SYMPOSIUM PROGRAM

Monday, March 4, 2013

7:30-5:00  Registration Coordinator: Tasker Beal, Jr., Constellation Technology
7:30-9:00  Breakfast
7:30-10:30  Student Poster Setup Coordinator: Ying Zheng, NanoPhotonica, Inc
7:30-10:30  Equipment Exhibit Setup Coordinator: Helge Heinrich, University of Central Florida
            Mark Davidson, University of Florida
8:00-5:00  Technical Program
5:00-7:00  Poster Session
5:00-7:00  Reception (sponsored by Physical Electronics, Inc)

Tuesday, March 5, 2013

8:00-12:00  Registration  Coordinator: Tasker Beal, Jr., Constellation Technology
8:00-9:00  Breakfast
8:00-9:00  Poster Session
9:00-4:10  Technical Program
4:10-5:00  Poster Award Ceremony

(View abstracts for oral and posters presentations at www.flavs.org)

Student Union closes at 7 pm
Parking is available in Garage D
MONDAY, MARCH 4, 2013

OPENING AND KEYNOTE ADDRESS
Pegasus Ballroom G-H

8:00 am  Welcome and Introduction
Program Chair: Swadeshmukul Santra, Department of Chemistry and Burnett School of Biomedical Sciences, University of Central Florida

8:05 am  Keynote Address
A Retrospective of Two Decades with AVS
(Invited), Alison A. Baski, Virginia Commonwealth University, 2012 AVS President

MICROSCOPY IN THE BIOLOGICAL AND PHYSICAL SCIENCES/FIB
Pegasus Ballroom G-H
Chairs: Xiao (Sheryl) Li, University of South Florida
        Lucille Giannuzzi, Giannuzzi & Associates

9:00 am  Imaging Nanomaterials in Biophysical and Medical Applications
(Invited) Geoffrey F. Strouse, Florida State University

9:25 am  Fundamentals of Cryogenic FIB-SEM and Case Studies
(Invited) Nicholas Antoniou, Center for Nanoscale Systems, Harvard University

9:50 am  Applications of Advanced Characterization Techniques on Nuclear Materials Researches
(Invited) Yong Yang¹, and George (Zhijie) Jiao², ¹Nuclear Engineering Program, Materials Science and Engineering Department, University of Florida, ²Nuclear Engineering and Radiological Sciences, University of Michigan

10:15 am  Coffee Break (sponsored by RBD Instruments, Inc)
CHARACTERIZATION OF NANO/BIO MATERIALS
Pegasus Ballroom G-H

Chairs: Jennifer Andrew, University of Florida
Joong-Ho Moon, Florida International University

10:45 am  Microscopic and Spectroscopic Studies of Bioadhesive Interfaces
          (Invited) Kathryn J. Wahl¹, Daniel K. Burden², Daniel E. Barlow¹, Christopher M.
          Spillmann³, Richard K. Everett⁴ and Daniel Rittshcof⁵. ¹Chemistry Division, US Naval
          Research Laboratory, ²NRL NRC, US Naval Research Laboratory, ³Center for
          Biomolecular Science and Engineering, US Naval Research Laboratory, ⁴Materials
          Science & Technology Division, US Naval Research Laboratory, ⁵Duke University Marine
          Laboratory

11:10 am  Multi-probe Imaging Alternatives for Mass Spectrometry based Bio-Imaging
          (Invited) Francisco Fernandez Lima, Department of Chemistry and Biochemistry,
          Florida International University

11:35 am  Nanoscale Thermal Effects due to Magnetic Nanoparticles: Fact or Fiction?
          (Invited) Carlos Rinaldi, J. Crayton Pruitt Family Department of Biomedical
          Engineering and Department of Chemical Engineering, University of Florida

12:00 pm  Lunch Break

SURFACE SCIENCE
Pegasus Ballroom G-H

Chair: Wei David Wei, University of Florida

1:20 pm  Surface of Perovskite Manganites and Beyond
          (Invited) Zheng Gai, Materials Science and Technology Division and Center for
          Nanophase Materials Sciences Division, Oak Ridge National Lab

1:45 pm  Towards Organic Electronics: Methods for the Selective Deposition of
          Semiconducting and Metallic Nano-Objects
          (Invited) Jing Yang, Zhiwei Shi, Katherine Borner, Amy V. Walker, Department of
          Materials Science and Engineering, University of Texas-Dallas

2:10 pm  Characterization of Palladium Oxide Catalysts Supported on Nanoparticle Oxides
          (Invited) Helena E. Hagelin-Weaver, Justin J. Dodson, Luke M. Neal, Department of
          Chemical Engineering, University of Florida

2:35 pm  Metal Oxide Surface Chemistry and Photoluminescence
          (Invited) James E. Whitten, Department of Chemistry, University of Massachusetts
          Lowell

3:00 pm  Coffee Break (sponsored by R. D. Mathis Company)

Vendors and Equipment Exhibit
Pegasus Ballroom A-F
10:00am-7:00pm
YOUNG LEADERS SESSION
Pegasus Ballroom G-H
Chairs: John Mudrick, University of Florida
Andrew Teblum, University of Central Florida

3:30 pm Simulation of Nanosize Atomistic Models of Cerium Oxide to Decipher the Role of Redox State on its Irradiation Behavior
Amit Kumar1, Ram Devanathan2, Sudipta Seal1,3, 1Materials Science and Engineering, University of Central Florida, 2Fundamental and Computational Science Division, Pacific Northwest National Laboratory, 3NanoScience Technology Centre, University of Central Florida

3:45 pm Surface Plasmon Mediated Chemical Solution Deposition of Gold Nanoparticles at Room Temperature
Jingjing Qiu, Yung-Chien Wu, Yi-Chung Wang, Lisa McElwee-White and Wei David Wei*, Department of Chemistry and Center for Nanostructured Electronic Materials, University of Florida

4:00 pm Oxide/Metal/Oxide Trilayer - A Transparent Electrode in Optoelectronic Devices
Weiran Cao and Jiangeng Xue, Department of Materials Science and Engineering, University of Florida

4:15 pm Optical Nonlinearity in Nanomaterials
Panit Chantharasupawong†, Reji Philip*, Jayan Thomas*,§,†, † College of Optics and Photonics, CREOL, * NanoScience Technology Center, § Department of Material Science and Engineering, University of Central Florida

4:30 pm Homoeptaxial Growth of High Quality ZnO Thin Films
Ming Wei, R. Casey Boutwell, Winston V. Schoenfeld, CREOL, The College of Optics and Photonics, University of Central Florida

4:45 pm Success Skills for Science Careers - Perspective from Small Business
Bernd Liesenfeld, President, Quick-Med Technologies, Inc., Gainesville, FL

POSTER SESSION AND RECEPTION
Pegasus Ballroom A-F

5:00 pm Poster Session
Chair: Ying Zheng, NanoPhotonica, Inc., Gainesville, FL

5:00 pm Reception (sponsored by Physical Electronics, Inc)

Student Union closes at 7 pm

Vendors and Equipment Exhibit
Pegasus Ballroom A-F
10:00am-7:00pm
TUESDAY, MARCH 5, 2013

8:00 am  POSTER SESSION
Pegasus Ballroom A-F
Chair: Ying Zheng, NanoPhotonica, Inc., Gainesville, FL

RENEWABLE ENERGY
Pegasus Ballroom G-H
Chairs: Neelkanth Dhere, Florida Solar Energy Center, University of Central Florida
Tim Anderson, Florida Program for Alternative Energies, University of Florida

9:00 am  Bio Back Sheet - A PV Back Sheet Produced from Totally Sustainable Resources
(Invited) Stan Levy, BioSolar, Inc.

9:25 am  Concentrating Sunlight without Tracking the Sun
(Invited) Chris Giebink, Department of Electrical Engineering, Penn State University

9:50 am  Multi-Functional APCVD Oxide Films for c-Si Solar Cells
(Invited) Kristopher O. Davis¹,², Kaiyun Jiang³, Carsten Demberger³, Heiko Zunft³, Dirk Habermann³, Winston V. Schoenfeld¹,², ¹Florida Solar Energy Center, University of Central Florida, ²CREOL, College of Optics and Photonics, University of Central Florida, ³Technology Center Schmid, Gebr. Schmid GmbH + Co., Germany

10:15 am  Coffee Break (sponsored by VAT, Inc)

THIN FILMS
Pegasus Ballroom G-H
Chairs: Jiangeng Xue, University of Florida
Mei Zhang, Florida State University

10:45 am  Conjugated Polymer/Carbon Nanotube Composites
(Invited) Lei Zhai, NanoScience Technology Center and Department of Chemistry, University of Central Florida

11:10 am  Solution-Processed Quantum-Dot Light-Emitting Diodes with High Efficiency and Long Lifetime
(Invited) Yixing Yang¹, Ying Zheng¹, Lei Qian¹, Alexandre Titov¹, Jake Hyvonen¹, Weiran Cao², Jiangeng Xue² and Paul H. Holloway¹,², ¹NanoPhotonica, Inc., Gainesville, FL 32601, ²Department of Materials Science and Engineering, University of Florida

11:35 am  A Spectroscopic Gauge to Measure Charge Transfer in π-Conjugated Polymers/Quantum Dots Nanocomposites
(Invited) Xiaomei Jiang, University of South Florida

Vendors and Equipment Exhibit
Pegasus Ballroom A-F
8:00am-1:00pm
12:00 pm  Lunch Break and Door Prize Drawing (Pegasus Ballroom A-F)

NANOELECTRONICS/NANOPHOTONICS
Pegasus Ballroom G-H
Chair: Jayan Thomas, University of Central Florida

1:20 pm  Optical Nanostructures for Enhanced Light-Matter Interactions and Energy Harvesting
(Invited) Debashis Chanda, NanoScience Technology Center/CREOL, University of Central Florida

1:45 pm  Self-Assembled Self-Cleaning Broadband Antireflection Coatings
(Invited) Peng Jiang, Department of Chemical Engineering, University of Florida

2:10 pm  Nanoscale Control of Plasmon Resonances for Thermally Stable Biosensing Platforms
(Invited) Chatdanai Lumdee, Seyfollah Toroghi, and Pieter Kik, CREOL, University of Central Florida

2:35 pm  Coffee Break

ADVANCES IN INSTRUMENTATION
Pegasus Ballroom G-H
Chair: Mark Davidson, University of Florida

2:55 pm  The Application of High Energy Monochromatic X-Rays (Ag Lα) to the XPS Analysis of Near Surface Regions
(Invited) David Surman¹, Jonathan Counsell² and Adam Roberts², ¹Kratos Analytical Inc., NY, USA. Ph: 845-426-6700, Email: dsurman@kratos.com, ²Kratos Analytical Ltd., Manchester, UK

3:20 pm  Advanced Depth Profiling Characterization of Mixed Organic/Inorganic Multilayer Devices Using X-Ray Photoelectron Spectroscopy (XPS) and a Combined Monatomic and Gas Cluster Argon Ion Source
(Invited) Richard G. White¹, Tim S. Nunney¹, Paul Mack¹, and Brian R. Strohmeier²,
¹Thermo Fisher Scientific, West Sussex, UK, ²Thermo Fisher Scientific, Madison, WI, USA, brian.strohmeier@thermofisher.com

SPECIAL EVENTS

4:10 pm  Student Poster Session Awards Ceremony - Pegasus Ballroom G-H
Program Chair: Swadeshmukul Santra, Department of Chemistry and Burnett School of Biomedical Sciences, University of Central Florida
Poster Session Chair: Ying Zheng, NanoPhotonica, Inc., Gainesville, Fl

Vendors and Equipment Exhibit
Pegasus Ballroom A-F
8:00am-1:00pm