GRAPHENE FOR US
International conference
New York ★ Feb. 22-23, 2018

TENTATIVE PROGRAM (as of 14/02/2018)

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

THURSDAY (22/02/2018)

08:15 – 09:00: Registration

09:00 – 09:15: Opening Ceremony- Welcome and Introduction.

09:15 – 09:45: **Tony F. Heinz** (Stanford University, USA) K
Many-body effects in 2D semiconductors - tuning both the optical and electronic properties of atomically thin materials
09:45 – 10:15: **Joshua A. Robinson** (Pennsylvania State University, USA) K
Atomically-Thin Materials and Heterostructures

10:15– 10:45: Coffee Break / Poster Session & Exhibition

10:45 – 11:15: **Francesco Bonaccorso** (IIT-Graphene Labs / BeDimensional, Italy) K
2D-crystals-based composites for energy applications
11:15 – 11:30: **Argyrios Varonides** (University of Scranton, USA) O
New modeling for thermionic-photo-current and open-circuit voltage in Graphene/Insulator/n-Si (GIS) Schottky Solar Cells
11:30 – 11:45: **Andrew Pollard** (National Physical Laboratory (NPL), UK) O
Standardisation of terminology and measurement for graphene and related 2D materials
11:45 – 12:15: **Elisa Riedo** (ASRC-CUNY, USA) I
Diamene: Ultrahard Single Layer Diamond formed from two-layer Epitaxial Graphene upon Impact

12:15 – 13:15: Luch (offered by the organization)
13:15 – 14:00: Poster Session & Exhibition

14:00 – 14:30: **Mark C. Hersam** (Northwestern University, USA) K
Printable Two-Dimensional Nanomaterial Inks for Electronic and Energy Applications
14:30 – 15:00: **Emanuel Tutuc** (The University of Texas, USA) K
Graphene-based Interlayer Tunneling Field-Effect Transistors: Device Physics and Applications
15:00 – 15:30: **Aron Cummings** (ICN2, Spain) I
Spin transport in graphene interfaced with strong spin-orbit materials

15:30– 16:00: Coffee Break / Poster Session & Exhibition

16:00 – 16:30: **Jean-Christophe Charlier** (UCLouvain, Belgium) K
Electronic and optical properties of strained graphene and borophene
16:30 – 16:45: **Liangbo Liang** (Oak Ridge National Laboratory, USA) O
Predictive models for low-frequency Raman scattering in 2D materials
16:45 – 17:00: **Issai Shlimak** (Bar Ilan University, Israel) O
Optical and electrical properties of CVD grown monolayer graphene samples subjected to ion irradiation

17:00– 17:15: **Jun Yan** (University of Massachusetts Amherst, USA) O
Luminescent emission from 1s, 2s, 3s and 4s excitons of monolayer WSe2 in high magnetic fields

17:15 – 17:30: **Albert Rigosi** (National Institute of Standards and Technology, USA) O
Probing the dielectric response of the interfacial buffer layer in epitaxial graphene via optical spectroscopy
17:30 – 18:00: **Rudolf Tromp** (IBM Thomas J. Watson Research Center, USA) I
Spectroscopy of 2D Materials with Low Energy Electron and Photo Electron Emission Microscopy
18:00 – 18:15: **Damien Tristant** (Rensselaer Polytechnic Institute, USA) O
Dynamical Stability of Supported Black and Blue Phosphorus
18:15 – 18:30: **Valentina Cantatore** (Chalmers University of Technology, Sweden) O
Multi-Purpose Functionalization of Boron-Doped Graphene: insights from in silico experiments

FRIDAY (08/02/2018)

Parallel Session I: Production

08:45 – 09:15**: Tom Fedolak** (Graphenea Inc., USA) I
The Scaling of Reproducible Graphene for Industry Use
09:15 – 09:30: **William H. Douglas** (2DLayer , USA) O
2D TMDC Materials Foundry and Wafer-Scale Synthesis
09:30 – 09:45: **Yaping Zhao** (Shanghai Jiao Tong University, China) O
Scalable production of defect-free graphene sheets using rotor–stator mixer in supercritical CO2 and their applications
09:45 – 10:00: **Micah Green** (Texas A&M University, USA) O
Scalable production of pristine graphene using electrochemical exfoliation
10:00 – 10:15: **Kyungnam Kang** (Stevens Institute of Technology, USA) O
A study on the growth of WS2 homobilayers with controlled 0 and 60 degree stacking using two-step van der Waals epitaxy
10:15 – 10:30: **Neeraj Mishra** (Instituto Italiano di tecnologia @NEST, Italy) O
Scalable metal-free CVD growth of graphene on sapphire

10:30 – 11:00*: Coffee Break / Poster Session & Exhibition*

Parallel Session I: Applications

11:00 – 11:30: **Elena Polyakova** (Graphene Laboratories Inc., USA) I
Recent Progress in Commercialization of Graphene-based Thermoplastic and Thermoset Composites
11:30 – 11:45: **Tero Kulmala** (SwissLitho AG, Switzerland) O
Low Damage NanoFabrication for 2D Material Devices and Beyond
11:45 – 12:00: **Yenny Hernandez** (Universidad de los Andes, Colombia) O
Large thermoelectric figure of merit in graphene layered devices at low temperature

Parallel Session II: Applications

08:45 – 09:15: **Vittorio Pellegrini** (Graphene Labs – IIT, Italy) I
Graphene composites: from lab to market
09:15 – 09:30: **Maria Iliut** (University of Manchester, UK) O
Graphene and water-based elastomers thin-film composites
09:30– 10:00: **Ray Gibbs** (Haydale, UK) I
Near term commercial applications for Graphene, Composites and Conductive Pastes
10:00 – 10:30: **Kuan-Tsae Huang** (AzTrong, USA/Taiwan) i
Challenges of Graphene Battery Commercialization

10:30 – 11:00*: Coffee Break / Poster Session & Exhibition*

11:00 – 11:30: **Yaqing Bie** (MIT, USA) I
A MoTe2 LED and photodetector for silicon photonics

11:30 – 11:45: **Mustafa Eginligil** (Nanjing Tech University, China) O
Light polarization and carrier density dependence of photocurrent in few layer graphene and monolayer MoS2
11:45 – 12:00: **Junhui He** (Technical Institute of Physics and Chemistry, Chinese Academy of Sciences (CAS), China) O
Highly Conductive Free-Standing Reduced Graphene Oxide Thin Films for Fast Photoelectric Devices

Parallel Session III: "Graphene and 2D Materials" Worldwide Initiatives

09:00 – 09:30: **Kari Hjelt** (Chalmers Industrial Technic, Sweden) I
Graphene Flagship: bridging the gap from research to commercialization
09:30 – 10:00: **Andy Zhou** (Grafoid Inc., Canada) I
Grafoid: Collaboration Is the Key to Graphene's Commercialization
10:00 – 10:30: **Antonio Correia** (Phantoms Foundation, Spain) I
"Graphene and 2D Materials" EUREKA Cluster: Fostering European Competitiveness

10:30 – 11:00*: Coffee Break / Poster Session & Exhibition*

Parallel Session III: Characterization

11:00 – 11:15**: Heather Hill** (National Institute of Standards and Technology, USA) O
Probing the Charge Density Wave State in Bulk to Monolayer 2H-TaSe2 by Raman Spectroscopy
11:15– 11:30: **Barry Brennan** (NPL, UK) O
How Clean is My Graphene?: Understanding the Impact of Contamination Using ToF-SIMS Characterization
11:30 – 11:45: **Andy Huber** (neaspec GmbH, Germany) O
THz Near-field Nanoscopy at 25 Nanometer Spatial Resolution
11:45 – 12:00: **Stefan Hummel** (GETec Microscopy GmbH, Austria) O
Correlative in-situ AFM & SEM mechanical analysis of suspended 2D materials
12:00 – 12:15: **Andrey Krayev** (Horiba Scientific, USA) O
Nanoscale Heterogeneities in Monolayer MoSe2 and WSe2 Revealed by Correlated SPM and TERS
12:15 – 12:30: **Shan Zou** (National Research Council Canada, Canada) O
Characterization of solution processable graphene related materials

12:30 – 14:00. *Lunch*

Plenary Session

14:00 – 14:30: **Kostas Kostarelos** (The University of Manchester, UK) K
The Transformation of Graphene and 2D Materials into Biomaterials
14:30 – 14:45: **Irene de Lazaro** (University of Manchester, UK) O
A Graphene Oxide 2D Platform for Intracellular siRNA Delivery
14:45 – 15:00: **Genhua Pan** (University of Plymouth, UK) O
Graphene biosensors for label-free detection of DNA and protein disease biomarkers
15:00 – 15:15: **Patrick Senet** (Université de Bourgogne Franche-Comté, France) O
Monitoring the translocation of single polypeptides through MoS2 nanopores from ionic current fluctuations, lessons from all-atom molecular dynamics simulations

15:15 – 16:00: Coffee Break / Poster Session & Exhibition

16:00 – 16:30: **Philip Kim** (Harvard University, USA) K
Electronic and Optoelectronic Physics in the van der Waals Heterojunctions
16:30 – 17:00: **Paolo Samori** (Université de Strasbourg , France) K
When molecular science meets 2-D materials: combining multiple functions
17:00 – 17:15: **Tengfei Cao** (CUNY, USA) O

Pressure-induced phase transition of bilayer epitaxial graphene: Computations meet the experiment
17:15 – 17:30: **Enrique Munoz** (Pontificia Universidad Catolica de Chile, Chile) O
Analytic approach to magneto-strain tuning of electronic transport through a graphene nanobubble: perspectives for a strain sensor
17:30 – 17:45: **Michael Zwolak** (National Institute of Standards and Technology, USA) O
Graphene deflectometry for sensing molecular and ionic processes at the nanoscale
17:45 – 18:00: **Aravind Vijayaraghavan** (University of Manchester, UK) O
Capacitive pressure and touch sensors with suspended graphene-polymer heterostructure membranes
18:00 – 18:30: **Cory Dean** (Columbia University, USA) K
Tunable degrees of Freedom in van der Waals heterostructures

18:30: Closing and GrapheneforUS2019 announcement