

2DMAT2022

2nd Global Summit and Expo on Graphene and 2D Materials

August 22-23, 2022 Edinburgh, Scotland

Address: 132 Corstorphine Rd, Corstorphine, Edinburgh EH12 6UA, United Kingdom.
Holiday Inn Edinburgh



FINAL PROGRAM

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Day-1, August 22, 2022

09:00-09:45 **On-Spot Registrations**

09:45-10:00 **Opening Ceremony**

Meeting Room: Macallan, Glenfiddich

Plenary Session

10:00-10:40 Title: Waterborne Exfoliated Nanocarbons and 2D Materials
John Texter, Eastern Michigan University, USA **P**

10:40-11:20 Title: Graphene and Graphene-Based Nanocomposites: Mechanics and Mechanisms of Deformation and Fracture
Robert J. Young, University of Manchester, UK **P**

11:20-11:35 **Coffee Break**

11:35-12:15 Title: Van der Waals Nanostructures for Advanced Electronics and Biomedicine
Yoke Khin Yap, Michigan Technological University, USA **P**

Keynote Session

12:15-12:45 Title: Functionalization improves performance of graphene devices
Martin Kalbac, J. Heyrovsky Institute of Physical Chemistry, Czech Republic **K**

12:45-12:55 **Group Photo**

12:55-13:40 **Lunch Break**

13:40-14:10 Title: Low-voltage transistors and diodes ; Extending the road beyond CMOS
Sungjae Cho, Korea Advanced Institute of Science and Technology, South Korea **K**

14:10-14:40 Title: Growth of Single-Crystal Hexagonal Boron Nitride by Chemical Vapor Deposition
Hyeon Suk Shin, UNIST, Republic of Korea **K**

14:40-15:10 Title: Chemically-Functionalized MXene Based Triboelectric Nanogenerators: Environmental Stability and Versatility of Mxene
Dae Joon Kang, Sungkyunkwan University, South Korea **K**

15:10-15:40 Title: Tuning mosaic textures of van der Waals monolayer semiconductors by vicinal epitaxy
Moon-Ho Jo, Pohang University of Science and Technology (POSTECH), Korea **K**

Invited Session

Session1 **Graphene and other 2D materials**
Devices constructed from of graphene and 2D materials

Jakob Heier, Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland

15:40-16:05 Title: Engineering 2D Materials for Optoelectronic Applications
Sivacarendran Balendhran, The University of Melbourne, Australia **I**

16:05-16:20 **Coffee Break**

16:20-16:45 Title: 2D Atomic Sheets based Non-volatile 6G Switches
Myungsoo Kim, Ulsan National Institute of Science and Technology (UNIST), Korea **I**

16:45-17:10 Title: Interface driven properties of graphene-based heterostructures
Ravindra Pandey, Michigan Technological University, USA **I**

17:10-17:35	Title: A Universal Approach for Room-temperature Printing and Coating of Two-dimensional Materials Jakob Heier , Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland	
17:35-18:00	Title: Evolutions of Dirac Fermions in Monatomic layers Iwao Matsuda , University of Tokyo, Japan	

End of Day-1 Program

Day-2, August 23, 2022

Invited Session

BREAKOUT ROOM-1

Meeting Room: Macallan

Session2	Spectroscopy and microscopy of Graphene and 2D materials Others	
10:00-10:25	Title: Magnetic and Electronic Properties of the Two-Dimensional Transition Metal Dihalides Maxim Ilyn , Materials Physics Center CSIC-UPV/EHU, Spain	
10:25-10:50	Title: Helicity-resolved cryomagnetic spectroscopies on van der Waals materials Jana Kalbacova Vejpravova , Charles University, Czech Republic	
10:50-11:15	Title: Interferometric Second-Harmonic Generation in Two-Dimensional Heterocrystals Sunmin Ryu , POSTECH, Republic of Korea	
11:15-11:30	Coffee Break	
11:30-11:55	Title: Defect engineering and impurity doping of graphene Jani Kotakoski , University of Vienna, Austria	
11:55-12:20	Title: The interlayer exciton state in MoS ₂ /WSe ₂ van-der-Waals heterostructures Ouri Karni , Stanford University, USA	
12:20-12:45	Title: Towards chirality control of graphene nanoribbons embedded in hexagonal boron nitride Haomin Wang , Shanghai Institute of Microsystem and Information Technology, China and Technology, Switzerland	
12:45-13:10	Title: Photophysics of Mixed-Dimensional van der Waals Heterostructures Christopher Petoukhoff , King Abdullah University of Science & Technology (KAUST), Saudi Arabia	

BREAKOUT ROOM-2

Meeting Room: Glenfiddich

Session3	Properties of Graphene and 2D materials Van der Waals heterostructures	
Session Chair	Jamet Mattheiu , CEA-Grenoble, France	
10:00-10:25	Title: Van der Waals epitaxy of two-dimensional transition metal dichalcogenides Jamet Mattheiu , CEA-Grenoble, France	
10:25-10:50	Title: Two-Dimensional Germananes and silicene as Self powered Photodetector and sensors Roy Pradip Kumar , University of Chemistry and Technology, Czech Republic	

10:50-11:15	Title: 2D materials as a base for large area light detectors Tilmar Kümmell , University Duisburg-Essen, Denmark	
11:15-11:30	Coffee Break	
11:30-11:55	Title: Improvement of graphene surface for the elaboration composite materials with copper matrix with improved physical properties Antonie Bident , Université de Bordeaux, France	
11:55-12:20	Title: Large-area single crystal 2D materials growth Ki Kang Kim , Sungkyunkwan University, Korea	
12:20-12:45	Title: Giant valley Zeeman coupling in the NbS ₂ surface monolayer of V _{1/3} NbS ₂ Phil King , University of St Andrews, UK	
12:45-13:10	Title: Controlling the electronic structure and related optical properties in van der Waals heterointerfaces: 2D semiconductor and functional organic molecules Soohyung Park , Korea Institute of Science and Technology, South Korea	
13:10-13:50	Lunch Break	
Session4	Applications of Graphene and 2D materials	
13:50-14:15	Title: 2D MXenes for electrochemical energy storage Hui Shao , Université Paul Sabatier, France	
14:15-14:40	Title: Defective Metal Nitrides as Efficient Hybridization Matrices to Explore High-Performance Electrocatalysts Xiaoyan Jin , Yonsei University, South Korea	
14:40-15:05	Title: Two-Dimensional MoS ₂ Gas Sensor Prepared by Liquid Phase Exfoliation Dalal Fadil , Universitat Rovira I Virgili, Spain	
15:05-15:30	Title: Strategies for improving the catalytic activity of 2D TMD nanosheets toward hydrogen evolution reaction Jieun Yang , Kyung Hee University, South Korea	
15:30-15:55	Title: Nano Energy Applications Using 2D TMD FETs and Diodes Seongil IM , Yonsei University, South Korea	
15:55-16:20	Coffee Break	
Poster Presentations		
P-001	Title: Wireless RF Energy Harvesting Through van der Waals Semiconductor Crystal Radio Livia Janice Widiapradja , Yonsei University, South Korea	Poster
P-002	Title: Electrical characteristic Schottky Diode and MESFET using β -Ga ₂ O ₃ with RF Measurement Hyun-Jung , Yonsei University, South Korea	Poster
P-003	Title: Electrical-Measurement-Based Band Gap Estimation of 2D Semiconductor using FET with Thin Graphite Contact Sungjae Hong , Yonsei University, South Korea	Poster
P-004	Title: Ternary Transistor using p-MoTe ₂ /n-MoS ₂ Heterostack Channel toward Quaternary NAND Logic Han Joo Lee , Yonsei University, South Korea	Poster
P-005	Title: One-pot Synthesis of Metal-Metal Oxide@C Nanowires as Efficient Electrocatalysts for Hydrogen Evolution Reaction So Yeon Yun , Yonsei University, South Korea	Poster

P-006	Title: An Important Role of Crystal Defect in Hybridization Matrix for Exploring Efficient Hybrid Supercapacitor Electrodes Yeon Hu Park , Yonsei University, South Korea	Poster
P-007	Title: Self-assembled peptides functionalizing graphene field-effect transistors for detection of odor molecules Chishu Homma , Tokyo Institute of Technology, Japan	Poster
P-008	Title: Assessment of Broadband Shielding Effectiveness of Graphene Composite Panels for Protective Enclosures Jinbo BAI , Centralesupelec, France	Poster

End of Conference

Day-3 | August 24, 2022

Virtual Presentations | Time Zone: London, UK (GMT+1)

09:00-09:30	Title: Graphene Coatings: A Novel Approach to Corrosion Resistance Raman Singh , Monash University, Australia	K
09:30-09:55	Title: Rational Design of Nanostructured and Functionalized 2D Materials for Advanced Nanoelectronics and Energy Storage Devices Ching Yuan Su , National Central University, Taiwan	I
09:55-10:20	Title: Controlling the Electronic Structure and Related Optical Properties in van der Waals Heterointerfaces: 2D Semiconductor and Functional Organic Molecules Soohyung Park , Korea Institute of Science and Technology, South Korea	I
10:20-10:45	Title: Interface-/Defect-Engineered Nanosheet-based Hybrid Materials with Diverse Energy Functionalities Seong-Ju Hwang , Yonsei University, South Korea	I
10:45-11:10	Title: Topological Phase Transition and Pseudogap in Black Phosphorus Keun Su Kim , Yonsei University, South Korea	I
11:10-11:35	Title: Hydrogen Boride Sheets and Boron Monosulfide Sheets Takahiro Kondo , University of Tsukuba, Japan	I
11:35-12:00	Title: Large Scale Growth of Graphene, hBN, and their Heterostructures Shengnan Wang , Nippon Telegraph and Telephone Corporation, Japan	I
12:00-12:25	Title: Mixed 1T-2H MoS ₂ Nanoflakes Electrodes For Li-ion Supercapacitors Mara Serrapede , The Istituto Italiano di Tecnologia (IIT), Italy	I
12:25-12:50	Title: Novel Charge Transport at 2D Metal-Semiconductor Interfaces Huamin Li , University at Buffalo, USA	I
12:50-13:15	Title: Multifunctional rGO-based Nanocomposites Antonio Riul , University of Campinas (UNICAMP), Brazil	I
13:15-13:45	Title: Selenides And Perovskites For Optical Sensing and Energy Harnessing Applications Anupama B Kaul , University of North Texas, USA	P
13:45-14:25	Title: Enhanced Properties of Graphene/Polymer Composites with Foaming Chul Park , University of Toronto, Canada	P
14:25-14:50	Title: Engineering 2D Materials for Optoelectronic Applications Sivacarendran Balendhran , The University of Melbourne, Australia	I
14:50-15:25	Title: Tuning mosaic textures of van der Waals monolayer semiconductors by vicinal epitaxy Moon-Ho Jo , Pohang University of Science and Technology (POSTECH), Korea	K

End of the Program





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<https://www.thescientistt.com/2023/graphene-materials>