MONDAY, MARCH 9, 2015

YOUNG LEADERS SESSION
Pegasus Ballroom G-H
Chair: Swetha Barkam, University of Central Florida

8:00 am-8:17 am
"High-Aspect-Ratio Carbon Nanofibrous Microelectrode Array for In-Vitro Neuron Signal Detection"
Sheng-Po Fang, University of Florida

8:17 am-8:34 am
"Photosystem I (PSI)-Proteoliposome Formation: A Study on Detergent Mediated Protein Reconstitution Mechanism"
Seyedeh Hanieh Niroomand, University of Tennessee

8:34 am-8:51 am
"Resolving Susceptibility Loss into the Competing Néel and Brownian Relaxations in the Remote RF Heating of Thermo-Responsive Polymers Using Magnetite Nanoparticles for Targeted Drug Delivery"
Daniel J. Denmark, University of South Florida

8:51 am-9:08 am
"New Insight into Nanoprinting for High-Performance Electrochemical Capacitors"
Zenan Yu, University of Central Florida

9:08 am-9:25 am
"Thorough Analyses of Different Ways of Mapping Efficiency of Silicon Solar Cells with Photoluminescence"
Kortan Öğütman, University of Central Florida

9:25 am-09:42 am
“Color Tunable Metasurfaces for Reflective Displays”
Daniel Franklin¹, Shin-Tson Wu³, Debashis Chanda²,³, ¹Dept. of Physics, University of Central Florida, ²NanoScience Technology Center, University of Central Florida, ³CREOL, The College of Optics and Photonics, University of Central Florida

9:42 am-09:59 am
"Synthesis of UV Block Polymers by Encapsulation of Lignin Based Nano Particles Via Miniemulsion Polymerization"
Suguna Jairam, University of Florida

10:00 am Coffee Break & Exhibits
OPENING AND KEYNOTE ADDRESS
Pegasus Ballroom G-H

10:15 am-10:20 am  Welcome and Introduction
Program Chair: Helena Hagelin-Weaver, Dept. of Chemical Engineering, University of Florida

10:20 am-11:15 am  Keynote Address
“Atomic Layer Etching Using Sequential, Self-Limiting Thermal Surface Reactions”
(Invited) Steven George, Depts. of Chemistry and Mechanical Engineering, University of Colorado

ADVANCES IN INSTRUMENTATION
Pegasus Ballroom G-H
Chair: Nicholas Rudawski, University of Florida

11:15 am-11:40 am
“The Hydro-Microtome: A New Instrument for Sectioning Fresh Stems, Roots, and Leaves”
(Invited) John M. Herr Jr., Dept. of Biological Sciences, University of South Carolina

11:40 am-12:05 pm
"Analytical Electron Microscopy Studies of CNT-Nanocomposites"
(Invited) Yi-Feng Su, National High Magnetic Field Laboratory, Florida State University

12:05 pm-12:30 pm
“Advances in EELS Instrumentation and Analysis: High-Speed Spectroscopy, with Extended Energy and Dynamic Range”
(Invited) Paolo Longo, Gatan, Inc., CA

12:30 pm-1:30 pm  Lunch Break & Exhibits

CHARACTERIZATION OF NANO/BIO MATERIALS
Pegasus Ballroom G-H
Chair: Thomas Mullen, University of North Florida

1:30 pm-2:00 pm
"Investigations of Anti-Marial Molecular Orbitals via STM Imaging and Tunneling Spectroscopy of Molecular Monolayers”
(Invited) Joel Olson, Dept. of Chemistry, Florida Institute of Technology

2:00 pm-2:30 pm
"Probing the Effects of Marine Natural Products on Microbial Biofilms”
(Invited) Amy Lane, Dept. of Chemistry, University of North Florida

2:30 pm-3:00 pm
"Utilizing a WGM Sensor System to Understand Protein Adsorption and Denaturation on Modified Surfaces and How it Affects Subsequent Cell Culture”
(Invited) James Hickman, NanoScience Technology Center, University of Central Florida

[Type here]  Vendors and Equipment Exhibit-Pegasus Ballroom A-F
Monday: 10AM-7PM
Tuesday: 8AM-1PM
3:00 pm-3:20 pm  Coffee Break & Exhibits

MICROSCOPY IN THE BIOLOGICAL AND PHYSICAL SCIENCES/FIB
Pegasus Ballroom G-H
Chair: Swadesh Mukul Santra, University of Central Florida

3:20 pm-3:50 pm  "Non-Ga Focus Ion Beam Processing"
(Invited) Brent P. Gila¹, N. Garraud² J. Fridmann³, P. Mazarov⁴, and D.P. Arnold², ¹Nanoscale Research Facility, University of Florida, ²Dept. of Electrical and Computer Engineering, University of Florida, ³Raith America, Inc., NY, ⁴Raith GmbH, Dortman, Germany

3:50 pm-4:20 pm  "Mitochondria Specific Conjugated Polymer Nanoparticles”
(Invited) Joong-Ho Moon, Dept. of Chemistry and Biochemistry, Florida International University

4:20 pm-4:50 pm  "Engineering Up-Conversion Emission Spectra using Plasmonic Nano-Cavities”
(Invited) Mercedeh Khajavikhan, CREOL, Photonics, University of Central Florida

POSTER SESSION AND RECEPTION
Pegasus Ballroom A-F

5:00 pm-7:00 pm  Poster Session and Competition
Chair: Laurene Tetard, University of Central Florida

5:00 pm-7:00 pm  Reception

TUESDAY, MARCH 10, 2015

8:00 am-9:00 am  POSTER SESSION AND COMPETITION
Pegasus Ballroom A-F
Chair: Laurene Tetard, University of Central Florida

RENEWABLE ENERGY (ALTERNATIVE ENERGIES)
Pegasus Ballroom G-H
Chair: Neelkanth Dhere, Florida Solar Energy Center, University of Central Florida

9:00 am-9:30 am  “CdTe PV: From Point Defects to Advanced Manufacturing”
(Invited) Chris Ferekides, Clean Energy Research Center, University of South Florida

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Vendors and Equipment Exhibit-Pegasus Ballroom A-F  
Monday: 10AM-7PM  
Tuesday: 8AM-1PM
9:30 am-10:00 am  
“Nanosecond Pulse Green Laser Scribing of Molybdenum Contact Layer for Photovoltaics (Invited) Eric Schneller\textsuperscript{a}, Neelkanth G. Dhere\textsuperscript{a}, and Aravinda Kar\textsuperscript{b}, \textsuperscript{a}Florida Solar Energy Center, University of Central Florida, \textsuperscript{b}CREOL, The College of Optics and Photonics, University of Central Florida

10:00 am-10:30 am  
“Recent Progress in Organic Solar Cells”  
(Invited) Franky So, Dept. of Materials Science and Engineering, University of Florida

10:30 am-10:50 am  Coffee Break & Exhibits

SURFACE SCIENCE  
Pegasus Ballroom G-H  
Chair: John Kuhn, University of South Florida

10:50 am-11:20 am  
“Heterogeneous Catalysis Research for Biofuel Production at NREL”  
(Invited) Matt Yung, NREL (National Renewable Energy Laboratory)

11:20 am-11:50 am  
“Surface Chemistry of Metal Oxide Nanoparticles: Implications for Chemical Sensing and Optoelectronic Devices”  
(Invited) James Whitten, Dept. of Chemistry, University of Massachusetts Lowell

11:50 am-12:20 pm  
“Smart Reconfigurable Nanostructures Enabled by Novel Stimuli-Responsive Shape Memory Polymers”  
(Invited) Peng Jiang, Dept. of Chemical Engineering, University of Florida

12:20 pm-1:30 pm  Lunch Break & Exhibits  
Door Prize Drawing (Pegasus Ballroom A-F)

THIN FILMS  
Pegasus Ballroom G-H  
Chair: Debasish Chanda, University of Central Florida

1:30 pm-2:00 pm  
“Nanomaterial Based or Inspired Thin Film Electronics and Optoelectronics”  
(Invited) Yajie Dong, NanoScience Technology Center, University of Central Florida

2:00 pm-2:15 pm  
“Tungsten Oxide Thin Films and Nanorods Grown by AACVD with the Single-Source Precursor WO2 (OCCH\textsubscript{3}(CF\textsubscript{3})\textsubscript{2})\textsubscript{2}•DME”  
Hankook Kim, Dept. of Chemistry, University of Florida
2:15 pm-2:30 pm  
“APCVD: An Enabling Technology for Manufacturing Silicon Solar Cells”  
Kristopher O. Davis¹,²,* and Winston V. Schoenfeld¹,²,³  
¹Florida Solar Energy Center, University of Central Florida, ²CREOL, College of Optics and Photonics, University of Central Florida, ³Dept. of Electrical Engineering and Computer Science, University of Central Florida,

2:30 pm-3:00 pm  
“Laser-Doped Silicon Carbide for MWIR Detection without Electrical Signal”  
(Invited) Aravinda Kar¹, Geunsik Lim², and Tariq Manzur³, ¹CREOL, The College of Optics and Photonics, MAE and MSE Depts., University of Central Florida, ²Corning Incorporated, New York, ³S&T Lead, I&EW, Undersea Warfare Electromagnetic Systems Development, Newport, RI

3:00 pm-3:20 pm  Coffee Break

NEMS  
Pegasus Ballroom G-H  
Chair: Daniel Santavicca, University of North Florida

3:20 pm-3:50 pm  
“Shedding Light on Surfaces: Nanoparticle-Film Fabrication for Biomaterial Applications”  
(Invited) Ellane J. Park*, Tina Wagenaar†, Siyan Zhang‡, A. James Link‡, Robert K. Prud’homme‡, Jeff T. Koberstein§, Nicholas J. Turro†, *Dept. of Chemistry, Rollins College, †Dept. of Chemistry and §Dept of Chemical Engineering, Columbia University, ‡Dept. of Chemical Engineering, Princeton University

3:50 pm-4:20 pm  
“Room Temperature, Low Pressure, Hermetic Sealing for NEMS and MEMS Devices Using Metallic Nanorod Arrays”  
(Invited) Stephen Stagon¹, Paul Elliott², and Hanchen Huang³, ¹University of North Florida, Dept. of Engineering, ²University of Connecticut, Dept. of Mechanical Engineering, ³Northeastern University, Dept. of Mechanical and Industrial Engineering

4:20 pm-4:50 pm  
“Development of Chip-Scale Chemical and Biomedical Sensing Platforms”  
(Invited) Jing Wang, Dept. of Electrical Engineering, University of South Florida

SPECIAL EVENTS  
5:00 pm-5:30 pm  
Student Poster Competition Awards Ceremony - Pegasus Ballroom G-H  
Program Chair: Helge Heinrich, University of Central Florida  
Poster Session Chair: Laurene Tetard, University of Central Florida

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Vendors and Equipment Exhibit-Pegasus Ballroom A-F  
Monday: 10AM-7PM  
Tuesday: 8AM-1PM