

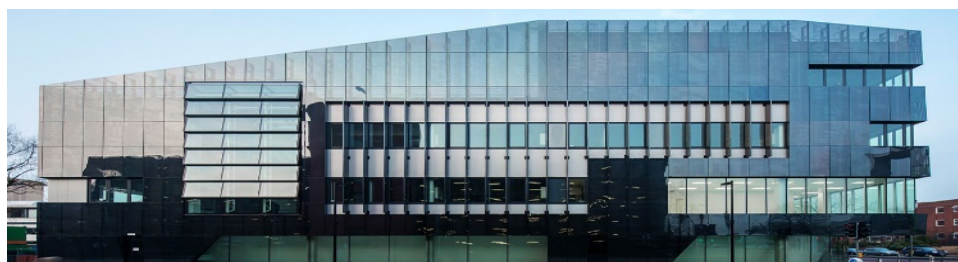
UK-China 2D Materials Conference

Grand Challenges and Solutions in 2D Materials Science and Technologies

24-26 January 2018,

National Graphene Institute

Booth St E, Manchester M13 9PL, UK



Programme Committee

Vladimir Falko

Konstantin Novoselov

Ivan Buckley

Local organiser: Olga Falko

All conference talks are taking place on 3rd floor, NGI Seminar space area.

Wednesday 24 January

Session 1 - 2DM Challenges (Chair: Vladimir Falko)

- 09:00 Welcome and Conference opening
- 09:10 Konstantin Novoselov, University of Manchester
2D Materials update
- 09:50 Lin He, Beijing Normal University
Emergent phenomena in graphene: magnetism, superconductivity, topological edge states
- 10:10 Jian Wang, Peking University
High temperature superconductivity and quantum phase transition in crystalline 2D heterostructures

10:30-10:50 coffee break

Session 2 - 2DM Challenges (Chair: John McGrady)

- 10:50 Wencai Ren, IMR - Chinese Academy of Science
Graphene and beyond: synthesis and applications
- 11:20 Jamie Warner, University of Oxford
Towards large area all-2D ultrathin opto-electronics using CVD grown materials
- 11:40 Hailin Peng, Peking University
High-mobility two-dimensional semiconducting Bi₂O₂Se
- 12:00 Yongsheng Chen, Nankai University
3D cross-linked graphene bulk materials.

12:30-13:30 lunch break

Session 3 - 2DM Optoelectronics (Chair: Shiqiao Qin)

- 13:30 Brian Gerardot, Heriot-Watt University
Quantum photonics with two-dimensional semiconductors
- 13:50 Jianfa Zhang, NUDT - Changsha
Engineering light-graphene interactions for functional photonic devices
- 14:10 Andrea Ferrari, University of Cambridge
Light scattering and emission from heterostructures
- 14:30 Jin Zhang, Peking University
Graphene enhanced Raman spectroscopy and beyond.
- 14:50 Thomas Krauss, University of York
1305 nm few-layer MoTe₂-on-silicon laser

15:10-15:40 coffee break

Session 4 - 2DM Synthesis & Applications (Chair: Radha Boya)

- 15:40 Guo Jianqiang, BIAM Graphene Centre - Beijing
The chemical reduction mechanism of graphene oxide
- 16:00 Rahul Nair, University of Manchester
2D materials membranes
- 16:20 Nanfeng Zheng, Xiamen University
Surface chemistry of 2D materials for catalysis and energy applications
- 16:40 Ton Peijs, Queen Mary University of London
Bioinspired nanocomposite materials based on highly organised graphene

17:00-17:30 Ceri-Wyn Thomas, Institute of Physics (IoP) Journal *2D Materials*

17:30-20:30 Poster session and IoP Reception

Thursday 25 January

Session 5 - 2DM Growth (Chair: Alexey Ganin)

- 09:00 Stephan Hofmann, University of Cambridge
Integrated CVD manufacturing of 2D materials
- 09:20 Guangyu Zhang, Chinese Academy of Science
Monolayer MoS₂ epitaxy and FET devices
- 09:40 Bilu Liu, Tsinghua-Berkeley Shenzhen Institute
Scalable production of 2D material solutions and their applications
- 10:00 Yu Ye, Peking University
Enhanced two-dimensional semiconductor device performance by designed growth

10:20-10:40 coffee break

Session 6 - 2DM Characterisation (Chair: Jun Yuan)

- 10:40 Shuyun Zhou, Tsinghua University
Electronic structure of novel 2D materials and heterostructures
- 11:00 Neil Wilson, University of Warwick
Measuring electronic structure in 2D heterostructures
- 11:20 Jianhao Chen, Peking University
In-situ quantum transport of 2D materials
- 11:40 Sarah Haigh, University of Manchester
TEM Imaging and Analysis of 2D Material Heterostructures
- 12:00 Xie Xincheng, Peking University
Quantum transport and Efimov-like physics in 2D Weyl semimetals

12:20-13:20 lunch break

Session 7 - 2DM for Energy Storage and Nanocomposites (Chair: Ian Kinloch)

- 13:20 Hui-Ming Cheng, IMR - Chinese Academy of Science
Graphene materials for electrochemical energy storage
- 13:50 Yan Shaojiu, BIAM Graphene Centre
Applications of graphene materials on energy storage
- 14:10 Bill Qu, The Sixth Element Inc - Changzhou
Graphene industry application in polymers
- 14:30 Robert Dryfe, University of Manchester
EPR spectroscopy as a tool to monitor electrochemical processes in 2D materials

14:50-15:20 coffee break

Session 8 - 2DM Optoelectronics (Chair: Laurence Eaves)

- 15:20 Alexander Tartakovskii, University of Sheffield
Strong light-matter interaction in a few-atomic-layer semiconductors
- 15:40 Feng Miao, Nanjing University
Electronic transport and device applications of 2D materials
- 16:00 Viktor Zolyomi, University of Manchester
Optoelectronic properties of GaSe and InSe
- 16:20 Dong Sun, Peking University
Photo-response of 2D layered Weyl semimetals
- 16:40 Euan Hendry, Exeter University
All-optical excitation of surface plasmons in graphene

17:00-17:30 Presentation by MIDAS/Manchester City

17:30-20:30 Poster session and MIDAS Reception

Friday 26 January

Session 9 - 2DM Growth and Characterisation (Chair: Xiao Guo)

- 09:00 Peter Beton, University of Nottingham
Lattice-matching, strain and giant moiré patterns in graphene/hBN heterostructures
- 09:20 Ying Jiang, Peking University
Phase engineering of monolayer MoS₂
- 09:40 Olga Kazakova, National Physical Laboratory (NPL) UK
Local functional studies for 2D materials and heterostructures

10:00-10:40 coffee break & NGI tours

Session 10 - 2DM Optoelectronics (Chair: Richard Curry)

- 10:40 Monica Craciun, University of Exeter
Functionalized graphene for flexible electronics and optoelectronics
- 11:00 Xiaoyue (Simon) Xiao, Qingdao DT Nanotech Co
Dielectric enhancement in graphene/barium titanate nanocomposites and its applications
- 11:20 Coskun Kocabas, University of Manchester
Graphene based THz photonics
- 11:40 Robert Young, Lancaster University
A future without fakes

12:00-13:30 lunch break & NGI tours

Session 11 - 2DM for Nanocomposites and Energy Storage (Chair: Mark Bissett)

- 13:30 Robert Young, University of Manchester
The mechanics of reinforcement of nanocomposites by 2D materials
- 14:00 Hua Bai, Xiamen University
Graphene-based additives for lubricant oil and grease
- 14:20 Biqiong Chen, Queen's University Belfast
Graphene-based polymer nanocomposites for engineering and biomedical applications
- 14:40 Quan-Hong Yang, Tianjin University
Graphene for energy storage: making devices smaller

15:00-15:20 coffee break

Session 12 - 2DM Challenges (Chair: Irina Grigorieva)

- 15:20 Simon Bending, University of Bath
In-plane anisotropy and correlated electron phenomena in transition metal chalcogenides
- 15:40 Ji Feng, Peking University
Berry phase effects and two-dimensional materials
- 16:00 Vladimir Falko, University of Manchester
IR/FIR inter-subband optics in few-layer transition metal dichalcogenides and post-transition metal chalcogenides
- 16:20 Conference closing

Poster sessions, 24 and 25 January 2018

Poster sessions are taking place on two floors of NGI building: the 1st Floor and the 2nd floor.
Posters with odd numbers are presented on 24 January and posters with even numbers- on 25 January.

Poster No	Presenter	Poster Title	Poster Session	Poster board location /NGI Floor
1	Alexey Ganin	Activating the basal plane of 2D electrocatalyst for hydrogen evolution reactions from water	24-Jan	Floor 2
3	Benny Zheling Li	The Reinforcement Efficiency of Crumpled and Wrinkled Graphene in Nanocomposites	24-Jan	Floor 2
5	Dihao (Andy) Zeng	The role of hydride ligands in imposing 2-dimensional order in SrVO ₂ H	24-Jan	Floor 2
7	Dimitrios Papageorgiou	Enhanced thermal and fire retardancy properties of polypropylene reinforced with a hybrid graphene/glass-fibre filler	24-Jan	Floor 2
9	Liping Lu	Flexible, transparent and highly conductive graphene electrodes for energy harvesting and light emitting technologies	24-Jan	Floor 2
11	Rory Brown	Edge modes and non-local conductance in graphene superlattices	24-Jan	Floor 2
13	Xiaoliang Fang	Graphene-based porous carbon nanosheets for high-energy-density lithium-sulfur batteries	24-Jan	Floor 2
15	Xin Zhao	Deformation and Fracture of Exfoliated Monolayer Graphene	24-Jan	Floor 2
17	Zhuangnan Li	Graphene and its Derivatives for Enhanced Electrochemical Performance	24-Jan	Floor 2
19	Roshan Krishna Kumar	High temperature quantum oscillations caused by recurring Bloch states in graphene/hexagonal-boron nitride superlattices	24-Jan	Floor 2
21	Gao Sitian	The thickness measurement of oxidized graphene by AFM	24-Jan	Floor 2
23	Aitor Garcia-Ruiz	Superconductivity-induced features in electronic Raman spectrum of monolayer graphene	24-Jan	Floor 1
25	David Carvalho	The nonlinear optical properties of opening of a gap in graphene	24-Jan	Floor 1
27	Hao Xu	Few-layer MoS ₂ /Glassy-Graphene Heterostructures as Effective Transparent Photodetectors	24-Jan	Floor 1
29	Jun YUAN	Is the electronic structure of few layer transition metal dichalcogenides two-dimensional	24-Jan	Floor 1
31	Ravi Biroju	Fabrication and Electro-Optical Application of Physical Vapour Deposited Large Area Fluorographene Films	24-Jan	Floor 1
33	Samuel Magorrian	Effects of spin-orbit coupling on optical properties of mono- and few-layer InSe	24-Jan	Floor 1
35	Mark Danovich	Dark excitons and semi-dark trions and biexcitons in WS ₂ and WSe ₂	24-Jan	Floor 1

2	Alfredo Gravagnuolo	Supramolecular (long-range) character of graphene oxide reactions: rearrangements and restructuring complicate reaction stoichiometry	25-Jan	Floor 2
4	Fan Wu	Graphene protected SPR biosensor	25-Jan	Floor 2
6	Jijo Abraham	Tunable sieving of ions using graphene oxide membranes	25-Jan	Floor 2
8	Kun Huang	Ultrathin graphene-based membrane with precise molecular sieving and ultrafast solvent permeation	25-Jan	Floor 2
10	Leone Di Mauro Villari	Time dependent Coulomb renormalization in 2D Dirac Materials	25-Jan	Floor 2
12	Shaila Afroj	Next Generation Graphene-based wearable e-textiles	25-Jan	Floor 2
14	Thomas Lane	Ballistic electron channels at delamination edges in bilayer graphene	25-Jan	Floor 2
16	Victor Guarochico	Spin transport in hBN-graphene heterostructures via ferromagnetic 1D contacts	25-Jan	Floor 2
18	Vladimir Korolokov	Organic molecular arrays on black phosphorus and boron nitride: passivation and heterostructure formation	25-Jan	Floor 2
20	Xiaoyu Han	Stable 2D Structures from Tellurium and Phosphorus – Exploration and (Potential) Exploitation	25-Jan	Floor 2
24	Bin Wang	In Situ Electrochemical Electron Paramagnetic Resonance Study of Redox Reaction on Graphene Oxide	25-Jan	Floor 1
28	Cheng Shi	Metamaterial Graphene Thermal Emitter	25-Jan	Floor 1
30	Hungyen Lin	Contactless graphene conductivity mapping and hybrid graphene/plasmonic optoelectronic devices	25-Jan	Floor 1
32	Lewis Hart	High-resolution Angle Resolved Photoemission Spectroscopy of ReSe ₂	25-Jan	Floor 1
34	Vishal Panchal	Rapid characterisation of large-area 2D material with confocal laser scanning microscopy	25-Jan	Floor 1
36	David Ruiz-Tijerina	Photoluminescence from transition-metal dichalcogenide heterobilayers	25-Jan	Floor 1