

TENTATIVE PROGRAM (as of 12/11/2020)



Time zone: Montreal (Canada) EST

K: Keynote lecture / I: Invited Lecture / O: Oral Contribution



Monday (16/11/2020)

08:45 – 09:00: *Opening - Welcome and Introduction*

Antonio Correia – President (Phantoms Foundation, Spain)

Marie D'Iorio – President (NanoCanada, Canada)

09:00 – 09:30: **Philip Kim** (Harvard University, USA)

Unusual quasiparticle pairing in stacked atomic layers

09:30 – 10:00: **Max Lemme** (AMO, Germany)

2D Materials for Artificial Intelligence Systems - Eyes, Ears, Nose and Brain?

10:00 – 10:30: **Cinzia Casiraghi** (University of Manchester, UK)

2D material inks: from printed devices to polymorph's selectivity

10:30– 10:45: *Break*

10:45 – 11:15: **Stephan Roche** (ICREA/ICN2, Spain)

Canted Topological Spin Transport in Low-symmetry Quantum Materials

11:15 – 11:45: **Mauricio Terrones** (The Pennsylvania State University, USA)

Doping transition metal dichalcogenide monolayers: electronic, optical and magnetic implications

11:45 – 13:05: **PhD Students // sessions**

Session 1

11:45-11:55: **Israel Rebollo** (Concordia University, Canada)

Thin-suspended 2D heterostructures: Facile, versatile and deterministic transfer assembly

11:55-12:05: **Vivek Saraswat** (University of Wisconsin-Madison, USA)

Integrating Graphene Nanoribbons on CMOS-compatible Platforms for Semiconductor Electronics

12:05-12:15: **Abhay Vivek Agrawal** (Indian Institute of Technology, Ropar, India)

Controlled growth of vertical MoS₂ flakes to in-plane MoS₂ and their utilizations in photodetectors

12:15-12:25: **Gabriele Bianca** (IIT, Italy)

2D Layered Metal Monochalcogenides for Photoelectrochemical (PEC)-Type Photodetectors and Water Splitting Applications

12:25-12:35: **Eli Martel** (McGill University, Canada)

Three-Terminal Suspended Graphene Energy Efficient Switches

12:35-12:45: **Antony Thirupathi** (University of Guelph, Canada)

Design of Graphene-Based Nanomaterials for Energy and Environmental Applications

12:45-12:55: **Kelly Wright** (Trent University, Canada)

Self-assembled Polydiacetylenes on Nanographene for Construction of Hybrid Sensing Materials

12:55-13:05: **Yiwen Chen** (McGill University, Canada)

Graphene oxide, reduced graphene oxide and composite scaffolds for bone tissue engineering with hierarchical pore size distributions via a dual-templating strategy

Session 2

11:45-11:55: **Tomasz Woźniak** (Wrocław University of Science and Technology, Poland)

Exciton g-factors of van der Waals heterostructures from first principles calculations

11:55-12:05: **Miriam Galbiati** (Technical University of Denmark, Denmark) O
 Tuning the doping of epitaxial graphene on a conventional semiconductor via substrate surface reconstruction

12:05-12:15: **Davoud Adinehloo** (University at Buffalo, USA) O
 Valley Polarization in WS₂/Graphene Heterostructures

12:15-12:25: **Gonzalo Álvarez Pérez** (University of Oviedo, Spain) O
 Enabling predictive capabilities for the polaritonic response of the biaxial van der Waals crystal α -MoO₃

12:25-12:35: **Gabriele Selvaggio** (University of Göttingen, Germany) O
 Exfoliated Silicate Nanosheets as Novel Near-Infrared Fluorophores for (Bio)Photonics

12:35-12:45: **Zahra Aboalizadeh** (University of Calgary, Canada) O
 Layer Dependant Mechanical Properties of Graphene

12:45-12:55: **Stanislav Musikhin** (University of Duisburg-Essen, Germany) O
 Characterization of Few-Layer Graphene Aerosols by Laser-Induced Incandescence

12:55-13:05: **Grazia Giuseppina Politano** (Università della Calabria, Italy) O
 Variable angle spectroscopic ellipsometry investigation of turbostratic CVD-grown bilayer and trilayer graphene

13:05 – 13:50: *Lunch Break*

13:50 – 14:30: **ePosters session**

14:30 – 15:00: **Aiping Yu** (University of Waterloo, Canada) K
 Structure Engineered Graphene Quantum Dots for Advanced Planar Micro-Supercapacitors

15:00 – 15:10: **Aleandro Antidormi** (ICN2, Catalan Institute of NanoScience and Nanotechnology, Spain) O
 Exceptional properties of Disordered materials for novel applications

15:10 – 15:40: **James Hone** (Columbia University in the City of New York, USA) K
 Bilayer Graphene as a Model Hydrodynamic Semiconductor

15:40 – 16:00: *Break*

16:00 – 16:30: **Eva Andrei** (Rutgers University, USA) K
 Flat Bands and Correlated Electronic States in Two Dimensional Atomic Crystals

16:30 – 16:50: **Adina Luican-Mayer** (University of Ottawa, Canada) I
 Visualizing 2D materials at the atomic scale

16:50 – 17:00: **Jigang Zhou** (Canadian Light Source, Canada) O
 Electronic structure studies of graphene and graphene based functional materials by soft X-ray absorption

17:00 – 17:10: **Katherine Cochrane** (Lawrence Berkeley National Lab, USA) O
 Electrically driven photon emission from individual atomic defects on monolayer tungsten disulfide



Tuesday (17/11/2020)

Industrial Forum

09:00 – 09:30: **Frank Koppens** (ICREA/ICFO, Spain) K
 Transparent image sensor for eye-tracking and nanophotonic infrared photodetectors

09:30 – 10:00: **Francesco Bonaccorso** (BeDimensional, Italy) K
 Large-scale production of 2D crystals for energy applications

10:00 – 10:30: **Mark Hersam** (Northwestern University, USA) K
 Chemically tailored two-dimensional materials for electronic and energy technologies

10:30 – 10:50: **Kari Hjelt** (Chalmers Industrial Technic, Sweden) I
 Graphene commercialisation and graphene flagship

10:50– 11:10: *Break*

Industrial Forum (Parallel Session 1)

11:10 – 11:30: **Norbert Fabricius** (KIT - ISC, Germany) I
 Graphene standardization – Where are we today?

11:30 – 11:50: **Andrew J. Pollard** (National Physical Laboratory, UK) I
 Development of International Measurement Standards

11:50 – 12:10: **Nima Moghimian** (nanoxplore, Canada) I
 Commercializing Graphene for Everyday Use: The Critical Role of Regulation

12:10 – 12:20: **Anastasia Elias** (University of Alberta, Canada) O
 Printing and Patterning of Conductive Graphenic Nanomaterial-Polymer Composites

12:20 – 12:30: **Anya Grushina** (Heidelberg Instruments Nano, Switzerland) O
 NanoFrazor – A Versatile Nanopatterning Tool for 2D materials

12:30 – 12:50: **Arben Merkoci** (ICREA-ICN2, Spain) I
 Graphene-based materials in sensors and biosensors

12:50 – 13:10: **Colin Van der Kuur** (ZEN Graphene Solution, Canada) I
 ZEN Graphene Solutions Response to COVID-19 Antiviral Coatings and Viral Detection

13:10 – 13:20: **Natalia Alzate-Carvajal** (University of Ottawa, Canada) O
 Graphene field effect transistors for detection of volatile organic compounds and simulants of chemical warfare agents

13:20 – 13:30: **Jaewoo Park** (University of Ottawa, Canada) O
 Optically enhanced gas sensing performance of graphene field effect transistors

Industrial Forum (Parallel Session 2)

11:10 – 11:30: **Amaia Zurutuza** (Graphenea, Spain) I
 Graphene integration in the electronic industry

11:30 – 11:50: **Siva Böhm** (The Royal Society Industry Fellow, UK) I
 Graphene and 2D scalable production and wearable Textile technologies

11:50 – 12:10: **Paolo Bondavalli** (Thales Research & Technology, France) I
 New 2D materials for energy applications: from graphene to topological insulators

12:10 – 12:30: **Aldo Di Carlo** (University of Rome "Tor Vergata", Italy) I
 Graphene-Perovskite photovoltaics: from lab cells to panels

12:30 – 12:40: **Stephanie Hernandez Santos** (Abalonyx AS, Norway) O
 Large Scale Production and Industrialization of Graphene Oxide

12:40 – 12:50: **Leyla Najafi** (Bedimensional S.p.a., Italy) O
 Metallic 2D crystals for bifunctional, pH-universal electrocatalysts for water splitting reactions

12:50 – 13:00: **Marilena Isabella Zappia** (Bedimensional S.p.a., Italy) O
 Group-III layered Semiconductors (GaSe and GaS) for Photoelectrochemical (PEC)-type Photodetectors

13:00 – 13:10: **Salvatore Polverino** (Università degli studi di Genova, Italy) O
 Graphene-based cement-composite

13:10 – 13:30: **Marta Cerruti** (McGill University, Canada) I
 Graphene aerogels: from self-assembly to applications

13:30 – 14:10: *Lunch Break*

14:10 – 14:30: **Pawel Hawrylak** (University of Ottawa, Canada) I
 Atomic scale electronics and photonics with qdots in 2D materials.

14:30 – 14:40: **Luis Canonico** (ICN2, Spain) O
 Orbital Hall insulating phase in transition metal dichalcogenide monolayers

14:40 – 14:50: **Antonio Gallerati** (Politecnico di Torino, Italy) O
 Holography and Graphene

14:50 – 15:00: **Chen Hu** (McGill University, Canada) O
 2N-rule: Searching topological phases and robust edge modes in carbon nanotubes

15:00 – 15:20: **Marcel Franz** (University of British Columbia, Canada)
 High-temperature topological superconductivity in twisted double layer copper oxides

15:20 – 15:50: **ePosters session**

15:50 – 16:10: *Break*

16:10 – 16:30: **Thomas Szkopek** (McGill University, Canada) I
 Precision ion sensitive transistors enabled by wafer scale graphene

16:30 – 16:50: **Emanuele Orgiu** (INRS, Canada) I
 Hybrid Molecule/2D Material van der Waals Heterostructures

16:50 – 17:00: **Branislav K. Nikolic** (University of Delaware, USA) O
 Spin-orbit torque in van der Waals heterostructures of magnetic two-dimensional materials

17:00: Closing