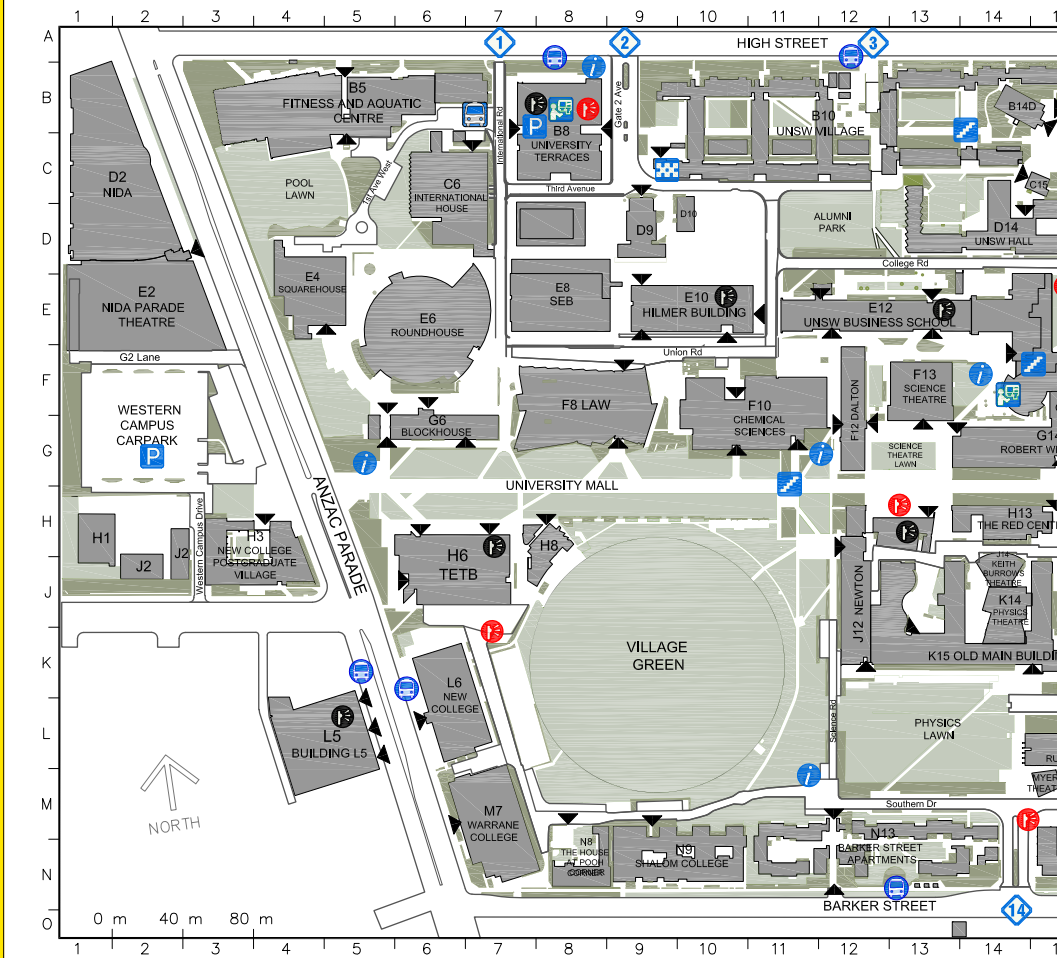


12th International NanoMedicine Conference

27 - 29th June 2022

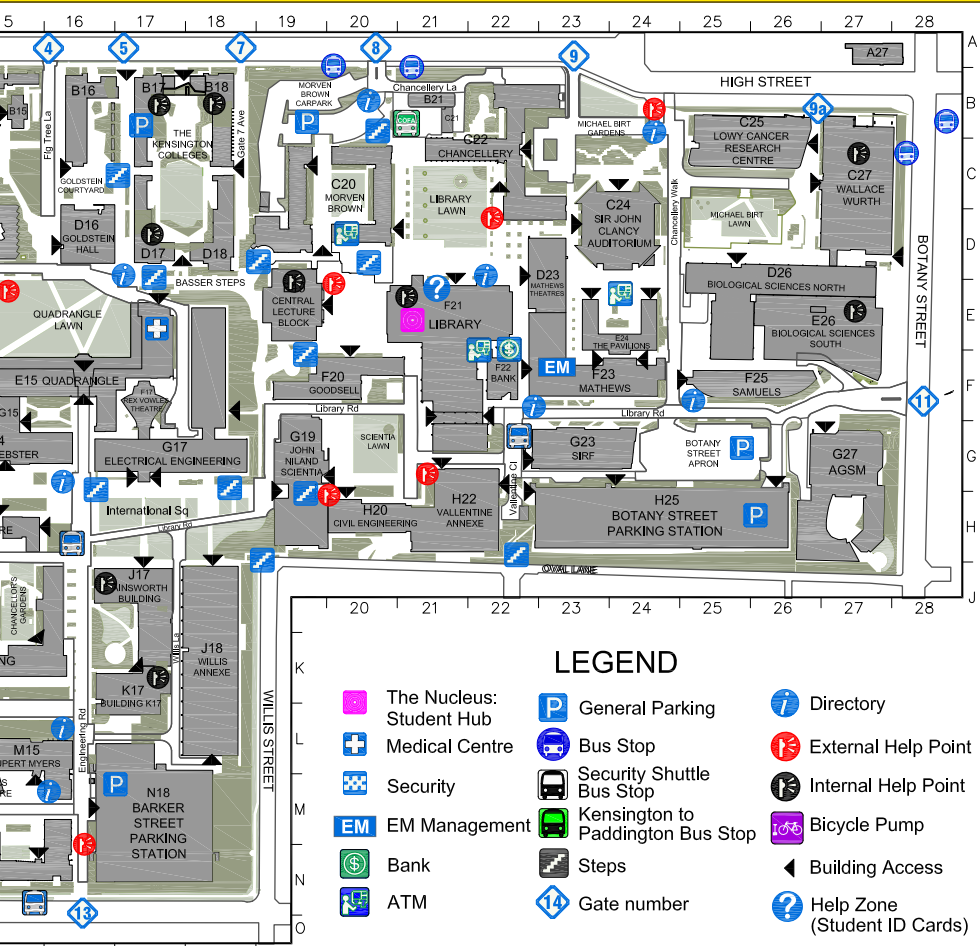
UNSW Sydney, Australia





Buildings		Lowy Cancer		Willis Annexe	J18	Faculty of Arts and Social Sciences
AGSM	G27	Research Centre	C25	University Regiment	H1	Built Environment
Ainsworth Building	J17	Mathews	F23	UNSW Business School	E12	Engineering
Biological Sciences North	D26	Mathews Arcade	E24a			Law
Biological Sciences South	E26	Morven Brown	C20	Student Accommodation		
Blockhouse	G6	Newton	J12	Barker Apartments	N13	Medicine
Building D10	D10	NIDA	D2	Basser College	D17	Science
Building L5, 223 Anzac Parade	L5	Old Main	K15	Colombo House	B16	UNSW Business School
Chancellery	C22	Quadrangle	E24	Creston College	A25	Theatre
Chemical Sciences	F10	Fig Centre	E15	Fig Tree Hall	B18	AGSM Theatres
Civil Engineering	H20	Red Centre	H13	Goldstein College	B17	Allens
Colombo House	B16	Robert Webster	G14	Goldstein Hall	D16	Central Lecture Block
Computer Science	K17	Roundhouse @ Unibar	E6	International House	C6	Chemical Sciences Theatre
Dalton	F12	Rupert Myers	M15	New College	L6	Civil Engineering (Research)
Dangerous Goods Store	F17A	Sam Cracknell Pavilion	H8	New College Postgrad. Village	H3	Clancy Auditorium
Electrical Engineering	G17	Samuels	F25	Philip Baxter College	D18	Colombo Theatres
Golf House, 38 Botany Street	A27	Science and Engineering	E8	Shalom College	N9	Fig Tree Theatre
Hilmer Building	E10	SIRF	G23	Warrane College	M7	Gonski Levy Theatre
John Goodsell	F20	Squarehouse	E4	University Terraces	B8	IO Myers Studio
John Niland Scientia	G19	Tyree Energy Technologies	H6	UNSW Hall	D14	Keith Burrows Theatre
Law	F8	Valentine Annexe	H22	UNSW Village	B10	Law Theatres
Library	F21	Wallace Wurth	C27	UNSW Residential Communities	B17	Maaculey Theatre
						Mathews Theatres

Campus



LEGEND

- The Nucleus: Student Hub
- Medical Centre
- Security
- EM Management
- Bank
- ATM
- General Parking
- Bus Stop
- Security Shuttle Bus Stop
- Kensington to Paddington Bus Stop
- Steps
- Gate number
- Directory
- External Help Point
- Internal Help Point
- Bicycle Pump
- Building Access
- Help Zone (Student ID Cards)

01/03/2019

Offices

C20
H13
K17
F8
C27
F12
E12
G27
F8
E19
F10
H20
C24
B16
B14d
F8
D9
J14
F8
E15
D23

New South Global Theatre
Old Main Theatres (Room 112)
Parade Theatres
Physics Theatre
Red Centre Theatre
Rex Vowels Theatre
Ritchie Theatre
Rupert Myers Theatre
Webster Theatres
Science Theatre
Building D10 - Studio 1 Services

Accommodation Services
Alumni Association
Arc @ UNSW
Careers and Employment Office
Chaplains
Co-op program & Scholarship
Counselling Service
Educational Support Service
Equity and Disability Unit
Estate Management

G14
K15
E2
K14
H13
F17
G19
M15
G15
F13
D10
C18
C22
D17
E15
E4
F21
E15
F20
F20
F23

Foundation Studies
Freehills Law Library
Future Students Office
Graduate Research School
Help Zone (Student ID Cards)
Human Resources
Institute of Languages
IT Service Desk
Kingsford Legal Centre
Learning & Teaching Unit @UNSW
Library
Lifestyle Clinic
Mail Centre
Marketing Development
New South Innovations
Nura Gili - Balnaves Place
Optometry Clinic
Physiotherapy Clinic
Post Office
Print Centre
Religious Centre

L5
F8
H13
M15
C22
F21
F8
F21
F21
A27
F23
C22
M15
J17
M15
B8
F22
F23
E4

Research Services
Security
Sports Association
Study Abroad and Exchange
Squash Courts
Swimming Pool
The Learning Centre
Unisuper
University Health Services
UNSW Admissions
UNSW Bookshop
UNSW International Student Centre
UNSW Residential Communities
UNSW Scholarships
UNSW Fitness and Aquatic Centre
The Nucleus: Student Hub
Venues and Events

Childcare Centres
Kangas House, 52 Barker St
House at Pooh Corner
Tigger's Honeypot, 22 Botany St
Owl's House, 9 Kennedy St

M15
B10
H8
F20
B7
B4
C22
B8
E15
F21
B17
H13
F21
B5
F23

O14
N8
BS22
KS9

WELCOME to Sydney Australia for the 12th International NanoMedicine Conference. We are excited to catch up with everyone in-person after 2 years of COVID interruptions.

This year's conference is again hosted by the Australian Centre for NanoMedicine (ACN) at UNSW. Our aim is to showcase cutting-edge research in an inspiring environment that is conducive to collaboration with colleagues from around the world.

We are fortunate this year to have five prominent scholars as our Plenary Speakers: Profs Jan Grimm, CT Lim, Bin Liu, Kristofer Thurecht and Gordon Wallace, who will lead us through an exploration of our conference themes.

This year's conference will also showcase 12 keynote speakers and 39 invited speakers who will head discussions through our themes of Drug Delivery, Sensors and Imaging, Bioactive Materials, Bio-Nano Interactions, Industry Session, Bioengineered & Microfluidic Models, and Tissue Engineering & Organoid Technology. We will also host a special Clinical Challenges session where clinicians will talk about how they are applying nanotechnology to unsolved clinical problems.

Another highlight will involve the award-winning 3D Visualisation Aesthetics Lab at UNSW showcasing their 3D VR immersive techniques. Delegates will have the opportunity to visualise processes within a cell and embark on a 3D journey inside a cell. This event will be held at the Scientia Foyer during lunch on Tuesday.

Our special thanks go to principal sponsor ATA Scientific who shares our vision of this event. We are grateful to the Mark Wainwright Analytical Centre (MWAC), UNSW Tyree Foundation Institute of Health Engineering (IHealthE) and Pharmaceuticals for sponsoring the Oral Awards and ACS Journals for supporting the 3MT Poster Presentation Prizes. We also thank FB Rice for sponsoring Tuesday night's dinner and providing fantastic door prizes.

In addition to the sponsors mentioned above, the conference is also supported by the NSW Office of the Chief Scientist & Engineer, UNSW School of Chemistry, UNSW RNA Institute, AXT Pty Ltd and Cellink. You can visit ATA, AXT & Cellink's product display booths at the Ground Floor Foyer and speak

to their friendly company representatives. Thank you to all our sponsors for making this conference possible.

This year's conference will welcome over 200 delegates from 12 countries. For first time visitors to Sydney, you will find our harbour city exciting with much to discover. If you are stuck for something to do while in Sydney, please chat to the team on the registration desk.

To undertake a conference such as this requires great commitment and our thanks go to the theme leaders and Organising Committee.

Once again a big thank you and warm welcome to all attendees, our hope is that the inspiring scenery of the iconic Sydney Harbour inspires your mind to even greater science!

Conference Co-Chairs



Professor Maria Kavallaris



Professor Cyrille Boyer



Assoc Professor Kris Kilian



UNSW
Australian Centre
for NanoMedicine

CONFERENCE COMMITTEES

Conference Chairs

Maria Kavallaris || Cyrille Boyer || Kristopher Kilian

Conference Coordinator

Kimberly Edmunds

Theme Leaders

Weibo Cai || Rona Chandrawati || Zhen Gu || Zi Sophia Gu || MoonSun Jun || Deok-Ho Kim || Tushar Kumeria || Kang Liang || Damia Mawad || Angelica Merlot || Ruirui Qiao || John Quinn || Jelena Rnjak-Kovacina || Richard Tilley || Peter Wich

Abstract Committee

Weibo Cai || Rona Chandrawati || Zi Sophia Gu || MoonSun Jun || Deok-Ho Kim || Tushar Kumeria || Damia Mawad || Ruirui Qiao || John Quinn || Jelena Rnjak-Kovacina || Richard Tilley || Peter Wich

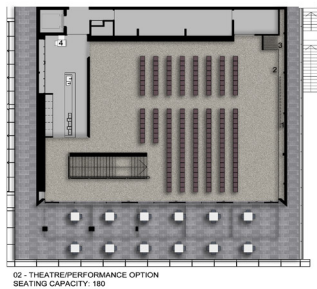
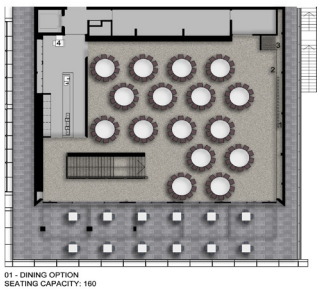
Support Committee Team Leaders

Aria Ahmed-Cox || Eric Du || Federico Mazur || Thomas Molley

Support Committee

Saiful Alam || Danielle Bennett || Kim Duong || Bobmanuel Echeonwu || Qingqing Fan || Jason Feng || Sylvia Ganda || Yuan Gao || Shu Geng || Philipp Graber || Jacinta Hounq || Shariful Islam || Gagan Jalandhra || MoonSun Jung || Zihao Li || Kang Lin || Yiling Liu || Amy Logan || Sara Mohamed || Ernesto Moles || Ashley Nguyen || Vina Putra || Chavinya Ranaweera || Panthipa Suwannakot || Peilin Tian || Angie Davina Tjandra || Maria Ai Kristine Tolentino || Cong Vu || Yingzhu Zhou

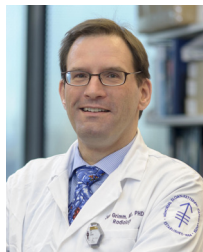
VENUE FLOOR PLANS



1. FIXED PROJECTOR SCREEN
2. SOLID STACKABLE WALL PANELS
3. SOLID STACKABLE WALL PANELS STACKED POSITION
4. FIXED LECTURN

- Ground Floor Foyer @Scientia (Common Area): Registration/ Trade Display/ Lunch/ Morning Tea/ Afternoon Tea/ VR Display Tue Lunchtime
- Tuesday dinner is at the Lounge UNSW, Level 11, Library (F21), Library Rd. Please follow our volunteers for directions to the Lounge.
- Twitter #Oznanomed

PLENARY SPEAKERS



Professor Jan Grimm is an Attending and Full member in Radiology and Member of the Molecular Pharmacology Program in MSKCC. He is also a Professor of Pharmacology in Weil Cornell Medical College. His Lab focuses on the development of novel imaging and therapy approaches for cancer. His lab was the first to utilize PET tracers clinically for Cerenkov imaging and is developing new approaches for this novel modality. He strives to develop novel concepts on how to image biological events, understanding the biological basis while simultaneously keeping clinical translatability within

sight. This drive led to the discovery of an unknown yet important oncogenic role of PSMA in prostate cancer. The lab recently developed a novel therapeutic approach with nanoparticles, oxidative ferrotherapy, utilizing clinical approved iron oxide nanoparticles for leukemia therapy.

As an expert in the field of imaging and board certified nuclear medicine physician and radiologist with experience in both clinical radiology and basic science, Dr. Grimm received his medical degree from the University of Hamburg and his PhD from the University of Schleswig-Holstein, both in Germany. He was a postdoctoral fellow and later faculty in the Center for Molecular Imaging research at MGH in Boston from 2002-2006 and joined MSKCC in 2006, where he became a full Professor in 2019. He authored numerous articles, is NIH funded and received several awards for his work.



Professor Chwee Teck LIM is the NUS Society Chair Professor of Biomedical Engineering and Director of the Institute for Health Innovation and Technology at the National University of Singapore. His research interest is in the development of innovative microfluidic and wearable technologies for biomedical applications. He has co-authored over 420 journal publications and delivered more than 400 plenary/keynote/invited lectures. He is also a serial entrepreneur having started six companies to

commercialize technologies developed in his lab. Prof Lim is globally recognized for his distinguished academic achievements as is evidenced by his elected fellowship at the US National Academy of Inventors, the American Institute for Medical & Biological Engineering, the International Academy for Medical & Biological Engineering, the ASEAN Academy of Engineering and Technology, the Academy of Engineering, Singapore and the Singapore National Academy of Science. He and his team have garnered over 100 research awards and honours including Highly Cited Researcher, IES Prestigious Engineering Achievement Award, ASEAN Outstanding Engineering Achievement Award, Asian Scientists 100, Credit Suisse Technopreneur of the Year Award, Wall Street Journal Asian Innovation Award (Gold) and the President's Technology Award among others.



Professor Bin Liu received her BS degree and Ph.D. degree from Nanjing University and the National University of Singapore, respectively, before her postdoctoral training at the University of California, Santa Barbara. She joined NUS in late 2005, where she is currently the Provost's Chair Professor, Head of Department of Chemical and Biomolecular Engineering, and Senior Vice Provost for Talent and Institutional Development.

For her research focusing on organic nanomaterials for biomedical and energy applications, Prof. Liu has received many highly prestigious awards, including Singapore President's Technology Award 2016, and Asian Scientist Top 100 List in 2017, ACS Nano Lectureship Award in 2019, Kabiller Young Investigator's award 2021 and Royal Society of Chemistry Centenary Award 2021. Prof. Liu was named as the Top 1% Highly Cited Researchers in Materials Science by Thomson Reuters and Clarivate Analytics from 2014 to 2021. She is the Foreign Fellow of the US National Academy of Engineering, Fellow of Singapore Academy of Engineering, Singapore National Academy of Sciences, Asia-Pacific Academy of Materials, and the Royal Society of Chemistry.



Professor Kristofer Thurecht graduated from the University of Queensland, Australia, in 2005 with a PhD in polymer chemistry. In 2007, Prof. Thurecht was simultaneously awarded a Ramsay Centenary Fellowship and 1851 Research Fellowship in the UK, and has since held both an ARC Australian Postdoctoral Fellowship (2008) and an ARC Future Fellowship (2012). In 2015, Prof. Thurecht was awarded the RACI David Sangster Polymer Science and Technology Award from the Polymer Division.

Prof. Thurecht is acting Deputy Director (Research Technologies) within the Centre for Advanced Imaging (CAI) and a senior group leader at the Australian Institute for Bioengineering and Nanotechnology (AIBN) at the University of Queensland where he currently holds an NHMRC Career Development Fellowship (CDF2). His research focusses on developing improved understanding of the nano-bio interface, particularly using molecular imaging tools to address some of the complex questions in this field. His team works across the boundaries of chemistry and materials, biology and imaging science to probe how nanomaterial properties affect their function in living animals. He is theme leader in the ARC Training Centre for Innovation in Biomedical Imaging and Technology.

PLENARY SPEAKERS



Professor Gordon Wallace is involved in the discovery of new materials, as well as innovative fabrication, and characterization methods. He is committed to the use of fundamental breakthroughs to drive new technologies in Energy and Health.

He was appointed as an Officer of the Order of Australia and named NSW Scientist of the Year in 2017. He received the Eureka Prize for Leadership in Science and Innovation in 2016. Gordon is a Fellow of the Australian Academy of Science, Australian Academy of Technological Sciences and Engineering and Royal Australian Chemical Institute. He is a corresponding member of the Academy of Science in Bologna.

He has published in excess of 1,100 refereed publications (64,000 citations and an H-index of 110). He is listed as a co-inventor on more than 60 patents and has supervised more than 100 PhD students to completion.

He is currently Executive Director ACES, Director IPRI, ANFF Materials and TRICEP.

THANK YOU
to our
Plenary Speakers
for the time and effort
they took to share their thoughts and experiences at the Conference.

KEYNOTE SPEAKERS

KEYNOTE SPEAKER	ABSTRACT TITLE
Prof Vicki L. Colvin Brown University (USA)	Imaging Using Nanoparticles: From MRI to MPI
Prof Hossam Haick Technion Israel Institute of Technology (Israel)	Artificially Intelligent Medical Nanosensors for Clinical Decisions
Asst Prof Hagar Labouta Manitoba University (Canada)	Dynamic Organ-on-a-Chip models: Bringing Bio-relevance to In vitro Evaluation of Nanoparticles
Prof Guangjun Nie Chinese Academy of Sciences (China)	Intelligent Nanomedicines for Tumor Microenvironment Sensing, Targeting and Regulation
Prof Sungsu Park Sungkyunkwan University (Korea)	Social Games of Tumour and Virus on Microfluidic Device with Interconnected Microchambers
A/Prof Giorgia Pastorin National University of Singapore (Singapore)	Design of Biohybrid Systems for Targeted Cancer Therapy
Prof Shelly Peyton University of Massachusetts Amherst (USA)	Tissue-Inspired Synthetic Biomaterials
Prof Youqing Shen Zhejiang University (China)	Transcytotic Nanomedicine for EPR-Independent Cancer Drug Delivery
Prof Palli Thordarson UNSW Sydney (Australia)	Non-spherical Polymersomes and the (new) RNA World
Prof Jadranka Travas-Sejdic - University of Auckland (NZ)	Novel Conducting Polymer Biointerfaces
Prof Fan Zhang - Fudan University (China)	NIR-II Fluorescent Probes for in vivo Multiplexed Biodetection
Prof Chunxia Zhao - University of Adelaide (Australia)	Role of Nanoparticle Stiffness in Regulating Nano-Bio Interactions

THANK YOU to our Keynote Speakers and Session Chairs!

INVITED SPEAKER	ABSTRACT TITLE
Dr Karen Alt Monash University (Australia)	Welcome to Magnetic Particle Imaging – A new era in preclinical imaging
Mr Matthew Britland Amgen (Australia)	From Bench to Boardroom - bringing science to practice
A/Prof Rona Chandrawati UNSW Sydney (Australia)	Nanozymes and Polymers for Nitric Oxide Delivery from Endogenous and Exogenous Prodrugs
A/Prof Pengyu Chen Auburn University (USA)	Nanoplasmonic Material based Optofluidic Biosensors for Immune Functional Analysis towards Personalized Immune Therapy
A/Prof Thomas Cox Garvan Institute of Medical Research (Australia)	Deconstructing Solid Tumour Heterogeneity: the Stromal Matrix Perspective
A/Prof Michelle Farrar UNSW Sydney (Australia)	It's Science, not Fiction: the Clinical Application of AAV Gene Therapy in Child Neurology
Dr Changkui Fu University of Queensland (Australia)	Sulfoxide Polymers: A New Class of Low-fouling Polymers for Biological Applications
Dr Sophia Zi Gu UNSW Sydney (Australia)	Engineering Nanosheets for Disease Diagnosis and Treatment
Prof Christoph Hagemeyer Monash University (Australia)	Smart Materials for Cardiovascular Disease Therapy
A/Prof Juliana Hamzah Harry Perkins Institute of Medical Research (Australia)	Barriers of Nanoparticle Delivery in Solid Tumours, how do we solve them?
Dr Pingping Han University of Queensland (Australia)	Cell-material Interaction via Controlled Mechanotransduction
Prof Jesse Jokerst University of California San Diego (USA)	New Ways to See Disease via Nanomaterials
Dr Lining Arnold Ju University of Sydney (Australia)	Cellular and Molecular Mechanobiology in Cardiovascular Health

INVITED SPEAKER	ABSTRACT TITLE
Dr Yi David Ju RMIT University (Australia)	Impact of Person-Specific Biomolecular Coronas on Nanoparticle–Immune Cell Interactions
Dr Kristian Kempe Monash University (Australia)	Stealth Poly(2-oxazoline) Nanoparticles and Nanorods for Biomedical Applications
A/Prof Ivan Kempson University of South Australia (Australia)	'Inert'-Nanoparticle Sensitization and Remodeling of Tumour
A/Prof Khoon Lim Otago University (New Zealand)	Spatio-temporal Control of Physical Architecture within 3D-bioprinted Constructs for Enhanced Cellular Function
Prof Andrew Lloyd Kirby Institute (Australia)	Elimination of Hepatitis C: from Prison to Laboratory
Dr Marion Mateos Sydney Children's Hospital (Australia)	Clinical Challenges in Paediatric Oncology - Opportunities for Nanomedicine?
A/Prof Arlene McDowell University of Otago (New Zealand)	Nanomedicines for Use in Wildlife Applications
Prof Ran Mo China Pharmaceutical University (China)	Nanotherapeutic Strategy to Overcome Anticancer Therapeutic Resistance
Dr Elisa Mokany SpeeDx (Australia)	Two Halves Equal a Whole: the Opportunities in Translating Research
Dr Noushin Nasiri Macquarie University (Australia)	Wearable Nano-Sensors for Personalised and Preventive Medicine
A/Prof Amirali Popat University of Queensland (Australia)	Overcoming Biological Barriers using Stimuli Responsive Silica Nanoparticles
Prof Clive Prestidge University of South Australia (Australia)	Nanocarriers for Antimicrobials and Antimicrobial Photodynamics
A/Prof Jelena Rnjak-Kovacina UNSW Sydney (Australia)	A Biomimetic Approach Toward Enhancing Angiogenesis & Vascularisation of Biomaterials

INVITED SPEAKER	ABSTRACT TITLE
A/Prof Sarah Shigdar Deakin University (Australia)	Developing a Platform Technology to Cross the Blood Brain Barrier and Deliver Drugs to Specific Populations
Ass Prof Wei Tao Harvard University (USA)	Smart Drug Delivery System
Prof Benjamin Thierry University of South Australia (Australia)	Fibroblast Activation Protein Specific MRI Improves Tumour Mapping in a Preclinical Orthotopic Model of Prostate Cancer Compared to PSMA
A/Prof Natalie Trevaskis Monash University (Australia)	Lipid Conjugated Materials that Harness the Lymphatics to Enhance Immunity and Metabolism
Dr Nghia Truong Phuoc Monash University (Australia)	Boosting Vaccine Efficacy via Controlling Nano-Bio Interactions
Dr Pegah Varamini Sydney University (Australia)	A Multimodal Targeted Nanodiamond-based Theranostic Drug Delivery System: Precision therapy of triple negative breast cancer
Prof Nicolas Voelcker Monash University (Australia)	Cancer Therapy using Porous Silicon Nanocarriers with Stimulus-Cleavable Linkers
A/Prof Xiaowei Wang Baker Heart and Diabetes Institute (Australia)	Molecular Imaging of Activated Platelets: Cardiovascular and Malignant Diseases
Dr Anna Waterhouse University of Sydney (Australia)	Biomimetic Vascular Nanomaterials for Next Generation Medical Devices
Prof Wei Wei Chinese Academy of Sciences (China)	Biomimetic Formulation Engineering for Anticancer Therapy
Dr Peter Wich UNSW Sydney (Australia)	Protein Biohybrid Materials for Degradable and Functional Nanoparticles
A/Prof Steven Wise Sydney University (Australia)	Biological Applications of Plasma Dust Nanoparticles
Dr Ying Zhu University of Technology Sydney (Australia)	Analysis of Circulating Extracellular Vesicles for Liquid Biopsy using Novel Biosensors and Bioassays



Accelerate Nanomedicine Development Using Precise Formulation Conditions



Spark

4-month acceleration

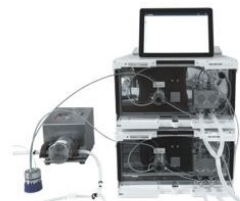


Ignite™
NEXGen™ Technology



Blaze

8-month acceleration



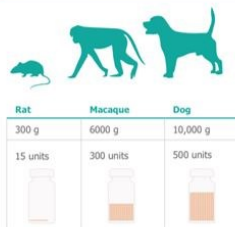
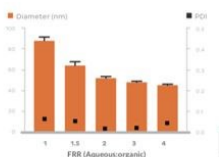
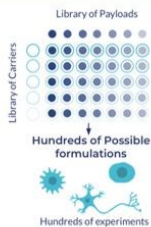
GMP System

Discovery

Early preclinical

Late preclinical

Clinical development



25-250 μ L

1-20 mL

10 mL - 10 L

> 20 L / h

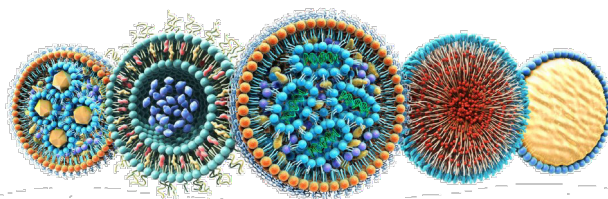


SCALABLE: Accelerates genetic medicine development enabling all scales through one single mixer.

RAPID: Time-invariant particle formation ensures reproducible results with controlled assembly.

PRECISE: Nucleic acid lipid nanoparticles (LNPs), Polymer nanoparticles and Liposomes can be optimised.

New GenVoy-ILM™ T Cell Kit for mRNA enables lipid nanoparticle (LNP)-based ex vivo gene transfer into T cells. Use mRNA-LNP to efficiently and reproducibly generate high yields of engineered primary human T cells using a simple workflow.



For more information, please contact us:

Champions of innovation, we navigate your IP across the globe.

Since being founded more than 70 years ago, FB Rice has grown into Australia's leading independent IP firm and a national leader in chemistry and the life sciences.



Just as the chemical innovation sector spans a wide range of technologies, our chemistry team matches that with a diverse range of technical backgrounds with expertise across a wide range of chemical industries. In addition to working with clients on breakthrough technologies, we work closely with local industry bodies and networks.

FB Rice and the International Nanomedicine Conference

We are proud to be an ongoing supporter of the International Nanomedicine Conference and are excited to be sponsoring the conference dinner - look out for our team representatives below.



Andrew Gregory
Senior Associate



David Herman
Senior Associate



Contact

General enquiries: contact@fbrice.com.au
Fillings dept: applications@fbrice.com.au
fbrice.com.au



Sydney +61 2 8231 1000
Melbourne +61 3 8618 4100
Brisbane +61 7 3071 1000
Perth +61 8 6208 8930
Adelaide +61 8 8113 5300

Meet FB Rice's representatives, David Herman and Andrew Gregory, at the 12th International Nanomedicine Conference.

David has a PhD in nanomaterials and has extensive experience in the fields of nanoparticle synthesis, surface functionalisation, electron microscopy, drug delivery and theranostics. He leverages off this experience to provide advice in the nanotechnology and materials science space for a variety of clients including multinational corporates, research organisations, start-ups and universities.

David specialises in patent drafting and global prosecution, oppositions, infringement and validity opinions and providing freedom-to-operate advice, and is registered to practice in both Australia and New Zealand.



David Herman

Senior Associate

dherman@fbrice.com.au

Andrew started at FB Rice in 2011, following the completion of his PhD in polymer chemistry in the UK, and a period of time as a postdoctoral researcher at UNSW. He provides support and strategic advice in a range of technological areas including polymers/materials, pharmaceuticals, animal health and nanotechnology for a variety of organisations ranging from start-up ventures and universities through to multinationals.

Andrew guides his clients through various aspects of IP, translating research efforts into tangible assets. His work includes prosecution, coordinating patent portfolios, litigation support, and searching.



Andrew Gregory

Senior Associate

agregory@fbrice.com.au



Contact

General enquiries: contact@fbrice.com.au
Fillings dept: applications@fbrice.com.au
fbrice.com.au



Sydney +61 2 8231 1000
Melbourne +61 3 8618 4100
Brisbane +61 7 3071 1000
Perth +61 8 6208 8930
Adelaide +61 8 8113 5300

8:30	REGISTRATIONS OPEN		
9:00	WELCOME: Professors Maria Kavallaris, Cyrille Boyer & Kris Kilian Australian Centre for NanoMedicine (UNSW)		
9:15	OPENING: Professor Attila Brungs - Vice-Chancellor and President - UNSW Sydney		
9:30	PLENARY: Prof Kristofer Thurecht - University of Queensland (Australia) <i>When Nanomaterials Meet Biology: Understanding what Contributes to Success and Failure of Materials in Nanomedicine</i> CHAIR: Scientia A/Prof Kris Kilian ROOM: Tyree Room @Scientia		
10:10	MORNING TEA		
SESSION	DRUG DELIVERY	BIONANO INTERACTIONS	BIOACTIVE MATERIALS
Chair	Prof Clive Prestidge	Dr Ruirui Qiao	Prof Richard Tilley
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
10:40 Keynote	Prof Palli Thordarson - UNSW Sydney - <i>Non-spherical Polymersomes and the (new) RNA World</i>	Prof Shelly Peyton - University of Massachusetts Amherst (USA) - <i>Tissue-Inspired Synthetic Biomaterials</i>	Prof Jadranka Travas-Sejdic - University of Auckland (NZ) - <i>Novel Conducting Polymer Biointerfaces</i>
11:10 Invited	Prof Nicolas Voelcker - Monash University- <i>Cancer Therapy using Porous Silicon Nanocarriers with Stimulus-Cleavable Linkers</i>	A/Prof Ivan Kempson - University of South Australia - <i>'Inert'-Nanoparticle Sensitization and Remodeling of Tumour</i>	Prof Christoph Hagemeyer - Monash University - <i>Smart Materials for Cardiovascular Disease Therapy</i>
11:30 Invited	A/Prof Juliana Hamzah - Harry Perkins Institute of Medical Research - <i>Barriers of Nanoparticle Delivery in Solid Tumours, how do we solve them?</i>	Dr Pingping Han - University of Queensland - <i>Cell-material Interaction via Controlled Mechano-transduction</i>	Dr Sophia Zi Gu - UNSW Sydney - <i>Engineering Nanosheets for Disease Diagnosis and Treatment</i>
11:50 Invited/ Oral	A/Prof Amirali Papat - University of Queensland - <i>Overcoming Biological Barriers using Stimuli Responsive Silica Nanoparticles</i>	Dr Yi David Ju - RMIT University - <i>Impact of Lipid Nanoparticle mRNA Vaccination on the Levels of PEG Specific Antibodies</i>	(Oral) Dr Eric Du - UNSW Sydney - <i>A 3D Bioprintable Hydrogel with Tuneable Stiffness for Exploring Cells Encapsulated in Matrices of Differing Stiffnesses</i>
12:10	LUNCH		
1:10	PLENARY: Prof Chwee Teck Lim - National University of Singapore (Singapore) <i>Microfluidics for Disease Diagnosis and Monitoring</i> CHAIR: Prof Palli Thordarson ROOM: Tyree Room @Scientia		

SESSION	DRUG DELIVERY	SENSORS & IMAGING	TISSUE ENGINEERING & ORGANOID TECHNOLOGY
Chair	Dr Zi Sophia Gu	A/Prof Rona Chandrawati	Dr Tushar Kumeria
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
1:55 Keynote	Prof Youqing Shen - Zhejiang University (China) - <i>Transcytotic Nanomedicine for EPR-Independent Cancer Drug Delivery</i>	Prof Hossam Haick - Technion Israel Institute of Technology (Israel) - <i>Artificially Intelligent Medical Nanosensors for Clinical Decisions</i>	Asst Prof Hagar Labouta - Manitoba University (Canada) - <i>Dynamic Organ-on-a-Chip models: Bringing Bio-relevance to In vitro Evaluation of Nanoparticles</i>
2:25 Invited	Prof Clive Prestidge - University of South Australia - <i>Nanocarriers for Antimicrobials and Antimicrobial Photodynamics</i>	Dr Ying Zhu - University of Technology Sydney - <i>Analysis of Circulating Extracellular Vesicles for Liquid Biopsy using Novel Biosensors and Bioassays</i>	A/Prof Steven Wise - Sydney University - <i>Biological Applications of Plasma Dust Nanoparticles</i>
2:45 Invited	Dr Kristian Kempe - Monash University - <i>Stealth Poly(2-oxazoline) Nanoparticles and Nanorods for Biomedical Applications</i>	Miss Gayathri Subramaniam - University of Queensland - <i>Biologics as Peptide Delivery Vehicles for Immunotherapy</i>	A/Prof Khoon Lim - Otago University (NZ) - <i>Spatio-temporal Control of Physical Architecture within 3D-bioprinted Constructs for Enhanced Cellular Function</i>
3:05	AFTERNOON TEA		
SESSION	DRUG DELIVERY	BIONANO INTERACTIONS	TISSUE ENGINEERING & ORGANOID TECHNOLOGY
Chair	A/Prof Khoon Lim	Prof Benjamin Thierry	Dr MoonSun Jung
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
3:40 Invited	Prof Wei Wei - Chinese Academy of Sciences (China) - <i>Biomimetic Formulation Engineering for Anticancer Therapy</i>	Dr Nghia Truong Phuoc - Monash University - <i>Boosting Vaccine Efficacy via Controlling Nano-Bio Interactions</i>	Dr Jan Lauko - The University of Queensland - <i>Synthetic and Hybrid Analogues of Biopolymer Networks for Tissue Engineering Applications</i>
4:00 Invited/ Oral	A/Prof Arlene McDowell - University of Otago (NZ) - <i>Nanomedicines for Use in Wildlife Applications</i>	Dr Changkui Fu - University of Queensland - <i>Sulfoxide Polymers: A New Class of Low-fouling Polymers for Biological Applications</i>	(Oral) Mr Ramanathan Yegappan - The University of Queensland - <i>Snake Venom Protein-Based Hydrogel Wound Sealant for Rapid and Stable Haemostasis</i>
4:20 Oral	Dr Nicholas Hunt - University of Sydney - <i>Oral Nanotherapeutic Formulations of Insulin</i>	Ms Qiaoyun Wang - The University of Queensland - <i>Low-Fouling Fluoropolymer Grafted Metal Organic Framework Nanotheranostics for 19F MRI-guided Cancer Therapy</i>	A/Prof Jelena Rnjak-Kovacina - UNSW Sydney - <i>A Biomimetic Approach Toward Enhancing Angiogenesis & Vascularisation of Biomaterials</i>
4:40 Oral	Dr Andrew Care - University of Technology Sydney - <i>Harnessing the Potential of Encapsulin Protein Nanocages for Nanomedicine</i>	Mr Samuel Cheeseman - RMIT University - <i>Understanding the Interface between Liquid Metal Droplets and Bacterial, Fungal and Mammalian Cells</i>	Miss Kang Lin - UNSW Sydney - <i>Confined Growth Directs Fibroblasts Plasticity and Induces 3D Bio-Assembly through Epigenetic Reprogramming</i>

8:30	REGISTRATIONS OPEN		
9:00	<p><i>PLENARY: Prof Jan Grimm - Memorial Sloan Kettering Cancer Center (USA)</i></p> <p><i>Treating Cancer with an Iron Fist</i></p> <p><i>CHAIR: Prof Maria Kavallaris ROOM: Tyree Room @Scientia</i></p>		
SESSION	BIOACTIVE MATERIALS	BIONANO INTERACTIONS	SENSORS & IMAGING
Chair	Dr John Quinn	Dr Jiangtao Jason Xu	Prof Weibo Cai
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
9:45 Keynote	A/Prof Georgia Pastorin - National University of Singapore (Singapore) - <i>Design of Biohybrid Systems for Targeted Cancer Therapy</i>	Prof Guangjun Nie - Chinese Academy of Sciences (China) - <i>Intelligent Nanomedicines for Tumor Microenvironment Sensing, Targeting and Regulation</i>	Prof Vicki L. Colvin - Brown University (USA) - <i>Imaging Using Nanoparticles: From MRI to MPI</i>
10:15 Invited	A/Prof Natalie Trevaskis - Monash University - <i>Lipid Conjugated Materials that Harness the Lymphatics to Enhance Immunity and Metabolism</i>	A/Prof Pengyu Chen - Auburn University (USA) - <i>Nanoplasmonic Material based Optofluidic Biosensors for Immune Functional Analysis towards Personalized Immune Therapy</i>	Prof Jesse Jokerst - University of California San Diego (USA) - <i>New Ways to See Disease via Nanomaterials</i>
10:35	MORNING TEA		
SESSION	DRUG DELIVERY	BIONANO INTERACTIONS	SENSORS & IMAGING
Chair	Dr Kristian Kempe	Prof Christoph Hagemeyer	A/Prof Ivan Kempson
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
11:10 Invited	Asst. Prof Wei Tao - Harvard University (USA) - <i>Smart Drug Delivery System</i>	Dr Arnold Lining Ju - University of Sydney - <i>Cellular and Molecular Mechanobiology in Cardiovascular Health</i>	Prof Benjamin Thierry - University of South Australia - <i>Fibroblast Activation Protein Specific MRI Improves Tumour Mapping in a Preclinical Orthotopic Model of Prostate Cancer Compared to PSMA</i>
11:30 Oral	Ms Feifei Liu - The University of Queensland - <i>Targeted Delivery of Immune-Boosting Peptides using Polymeric Nanoparticles to Manage Lung Cancer</i>	Miss Santhni Subramaniam - University of South Australia - <i>Pulmonary Delivery of Lipid-Based Nanoparticles: Identification of Proteins that Mediate Cellular Uptake Kinetics</i>	Dr Fei Deng - UNSW Sydney - <i>A CRISPR/Cas12a-assisted on-Fibre Immunosensor for Ultrasensitive Small Protein Detection in Complex Biological Samples</i>
11:50 Oral	Dr Cong Vu - UNSW Sydney - <i>Can the Shape of Nanoparticles Enable the Targeting to Cancer Cells over Healthy Cells?</i>	Dr Emily Pilkington - University of Melbourne - <i>Ligand-free Immune Cell Targeting by Lipid Nanoparticles</i>	Dr Alain Wuethrich - University of Queensland - <i>Liquid Biopsy Nanodiagnosics for Monitoring Cancer and the Human Immune System</i>

12:10 Oral	Dr Ernest Moles - Children's Cancer Institute- <i>Targeted Delivery of PEGylated Liposomal Doxorubicin by Bispecific Antibodies Improves Treatment of High-Risk Childhood Leukaemia</i>	Dr Nicholas Fletcher - The University of Queensland - <i>Together or Apart: Optimising the Pre-Targeting of Polymeric Nanocarriers</i>	Ms Angie Davina Tjandra - UNSW Sydney - <i>Polydiacetylene-Based Colorimetric Sensor Array for Rapid Volatile Organic Compounds Detection to Diagnose Early Lung Cancer</i>
12:30	Lunch & 3D VR Demo		
1:30	<p>PLENARY: Prof Bin Liu - National University of Singapore (Singapore) <i>Aggregation-Induced Emission: Materials and Biomedical Applications</i></p> <p>CHAIR: Prof Andrew Whittaker ROOM: Tyree Room @Scientia</p>		
SESSION Chair Room	CLINICAL CHALLENGES Dr Angelica Merlot Tyree Room @Scientia	INDUSTRY SESSION Dr Kang Liang Gallery 1 @Scientia	DRUG DELIVERY Dr Andrew Care Gallery 2 @Scientia
2:15 Invited	A/Prof Michelle Farrar - UNSW Sydney - <i>It's Science, not Fiction: the Clinical Application of AAV Gene Therapy in Child Neurology</i>	Dr Noushin Nasiri - Macquarie University - <i>Wearable Nano-Sensors for Personalised and Preventive Medicine</i>	Prof Ran Mo - China Pharmaceutical University (China) - <i>Nanotherapeutic Strategy to Overcome Anticancer Therapeutic Resistance</i>
2:35 Invited	Prof Andrew Lloyd - Kirby Institute - <i>Elimination of Hepatitis C: from Prison to Laboratory</i>	Dr Elisa Mokany - SpeeDx - <i>Two Halves Equal a Whole: the Opportunities in Translating Research</i>	Dr Peter Wich - UNSW Sydney - <i>Protein Biohybrid Materials for Degradable and Functional Nanoparticles</i>
2:55 Invited	Dr Marion Mateos - Sydney Children's Hospital - <i>Clinical Challenges in Paediatric Oncology - Opportunities for NanoMedicine?</i>	Mr Matthew Britland - Amgen - <i>From Bench to Boardroom - bringing Science to Practice</i>	A/Prof Sarah Shigdar - Deakin University - <i>Developing a Platform Technology to Cross the Blood Brain Barrier and Deliver Drugs to Specific Populations</i>
3:15	AFTERNOON TEA		
3:50	<p>POSTER PRESENTATION COMPETITION - Tyree Room @Scientia</p> <p>Chair: Dr David Herman</p>		
5:00 - 6:00	POSTER SESSION - Tyree Room @Scientia		
6:00	ACS JOURNALS POSTER PRIZE AWARDS ANNOUNCEMENT & PRESENTATION - Tyree Room @Scientia		
6:15 - 8:30	<p>CONFERENCE DINNER - The Lounge UNSW, Level 11, Library Building F21 (entry from rear of building), Library Road. Please follow our volunteers for directions. Dinner is sponsored by FB Rice who will also provide fabulous door prizes.</p>		

8:30	REGISTRATIONS OPEN		
9:00	<p style="text-align: center;"><i>PLENARY: Professor Gordon Wallace - University of Wollongong (Australia)</i></p> <p style="text-align: center;"><i>Graphene – the Wonder Material!</i></p> <p style="text-align: center;"><i>CHAIR: Prof Cyrille Boyer ROOM: Tyree Room @Scientia</i></p>		
SESSION	DRUG DELIVERY	BIOENGINEERED & MICROFLUIDIC MODELS	SENSORS & IMAGING
Chair	A/Prof Amirali Popat	Dr Peter Wich	Dr Nicholas Veldhuis
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
9:45 Keynote	Prof Chunxia Zhao - University of Adelaide - <i>Role of Nanoparticle Stiffness in Regulating Nano-bio Interactions</i>	Prof Sungsu Park - Sungkyunkwan University (Korea) - <i>Social Games of Tumour and Virus on Microfluidic Device with Interconnected Microchambers</i>	Prof Fan Zhang - Fudan University (China) - <i>NIR-II Fluorescent Probes for in vivo Multiplexed Biode-tection</i>
10:15 Invited	Dr Pegah Varamini - University of Sydney - <i>A Multimodal Targeted Nanodiamond-based Theranostic Drug Delivery System: Precision Therapy of Triple Negative Breast Cancer</i>	Dr Anna Waterhouse - University of Sydney - <i>Biometric Vascular Nanomaterials for Next Generation Medical Devices</i>	Dr Karen Alt - Monash University - <i>Welcome to Magnetic Particle Imaging – A New Era in Preclinical Imaging</i>
10:35	MORNING TEA		
SESSION	DRUG DELIVERY	BIOENGINEERED & MICROFLUIDIC MODELS	SENSORS & IMAGING
Chair	Dr Pegah Varamini	A/Prof Jelena Rnjak-Kovacina	A/Prof Shery Chang
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
11:10 Invited	A/Prof Rona Chandrawati - UNSW Sydney - <i>Nanozymes and Polymers for Nitric Oxide Delivery from Endogenous and Exogenous Prodrugs</i>	A/Prof Thomas Cox - Garvan Institute of Medical Research - <i>Deconstructing Solid Tumour Heterogeneity: The Stromal Matrix Perspective</i>	A/Prof Xiaowei Wang - Baker Heart and Diabetes Institute - <i>Molecular Imaging of Activated Platelets: Cardiovascular and Malignant Diseases</i>
11:30 Oral	Dr Nicholas Veldhuis - Monash University - <i>Developing Nanostar Systems for Sustained Endosomal Release of a Neurokinin-1 Receptor Antagonist to Provide Long-Lasting Relief of Chronic Pain</i>	Dr MoonSun Jung - Children's Cancer Institute - <i>A High-Throughput 3D Bioprinted Cancer Cell Migration and Invasion Model with Versatile and Broad Biological Applicability</i>	Dr Sang Eun Hong - Hannam University (Korea) - <i>Reactive Oxygen Species Scavenging and Improvement Effect of Inflammatory Disease Treatment by Interaction of Nanoparticles and Intracellular Organelle</i>
11:50 Oral	Dr Manisha Singh - IIIT (India) - <i>Ameliorating the Expression of Amyloid – β in cortical region of mice brain after Intranasal Delivery of Gingko biloba (EGB 761) Extract Loaded Nanoemulsions</i>	Miss Amber Prior - University of Queensland - <i>Understanding Nanoparticle Accumulation in a Complex in vitro Tumour-on-a-chip Model</i>	Miss Zhen Zhang - The University of Queensland - <i>Tracking Epithelial-Mesenchymal Transition in Liquid Biopsy using Surface-Enhanced Raman Scattering Nanotechnologies</i>
12:10 Oral	Dr Federico Mazur - UNSW Sydney - <i>Wearable Platform for Therapeutic Nitric Oxide Delivery</i>	Mr Zhao Wang - The University of Queensland - <i>Defined 3D Fibrin Networks for 'Scarless' Wound Healing Studies</i>	Miss Xin Xu - The University of Queensland - <i>Antifouling and Antibacterial Surfaces Grafted with Hydrophilic and Hydrophobic Copolymers</i>
12:30	LUNCH		

SESSION	DRUG DELIVERY	BIOACTIVE MATERIALS	BIONANO INTERACTIONS
Chair	Dr Belamy Cheung	Dr Yi David Ju	Dr Jan Lauko
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
1:30 Oral	Dr Aria Ahmed-Cox - Children's Cancer Institute - <i>Visualisation and Efficacy of Nanoparticle Delivery for Brain Cancer</i>	Dr Lan Xiao - Queensland University of Technology <i>Gold Nanocluster-Induced Immunomodulation for Tissue Regeneration via Mitophagy Regulation: a Perspective on Materiobiology</i>	Dr Ibrahim Javed - The University of Queensland - <i>Molecular and Cellular Insights into the Role of Gut-Bacteria for Neurodegeneration</i>
1:50 Oral	Dr Md Musfizar Hassan - UNSW Sydney - <i>Sustained Drug Release from Nanoparticles Functionalized by a Neural Tracing Protein for Treatment Respiratory Dysfunction of Spinal Cord Injury</i>	Mr Changzhuang Bai - UNSW Sydney - <i>Visible Light Switchable Peptide-Based Hydrogel for Cell Culture</i>	Ms Haritha Kirla - Murdoch University - <i>LyP-1 Conjugated Methylene Blue Encapsulated Mesoporous Silica Nanoparticles for Targeted Photodynamic Therapy in Breast Cancer</i>
2:10 Oral	Dr Wenqian Wang - UNSW Sydney - <i>Controlling the Axonal Transport of Gold Nanoparticles with Neural Circuit Tracing Proteins</i>	Ms Luyao Sun - University of Queensland - <i>Structurally Tailored Drug-free Layered Double Hydroxide Nanoparticles for Synergized Photothermal/ Photodynamic/ Chemodynamic Therapy</i>	Ms Sonia Sebastian - University of South Australia - <i>Linking the Intracellular Journey of Gold Nanoparticles to Protein Expression Changes in Prostate Cancer Cells</i>
2:30 Oral	Miss Lara Westwood - University of Sydney - <i>Quantum Dot Nanomedicine Formulations Dramatically Improve Pharmacological Properties and Alter Uptake Pathways of Metformin and Nicotinamide Mononucleotide in Aging Mice</i>	Mr Hien Tran - UNSW Sydney - <i>Photocrosslinked Silk Hydrogels for Biomedical Applications: Understanding Complex Gelation Mechanisms</i>	Miss Qianyi Zhang - UNSW Sydney - <i>Cell-Derived Biomimetic 2D Nanoparticles to Improve Cell-Specific Targeting and Tissue Penetration for Enhanced Magnetic Resonance Imaging</i>
2:50	AFTERNOON TEA		
SESSION	DRUG DELIVERY	SENSORS & IMAGING	TISSUE ENGINEERING & ORGANOID TECHNOLOGY
Chair	Dr Changkui Fu	Dr Ying Zhu	Dr Wenqian Wang
Room	Tyree Room @Scientia	Gallery 1 @Scientia	Gallery 2 @Scientia
3:20 Oral	Miss Yingzhu Zhou - UNSW Sydney - <i>Tunable Gasotransmitter Generation and Delivery using Nanozymes</i>	Miss Yixin Chang - University of Queensland - <i>Low-fouling Gold Nanorods Enabled by Sulfoxide Polymer Coating</i>	Mr Gagan Jalandhra - UNSW Sydney - <i>Bone-Cartilage Interfaces via Printing of Ceramic Ink in Stem Cell-Laden Microgel Suspensions</i>
3:40 Oral	Mr Zijie Luo - UNSW Sydney - <i>Tunable Nitric Oxide Delivery by Nanomaterials and Polymers</i>	Miss Yuan Gao - UNSW Sydney - <i>Inkjet Printing of Polydiacetylene Quick Response Codes on Packaging for Food Spoilage Detection</i>	Ms Maria Ai Kristine Tolentino - UNSW Sydney - <i>Cell Migration in Well-Defined 3D Biomimetic Extracellular Matrices</i>
4:00 Oral	Mr Mohammad Abdallah - Monash University - <i>An α-Terminal Lipid Dictates Hitchhiking on Endogenous Lipid Trafficking Pathways, Influencing the Lymph Uptake, Plasma Half-Life and Tissue Distribution of Brush PEG Polymers</i>	Miss Qingqing Fan - UNSW Sydney - <i>Colorimetric Detection of a Neurodegenerative Biomarker Using a Metal-Organic Framework-based Nanozyme</i>	Miss Ashley Nguyen - UNSW Sydney - <i>Design and Development of Novel Peptide Hydrogels as Biomimetic Organoid Matrices</i>
4:30	CLOSING CEREMONY & ORAL PRIZES ANNOUNCEMENT & PRESENTATION - Tyree Room @Scientia		



an Open Access Journal by MDPI







Editor-in-Chief

Prof. Dr. Yvonne Perrie
University of Strathclyde, UK

Aims and Scope

Pharmaceutics (ISSN 1999-4923) is an open access journal which provides an advanced forum for the science and technology of pharmaceutics and biopharmaceutics. It publishes reviews, regular research papers, communications, and short notes. Covered topics include pharmaceutical formulation, process development, drug delivery, and interdisciplinary research involving, but not limited to, engineering, biomedical sciences, and cell biology.

Author Benefits




-  **Open Access** Unlimited and free access for readers
-  **No Copyright Constraints**
-  **Coverage by Leading Indexing Services** SCIE-Science Citation Index Expanded (Clarivate Analytics), PubMed and Scopus
-  **Thorough Peer-Review**
-  **Fast Publication upon Acceptance** The median time from submission to first decision is approximately 16.6 days; acceptance to publication is undertaken in 3.8 days (median values in the second half of 2021)
-  **No Space Constraints, No Extra Space or Color Charges**



www.mdpi.com



Pharmaceutics Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel
Switzerland

Tel: +41 61 683 77 34
 pharmaceutics@mdpi.com
 www.mdpi.com/journal/pharmaceutics
 @MDPIpharma



Tyree Foundation Institute of Health Engineering

Connecting unmet needs with co-designed innovations

Membership to Tyree IHealthE is free and offers an opportunity to **join a community of researchers, clinicians and research students, with a shared vision to transform healthcare through innovation.** Our interdisciplinary approach will ensure that you have opportunities to connect with researchers and clinicians across all faculties of UNSW, medical research institutes, local health districts, and our external partners.



Scan here to explore all of the ways to get involved.



www.ihealththe.unsw.edu.au



@TyreeIHealthE



IHealthE@unsw.edu.au



UNSW
RNA Institute



Priority health areas

- 1 COVID-19 – infection treatment and vaccines for current and future variants
- 2 Cancer – focus on hard-to-treat cancers in children
- 3 Rare and genetic disorders in children

Professor Pall Thordarson, expert in nanomedicine and synthetic chemistry, is Director of the UNSW RNA Institute and leads the collaborative NSW RNA Bioscience Alliance.



RNA for a more resilient future

UNSW Sydney is leading a new \$25 million institute that will establish Australia's first RNA-based manufacturing hub. **The UNSW RNA Institute** applies cross-disciplinary research expertise to develop RNA technologies and therapies that will not only combat current and future pandemics, but also treat cancer, genetic and autoimmune diseases.

The mRNA vaccine is one of the few positives to emerge from COVID-19 but it's just the tip of the iceberg. RNA therapeutics are revolutionising medicine and RNA will form the foundation for many advancements in biotechnology.

The UNSW RNA Institute is part of the NSW RNA Bioscience Alliance, a partnership across all universities in NSW and ACT, and the NSW

Government-funded \$15 million NSW RNA Production and Research Network. Together, we're building a world-leading manufacturing capability in NSW that will yield jobs, skills, and innovation in an industry with the potential to transform lives.

The UNSW RNA Institute is open for business and has initiated collaboration with several companies and research institutes. The Institute can work with you to advance RNA therapeutics through scale-up, production and quality control of RNA (mRNA, siRNA, gRNA, etc.) and nanoparticle delivery systems, as well as compiling the ideal cross-disciplinary team of scientists, medical experts and engineers to advance your deep tech R&D program.


> Join our RNA ecosystem: unswrna.institute

Tackling real-world challenges



UNSW
SYDNEY

School of Chemistry

chemistry.unsw.edu.au  UNSWChemistry



Mark Wainwright Analytical Centre

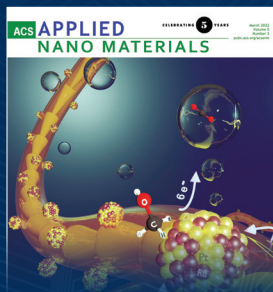
The Mark Wainwright Analytical Centre at UNSW is a proud sponsor of the International Nanomedicine Conference.

Through our sponsorship we will be rewarding the best oral presentation for Early Career Researchers and PhD Students.

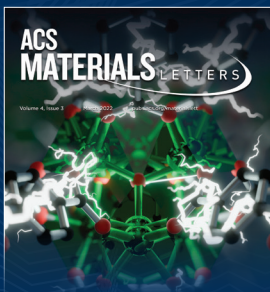
At MWAC we work with you to ensure the best outcomes for your research. Our centrally-managed facilities house major advanced instrumentation for the study of the structure and composition of biological, chemical and physical materials. This includes many of the key microscopy, spectroscopy, imaging and analytical techniques underpinning research in Nanomedicine. Our expert staff provide advice, training, support and collaboration to researchers from within UNSW and from external organisations.

www.analytical.unsw.edu.au

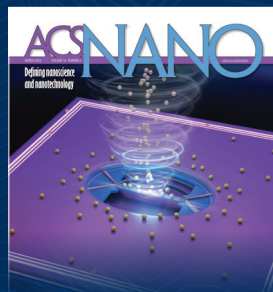
ADVANCING NANOSCIENCE AND NANOTECHNOLOGY



pubs.acs.org/acsanm



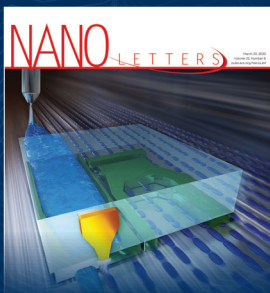
pubs.acs.org/matlett



pubs.acs.org/acsnano



pubs.acs.org/acssensors



pubs.acs.org/nanolett

 @ACSPublications

pubs.acs.org



ACS Publications
Most Trusted. Most Cited. Most Read.



AXT

Bioprinting

& Tissue Engineering Solutions



axt.com.au

AXT represents world leading Bioprinting suppliers



REGEN+U



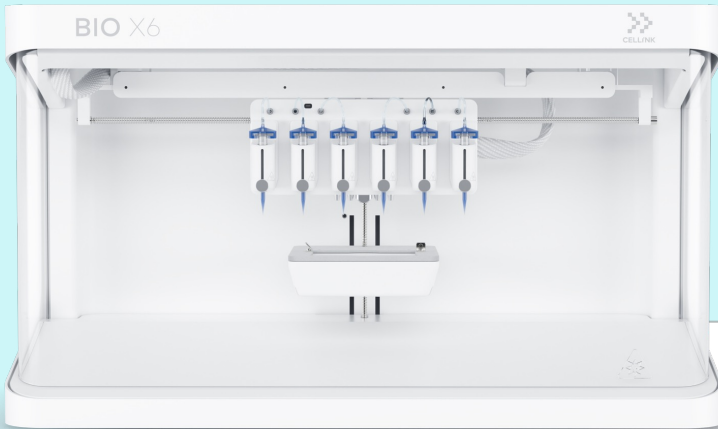
BIONOVA X

Lighting up high resolution
High throughput 3D
bioprinting

The ultimate DLP based 3D bioprinter!
Patented continuous printing mechanism
Print directly in multi well-plates
with cell laden hydrogels



BIO X6 Enabling **high-throughput 3D cell culturing and biofabrication** to create the future of health.



Find us at UNSW Sydney
27th-29th June

CELLINK 
A BICO COMPANY

SPONSORS



Accelerate all stages of nanomedicine development from discovery to manufacturing.

For over 30 years ATA Scientific continues to provide a range of specialised analytical instruments focused in the areas of Particle, Material, Biomolecular Science and SEM/Imaging. Our innovative products are backed with ongoing support including applications assistance, training and after sale service to ensure long term maximum results.


Instruments include:

- NanoAssemblr Ignite, enables the rapid, reproducible, and scalable manufacture of nanoparticles such as LNPs to encapsulate RNA. Accelerates nanomedicine formulation by enabling all scales of development through one single mixing element — from formulation to full GMP.
- Phasefocus Liveocyte, enables label-free live cell imaging for the study phenotypic and kinetic behaviour of individual cells and cell populations over hours or days.
- Malvern NanoSight, with Nanoparticle Tracking Analysis to count, size and visualise nanoparticles
- Malvern Zetasizer Ultra builds on the legacy of the industry-leading Zetasizer Nano adding high-resolution sizing (Multi-Angle Dynamic Light Scattering) and particle concentration capabilities.
- Phenom Scanning Electron Microscope (SEM), superfast, easy to use desktop high resolution imaging with element ID.
- RedShift Bio AQS³Pro, powered by Microfluidic Modulation spectroscopy (MMS) measures Aggregation, Quantitation, Stability, Similarity and Structure in a single analysis.

www.atascientific.com.au



pharmaceutics

an open access journal by 

Pharmaceutics is an academic open access journal published by MDPI. It provides an interdisciplinary forum for publications which advance the fields of (i) pharmaceutical engineering, (ii) formulation and dosage form

design, (iii) drug delivery and related biotechnology, and (iv) biopharmaceutics. The journal aims to serve the community and to provide cutting-edge content for their research. Pharmaceutics is indexed by SCIE (IF 6.321, ranks 29/276 (Q1) in the category of Pharmacology & Pharmacy), PubMed and Scopus; it also is a member of DOAJ. <http://www.mdpi.com/journal/pharmaceutics>

FB RICE



The IP
Navigators

FB Rice is a specialist intellectual property firm with a broad range of clients from local Australian start-ups to global corporations. The firm has a reputation for providing pragmatic advice based on the commercial objectives of its clients.

The firm has offices in Sydney, Melbourne, Perth and Brisbane and a dedicated network of associate firms globally. FB Rice is well known in the Australian market for its work with the CSIRO and a range of research institutes, universities and innovation hubs supporting emerging business. The firm's attorneys are keen advocates of the importance intellectual property plays in encouraging innovation and are known for intellectual property strategies with high commercial impact.

The firm provides advice on patent and trademark prosecution, as well as opposition and international filing strategies. All advice is provided within the context of our clients' corporate strategies and adapted accordingly. Technical areas covered include, but are not limited to, biotechnology, pharmaceuticals, medical devices, information technology and engineering. The firm has grown rapidly in recent years, developing expertise in emerging technologies and adapting to changes in intellectual property management across the globe.

fbrice.com.au



School of Chemistry

The School of Chemistry at UNSW is a leading centre for both teaching and research excellence in Chemistry in Australia – developing cutting edge chemical knowledge to solve real-world problems.

The School teaches more than 2000 undergraduate students each year from many different faculties, and offers four different undergraduate programs leading to majors in chemistry. At any one time, there are more than 140 higher degree research students undertaking research projects towards PhD and Masters degrees in the School.

The School has more than 20 research groups with major programs in Health, Energy, Advanced Materials, Sustainability as well programs to understand fundamental molecular properties.

chemistry.unsw.edu.au

SPONSORS



Tyree Foundation Institute of Health Engineering | Connecting unmet needs with co-designed innovations. Tyree IHealthE supports innovative projects to ensure that clinician, and patient needs, remain at the core of health technology

solutions. Harnessing the considerable capabilities of UNSW Engineering and UNSW Medicine and Health, Tyree IHealthE fosters interdisciplinary research that brings key players together in a collaborative environment. Research activities, and education programs have been developed across the four research pillars of: Connected Health, Image Analytics, Translational Biomechanics, and Bionics and Bio-robotics.

Join the Tyree IHealthE community and get access to member benefits including mentorship, access to seed funding, events, and other opportunities. Membership is free and it's easy to join.

Email address: IHealthE@unsw.edu.au

Website: www.ihealththe.unsw.edu.au

Twitter: [@TyreeIHealthE](https://twitter.com/TyreeIHealthE)



UNSW
RNA Institute

The UNSW RNA Institute is Australia's leading RNA science, therapeutics and translational facility. Established with a \$25 million investment from UNSW Sydney as part of a NSW RNA Bioscience Alliance, a partnership across all universities in NSW and ACT, and the NSW Government-funded \$15 million NSW RNA Production and Research Network. Together, we're building a world-leading manufacturing capability in NSW that will yield jobs, skills, and innovation in an industry with the potential to transform lives.

The UNSW RNA Institute is open for business and has initiated collaboration with several companies and research institutes. The Institute can work with you to advance RNA therapeutics through scale-up, production and quality control of RNA (mRNA, siRNA, gRNA, etc.) and nanoparticle delivery systems, as well as compiling the ideal cross-disciplinary team of scientists, medical experts and engineers to advance your deep tech R&D program.

> Join our RNA ecosystem: unswrna.institute

CELLINK

A BICO COMPANY

the synergies of its premier companies in engineering, robotics, artificial intelligence, advanced genomics and bioprinting to create the future of health.

BICO envisions a future that ensures bioprinted organ transplants are obtainable, cultivated human tissues replace animal testing, every patient can get personalized medicine, drug development is faster and less expensive, easy-to-access diagnostics prevent pandemics.

Our best-in-class bioinks, bioprinters, software and services are being used by the foremost academics and R&D labs and have enabled critical breakthroughs in a wide range of applications from 3D cell culturing to tissue engineering to drug development.

CELLINK is dedicated to taking the on-demand biofabrication of human organs and tissues to the next level, in line with BICO's vision to leverage bioconvergence in the life sciences and create the future of health.

<https://www.cellink.com/>

Mark Wainwright Analytical Centre

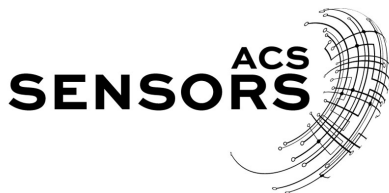


The Mark Wainwright Analytical Centre at UNSW is part of the Division of Research and Enterprise. It houses major centrally-managed instrumentation and provide research advice, support, training and collaboration for UNSW and external researchers. Key techniques of direct interest to Nanomedicine researchers include: Fluorescence microscopy, including confocal, FLIM, lightsheet, super resolution and multi-photon imaging || Histology, 2 and 3D culture

laboratories || Correlative Light and Electron Microscopy || Electron microscopy including cryo-electron microscopy, atomic resolution AC-TEM and in situ analysis || Mass spectrometry, including proteomics, metabolomics, lipidomics and quantitative small molecule LC-MS and GC-MS || Pre-clinical imaging, including PET-CT, MRI, Magnetic Particle Imaging, focused ultrasound, and optical imaging. || Flow cytometry || X-ray diffraction || Surface analysis and bulk elemental analysis || Infra-red and Raman microscopy || Circular Dichroism || NMR spectroscopy, including high throughput for metabolomics || Computational biology || Statistics Consulting

www.analytical.unsw.edu.au

SPONSORS



ACS Sensors is a peer-reviewed research journal that is devoted to the dissemination of new and original knowledge on all aspects of sensor science that selectively sense chemical or biological species or processes.

Editor-in-Chief: J. Justin Gooding, University of New South Wales

Impact Factor 2020: 7.711

Total Citations 2020: 9,997

CiteScore 2020: 10.3

Learn more, read our latest issue, and submit your manuscript: pubs.acs.org/acssensors



ACS Nano is an international forum for the communication of comprehensive articles on nanoscience and nanotechnology research at the interfaces of chemistry, biology, materials science, physics, and engineering. Moreover, the journal helps facilitate communication among scientists from these research communities in developing new research opportunities, advancing the field through new discoveries, and reaching out to scientists at all levels.

Editor-in-Chief: Xiaodong Chen, Nanyang Technological University

Impact Factor 2020: 15.881

Total Citations 2020: 195,525

CiteScore 2020: 23.5

Learn more, read our latest issue, and submit your manuscript: pubs.acs.org/acsnano



ACS Materials Letters publishes high quality and urgent papers on the forefront of fundamental and applied research, at the interface between materials and other disciplines, such as chemistry, engineering and biology.

Papers that showcase multidisciplinary and

innovative materials research addressing global challenges are especially welcome. Submissions to ACS Materials Letters should clearly justify the need for rapid disclosure of key results.

Editor-in-Chief: Sara E. Skrabalak, Indiana University – Bloomington

Deputy Editor: Bin Liu, National University of Singapore

Impact Factor 2020: 8.312

Total Citations 2020: 1,188

CiteScore 2020: 2.9

Learn more, read our latest issue, and submit your manuscript: pubs.acs.org/matlett



ACS Applied Nano Materials is an interdisciplinary journal publishing original research covering all aspects of engineering, chemistry,

physics and biology relevant to applications of nanomaterials. The journal is devoted to reports of new and original experimental and theoretical research of an applied nature that integrate knowledge in the areas of materials, engineering, physics, bioscience, and chemistry into important applications of nanomaterials.

Editor-in-Chief: Kirk S. Schanze, University of Texas at San Antonio

Deputy Editor: T. Randall Lee, University of Houston

Impact Factor 2020: 5.097

Total Citations 2020: 9,727

CiteScore 2020: 4.6

Learn more, read our latest issue, and submit your manuscript: pubs.acs.org/acsanm



Nano Letters is a forum for reporting original results on fundamental, applied, and emerging research in all areas of nanoscience and nanotechnology that require rapid dissemination.

Editor-in-Chief: Teri W. Odom, Northwestern University

Impact Factor 2020: 11.189

Total Citations 2020: 177,909

CiteScore 2020: 19.3

Learn more, read our latest issue, and submit your manuscript: pubs.acs.org/nanolett



AXT Bioprinting and Tissue Engineering Solutions

AXT has a diverse portfolio of 3D printers and bioprinters for the fabrication of cellular and acellular structures. Utilising various printing technologies, our solutions print a variety of materials from single cells to complex structures ranging from microns to tens of millimetres, with sub-micron resolution, achieving cell viabilities >95%.

Sourced from leading suppliers around the world, AXT can provide solutions from:

- Poietis – Producing human tissues organoids using 4D bioprinting
- Regenhu – Versatile and fully customisable laser-assisted bioprinting platforms
- Fluicell – Specialising in single cell bioprinting with microfluidic technology
- Upnano – Microfabrication with unprecedented speed and resolution using 2PP
- Boston Micro Fabrication – Micro-precision 3D printers utilising Projection Micro Stereolithography (PμSL)

These technologies are all supported by our complementary cell biology, organ-on-a-chip and preclinical imaging product lines.

For more information, please visit www.axt.com.au, email info@axt.com.au or call 02 9450 1359.



UNSW
Australian Centre
for NanoMedicine

Join us next year for the
13th International NanoMedicine Conference

21 - 23rd June 2023
Sydney, Australia

www.oznanomed.org

