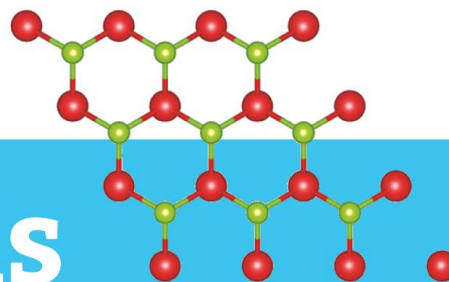


2nd International Symposium on
Science and Technology of

2D Materials



**Harris Engineering Center Room 101
4000 Central Florida Blvd, Orlando, FL 32816**

Scientific Program

Friday, February 3, 2017

Registration open: 7.00AM

Inauguration: 8.00 – 8.20AM

8.00 - 8.03: Introduction by Saiful Khondaker, Symposium Chair

8.03-8.06: Michael Johnson, Dean, College of Sciences, University of Central Florida

8.06-8.09: Bahaa Saleh, Dean, College of Optics and Photonics (CREOL), University of Central Florida

8.09-8.12: Michael Georgiopoulos, Dean, College of Engineering and Computer Science, University of Central Florida

8.12-8.20: Elizabeth (Liz) Klonoff, Vice President for Research and Commercialization and Dean of Graduate studies, University of Central Florida

Session A: Plenary Session I

Chair: Yeonwoong Jung (University of Central Florida)

A1. 8.30-9.30AM: Pulickel M. Ajayan (Rice University): 2D atomic layers: new material's paradigm

Coffee break: 9.30-9.45AM

Session B: Growth, Synthesis and Characterization

Chair: Humberto Rodriguez Gutierrez (University of South Florida)

B1. 9.45-10.20 AM: Changgu Lee/Sungkyunkwan University, Korea

Synthesis of wafer-scale 2D metal chalcogenide films (invited)

B2. 10.20- 10.55 AM: David Geohegan/Oak Ridge National Lab
Exploring 2D materials synthesis with nonequilibrium growth techniques and laser spectroscopy (invited)

B3. 10.55-11.30 AM: Nikhil Koratkar/Rensselaer Polytechnic Institute
Phosphorene as a polysulfide immobilizer in high-performance lithium-sulfur batteries (invited)

B4. 11.30 AM-11.45 PM: Wei Sun Leong/Massachusetts Institute of Technology
Chemical vapor deposition of multiple transition metal disulfides in one synthesis step (contributed)

B5. 11.45 AM -12.00 PM: Kaci Kuntz/University of North Carolina
Oxidative control of edge and surface chemistry in 2D black phosphorus (contributed)

B6. 12.00 – 12.15 PM: Prassana Sahoo/University of South Florida
In situ laser induced chemical modification of ultrathin WSe₂ (contributed)

Lunch break: 12.15 - 1.00 PM, Lunch will be provided

Session C: Plenary Session II

Chair: Masa Ishigami

C1. 1.00 – 2.00 PM: James Hone (Columbia University): 2D devices and phenomena in the ultraclean limit

Session D: Electrical and Mechanical Properties

Chair: Chang-Yong Nam, Brookhaven National Lab

D1. 2.00 -2.35 PM: C. N. Lau/UC Riverside
Quantum transport and electron interactions in few-layer atomic membranes (invited)

D2. 2.35 – 3.10 PM: Sefaattin Tongay/Arizona State University
Fundamentals and applications of pseudo-1D quantum membranes (invited)

D3. 3.10 – 3.45 PM: Philip Hofmann/Aarhus University, Denmark
Electronic structure and electron dynamics in novel 2D materials (invited)

Coffee break: 3.45 – 4.00 PM

D4. 3.45-4.00 PM: Matthias Batzil/ University of South Florida
Electronic properties of twin grain boundaries in MoSe₂ (contributed)

D5. 4.00-4.15 PM: Sadhu Kolekar/ University of South Florida

Controlling charge density wave transition in monolayer TiSe_2 (contributed)

D6. 4.15 – 4.30 PM: Madhab Neupane/ University of Central Florida
Experimental realization of two-dimensional topological Dirac materials and beyond
(contributed)

D7. 4.30 – 4.45 PM: Masa Ishigami/ University of Central Florida
Ultra-low friction of gold nanocrystals on graphene (contributed)

Session E: Summary and Discussion of day 1: 4.45-5.30PM

Session F: Poster and reception: 5.30 - 7.30 PM

Chair: Yeonwoong Jung (University of Central Florida)

7.30 PM: Workshop adjourns for Day 1

Saturday, February 4, 2017

Session G: Thermal, Optical and Chemical properties

Chair: Matthias Batzill, University of South Florida

G1. 8.00 – 8.35 AM: Gwan-Hyoung Lee/Yeonse University, Korea
2D materials and van der Waals heterostructures: synthesis, defects, surface modification, and device applications (invited)

G2. 8.35 – 9.10 AM: Koray Aydin/Northwestern University
Plasmon Enhanced Light-Matter Interactions in 2D Materials (invited)

G3. 9.10 – 9.25 AM: A. K. M. Newaz/San Francisco State University
Opto-electronic properties of synthesized monolayer molybdenum disulfide (contributed)

G5. 9.25 – 9.40 AM: Mihai Vaida/ University of Central Florida
Monitoring the ultrafast charge carrier dynamics at 2D-3D heterojunctions with femtosecond extreme-ultraviolet laser pulses (contributed)

G6. 9.40 – 9.55 AM: Richard Blare/ University of Central Florida
Heterogeneous mechanocatalysis facilitated by defect-laden 2D structures (contributed)

Coffee break: 9.55-10.10AM

Session H: Electronics and Devices

Chair: Gwan-Hyoung Lee, Yonsei University, Korea

H1. 10.10 – 10.45 AM: Ali Javey/UC Berkeley
2D semiconductor electronics: advances, challenges and opportunities (invited)

H2. 10.45 – 11.20 AM: Deji Akinwande/UT Austin
2D emerging devices beyond transistors (invited)

H3. 11.20 – 11.55 AM: Eric Pop/Stanford University
Electrical, thermal, and unconventional applications of 2D materials (invited)

H4. 11:55 – 12.10 PM: Scott Warren/University of North Carolina
Two-dimensional electrides (contributed)

Lunch break: 12.10 PM-1:15 PM, Lunch will be provided

H5. 1.15 – 1.30 PM: Vikas Berry/University of Illinois Chicago
(Non-van der Waal) Functionalization of graphene with retained trigonal lattice and charge carrier mobility (contributed)

H6. 1.30 – 1.45 PM: Richard Klemm/ University of Central Florida

Terahertz emission from the intrinsic Josephson junctions of high-symmetry, thermally-managed 2D superconducting $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ microstrip antennas (contributed)

H7. 1.45 – 2:00 PM: Weinan Xu/Johns Hopkins University
Self-folding graphene microstructures for 3D functional devices and biosensing (contributed)

Session I: Theory and Modelling

Chair: Jing Guo, University of Florida

I1. 2.00-2.35 PM: Richard Hennig/University of Florida
Computational discovery of novel 2D materials for optoelectronic and spintronic devices (invited)

I2. 2.35 – 3.10 PM: Talat Rahman/ University of Central Florida
Optical excitations and ultrafast exciton dynamics in 2D transition metal dichalcogenides (invited)

I3. 3.10 – 3.25 PM Zhipeng Dong/University of Florida
Modeling 2D semiconductor FETs with sub-5nm gate length (contributed)

Coffee break: 3.25-3.40 PM

I4. 3.40 – 3.55: M. Mehboudi/University of Arkansas
Structural phase transitions on two-dimensional ferroelectric GeSe and SnSe (contributed)

I5. 3.55 – 4.10: Jason Haraldsen/University of North Florida
Determination of the spin dynamics and magnetic Dirac nodes in a Heisenberg honeycomb lattice (contributed)

I6. 4.10 – 4.25: Duy Le/ University of Central Florida
Defect generation on MoS_2 basal plane by hydrogen adsorption (contributed)

I7. 4.25 – 4.40: Takat Rawal/ University of Central Florida
Electronic structure and reactivity of Au_{13} nanoparticles supported on single-layer MoS_2 and h-BN: a comparative first-principles study (contributed)

Session J: Summary and Discussion of Day 2: 4.45-5.30 PM

5.30 PM: Workshop adjourns