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Committee and Support Staff

Local Organising Committee

Michael Fuhrer (Chair), FLEET Director, Monash University
Dan Li (Chair), University of Melbourne
Qiaoliang Bao (Co-Chair), Monash University
Min Gu (Co-Chair), RMIT University
Tich-Lam Nguyen (Conference Secretariat), Chief Operating Officer, FLEET

Topic Chairs

1. Controllable synthesis, characterisation and modelling of 2D materials & structures

Torben Daeneke, RMIT University
Wencai Ren, Chinese Academy of Sciences
Yanfeng Zhang, Peking University
Yi Du, University of Wollongong

2. Physical properties (electronic, optical, thermal and magnetic properties, etc.) of 2D materials (graphene, TMDCs, black phosphorous, topological insulators, perovskites, MXenes, etc.)

Antonija Grubisic-Cabo, Monash University
Bent Weber, Nanyang Technological University Singapore
Lan Wang, RMIT University
Jeff Davis, Swinburne University of Technology
Semonti Bhattacharyya, Monash University

3. Chemistry of 2D materials and applications (energy, environment, catalysis, bio-medical, etc.)

Jie Zhang, Monash University
Xiaowei Yang, Tongji University
Zongyou Yin, Australian National University
Xiaoqiang Cui, Jilin University

4. Device application in electronics, photonics and optoelectronics

Francesca Iacopi, University of Technology Sydney
LeiLiao, Hunan University
Yuerui Lu, Australian National University
Jun He, National Centre for Nanoscience and Technology
Barbaros Ozyilmaz, National University of Singapore

Conference Office

WALDRONSMITH Management

119 Buckhurst Street
South Melbourne VIC 3205
Australia
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F +61 3 9645 6322
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Welcome

First time in Australia, the **4th International Conference on 2D Materials and Technologies (ICON-2DMAT 2018)** is a great opportunity for Australian and international scientists to discuss latest progress in two-dimensional materials research and their applications.

This 4th meeting reflects the rapidly growing field of 2D materials, covering graphene, transition metal dichalcogenides, black phosphorus, topological insulators, perovskites, MX3 and other new forms of 2D materials. We also look forward to hearing recent developments of 2D materials in electronics, photonics, optoelectronics, catalysis, bio-medical, environmental and energy applications.

Through the success of previous 2017 meeting in Singapore, ICON-2DMat 2018 expects the participation of approximately 300 scientists working on developing 2D materials and technologies for optoelectronics, energy, biomedical and environmental applications.

The conference offers your organisation a valuable opportunity for one-to-one interaction with scientists from around the world. We welcome your participation at this important conference and we do hope you'll join us.

Kind regards,

Conference Chairs



MICHAEL FUHRER
Co-Chair
Monash University



DAN LI
Co-Chair
University of Melbourne



QIAOLIANG BAO
Co-Chair
Monash University



MIN GU
Co-Chair
RMIT University

Host City

Melbourne is a lively, sophisticated city packed with shops, restaurants, bars and cafes in wide, leafy boulevards and tiny, atmospheric laneways that beckon to be explored. Despite its temperate climate, safe streets, cosmopolitan lifestyle and beautiful setting, locals remain low-key about their city. They know that Melbourne is Australia's undisputed event, sport, culture and food capital; a city with a European approach to style and a lifestyle that puts it in the fast lane. It's a sophisticated mix of style, warmth and Australian informality and you won't find it in any other place. This city practically breathes the good life. Believe it. When you see it – you'll think the world of Melbourne.

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Crown Metropol
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Southbank
T: + 61 3 9292 8888

Crown Promenade
8 Whiteman Street
Southbank
T: + 61 3 9292 8888

Crowne Plaza Melbourne
1-5 Spencer Street
Melbourne
T: + 61 3 9648 2777

Novotel South Wharf
7 Convention Centre Place
South Wharf
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Pan Pacific South Wharf
2 Convention Centre Place
South Wharf
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Travelodge Southbank
9 Riverside Quay
Southbank
T: + 61 3 8696 9600

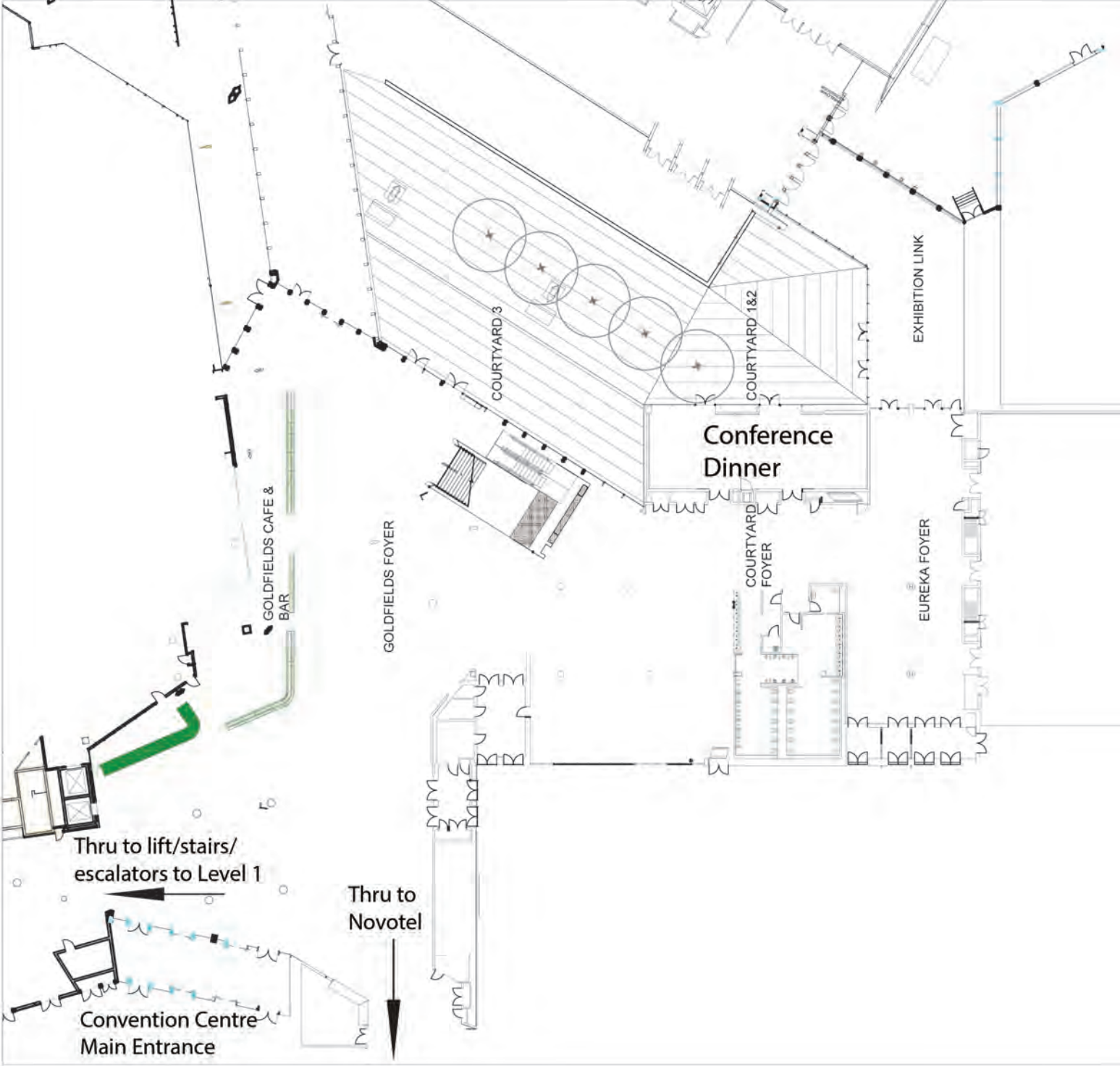
Conference Venue

Melbourne Convention and Exhibition Centre
1 Convention Centre Place
South Wharf VIC 3006
T +61 3 9235 8000

The Melbourne Convention and Exhibition centre is Australia's largest and most versatile convention and exhibition facility. It is located on the south bank of the Yarra River and is just a 20 minute walk from the city centre. It is surrounded by cafés, bars and restaurants and has close access to a number of accommodation venues.

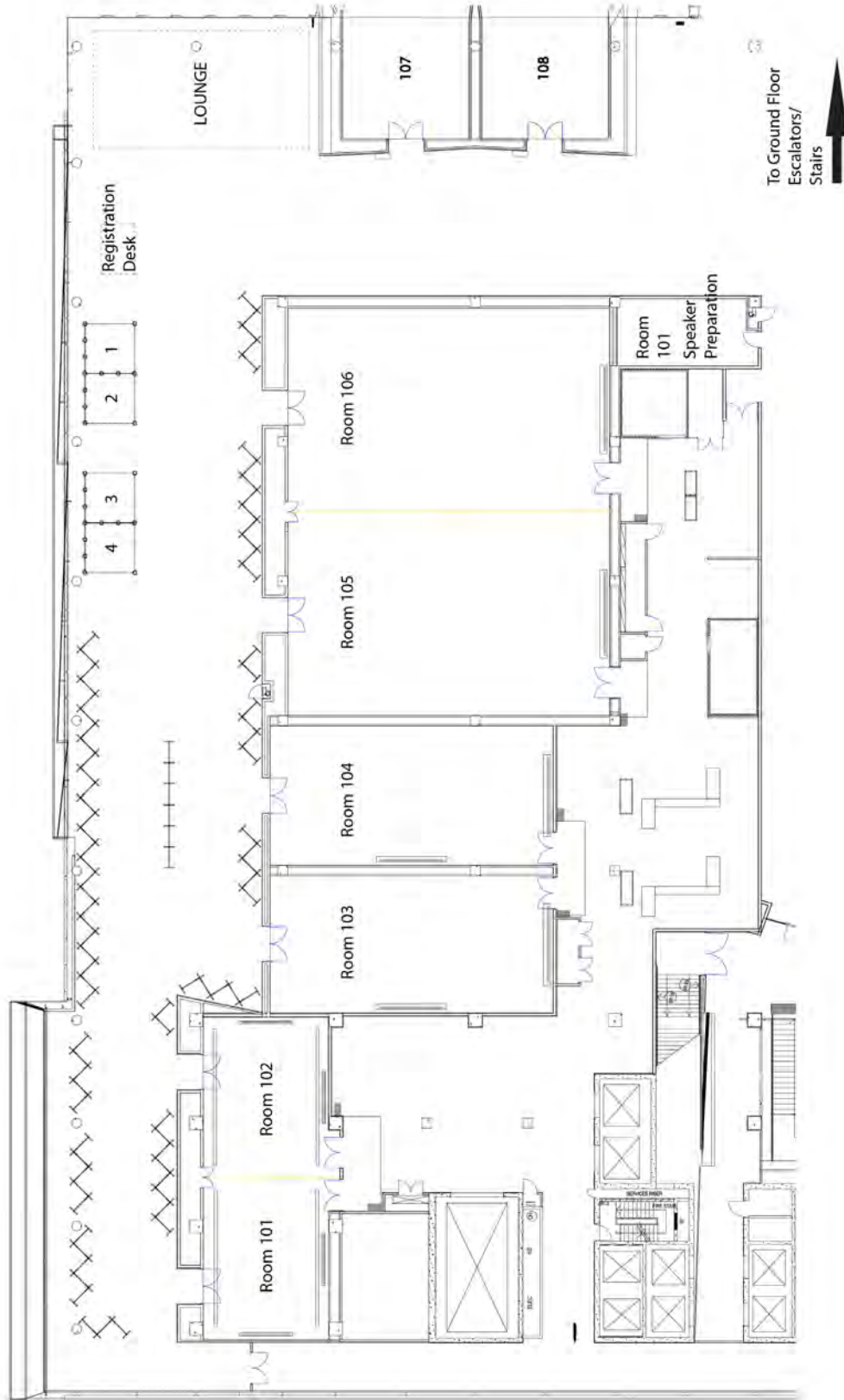


Floor Plan - Ground Floor



Floor Plan - Symposia Rooms

Yarra River



General Information

Childcare

Childcare has been arranged for the Conference but needed to be pre-booked before arriving onsite. Childcare facilities will be held in Rooms 101&102. Childcare is being provided by Crechendo.

Climate

Melbourne has the reputation that its weather can sometimes be a little unpredictable. December heralds the beginning of summer in Melbourne, with the daily temperature averaging 24°C (75°F). For more information, we recommend you check the Bureau of Meteorology website before travelling (www.bom.gov.au).

Daily Catering

Daily morning and afternoon teas, and lunches will be served in the Level 1 Foyer of the Melbourne Convention and Exhibition Centre.

Delegate List

A copy of the delegate list has been emailed to delegates prior to the Conference in the pre-arrival letter. The delegate list contains the name, organisation, state and country of registered delegates, speakers, supporters and exhibitors. Delegates will not appear on the list if they have elected to withhold their information.

Dietary Requirements

Every effort has been made to cater for delegates who have specified dietary requirements at the time of registering. Please make yourself known to a venue staff member at catering times and functions in order to obtain your meal. If you did not provide this information at the time of registering, please advise the staff at the Registration and Information Desk immediately.

Disclaimer

The ICON-2DMat 2018 Organising Committee including the Conference organisers will not accept liability for damages of any nature sustained by participants or their accompanying persons, for loss or damage to their personal property as a result of the ICON-2DMat 2018 Conference and exhibition or related events.

Insurance

Delegates are strongly advised to secure appropriate travel and health insurance. Delegate registration fees do not provide any such insurance coverage. The Organising Committee and the Conference Office accept no responsibility for any loss in this regard.

Internet Access (WiFi)

Internet access is free to all delegates at the Melbourne Convention and Exhibition Centre.

Language

The official language of the Symposium is English.

Name Badge and Lanyard

All delegates will receive a name badge upon registration. This badge is the official pass for the Conference and must be worn to obtain entry to all sessions and social functions.

Privacy Statement

Information requested and provided on the Conference online forms will be used to administer the Conference including accommodation, catering, transport and sponsorship. Data obtained will remain the property of WALDRONSMITH Management and the ICON-2DMat 2018 Conference. For more information on our privacy policy, please visit www.waldronsmith.com.au.

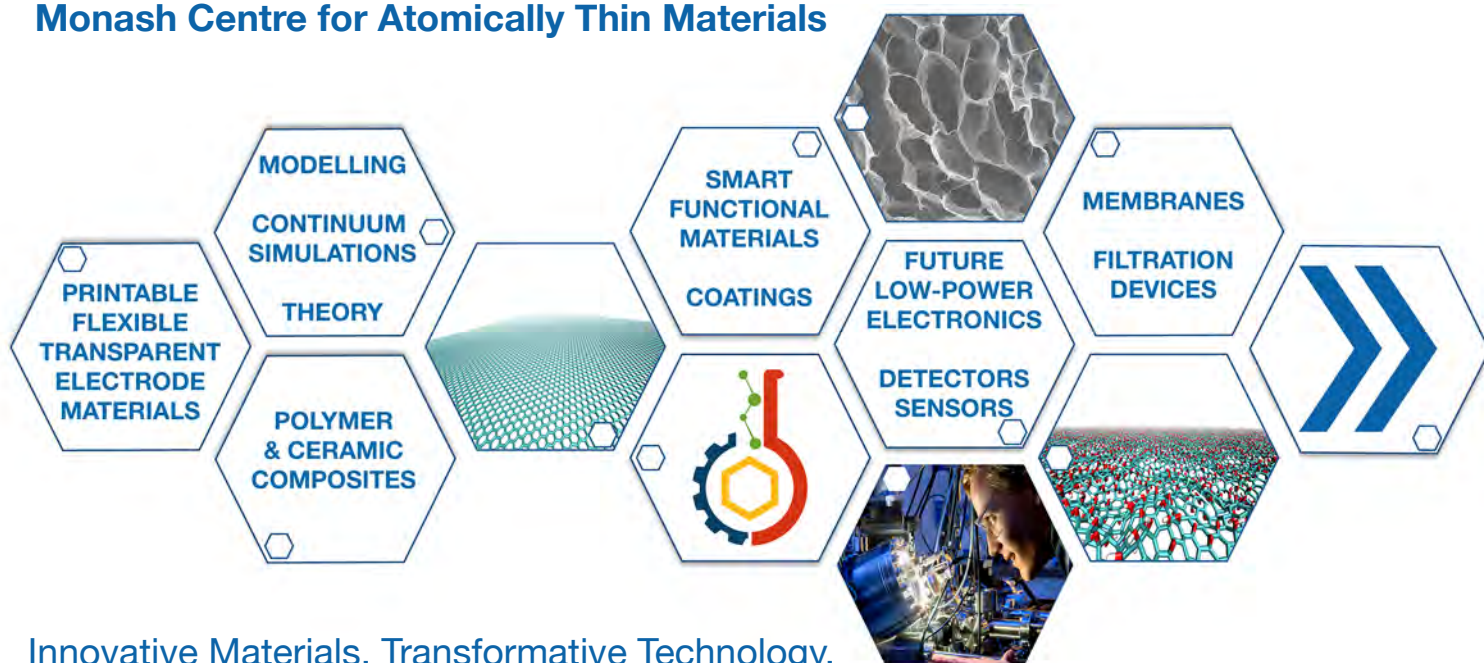
Time Zone

Melbourne is on Australian Eastern Standard Time: UTC/GMT +11 hours.

Useful Telephone Numbers

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Jetstar	13 15 38	www.jetstar.com
Qantas	13 13 13	www.qantas.com.au
Tiger Air	1300 174 266	www.tigerairways.com.au
Virgin Australia	13 67 89	www.virginaustralia.com
Car Hire		
Avis	13 63 33	www.avis.com.au
Budget	13 27 27	www.budget.com.au
Europcar	1300 13 13 90	www.europcar.com.au
Hertz	13 30 39	www.hertz.com.au
Redspot	1300 66 88 10	www.redspot.com.au
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OUR CAPABILITIES

26 high profile research groups from **6** schools and departments in **2** faculties: Science and Engineering.

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- Condensed matter and topological phases
- Microscopy and Spectroscopy characterisations
- Polymer processing facilities
- Atomistic simulation & high performing computing.

ENGAGE WITH US

We welcome collaboration with research institutions and industries world-wide. Engagement opportunities include:

- Co-develop, incubate and accelerate next generation two-dimensional materials-based technologies
- R & D project collaboration
- Technology licensing and commercialisation
- Leverage for external funding sources
- Access cutting-edge research facilities.

mcاتم@monash.edu

CRICOS provider: Monash University 00008C

An international hub for research excellence in atomically thin materials.

Social Functions

Welcome Function

Date: Monday 10 December 2018
Time: 1700 - 1900
Venue: Level 1 Foyer, Melbourne Convention and Exhibition Centre
Dress: Business attire
Included in Full Conference Registrations. Additional tickets can be purchased for \$30 per person.

Poster Session Tuesday

Date: Tuesday 11 December 2018
Time: 1720 - 1830
Venue: Level 1 Foyer, Melbourne Convention and Exhibition Centre
Dress: Business attire
Included in Full Conference Registrations and Tuesday (Day) Registrations. Additional tickets not available.

Poster Session Wednesday

Date: Wednesday 12 December 2018
Time: 1720 - 1830
Venue: Level 1 Foyer, Melbourne Convention and Exhibition Centre
Dress: Business attire
Included in Full Conference Registrations and Wednesday (Day) Registrations. Additional tickets not available.

Conference Dinner

Date: Wednesday 12 December 2018
Time: 1830 - 2200
Venue: Courtyard, Melbourne Convention and Exhibition Centre
Dress: Business attire
Additional to Registration Fee. Delegate tickets can be purchased for \$100 per person and guest tickets for \$120 per person.



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As a subsidiary of Visit Victoria, Melbourne Convention Bureau (MCB) leads the acquisition and delivery of national and global business events for Melbourne and regional Victoria. This is achieved through partnering with the Victorian State Government, City of Melbourne, Melbourne Convention and Exhibition Centre, and over 250 private enterprise partners.

MCB secures and delivers business events for Melbourne with teams dedicated to business development, bidding and sales, convention servicing, marketing, and partnerships.

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|| APPLICATIONS

- OCT
- Fluorescence Spectroscopy&Microscopy
- STED/Super-Resolution Imaging
- Flow Cytometry
- Photoacoustic Microscopy
- Nanophotonics

|| FEATURES

- Total Power **>20W**
- External Triggerable **1-80MHz**
- Wavelength **430-2400nm**
- Internal Repetition Rate **0.01-200MHz**
- Pulse Energy **>1.5uJ**
- Single-Mode Output

20W
Supercontinuum
Source



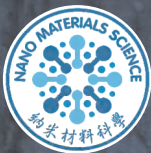
100W
Femtosecond
Fiber Laser

|| APPLICATIONS

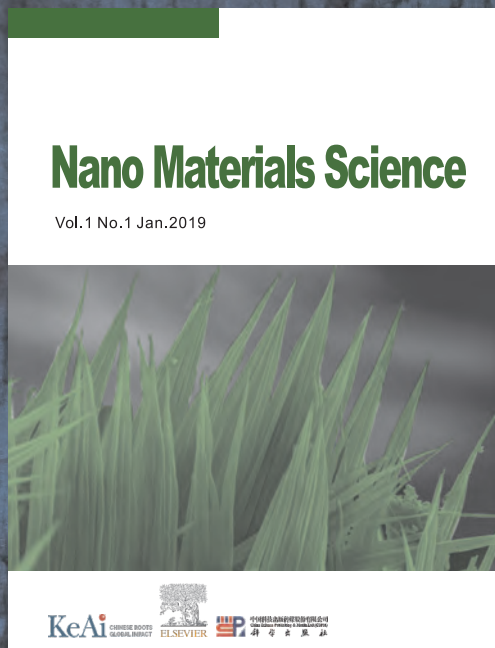
- OLED Dicing
- Full Screen Dicing
- Sapphire Drilling&Dicing
- Glass Drilling&Dicing
- Thin Metal Drilling&Dicing
- FPC Drilling&Dicing

|| FEATURES

- Average Power **100W**
- Pulse Duration **~300fs-10ps**
- Peak Power **>500MW**
- Repetition Rate **25-5000KHz**
- Pulse Energy **>200uJ**
- $M^2 < 1.3$



Nano Materials Science



Nano Materials Science is a peer-reviewed, international and interdisciplinary research journal that focuses on nanometer material science and nanometer devices.

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Prof. Jian Lu
City University of Hong Kong

Associate Editors

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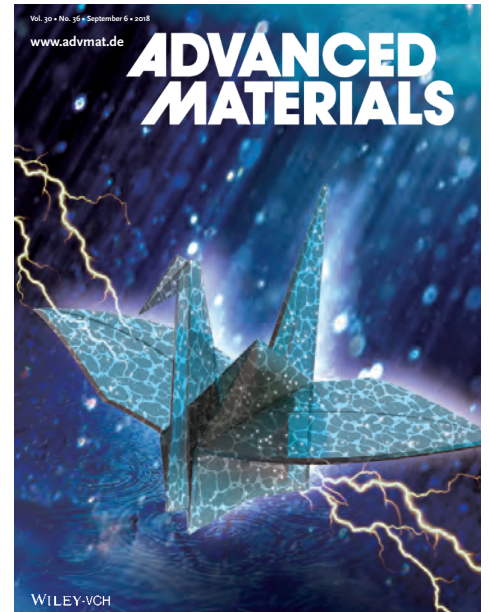
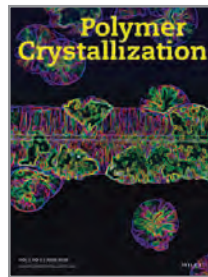
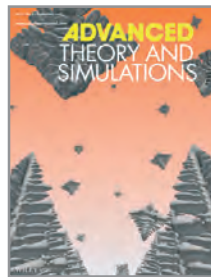
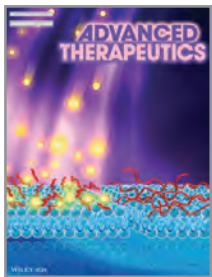
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ANFF-VIC is home to the ISO 9001 certified Melbourne Centre for Nanofabrication (MCN), one of the largest open-access cleanroom facilities in the southern hemisphere.

The network also comprises capabilities at the CSIRO, Deakin University, La Trobe University, Monash University, RMIT, Swinburne University of Technology, and the University of Melbourne.

The Melbourne Centre for Nanofabrication
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Plenary Speakers



Professor Chun Ning Lau
The Ohio State University, USA

Prof Chun Ning (Jeanie) Lau received her PhD in 2001 at Harvard University. She was a research associate at Hewlett Packard Labs in Palo Alto from 2002 to 2004, before joining the University of California, Riverside in 2004 as an Assistant Professor. She was promoted to Associate Professor in 2009 and full Professor in 2012. Since January 2017 she joined The Ohio State University as a Professor of Physics.

Her research interests include exploring the novel phenomena in materials, systems and devices on the nanometer length scale with the goal to understand and exploit such phenomena that arise from quantum confinement of atoms and molecules to reduced dimensions. She is currently working on low-dimensional materials, graphene, black phosphorus and other heterostructures for new classes of electronic and electromechanical devices. Bio and image courtesy of OSU.



Professor Gordon Wallace
University of Wollongong, Australia

Prof Gordon Wallace's research interests include new materials and additive fabrication. The use of materials in creating innovative approaches to current challenges in energy and health are areas of particular interest. With more than 800 refereed publications, he has attracted some 30,000 citations and has a h-index of 75. He has supervised more than 100 PhD students to completion at the Intelligent Polymer Research Institute and currently co-supervisors 30 PhD students.

Professor Wallace was appointed an Officer of the Order of Australia and served as Wollongong's Australia Day ambassador in 2017. He was appointed to the Prime Ministers Knowledge Nation 100 in 2015. Professor Wallace is a Fellow of the Australian Academy of Science, Australian Academy of Technological Sciences and Engineering (ATSE), Institute of Physics, and Royal Australian Chemical Institute (RACI). Bio and images courtesy of University of Wollongong.



Professor Huili Grace Xing
Cornell University, USA

Prof Grace Xing's research interests include GaN based devices, II-VI nanowire (such as InGaN) enabled devices, as well as 2D crystal materials and devices. She is currently investigating van der Waals epitaxy, carrier electrostatics and transport, optoelectronic responses, p-n junctions and heterostructures, field modulation and tunnelling, metamaterials and THz applications graphene physics and devices.

Her research group has pioneered design, fabrication and characterisation of III-V TFETs, with current focus on 2D-crystal based steep slope transistors: the Thin-TFETs, tunnelling field effect transistors for high efficiency logic electronics.

Prof Xing obtained her PhD from the University of California, Santa Barbara. She moved to Cornell in 2015 after 10 years serving as a faculty at the University of Notre Dame. Bio and image courtesy of Cornell University.



Professor James Hone
Columbia University, USA

PI Prof James Hone directs the US NSF-funded Center for Precision Assembly of Superstratic and Superatomic Solids (PAS3) at Columbia University, and he coordinates collaboration between PAS3 and FLEET. Hone brings with him his expertise in assembling the highest quality heterostructures of 2D materials, a field he pioneered, to bear on the necessary device structures for indirect-exciton and exciton-polariton condensation in atomically thin materials, advancing FLEET's Enabling Technology Theme B.



Professor Hui-Ming Cheng
Institute of Metal Research, Chinese Academy of Sciences, China

Prof Hui-Ming Cheng is Professor and Director of Advanced Carbon Research Division of Shenyang National Laboratory for Materials Science, Institute of Metal Research, the Chinese Academy of Sciences.

His research activities mainly focus on the synthesis, properties and applications of carbon nanotubes, graphene, energy storage materials, photocatalytic semiconducting materials, and high-performance bulk carbon materials. He has published over 350 peer-reviewed papers in *Nature*, *Nature Mater.*, *Nature Commun.*, *PNAS*, *Adv. Mater.*, *JACS*, *Angew. Chemie*, *Adv. Funct. Mater.*, *Adv. Energy Mater.*, *ACS Nano*, *J. Mater. Chem.*, *Carbon*, etc. Image courtesy of CAS.



Professor Lei Jiang
Prof Lei Jiang was elected as members of the Chinese Academy of Sciences and The World Academy of Sciences in 2009 and 2012. In 2016, he also elected as a foreign member of the US National Academy of Engineering. He has been recognised for his accomplishments with Humboldt Research Award (Germany, 2017), Nikkei Asia Prize (Japan, 2016), MRS Mid-Career Researcher Award (USA, 2014), National Natural Science Award (China, 2005).

He has published over 500 papers including 3 papers in *Nature*, 1 paper in *Science*, 1 paper in *Nature Nanotechnology*, 1 paper in *Nature Reviews Materials*, 2 paper in *Nature Materials*, 6 papers in *Natural Communication*, 5 papers in *Science Advance*, 3 papers in *Chem. Rev.*, 7 papers in *Chem. Soc. Rev.*, 6 papers in *Acc. Chem. Res.*, 47 papers in *Angew. Chem. Int. Ed.*, 32 papers in *J. Am. Chem. Soc.*, and 129 papers in *Adv. Mater.*, the works have been cited more than 58000 times with an H index of 119.

Editorial Panelists



Dr Jovia Jiang

Deputy Editor, Wiley

Dr Jiang obtained both her Bachelor's degree (1st Class Honors) and PhD from the School of

Materials Science and Engineering of Nanyang Technological University (NTU, Singapore). She mainly worked on nanomaterials and devices. She joined Wiley in 2013 as a peer review editor for the materials science journals. She is now Deputy Editor of *Small*, and an editor of *Advanced Materials*, *Advanced Electronic Materials*, and *Advanced Materials Technologies*.



Dr Luke Fleet

Senior Editor, Nature Research

Luke joined Nature Physics in 2014, having previously been an editor for Nature. Dr. Luke Fleet is a Senior Editor & Team Leader

at Nature. Following a PhD on semiconductor spintronics from the University of York and in collaboration with the RIEC at Tohoku University, he undertook postdoctoral research in organic electronics at Imperial College London and the London Centre for Nanotechnology. Luke joined Nature Research in 2013 as an editor at Nature Communications, before moving to Nature Physics in 2014, and then to Nature in 2017. In his role, Luke is responsible for selecting the research papers that are published in Nature across a broad range of fields, including applied physics and electronics. He also assists the Chief Editor in devising and delivering the goals for the physics, astronomy and electronics team.



Dr Esther Levy

Editor-in-Chief, Wiley

Esther Levy is Editor-in-Chief of *Advanced Materials*

Technologies and Consulting Editor for *Advanced Materials*,

Advanced Science and *Small*. She joined the *Advanced Materials* editorial team (Wiley-VCH, Germany) after completing her PhD in physical organic chemistry at Cambridge University (UK) in 1997. In January 2007, Esther relocated to Sydney to take up the position of Senior Commissioning Editor for Wiley's physical sciences book, journal and society publishing program in the Asia-Pacific region. She rejoined the *Advanced journals'* editorial team in 2011.



Dr Guilin Wang

Managing Editor, Science China Materials

Dr Guilin Wang obtained his PhD in

chemical engineering from the University of Alberta in 2011, and then undertook postdoctoral research for two years at Tsinghua University. His research interests focused on biomaterials and nanomedicine. He joined Science China Press in 2014, having previously worked as an editor for *National Science Review*. He is now Managing Editor for *Science China Materials* since its launch at the end of 2014, and is responsible for selecting research papers and the publishing processes of the journal.

Keynote Speakers



Professor Paola Barbara

Georgetown University, Washington, USA

Paola Barbara is a physics professor at Georgetown University in Washington, DC, USA. Her research interests include quantum transport and superconductivity, as well as novel nanoscale devices based on atomically thin materials, ranging from chemical sensors to detectors and sources of electromagnetic radiation

She received her M.S. degree (Laurea in Fisica) at the University of Salerno, Italy, and her Ph.D. in Physics at the Technical University of Denmark in Lyngby, Denmark. Prior to joining the faculty at Georgetown University in 2000, she worked at the Center for Superconductivity Research at the University of Maryland.



Dr Blanca Biel

University of Granada, Granada, Spain

Blanca Biel joined the University of Granada (Spain), where she is a Research Fellow at the Department of Atomic, Molecular and Nuclear Physics. Her research interests include the study of the electronic and quantum transport properties of one- and two-dimensional materials by means of combined atomistic (Density Functional Theory and tight-binding methods) and quantum transport (Non Equilibrium Green's Functions) simulation tools.

In particular, her work focuses on the impact of disorder at the atomic scale in these systems, such as atomic vacancies or dopants, and on the simulation, by first-principles methods, of the Scanning Probe Microscopy (STM and AFM) characterization of these defects.



Professor Xiangfeng Duan

University of California, Los Angeles, USA

Professor Duan received his Ph.D. degree in physical chemistry from Harvard University in 2002. He was a Founding Scientist, Principal Scientist and Manager of Advanced Technology at Nanosys Inc. from 2002 to 2008. He joined UCLA in 2008 as an Assistant Professor and became an Associate Professor in 2012 and a full Professor in 2013.

He is an Associate Editor for the journal Nano Research. He has over 300 published articles and over 30 US patents. The Duan Lab's research interests include nanoscale materials, devices and their applications in future electronics, energy technologies and biomedical science. His research focuses on rational design and synthesis of highly complex nanostructures with precisely controlled chemical composition, structural morphology and physical dimension; fundamental investigation of new chemical, optical, electronic and magnetic properties; and exploration of new technological opportunities arising in these nanoscale materials. Image and bio courtesy of UCLA.



Professor Zaiping Guo
University of Wollongong, Australia

Professor Zaiping Guo has been involved with Electrochemistry, nanotechnology and materials science since 1993 and has extensive knowledge and experience in material preparation, physical and structural characterisation and electrochemical testing and modelling. She has established a research program in nanomaterials for different applications, such as lithium ion batteries, supercapacitors, hydrogen storage and fuel cells.

She is particularly interested in ways to improve the performance and cycle life of these nanomaterials, identifying the specific physical and chemical properties that can be put to a particular practical use. Prof Guo's current h-index is 65. Bio and image courtesy of University of Wollongong.



Professor Baohua Jia
Swinburne University of Technology, Australia

Professor Baohua Jia is a research leader at Swinburne's Centre for Micro-Photonics and Program Leader for Swinburne's Manufacturing Futures Research Institute.

Her research is focused on a range of areas including laser nanofabrication of novel photonic nanostructures, investigation of functionality and nonlinear effects inside 3D photonic nanostructures, development of active photonic devices facilitated with nanoemitters and development of novel nonplasmonic devices with laser nanofabrication. She also examines the employment of nanostructures and nanomaterials for solar energy harvesting and storage research, and has recently focused her research on laser interaction with two-dimensional materials and functional devices.

Professor Jia's research findings on cutting-edge nanophotonics solar cells has been highlighted in the MIT Technology Review with more than 150 media reports worldwide. Bio and image courtesy of Swinburne.



CI Professor Kourosh Kalantar-Zadeh
University of New South Wales, Australia

CI Professor Kourosh Kalantar-Zadeh has significantly influenced many fields of engineering including two dimensional transition metal compounds, liquid metals, microfluidics, sensors, electronic devices and medical systems. He develops novel two dimensional semiconducting materials, through theory, synthesis, and characterisation.

His team also develops the fabrication techniques necessary for advanced devices, using electron and ion beam lithography and other tools for FLEET's Enabling Technology Theme B. Prof Kalantar-Zadeh is currently an ARC Laureate Fellow.



Associate Professor Changgu Lee
Sungkyunkwan University, South Korea

Associate Professor Changgu Lee joined the department of Mechanical Engineering and SKKU Advanced Institute of Nanotechnology, Suwon, Korea in 2010 after his postdoctoral appointment at Columbia University, New York, USA working with Prof James Hone. Lee completed his Ph.D. at Columbia University working on Power-MEMS for small energy generation.

His current research interest is surrounding the synthesis and nanomechanics of atomically thin materials such as graphene and transition metal dichalcogenides. Image courtesy of SKKU.



Dr Lain-Jong (Lance) Li
King Abdullah University of Science and Technology, Saudi Arabia

Dr Lain-Jong (Lance) Li now serves as a Research Director in the Corporate Research at Taiwan Semiconductor Manufacturing Company (TSMC). He received his BSc and an MSc in chemistry at National Taiwan University. After 5 years of R&D at Taiwan Semiconductor Manufacturing Company (1997-2002), he obtained his Ph.D. of condensed matter physics at Oxford University in 2006. He was an Assistant Professor in Nanyang Technological University Singapore (2006-2009). Since 2010, he has become an Associate Professor at Academia Sinica Taiwan. He joined King Abdullah University of Science and Technology in 2014 and became a full professor in 2016.

His main research interest focuses on carbon nanotubes, graphene and 2D materials for electronic and energy applications, and large-scale growth of various 2D materials.



Professor Yunqi Liu, Institute of Chemistry
Chinese Academy of Sciences, China

Professor Yunqi Liu has long been engaged in molecular materials and devices research. His group was the first use liquid copper to grow graphene and prepare nitrogen-doped graphene whose electrical property can be controlled. He developed a new method to directly grow graphene on the dielectric layer and revealed effect of interface on the device performance, developed a new solution-based processing technology, and brought about multi-functionalization of the device.

He has published more than 500 SCI papers (among which over 120 are published in journals whose impact factors are greater than 10) cited for more than 20,000 times with h factor greater than 70, and developed 67 patented inventions. Bio and image courtesy of CAS.



Professor Kian Ping Loh
National University of Singapore, Singapore

Professor Kian Ping Loh received his Ph.D. from Oxford University in 1996. He is currently leading the Carbon Convergence Technology Laboratory, one of the central facilities at the National University of Singapore developing characterisation, synthesis and processing methods for graphene and nanocarbon materials.

His group works on developing wafer scale graphene and 2-D films growth and transfer technologies, as well as large scale solution processing technologies for 2-D films and graphene, and their applications in membranes for environmental applications and energy storage. Image courtesy of NUS.



Associate Professor Jill Miwa
Aarhus University, Denmark

Associate Professor Jill Miwa received her Ph.D. in Canada and did her postdoctoral training at the Centre for Quantum Computation and Communication Technology at UNSW where she worked on the design, fabrication and characterisation of a single atom transistor.

She joined Aarhus University in 2015 as a postdoctoral researcher investigating novel two-dimensional materials by microscopy and spectroscopy techniques. She is now an Associate Professor in the Department of Physics and Astronomy, working to develop and expand research activities at the synchrotron radiation source, ASTRID2, where she will characterise quantum materials for quantum computing applications. Bio and image courtesy of Aarhus University.



Professor Shizhang Qiao
University of Adelaide, Australia

Professor Shizhang Qiao joined the School of Chemical Engineering of the University of Adelaide in 2012 as a Professor. His research expertise is in nanomaterials and nanoporous materials for new energy technologies (electrocatalysis, photocatalysis, batteries, fuel cell, supercapacitors).

He has co-authored more than 310 papers in refereed journals, including Nature, Nature Energy, Nature Communications, Angew Chem Int Ed, J. Am. Chem. Soc and Advanced Materials (over 27,300 citations, h-index: 86).

He has filed three patents on novel nanomaterials and attracted more than 11 million dollars in research grants from industrial partners and Australian Research Council. He is currently an ARC Laureate Fellow. Bio and image courtesy of University of Adelaide.



Professor Andrew Wee
National University of Singapore

Professor Andrew Wee is a Professor of Physics at the National University of Singapore (NUS). His research interests include scanning tunnelling microscopy (STM) and synchrotron radiation studies of the molecule-substrate interface, graphene and 2D materials, and related device studies.

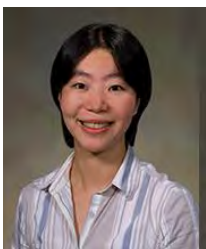
He is an Associate Editor of ACS Nano, and on the Editorial Boards of several other journals. He holds a BA (Hons) and MA from the University of Cambridge, and received his DPhil from the University of Oxford.



Dr Ting Yu
Nanyang Technological University, Singapore

Dr Ting Yu is a Professor in Division of Physics and Applied Physics, Nanyang Technological University, Singapore. His research interests are optical, optoelectrical and electrochemical properties and devices of 2D materials.

Dr Yu has published more than 260 SCI papers and received over 16,000 nonself-citations. His H-index is 70.

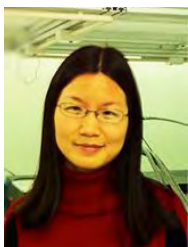


Professor Jun Zhu
Penn State, USA

Professor Jun Zhu received her Ph.D. from Columbia University in 2003. She was a postdoc fellow in Cornell University from 2003-2005 before joining Penn State University in 2006. She is currently a Professor of Physics at Penn State.

Her research interest focuses on the understanding of new physics and device functionalities arising from reduced dimensionality, many-body interactions and the control of new electronic degrees of freedom in nanoscale materials and devices.

Her recent research projects explore the electronic properties of van der Waals materials and interferences, with a particular emphasis on valleytronic, topological, and quantum Hall phenomena.



Professor Shuyun Zhou
Tsinghua University, China

Professor Shuyun Zhou received her Ph.D. in Physics from University of California at Berkeley in 2007. From 2008 to 2012, she was a postdoc fellow of the Advanced Light Source and a project scientist of Materials Sciences Division of the Lawrence Berkeley National Laboratory. She joined the Department of Physics at Tsinghua University in 2012.

Shuyun Zhou's research focuses on the electronic structure of novel two-dimensional materials and heterostructures using advanced electron spectroscopic tools, including angle-resolved photoemission spectroscopy (ARPES), Spin-resolved ARPES, Nano-ARPES and ultrafast time-resolved ARPES. She has made important progress on the electronic structure of novel transition metal dichalcogenides, type-II topological semimetal and van der Waals heterostructures. Image courtesy of Tsinghua University

MONDAY 10 DECEMBER

1400-1700	Registration Open
1700-1900	Welcome Reception - Conference Foyer

TUESDAY 11 DECEMBER

0830-0850	Opening Ceremony 105 & 106 - Chair: Michael Fuhrer			
0850-1020	Plenary Session			
Room	105 & 106			
Session Chair	Qiaoliang Bao			
0850-0935	Lei Jiang <i>Smart interfacial materials from super-wettability to binary cooperative complementary systems</i>			
0935-1020	Hui-Li Xing <i>2D materials for high-performance electronics</i>			
1020-1050	Morning Tea			
1050-1230	Concurrent Symposia 1			
	Physics - Room 106	Devices - Room 105	Chemistry - Room 104	Synthesis - Room 103
Session Chair	Jeff Davis	Yi Du	Jie Zhang	Lan Wang
1050-1120	Shuyun Zhou <i>Van der Waals heterostructures: from commensurate superlattice to incommensurate quasicrystal</i>	Andrew Wee <i>The organic-2D transition metal dichalcogenide interface</i>	Shizhang Qiao <i>Electrocatalysis for water splitting and CO₂ conversion</i>	Changgu Lee <i>Magnetic and physical properties of new 2D materials</i>
1120-1140	Victor Galitski <i>Quantum Cavity Enhancement of Superconductivity and Superconducting Polaritons</i>	Philip Feng <i>Atomic layer 2D nanoelectromechanical systems (nems) with ultra-broad electrical tunability</i>	Chuan Zhao <i>Nickel-iron based 2D materials for electrocatalytic</i>	Sunmin Ryu <i>Nanosopic redox governing charge carriers in two-dimensional crystals</i>
1140-1155	Changxi Zheng <i>Room temperature in-plane ferroelectricity in 8'-In₂Se₃</i>	Lin Wang <i>Band structure engineering of atomically thin PBI₂ with monolayer transition metal dichalcogenides</i>	Linlin Cao <i>Coordination-engineering cobalt on phosphorized carbon nitride for water splitting</i>	Paul Atkin <i>Investigating novel synthesis, optical properties and applications of model 2D semiconducting nanocrystals</i>
1155-1210	Chongyun Jiang <i>Helicity dependent photocurrent in transition metal dichalcogenide van der Waals heterostructures</i>	Sumeet Walia <i>Phosphorene: an alternative elemental analog of Graphene</i>	Tanesh Gamot <i>Enhanced properties of the high internal phase water-in-oil emulsion using graphene oxide-based additives</i>	Nan Pan <i>Edge optical scattering of two-dimensional materials</i>
1210-1230	Jianhao Chen <i>Conventional and in-situ quantum transport measurement of two-dimensional materials</i>	Xinran Wang <i>Ultralow power MoS₂ negative capacitance field-effect transistors</i>	Amadeo Vazquez de Parga <i>Graphene as playground for molecules: from chemisorption to catalysis</i>	Kai Liu <i>Motions induced by interface strain in nano-layered structures</i>
1230-1330	Lunch Break			
1330-1500	Concurrent Symposia 2			
	Physics - Room 106	Devices - Room 105	Chemistry - Room 104	Synthesis - Room 103
Session Chair	Michael Fuhrer	Andrew Wee	Zongyou Yin	Torben Daeneke
1330-1350	Brian Kiraly <i>An orbitally driven single atom magnetic memory on black phosphorus</i>	Xing Wu <i>Advanced in situ TEM on manipulation of nanostructure and probing new properties at atomic scale</i>	Velram Balaji Mohan <i>Hybrid composites of graphene and polymers for 3D printing</i>	Jiadong Zhou <i>Synthesis and properties of magnetic atoms doped MoS₂</i>
1350-1410	Nicola Gaston <i>How robust is the metallicity of two-dimensional gallium?</i>	Jianbin Xu <i>Detection and modulation of light wave with graphene</i>	Yu Lin Zhong <i>Mass production of electrochemically-derived graphene oxide in a packed bed reactor and its application in nanocomposites</i>	Zheng Liu <i>Synthesis of a library of atomically-thin metal chalcogenides</i>
1410-1425	Tobias Maerkl <i>Black-phosphorous-like bismuthene and antimonene in topological van der Waals heterostructures</i>	Dongchen Qi <i>Engineering the 2D hole gas on diamond by surface transfer doping and its device applications</i>	Feng Xin <i>On-chip micro-supercapacitors integrated gas sensor based on three dimensional graphene networks</i>	Fengqiu Wang <i>Tailoring photocarrier dynamics in 2D materials and heterostructures</i>

1425-1440	Zhe Liu <i>Electromechanical actuation properties of group IV monochalcogenides</i>	Seong Jun Kim <i>Multi-functional sensor based on rGO/SWCNT fabric with high durability and waterproofing for human-motion detection</i>	Yehia Manawi <i>Engineering the Surface and Mechanical Properties of Water Desalination Membranes Using Ultra Long Carbon Nanotubes</i>	Wooyoung Shim <i>Van der Waals crystal for battery applications</i>
1440-1500	Barbaros Özyilmaz <i>Spin transport studies in graphene and black phosphorus</i>	Haitao Chen <i>Directional valley-locked emission from a monolayer transition metal dichalcogenide enabled by plasmonic nanoantenna</i>	Muthana Ali <i>Graphene oxide-silica hybrid capsules for sustained fragrance release</i>	Kevin Sivula <i>Liquid-phase exfoliated semiconducting transition metal dichalcogenide 2D nanoflakes for large-area optoelectronic applications</i>
1500-1530	Afternoon Tea			
1530-1700	Editorial Plenary Session facilitated by Michael Fuhrer - 105 & 106 Luke Fleet (Nature), Jovia Jiang (Small), Esther Levy (Advanced Materials Technologies) and Guilin Wang (Science China Materials)			
1700-1830	Poster Session 1 - Sponsored by Light - Science & Applications Conference Foyer 1.1 & 1.2			

WEDNESDAY 12 DECEMBER

0830-1000	Plenary Session			
Room	105 & 106			
Session Chair	Jun Zhu			
0830-0915	Gordon Wallace <i>Graphene – the development pipeline</i>			
0915-1000	Chun-Ning Lau <i>Spin and charge transport in 2D materials</i>			
1000-1030	Morning Tea			
1030-1230	Concurrent Symposia 3			
	Physics - Room 106	Devices - Room 105	Devices - Room 104	Synthesis - Room 103
Session Chair	Antonija Grubisic-Cabo	Blanca Biel	Vipul Bansal	Uli Zuelicke
1030-1100	Jill Miwa <i>Vandium sulphide compounds at the 2D limit</i>	Xiangfeng Duan <i>Van der Waals integration beyond 2D materials</i>	Paola Barbara <i>Nanostructured graphene for ultra-broadband photodetectors</i>	Yunqi Liu <i>Controlling growth of graphene and its electronic properties</i>
1100-1120	Adrian Cernescu <i>Real-space mapping of polaritons in 2D materials</i>	Moon-Ho Jo <i>Programmable doping of atomically thin van der Waals semiconductors with light probes</i>	Weida Hu <i>Infrared photodetector based on 2D materials: progress, challenges, and opportunities</i>	Lin He <i>Detecting valley splitting and valley-contrasting spin splitting at single-electron level around atomic defects of graphene</i>
1120-1135	Mustafa Eginligil <i>Doping effect on light polarization dependent photocurrent of a 2d semiconductor</i>	Baishan Liu <i>Band alignment modulation of ZnO nanorods/monolayer MoS₂ mixed-dimensional heterostructure via strain engineering</i>	Sivacarendran Balendhran <i>Resistive memories and uv sensors based on layered MoO(3-x)</i>	Lijun Zhang <i>Ubiquitous interlayer coupling in two-dimensional materials and its effects on materials properties</i>
1135-1150	Guodong Liu <i>Electronic band structure study of exfoliated millimeter-sized mono-layer MoTe₂ using angle-resolved photoemission spectroscopy</i>	Achint Jain <i>One-dimensional edge contacts to monolayer MoS₂</i>	Zhongming Wei <i>Polarization-sensitive photodetectors based on 2D layered semiconductors</i>	Elisa Ang <i>Single layer transverse flow carbon nanotube membrane for desalination</i>
1150-1210	Zexiang Shen <i>Configuring the structures of 2D materials and perovskites and their applications</i>	Semonti Bhattacharyya <i>Universal conductance fluctuations as a direct probe to detect crossover of symmetry classes in topological insulators</i>	Kai Zhang <i>Narrow-gap 2D semiconductors for IR and THz optoelectronics</i>	Yu Ye <i>Desired two-dimensional materials' properties by designed growth</i>
1210-1230	Miguel Ugeda <i>Multifractal superconductivity in single-layer NbSe₂</i>	Zhenhua Ni <i>Defect engineering for modulating the trap states in 2D photoconductor</i>	Wenzhong Bao <i>2D transition metal dichalcogenides: from field effect transistors to wafer-scale circuits</i>	Xiaojun Wu <i>Computer simulation and design of 2D crystals with tunable band gap and magnetic properties</i>

1230-1330	Lunch Break			
1330-1510	Concurrent Symposia 4			
	Physics - Room 106	Devices - Room 105	Chemistry - Room 104	Physics - Room 103
Session Chair	Yuerui Lu	Yu Lin Zhong	Zongyou Yin	Yi Du
1330-1400	Jun Zhu <i>Quantum valley Hall effect and valleytronics in bilayer graphene</i>	Zaiping Guo <i>Two-dimensional electrode materials for metal-ion batteries</i>	Lain-Jong Li <i>Two-dimensional semiconducting materials: candidates for extending Moore's Law</i>	Ting Yu <i>Light-matter interactions in 2D materials</i>
1400-1420	Marc Bockrath <i>Interacting Electrons in Bilayer Graphene and Bilayer Graphene/hBN Moiré Superlattices</i>	Jiong Lu <i>Recent STM studies of gate-tunable 2D material devices</i>	Goki Eda <i>Hot carrier optoelectronic devices based on van der Waals heterostructures</i>	Ali Yazdani <i>Visualizing quantum hall liquids and their boundary modes</i>
1420-1435	Aydin Cem Keser <i>Effect of spin-charge disorder correlations on the AHE in 2D dirac fermions</i>	Yanqing Jia <i>Novel all-solid-state supercapacitors based on snowflake-like Ni₃Si₂/NiOOH/graphene hybrid nanostructures</i>	Saju Daniel <i>Natural rubber/st-LDH/MWCNT hybrid bio nanocomposites as flexible EMI shield</i>	Yu Zhang <i>An Atomic-scale on/off Switching of Magnetism at Point Defects in Graphene</i>
1435-1450	Momoko Onodera <i>Metallic carrier transport and superconductivity in novel transitional-metal dinitrides, ReN₂ crystals</i>	Azmira Jannat <i>Physisorptive two dimensional tin sulphide nanoflakes with extraordinary sensitivity and selectivity to NO₂ at room temperature</i>	Peter Sherrell <i>2D crystal heterostructures for water-oxidation</i>	Luhua Li <i>Properties and applications of atomically thin boron nitride</i>
1450-1510	Alexander Tries <i>Strong exciton effect in graphene nanoribbons</i>	Anlian Pan <i>Single nanostructure band gap engineering and heterostructures of atomic layered semiconductors</i>	Mohammad Rezwan Habib <i>Tunable photoluminescence in organic semiconductor/two-dimensional transition metal dichalcogenides van der Waals heterojunction</i>	Yuanbo Zhang <i>Visualizing the electronic structure of thin layers of Bi₂Sr₂CaCu₂O₈+delta</i>
1510-1540	Afternoon Tea			
1540-1720	Concurrent Symposia 5			
	Physics - Room 106	Devices - Room 105	Chemistry - Room 104	Synthesis - ROOM 103
Session Chair	Semonti Bhattacharyya	Zaiping Guo	Jennifer MacLeod	Torben Daeneke
1540-1600	Simon Brown <i>Topological nanostructures: bismuth and related materials</i>	Phillip Aitchison <i>Redefining the "things" in the IoT: graphene-enabled internet of materials for large area sensing</i>	Hong Li <i>Strain-enhanced two-dimensional electrocatalysts for water splitting and beyond</i>	Jie Zhang <i>Advanced composite two-dimensional energy materials by simultaneous anodic and cathodic exfoliation</i>
1600-1620	Zhi Li <i>Realization of flat band with possible non-trivial topology in electronic Kagome lattice</i>	Rongjin Li <i>Large-area two-dimensional organic single crystals</i>	Nigel Lucas <i>Superphenylphosphines: ligands that direct metal coordination and bulk assembly via "nanographene" substituents</i>	Nai-Chang Yeh <i>Exploring the quantum states and quantum degrees of freedom in 2D van der Waals materials and topological insulators</i>
1620-1640	Ping-Heng Tan <i>Moiré phonons in twisted bilayer MoS₂</i>	Dohun Kim <i>Graphene bolometers for sensitive detection of nitrogen-vacancy spin states in diamond</i>	Si Zhou <i>Ab initio design of carbon based hybrid electrocatalysts</i>	Yuan Huang <i>New mechanical exfoliation technique for preparing large area 2D materials and special structures</i>
1640-1700	Xia Hong <i>Functional design of MoS₂ via nanoscale ferroelectric control</i>	Yuefeng Yin <i>Enhancing electronic fingerprints of physisorbed molecules of graphene</i>	Yanfeng Zhang <i>Controlled growth and versatile applications of metallic transitional metal dichalcogenides</i>	Libo Gao <i>Growth of environmentally stable transition metal selenide films</i>

1700-1720	Yuerui Lu <i>Excited state biexcitons in atomically thin MoSe₂</i>	Masaro Yoshida <i>2D material devices as lab-on-a-chip to explore novel states of matter</i>	Yongxiang Li <i>Facile solution-phase synthetic strategy of 2D SnS nanosheets and its ethanol sensing characteristics</i>	Marko Kralj <i>In situ growth control and further physical and chemical engineering of CVD MoS₂</i>
1720-1850	Poster Session 1 - Sponsored by NPI Lasers Conference Foyer 1.1 & 1.2			
1900-2200	Conference Dinner - ICON-2DMAT Young Scientist and Poster Award Ceremonies: Ground floor Conference Courtyard			

THURSDAY 13 DECEMBER

0830 - 1000	Plenary Session			
Room	105 & 106			
Session Chair	Michael Fuhrer			
0830 - 0915	Hui-Ming Cheng <i>Graphene and 2D materials films and membranes: Fabrication and Applications</i>			
0915 - 1000	James Hone <i>Method and materials for van der Waals heterostructures</i>			
1000 - 1030	Morning Tea			
1030 - 1230	Concurrent Symposia 6			
	Physics - Room 106	Devices - Room 105	Chemistry - Room 104	Synthesis - Room 103
Session Chair	Antonija Grubisic-Cabo	Qiaoliang Bao	Jie Zhang	Dan Li
1030-1100	Blanca Biel <i>Point-like defects in transition metal dichalcogenides characterized by SPM simulations</i>	Baohua Jia <i>Ultrafast laser interaction with 2D materials</i>	Kian-Ping Loh <i>Two dimensional ferroelectric films</i>	Kourosh Kalantar-zadeh <i>Liquid metals from metallic core to two dimensional skin</i>
1100-1120	Alexander Holleitner <i>Generation of localized, optically active defects in tunable 2D materials, using helium ion irradiation</i>	Suk-Ho Choi <i>Si-quantum-dots-based optoelectronic devices by employing doped-graphene transparent conductive electrodes</i>	Guozhen Liu <i>Graphene oxide thin film based in vivo device for continuous monitoring of interferon-γ in inflammatory mice</i>	Vipul Bansal <i>Taking inspiration from biology to preserve photo-sensitive 2D materials against ambient oxidation</i>
1120-1135	Ajit Srivastava <i>Single photon-phonon entanglement in WSe₂ quantum dots</i>	Amadeo Vazquez de Parga <i>Large-area heterostructures from graphene and encapsulated colloidal quantum dots via the Langmuir-Blodgett method</i>	Thu Ha Tran <i>Preparation and application of 1t'-phase ReS₂xSe_{2(1-x)} (x = 0 - 1) nanodots for hydrogen evolution reaction</i>	Nitu Syed <i>Wafer scale synthesis of two dimensional GaPO₄ from liquid metal featuring a large out of plane piezoelectric response</i>
1135-1150	Jiabin Qiao <i>Twisted graphene bilayer around the first magic angle engineered by heterostrain</i>	Junpeng Lu <i>Optical modulation of THz radiation via 2D perovskite</i>	Yuanhui Sun <i>Strong interlayer coupling and new phases of two-dimensional optoelectronic semiconductor InSe</i>	Jiawei Liu <i>Wet-chemical synthesis of ultrathin two-dimensional metallic nanosheets for (electro) catalytic applications</i>
1150-1210	Mark Edmonds <i>Electric field-tuned topological phase transition in ultra-thin Na₃Bi</i>	Zhipei Sun <i>Nonlinear optics with 2D materials</i>	Guohua Jia <i>Heavy-metal-free 2D semiconductor nanoplatelets: synthesis, growth mechanism and applications</i>	Xiaoqiang Cui <i>Single-atom cobalt covalently bound to distorted 1T-MoS₂ for unprecedented hydrogen evolution catalysis</i>
1210 - 1330	Lunch Break			
1330 - 1500	Concurrent Symposia 7			
	Physics - Room 106	Devices - Room 105	Chemistry - Room 104	Synthesis - Room 103
Session Chair	Bent Weber	Semonti Bhattacharyya	Vipul Bansal	Qiaoliang Bao
1330-1350	Nancy Sandler <i>Deformed graphene membranes: from electronic waveguides to valley filters</i>	Liu Lei <i>Electrical control of spin-valley photocurrent in a monolayer semiconductor by circular photogalvanic effect</i>	Jong Beom Baek <i>Fused aromatic organic networks form syntheses and applications</i>	Chunxiao Cong <i>Optical spectroscopic study of two-dimensional layered materials and their heterostructures</i>
1350-1410	Uli Zuelicke <i>Quantum capacitance and spin susceptibility of HgTe quantum wells</i>	Jennifer MacLeod <i>On-surface synthesis of organic 2D materials</i>	Shayan Seyedin <i>MXene for wearable energy storage</i>	Zaiquan Xu <i>Tunable room-temperature single-photon emission in atomically thin materials</i>

1410-1425	Momoko Onodera <i>Influence of C-rich domain in h-BN on carrier transport of graphene/h-BN van der Waals heterostructures</i>	Pingan Hu <i>High performance electronics and optoelectronics based on two dimensional layered films</i>	Qiang Fu <i>Engineering 2D Metal-Organic Frameworks for Separation Membranes</i>	Ankur Sharma <i>Efficient and layer-dependent exciton pumping across atomically-thin organic-inorganic type-I heterostructures</i>
1425-1440	Wei Tao <i>Quasiparticle interference study of topological semimetal ZrSiS due to surface defects at 4.5 K</i>	Azmira Jannat <i>Two dimensional indium sulfide with excellent optoelectronic properties</i>	Fangxin Hu <i>PT/Graphene Foam Biofilm for Highly Sensitive and Selective In-Situ Adsorption and Detection of Superoxide Anions Released from Living Cells</i>	Yingping Pang <i>Heavy-metal-free quasi-2D colloidal semiconductor nanoplatelets with atomically uniform thickness</i>
1440-1500	Dongkeun Ki <i>Interaction-driven finite-temperature phase transitions in graphene multilayers</i>	Feng Miao <i>Electronic transport and device applications of 2D materials</i>	Yongfa Zhu <i>Organic photocatalysts for energy, environment and anti-tumor</i>	Liangzhi Kou <i>Multiferroic coupling in novel two-dimensional materials</i>
1500 - 1530	Afternoon Tea			
1530 - 1700	Concurrent Symposia 8			
	Physics - Room 106	Devices - Room 105	Chemistry - Room 104	Synthesis - Room 103
Session Chair	Lan Wang	Jill Miwa	Dan Li	Zaiquan Xu
1530-1550	Rachael Myers-Ward <i>Remote epitaxy – a new paradigm for stackable electronics</i>	Nanshu Lu <i>Nanobubbles and nanotents formed by 2D materials</i>	Tao Yao <i>Synchrotron radiation X-ray absorption in energy materials</i>	Litao Sun <i>Graphene-based materials for environmental protection</i>
1550-1610	Agustin Schiffrin <i>Low-dimensional organic nanostructures on surfaces: towards nanoscale control of interfacial (OPTO) electronic properties</i>	Shu Ping Lau <i>Solution exfoliated black phosphorus from materials to applications</i>	Torben Daeneke <i>Synthesis of 2D materials using liquid metal solvents</i>	Yi Du <i>2D Xenos: a new family of quantum matters</i>
1610-1625	Siyu Li <i>Tuning electronic properties of graphene by STM tip</i>	Ankur Sharma <i>Defect engineering in few-layer phosphorene</i>	Peter Sherrell <i>Direct Printing in Three-Dimensions of 2D Materials Inks</i>	Neeraj Mishra <i>Graphene coated silicon carbide nanowires</i>
1625-1640	Xinfeng Liu <i>Strong light-matter interaction in layered materials</i>	Litty Thekkekara <i>Laser printed self-powered textiles</i>	Hareem Khan <i>Synthesis of 2D SnS materials for piezoelectric nanogenerator applications</i>	Jinchang Fan <i>Surface and interface engineering Pd-based ultrathin nanosheets for electrocatalysis</i>
1640-1700	Feixiang Xiang <i>Thickness-dependent electronic structure in WTe₂ thin films</i>	Zheng Zhang <i>Strong interlayer coupling in MoS₂ van der Waals homojunction constructed by defect engineering</i>	Yuan Chen <i>Nano-RuO₂-decorated holey graphene composite fibers for micro-supercapacitors with ultrahigh energy density</i>	Nasir Mahmood <i>Chemical designing of two-dimensional materials for renewable energy</i>
1710 - 1730	Closing Ceremony & Announcement of the 5 th ICON-2DMat - Room 105			

Poster Abstracts

Chemistry of 2D materials and applications						
ID	Title	First Name	Last Name	Paper title	Session	Poster Number
807	Ms	Salwa	Ali Ibrahim	Fluorescent detection of mycobacterium tuberculosis via a hybridization-based pull-down assay using semiconductor nanoprobe	Tuesday	1
642	Mr	Riccardo	Argurio	Cobalt sulfide nanoparticles embedded on nitrogen-doped graphene as bifunctional electrocatalyst for zinc-air batteries	Wednesday	2
804	Prof	Yaqin	Chai	Building a dna nanotube-based 3D dDNA walking machine with highly executive efficiency for ultrasensitive electrochemiluminescence detection of microRNA	Tuesday	3
761	Prof	Shihong	Chen	A solid-state electrochemiluminescence biosensor for con a detection based on CeO ₂ @Ag nanoparticles modified graphene quantum dots as signal probe	Wednesday	4
598	Ms	Karin	Ching	Water permeation through metal cation modified atomically thin membranes	Tuesday	5
740	Ms	Farjana	Haque	Planar hexagonal molybdenum oxide with intracrystalline molecular pores as an efficient and stable alkaline medium catalyst for her	Wednesday	6
663	Ms	Thu Ha	Tran	Preparation of 1 ^t -phase ReS ₂ xSe ₂ (1-x) (x = 0 – 1) nanodots for highly efficient electrocatalytic hydrogen evolution reaction	Tuesday	7
654	Prof	Xiaoqiang	Cui	Cobalt oxide/3D graphene nanosheets composite by the pecvd and hydrothermal-thermal decomposition method for application in supercapacitor	Wednesday	8
697	Miss	Dantong	Zhang	Facil band alignment of C ₃ N ₄ /CdS/MoS ₂ sandwich hybrid with high photochemical performance under visible-light	Tuesday	9
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8	Mr	Alaa Yousif Ali	Ali	Cvd growth of graphene using solvent residing in a pmma matrix as the carbon source at low temperature condition	Wednesday	10
662	Ms	Rebekah	Chua	Molecular beam epitaxy of 1D & 2D vanadium diselenide on molybdenum disulfide	Tuesday	11
847	Prof	Xidong	Duan	Two dimensional lateral complicated struture	Wednesday	12
651	Ms	Min	Hong	Identifying the non-identical outermost selenium atoms and invariable bandgap across the grain boundary of anisotropic rhenium diselenide	Tuesday	13
779	Dr	Md Zakir	Hossain	Fast synthesis and covalent modification of black phosphorus and graphene	Wednesday	14
664	Mr	Artem	Kuklin	Stability and electronic properties of 2d tetraoxa[8]circulene nanosheets	Tuesday	15
908	Ms	Wei Sun	Leong	Transferring graphene with paraffin	Wednesday	16
637	Mr	Scott	Lillie	Quantum imaging of 2d materials using nitrogen-vacancy centres in diamond	Tuesday	17
867	Dr	Lina	Liu	Phase-selective synthesis of 1 ^t MoS ₂ monolayers and hetero-phase bilayers	Wednesday	18
588	Dr	Xuelu	Liu	A tunable single-monochromator raman system based on the supercontinuum laser and tunable filters for resonant raman profile measurements	Tuesday	19
669	Ms	JIAWEI	LIU	Ultrathin two-dimensional metallic nanosheets as highly efficient (electro)catalysts	Wednesday	20
770	Mr	Kibret	Messalea	Wafer scale monolayer Bi ₂ O ₃ from liquid metal bismuth with uv photodetector application	Tuesday	21
760	Mr	Md	Mohiuddin	Electric field exfoliation of piezoelectric two dimensional materials	Wednesday	22
879	Mr	Parishuddababu	Movva	Bimetallic alloys for graphene/CNTs cvd growth	Tuesday	23
793	Dr	Kingsley	Obodo	Electronic and optical properties of doped rReS ₂ and ReSe ₂ mono-layer	Tuesday	24
597	Ms	Mei Er	Pam	Non-stoichiometric WO ₃ precursor tuning the growth and crystallinity of WS ₂	Wednesday	25
601	Mr	Eng Tuan	Poh	Laser induced micro-patterning of upconversion nanoparticles on molybdenum disulphide monolayer	Tuesday	26
623	Dr	Jianping	Shi	Two-dimensional metallic tantalum disulfide as a hydrogen evolution catalyst	Wednesday	27
707	Ms	Nitu	Syed	Synthesis and photochemistry of gallium oxide nanoflakes featuring trap state absorption	Tuesday	28
508	Ms	Bijun	Tang	Morphology engineering in monolayer MoS ₂ -WS ₂ lateral heterostructure	Wednesday	29

593	Mr	Jesse	Vaitkus	Disorder and dissipation in delta-doped phosphorus-in-silicon	Tuesday	30
611	Mr	Hu	Xu	Improved homogeneity and performance of field effect transistors based on wafer-scale continuous mos2 film towards practical application	Wednesday	31
829	Miss	Pengfei	Yang	Large-area and layer-controlled synthesis of few layer MoS2 assisted by sodium chloride	Tuesday	32
736	Dr	Xiaomei	Zhang	Plasma-assisted fabrication of 'in-depth' doped MoS2 vertical homostructure for optoelectronics application	Wednesday	33
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810	Mr	Aram	Arash	Synthesis of large area quasi-2D MoO ₃ -x for high-performance optoelectronic devices	Tuesday	35
708	Dr	Xi	Chen	Integration of graphene nanofibers to achieve an efficiency breakthrough in hole blocking layer-free perovskite solar cells	Wednesday	36
957	Mr	Veerendra	Dhyani	Self-powered multilayer MoSe ₂ metal-semiconductor-metal photodetector	Tuesday	37
724	Mr	Nikolai	Dontschuk	Graphene fet based detection of the non-zero planar dipole moment of cytosine	Wednesday	38
639	Mr	Qundong	Fu	Ultrasensitive two-dimensional Bi ₂ O ₂ Se phototransistors on silicon substrate	Tuesday	39
751	Ms	Mehak	Mahajan	Flexible and highly sensitive strain-pressure sensor based on tmds-assisted graphene foam/polymer hybrid nanostructures	Wednesday	40
653	Ms	Chithra	H Sharma	Stable and scalable 1t MoS ₂ with low temperature-coefficient of resistance.	Tuesday	41
767	Ms	Liu	Haining	Near-infrared photoresponse excitations at WSe ₂ -organic molecules interfaces	Wednesday	42
610	Mr	Muhammad Ahsan	Iqbal	Broadband photodetectors based on graphene-charge transfer complexes (cpx) hybrid structure with ultra high photoresponsivity.	Tuesday	43
658	Mr	Jungcheol	Kim	Comparing the second harmonic generation on MoS ₂ with different stacking orders	Wednesday	44
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706	Ms	MONIKA	Moun	Photodetection study in bilayer MoS ₂ using pd schottky contact	Wednesday	47
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743	Mr	Yaochen	Sheng	Investigation of doping effect during high-k dielectric deposition by atomic layer deposition	Wednesday	51
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715	Dr	Yuefeng	Yin	Unconventional surface spin textures in topologically non-trivial metals	Tuesday	58
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751	Ms	Garima	Gupta	Fundamental exciton linewidth in monolayer tmDs	Wednesday	70
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650		Weiwei	Liu	Functional 2D boron nitride nanosheets and their applications in energy and environment	Tuesday	79
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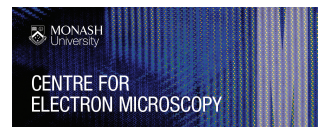
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