



International Online Conference

★ February 23-24, 2021 ★

TENTATIVE PROGRAM (as of 24/02/2021)

Conference Time Zone – New York, USA (EST)



K: Keynote lecture / I: Invited Lecture / O: Oral / FP: FlashPoster



Tuesday (23/02/2021)

08:50 – 09:00: *Opening - Welcome and Introduction*

Antonio Correia (Phantoms foundation, Spain) / **James Hone** (Columbia University, USA) / **Mauricio Terrones** (PennState University, USA) / **Vincent Meunier** (Rennselaer, USA) / **Luigi Colombo** (UTDallas, USA)

09:00 – 09:30: **Jun Lou** (Rice University, USA)

Electrochemical Behaviors of Two-Dimensional Materials for Energy and Environmental Applications

K

09:30 – 10:00: **Francesco Bonaccorso** (BeDimensional, Italy)

Large-scale production of 2D crystals for energy applications

K

10:00 – 10:30: **Richard Kaner** (UCLA, USA)

Graphene Synthesis and Applications in Supercapacitors

K

10:30– 11:00: *Break / ePoster session / Exhibition*

PARALLEL SESSION 1

11:00 – 11:20: **Gordon Harling** (CMC Microsystems, Canada)

Accessing Infrastructure for Prototyping and Measurement

I

11:20 – 11:40: **Gordon Rinke** (AMO GmbH, Germany)

Wafer Scale Integration of Graphene - 2D Experimental Pilot Line at AMO

I

11:40 – 12:00: **Elías Torres Alonso** (Graphenea, Spain)

Graphenea Foundry: a platform for the manufacture of graphene-based devices

I

12:00 – 12:10: **Niels Wijnaendts van Resandt** (Heidelberg Instruments, USA)

Direct Write Lithography Tools and Applications

O

12:10 – 12:30: **Mario Lanza** (KAUST, Saudi Arabia)

Wafer-scale integration of two-dimensional materials in high-density memristive crossbar arrays for artificial neural networks

I

12:30 – 12:50: **An Chen** (Semiconductor Research Corporation, USA)

Nanoelectronics Research for Computing beyond CMOS

I

12:50 – 13:00: **Mohamed Boukhicha** (BNL, USA)

Large-scale Lithium-intercalated Multilayer Graphene Production

O

PARALLEL SESSION 2

11:00 – 11:20: **Adina Luican-Mayer** (University of Ottawa, Canada)

Visualizing 2D materials at the atomic scale

I

11:20 – 11:30: **Andrey Krayev** (HORIBA Scientific, USA)

Nanoscale Structural Peculiarities in Mono- to Few-Layer Crystals of Ti₃C₂T_x MXene Revealed by TERS.

O

11:30 – 11:50: **Sonia Conesa Boj** (TU Delft, The Netherlands)

From crafting to visualization: low-dimensional TMD nanostructures under the electron microscope lamppost

I

11:50 – 12:10: **Avik Ghosh** (University of Virginia, USA)

Unconventional switching using topological properties of electrons in graphene based heterostructures

I

- 12:10 – 12:30: **Bruno Dlubak** (CNRS/Thales, France) I
Spin filtering in graphene based magnetic tunnel junctions
- 12:30 – 12:50: **Aida Ebrahimi** (Pennsylvania State University, USA) I
All-Ink Dopamine Sensors with Ultralow Detection Limit Enabled by One-Step Annealing of Graphene Ink
- 12:50 – 13:00: **Salvatore Polverino** (Università degli studi di Genova, Italy) O
Few-layer graphene-based sustainable cement mortar
- 13:00 – 14:00: *Lunch Break*
- 14:00 – 14:30: **Dmitri Efetov** (ICFO, Spain) K
Competing phases of correlated Chern insulators in Superconducting Twisted Bilayer Graphene
- 14:30 – 15:00: **Emanuel Tutuc** (The University of Texas at Austin, USA) K
Correlated Insulators and Topological Transport in Twisted Double Bilayer Graphene
- 15:00 – 15:30: **Arend Van der Zande** (University of Illinois, USA) K
Electromechanical systems enabled by interfacial slip in 2D material heterostructures
- 15:30 – 16:00: **Abhay Pasupathy** (Columbia University, USA) K
Quantum phenomena in moire heterostructures
- 16:00 – 16:30: *Break / ePoster session / Exhibition*
- 16:30 – 17:00: **Matthew Yankowitz** (University of Washington, USA) K
Tunable correlated and topological states in twisted monolayer-bilayer graphene
- 17:00 – 17:10: **Fida Ali** (Sungkyunkwan University, South Korea) O
Density of Interface States in Layered-WSe₂ Semiconductor
- 17:10 – 17:20: **Tien Dat Ngo** (Sungkyunkwan University, South Korea) O
Fermi-level de-pinning at the intrinsic WSe₂-metal junction via van der Waals bottom contacts
- 17:20 – 17:30: **Pawan Srivastava** (Sungkyunkwan University, South Korea) O
Resonant tunneling through twisted black phosphorus homostructures
- 18:00 End of day 1



Wednesday (24/02/2021)

- 08:30 – 09:00: **Robert Wallace** (The University of Texas at Dallas, USA) K
An update on contact reactions with TMDs
- 09:00 – 09:30: **Joan Marie Redwing** (The Pennsylvania State University, USA) K
Progress in epitaxial growth of wafer-scale TMD monolayers
- 09:30 – 10:00: **Zhihong Chen** (Purdue University, USA) K
2D Materials for Back-end-of-line Interconnect Application
- 10:00 – 10:05: **Filippo Giubileo** (CNR-SPIN Università di Salerno, Italy) FP
Transition metal dichalcogenide monolayers as gate controlled field emitters
- 10:05– 10:30: *Break / ePoster session / Exhibition*
- 10:30 – 11:00: **Philip Kim** (Harvard University, USA) K
Josephson Junctions based on van der Waals heterostructures
- 11:00 – 11:30: **Kaustav Banerjee** (University of California, USA) K
Next-generation integrated electronics uniquely enabled by van der Waals materials and heterostructures
- 11:30 – 11:40: **Folkert de Vries** (ETH Zurich, Switzerland) O
Gate-Defined Josephson Junctions in Magic-Angle Twisted Bilayer Graphene
- 11:40 – 12:10: **Jim Schuck** (Columbia University, USA) K
Nonlinear twistoptics at symmetry-broken interfaces
- 12:10 – 12:40: **Jia Li** (Brown University, USA) K
Tuning moirè flatband in magic-angle twisted bilayer graphene
- 12:40 – 13:10: **Stephan Roche** (ICREA/ICN2, Spain) K

Topological Spin Transport in Quantum Materials and Entanglement	
13:10 – 13:20: Pablo Piskunow (Catalan Institute of Nanoscience and Nanotechnology, Spain)	O
Hinge Spin Polarization in Magnetic Topological Insulators Revealed by Resistance Switch	
13:20 – 14:00: <i>Lunch Break</i>	
14:00 – 14:10: Stephen Power (Trinity College Dublin, Ireland)	O
Manipulating valley currents in graphene nanostructures	
14:10 – 14:20: Megan Steves (The Pennsylvania State University, USA)	O
Correlating nonlinear optical properties with atomic-level structure in 2D-polar metals	
14:20 – 14:30: Andrea Tomadin (Università di Pisa, Italy)	O
Microscopic theory of plasmon-enabled resonant terahertz detection in bilayer graphene	
14:30 – 14:40: Raúl Guerrero (Centro de Física de Materiales, Spain)	O
Rhombohedral Phase in Trilayer-graphene	
14:40 – 15:10: Ado Jorio (Universidade Federal de Minas Gerais, Brazil)	K
Phonon localization in low-angle twisted bilayer graphene	
15:10 – 15:40: Jerzy Sadowski (Brookhaven National Laboratory, USA)	K
Interlayer coupling effects in the 30deg-twisted bilayer graphene	
15:40 – 16:40: <i>Break / ePoster session / Exhibition</i>	
16:40 – 17:10: Jamie Warner (University of Texas at Austin, USA)	K
Air Stable Noble Metal Dichalcogenide 2D layered Materials	
17:10 – 17:40: Rodney Ruoff (UNIST/CMCM, South Korea)	K
F-diamane from AB-stacked graphene	
17:40 – 18:10: Michael Fuhrer (Monash University, Australia)	K
2D Topological Insulators for Low-Energy Electronics	
18:10: Closing	