New Tricks: Modulating the Biological Functions of Intestinal Cells with Fluid Shear Stress | Giselle Yeo - University of Sydney - Modulation of Stem Cell Responses for Biomedical Applications |
| 2:45 Invited | Gigi N. C. Chiu - National University of Singapore - Development of a Nanoliposomal Formulation for Alpha-mangostin in Overcoming Cisplatin-induced Nephrotoxicity | John Quinn - Monash University - | David Nisbet - University of Melbourne - Changing Fate: Reprogramming Inflammatory Cells to Induced Neurons |
| 3:05 | AFTERNOON TEA | | |
| SESSION Chair Room | DRUG DELIVERY Sophia Gu Water@Pier One | BIOACTIVE MATERIALS Peter Wich Dawes Point 1&2 | DRUG DELIVERY Chun Xu Dawes Point 3&4 |
| 3:40 Invited | Debabrata (Dev) Mukhopadhyay - Mayo Clinic - Targeted Drug Delivery using Nano-carriers: Ongoing Strategies and Challenges | Anna Wang - UNSW Sydney - Fluorescence-free Quantification of Vesicle Loading and Microviscosity | Dai Hayward - Micropore Technologies - Towards Distributed Manufacture of Nanomedicines |
| 4:00 Oral | Sarah Shigdar - Deakin University - Building a Platform Technology for Targeted Drug Delivery to Cancer Metastases | Andrew Care - University of Technology Sydney - Bioengineering Protein Nanocages for Applied Nanomedicine: From Fast Prototyping to in vitro and in vivo Delivery | Teruyuki Komatsu - Chuo University - Haemoglobin-Based O ₂ Carriers Designed for Use as a Red Blood Cell Substitute |
| 4:20 Oral | Paul Joyce - University of South Australia - Designing Polymeric-lipid Nanoparticles for Improving the Pharmacokinetics, Biodistribution and Efficacy of a Novel 14-3-3 Protein Inhibitor | Jonathan Yeow - UNSW Sydney - Microliter Scale Synthesis of Enzyme-encapsulated Polymersomes as Artificial Organelles for Cellular Modulation | Daniel Gonzalez Carter - Institute for Bioengineering of Catalonia (IBEC) - Generating Artificial Targets to Deliver Therapies Specifically to the Brain |
| 4:40 Oral | Aria Ahmed-Cox - Children's Cancer Institute - Visualising Nanoparticle Delivery in 3D Blood-Brain Barrier and Brain Tumour Organoids | Federico Mazur - UNSW Sydney - Metallic Implants for Nitric Oxide Generation | Helen Forgham - University of Queensland - Fluorinated Polymer-Iron Oxide Probes - Uniting siRNA therapeutics to Treat and MRI to Measure Response in Medulloblastoma |
| 5:00 | WELCOME DRINKS & SNACKS | | |

| | | | |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 8:30 | REGISTRATIONS OPEN | | |
| 9:00 | PLENARY: John A. Rogers - Northwestern University <i>Transient Bioelectronic Medicines</i> CHAIR: Kris Kilian ROOM: Water @ Pier One | | |
| SESSION Chair Room | DRUG DELIVERY Sophia Gu Water@Pier One | BIONANO INTERACTIONS Andrew Whittaker Dawes Point 1&2 | SENSORS & IMAGING Kristofer Thurecht Dawes Point 3&4 |
| 9:45 Keynote | Clive Prestidge - University of South Australia - Antimicrobial Nanomedicine informing Cancer Nanomedicine and vice versa | Megan O'mara - University of Queensland - | Lacey R McNally - University of Oklahoma - Clinically Relevant Aspects of Nanotherapies |
| 10:15 Invited | Jiwei Cui - Shandong University - Circumvention of Biological Barriers for Improved Therapeutic Delivery | Ivan Kempson - University of South Australia - | Jesse Jokerst - University of California, San Diego - New Tools for Imaging and Sensing Proteases |
| 10:35 | MORNING TEA | | |
| SESSION Chair Room | DRUG DELIVERY Jing Mu Water@Pier One | BIONANO INTERACTIONS Ivan Kempson Dawes Point 1&2 | DRUG DELIVERY & IMMUNOTHERAPY Hyung-Jun Im Dawes Point 3&4 |
| 11:10 Invited | Francesca Cavaliere - RMIT University - An Engineered Nanosugar Enables Rapid and Sustained Glucose-Responsive Insulin Delivery in Diabetic Mice | Binyang Shi - Macquarie University - New Strategies for Brain Disease Drug Development from New Target Discovery to Blood-Brain Barrier Penetrative Nanomedicine | Quanyin Hu - University of Wisconsin - Madison - Engineering Cells for Cancer Immunotherapy |
| 11:30 Invited | Wei Tang - National University of Singapore - Phototheranostics to Modulate Tumor Hypoxia and Overcome Treatment Resistance | Tushar Kumeria - UNSW Sydney - Biomodulating Porous Nanocarriers for Oral Drug Delivery | Bei Li - University of Macau - Tumor-draining Lymph Node Lingers between Protumor and Antitumor Immunity |
| 11:50 Invited | Wei Deng - University of Technology Sydney - Radiation-activated Photodynamic Therapy for Rectal Cancer Treatment | Hao Song - University of Queensland - Nature-Inspired Spiky Particles Probed at the Nano-Bio-Interfaces for Drug Delivery | Orazio Vittorio - Children's Cancer Institute - |
| 12:10 Invited/ Oral | (Oral) Rui Sang - UNSW Sydney - X-ray Triggerable Photodynamic Therapy for Colorectal Cancer Treatment based on Lipid-polymer Hybrid Nanoplatform | Ann-Na Cho - Macquarie University - Bioengineered Human Brain; in vitro Model for Personalized Neurodegenerative Disease and Drug Screening | (Oral) Jie Tang - University of Queensland - Nanoadjuvants: From Nanocarriers to Immunomodulators |
| 12:30 | Lunch | | |
| 1:30 | PLENARY: Maria Jesus Vicent - Principe Felipe Research Center Foundation <i>Versatile Polypeptide-based Nanoconjugates for Multimodal Therapeutic Applications</i> CHAIR: Maria Kavallaris ROOM: Water@Pier One | | |
| SESSION Chair Room | CLINICAL CHALLENGES Maria Kavallaris Water@Pier One | INDUSTRY SESSION Rona Chandrawati Dawes Point 1&2 | SENSORS & IMAGING Jesse Jokerst Dawes Point 3&4 |
| 2:15 Invited | (2:15-2:45) Anthony (Tony) Kelleher - Kirby Institute - | Stephen Mahler - Agros - Plasma Fractionation by HaemaFrac® Technology | Nathan C. Gianneschi - Northwestern University - Proteomimetic Polymers for Expanding the Druggable Proteome |
| 2:35 Invited | (2:45-3:15) Ju Lee Oei - Royal Hospital for Women - Nanomedicine for the Nanoinfant | Sarika Namjoshi - Vaxxas Pty Ltd - Vaxxas Overview | Wenlong Cheng - Monash University - Remote Diagnostics of Cells, Tissues and Organoids |
| 2:55 Invited | | Ron Chatelier - Biosensor Consultant - Research, Development, Manufacture and Product Launch of Whole Blood Glucose and Coagulation Sensors | Jennifer N. Cha - University of Colorado Boulder - Photocrosslinkable Affibodies for Therapy and Cell Engineering |
| 3:15 | AFTERNOON TEA | | |
| 3:50 | ACS Journals POSTER PRESENTATION COMPETITION - Water@Pier One <i>Chair:</i> Dr Peter Wich | | |
| 5:00 - 6:00 | POSTER SESSION - Water@Pier One | | |
| 6:00 | ACS JOURNALS POSTER PRIZE AWARDS ANNOUNCEMENT & PRESENTATION - Water@Pier One | | |
| 6:15 - 8:30 | CONFERENCE DINNER - Marquee @Pier One | | |

| | | | |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 8:30 | REGISTRATIONS OPEN | | |
| 9:00 | PLENARY: Daniel G. Anderson - Massachusetts Institute of Technology <i>Nucleic Acid Delivery Systems for RNA Therapy and Genome Editing</i> CHAIR: Cyrille Boyer ROOM: Water@Pier One | | |
| SESSION Chair Room | DRUG DELIVERY Wei Tang Water@Pier One | TISSUE ENGINEERING & ORGANOID TECHNOLOGY Jelena Rnjak-Kovacina Dawes Point 1&2 | BIOACTIVE MATERIALS Benjamin Thierry Dawes Point 3&4 |

| | | | |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:45 Keynote | Haiyan Xie - Peking University - Extracellular Vesicle-based Drug Delivery for Synergistic Therapy | Andrea O'Connor - University of Melbourne - Magnetically-driven Cellular Assembly and Stimulation for Soft Tissue Engineering | Krishanu Saha - University of Wisconsin-Madison - Nonviral Nanoparticles to Deliver CRISPR for in vivo Genome Editing |
| 10:15 Invited | Weibo Cai - University of Wisconsin - Madison - Open-shell Nanosensitizers for Glutathione-Responsive Cancer Sonodynamic Therapy | David Greening - Baker Heart and Diabetes Institute - Innovating Extracellular Vesicles for Cardiac Repair | Charlotte Conn - RMIT University - Controlling the Interactions between Lipid Nanoparticles and Bacteria for the Delivery of Antimicrobials |
| 10:35 | MORNING TEA | | |
| SESSION | DRUG DELIVERY | TISSUE ENGINEERING & ORGANOID TECHNOLOGY | BIONANO INTERACTIONS |
| Chair Room | Quanyin Hu Water@Pier One | Giselle Yeo Dawes Point 1&2 | Tushar Kumeria Dawes Point 3&4 |
| 11:10 Invited | Jing Mu - Peking University Shenzhen Hospital - Tailoring Nanomaterials for Targeted Delivery | Jingjing You - University of Sydney - Bioengineering Human Corneal Endothelium using Printable Collagen IV | Jelena Rnjak-Kovacina - UNSW Sydney - Novel Biofabrication Approaches and Biomimetic Materials Enabled by Di-tyrosine Crosslinking of Silk Fibroin |
| 11:30 Oral | Chengchen Zhang - UNSW Sydney - Gallium Nanodroplets as Anti-inflammatory Reagents for Biomedical and Pharmaceutical Applications | Sara Romanazzo - UNSW Sydney - Tailoring iPSC Germ Layer Differentiation with Extracellular Microenvironment Mechanical and Topographical Cues | Si-Han Wu - Taipei Medical University - Beauty and the Beast of PEGylation in Nanomedicine: Insights into Nano-Bio Interfaces |
| 11:50 Oral | Rachana - Jaypee Institute of Information Technology - Development of Artificial Surfactant for Alveolar Delivery: Nanotherapeutics for ARDS | Bram Soliman - UNSW Sydney - Diffusion-based Microfluidics for Fabrication of Hydrogels with Well-defined Physical Features | Arunpandian Balaji - University of Queensland - Controlling the Biological Fate of Synthetic Nanoworms by Modulating the Persistence Length |
| 12:10 Oral | Zahra Khahir - Macquarie University - Transdermal Delivery of Bioactive Molecules and Drugs | Chantal Kopecky - UNSW Sydney - Bioengineered Tumour Models to Study Cancer Plasticity and Metastasis Driven by Epigenetic Regulators in Melanoma | Claire Rennie - University of Technology Sydney - In vivo Fate of Systemically Administered Encapsulin Protein Nanocages and Implications for their Use in Targeted Drug Delivery |
| 12:30 | LUNCH | | |
| SESSION | DRUG DELIVERY | BIOACTIVE MATERIALS | SENSORS & IMAGING |
| Chair Room | Bei Li Water@Pier One | Anna Wang Dawes Point 1&2 | Fabio Lisi Dawes Point 3&4 |
| 1:30 Oral | Li Li - University of Queensland - Engineering Functional Nanocomposites for Oral Vaccine Delivery | Sylvia Ganda - UNSW Sydney - Leveraging Biomaterials to Understand Melanoma Progression and Aggressiveness | Yi Li - UNSW Sydney - Circular DNA Nanostructure Facilitates Autocatalysis by Restricted Cas12a Activation |
| 1:50 Oral | Seyong Chung - Yonsei University - Nanotheranostics to Capture the Early Therapeutic Window of Atherosclerosis | Eric Du - UNSW Sydney - A 3D Bioprintable Hydrogel with Tuneable Stiffness for Exploring Cells Encapsulated in Matrices of Differing Stiffnesses | Yanfeng Wu - UNSW Sydney - Nanopore Blockade Sensors for Ultrasensitive Protein Detection in Complex Biological Samples |
| 2:10 Oral | Santhni Subramaniam - University of South Australia - Improving Intracellular Delivery of Antibiotics Against Pulmonary Infections using Liquid Crystalline Lipid Nanoparticles | Luca Altevogt - UNSW Sydney - Development of an Enzyme-Bioink for the 3D Printing of Functional Materials | Ying Yang - UNSW Sydney - Electrochemical Controlled Fluorophore Blinking for Enhanced Super-resolution Optical Fluctuation Imaging |
| 2:30 Oral | Kaiqi Long - University of Hong Kong - Long-wavelength Light-triggered Drug Delivery by Upconversion-like Photolysis | Zihao Li - UNSW Sydney - Force-mediated Dynamic Chemistry in Hydrogels to Control Cell Adhesion | Hong Thien Kim Duong - UNSW Sydney - Small Zinc Doped Iron Oxide Nanoparticles for Magnetic Particle Imaging |
| 2:50 | AFTERNOON TEA | | |
| SESSION | DRUG DELIVERY | TISSUE ENGINEERING & ORGANOID TECHNOLOGY | SENSORS & IMAGING |
| Chair Room | Weibo Cai Water@Pier One | Kang Liang Dawes Point 1&2 | Nicholas Fletcher Dawes Point 3&4 |
| 3:20 Oral | Weixi Wu - University of Queensland - Biomimetic Strategies in Engineering Nanoparticles for Gene Delivery | Maria Ai Kristine Tolentino - UNSW Sydney - ECM Stiffness Affects the Ability of Cancer-killing Cells to Search and Kill Target Cells | Camilla Gazzana - University of Technology Sydney - Exploiting the Interaction between Live E. coli and Citrate Au Nanoparticles to Form a Label-free Diagnostic Test for Bacterial Contamination |
| 3:40 Oral | Pengwen Chen - The University of Tokyo - Intratumoral pH-Activated Nanocytokine Boosts Immunotherapy to Eradicate Cold Tumors | Philipp Graber - Children's Cancer Institute - 3D Bioprinting of Personalized Brain Cancer Organoids with Hydrogel-Based Scaffolds | James Wood - University of Sydney - A First-in-Class Dual-Chelator Theranostic Agent Designed For Use With Imaging Therapy Pairs of Different Elements |
| 4:00 Oral | Sisi Liang - University of South Australia - A Versatile pH-responsive Hyaluronic Acid-based Multiple Drug Delivery System for Cancer Treatment | Rakib Sheikh - UNSW Sydney - 3D Bioprinting of Enzyme-Containing Hydrogels | Fahimeh Farokhinejad - University of Queensland - Bioengineered Yeast Nanofragments Integrated into SERS-microfluidics for Ultrasensitive Dengue Detection in Mosquitoes |
| 4:30 | CLOSING CEREMONY & ORAL PRIZES ANNOUNCEMENT - Water@Pier One | | |
| 5:00 | FAREWELL DRINKS & PIZZA | | |