

SYMPOSIUM PROGRAM

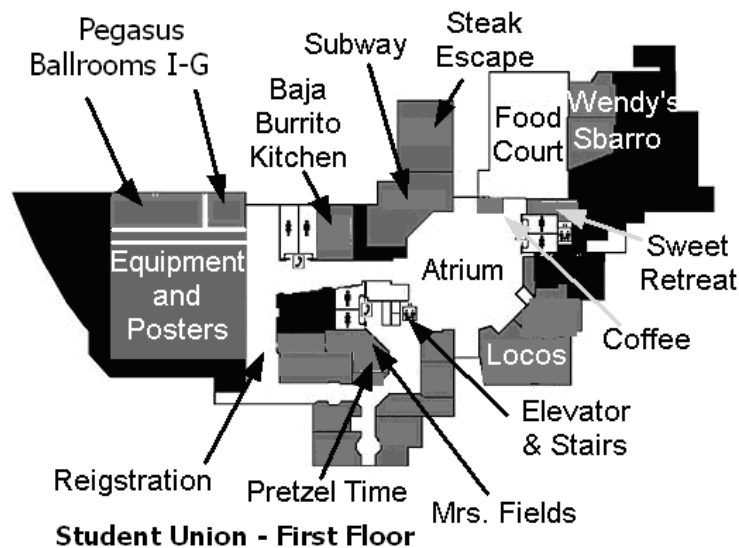
Monday, March 3, 2014

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|------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 7:30-5:00 | Registration <u>Coordinators:</u> Tasker Beal, Jr., Constellation Technology Jeremy Tharkur, University of Central Florida | Registration Desk |
| 7:30-10:30 | Student Poster Setup <u>Coordinator:</u> Laurene Tetard, University of Central Florida | Pegasus Ballroom A-F |
| 7:30-10:30 | Equipment Exhibit Setup <u>Coordinators:</u> Helge Heinrich, University of Central Florida Mark Davidson, University of Florida | Pegasus Ballroom A-F |
| 8:00-4:50 | Technical Program | Pegasus Ballroom G-H |
| 5:00-7:00 | Poster Session | Pegasus Ballroom A-F |
| 5:00-7:00 | Reception (sponsored by <u>Physical Electronics, Inc</u>) | Pegasus Ballroom A-F |

Tuesday, March 4, 2014

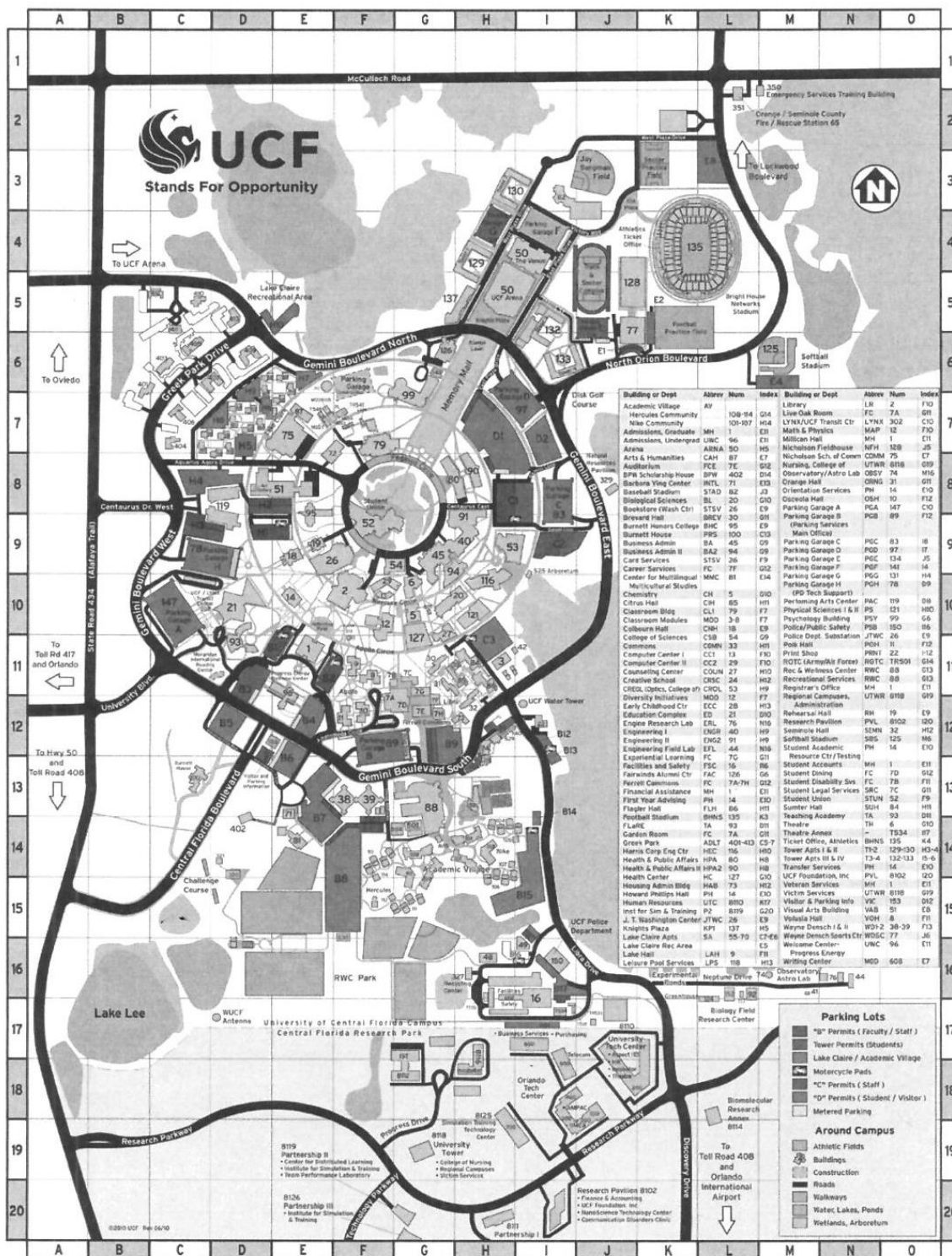
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|------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 8:00-12:00 | Registration <u>Coordinators:</u> Tasker Beal, Jr., Constellation Technology Jeremy Tharkur, University of Central Florida | Registration Desk |
| 8:00-9:00 | Poster Session | Pegasus Ballroom A-F |
| 9:00-4:20 | Technical Program | Pegasus Ballroom G-H |
| 4:20-5:00 | Poster Award Ceremony | Pegasus Ballroom G-H |

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



Student Union closes at 7 pm

Parking is available in Garage D



MONDAY, MARCH 3, 2014

YOUNG LEADERS SESSION

Pegasus Ballroom G-H

Chairs: Ramona Valenzuela Perez, Florida International University
John Mudrick, University of Florida

- 8:00 am** **Photoactivatable Composite Conducting Polymer Nanoparticles for Cell Imaging and Phototherapy**
Mona Mathew, University of Central Florida
- 8:20 am** **Morphology Change of HeLa Cell Membrane Induced by the Endocytosis of Conjugated Polymer Nanoparticles**
Namuna Panday, Florida International University
- 8:40 am** **Nanotechnology in Agriculture - Challenges Associated with Nanomaterial in Plant Tissue**
Smruti Das, University of Central Florida
- 9:00 am** **Specific Heat Capacity of Water Based Al₂O₃ and TiO₂ Nanofluids**
Ralf Raud, New College of Florida
- 9:20 am** **An Overview of Magnetic Moment Imaging**
Nickolas Ptschelinzew, University of Florida
- 9:40 am** **Engineered Film Growth and Device Structures in Vacuum-Deposited Organic Photovoltaics**
John Mudrick, University of Florida
- 10:00 am** **Coffee Break (sponsored by R. D. Mathis Company)**

OPENING AND KEYNOTE ADDRESS

Pegasus Ballroom G-H

- 10:15 am** **Welcome and Introduction**
Program Chair: Helge Heinrich, University of Central Florida
- 10:20 am** **Keynote Address**
Material Modeling Methods for Design and Discovery
(*Invited*) Susan Sinnott, University of Florida, 2013 AVS President

ADVANCES IN INSTRUMENTATION

Pegasus Ballroom G-H

Chair: Helge Heinrich, University of Central Florida

11:15 am **Advances in ex situ Lift Out**
(Invited) Lucille A. Giannuzzi, EXpressLO LLC

11:35 am **Advances in Auger Electron Spectroscopy**
(Invited) rich Price, Physical Electronics

12:15 pm **Lunch Break & Exhibits**

RENEWABLE ENERGY

Pegasus Ballroom G-H

Chair: Neelkanth Dhere, Florida Solar Energy Center, University of Central Florida

1:30 pm **Design of Megawatt-Scale Photovoltaic Projects in the United States**
(Invited) Dave Click, Florida Solar Energy Center, University of Central Florida

2:00 pm **FSU Off-Grid Zero Emissions Building**
(Invited) Juan Ordonez, Florida State University

2:30 pm **Unique Reaction Pathways and Scalability in Mechanocatalytic Reactions**
(Invited) Richard Blair, NanoScience Technology Center, University of Central Florida

3:00 pm **Coffee Break & Exhibits** (sponsored by RBD Instruments, Inc)

MICROSCOPY IN THE BIOLOGICAL AND PHYSICAL SCIENCES/FIB

Pegasus Ballroom G-H

Chairs: Nicholas Rudawski, University of Florida

Lucille Giannuzzi, EXpressLO LLC

3:20 pm **Aberration-corrected STEM for Characterization of Catalyst Systems**
(Invited) Douglas Blom, University of South Carolina

3:50 pm **High Resolution Three-Dimensional Electron Microscopy of Smooth Muscle Actin:Tropomyosin Filament**
(Invited) Elizabeth Stroupe, Florida State University

4:20 pm **Interfacial Atomic Number Contrast in TEM Thick Samples**
(Invited) Aniruddha Dutta, Helge Heinrich, University of Central Florida

POSTER SESSION AND RECEPTION

Pegasus Ballroom A-F

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

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

Student Union closes at 7 pm

TUESDAY, MARCH 4, 2014

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

CHARACTERIZATION OF NANO/BIO MATERIALS

Pegasus Ballroom G-H

Chair: Joong-Ho Moon, Florida International University

9:00 am **Atomic Force Microscopy Characterization and Lithography of Mercaptoalkanoic Acid “Molecular Ruler” Multilayers**
(Invited) Thomas J Mullen, University of North Florida

9:30 am **Nanopore for Sensing and Imaging**
(Invited) Jin He, Florida International University

10:00 am **Neural Differentiation and Imaging of Pluripotent Stem Cells: The Applications of Biomaterials**
(Invited) Yan Li, FAMU- Florida State University

10:30 am **Coffee Break & Exhibits**

SURFACE SCIENCE

Pegasus Ballroom G-H

Chair: Helena Haegelin-Weaver, University of Florida

10:50 am **Structure/Function Relationships on Cerium Oxide: Reactions on Single Crystal Films and Shape-Selected Nanocrystals**
(Invited) David Mullins, Oak Ridge National Lab

- 11:20 am** **Georgia Institute of Technology, “Insights into Growth of Stable, Monodisperse Metal Clusters on Metal-Supported Graphene from Computational Modeling**
(Invited) David Sholl, Georgia Institute of Technology
- 11:50 am** **Surface Properties via Model Catalytic Reactions over Supported Metal Nanoparticles**
(Invited) John Kuhn, University of South Florida
- 12:20 pm** **Lunch Break & Exhibits**
Door Prize Drawing (Pegasus Ballroom A-F)

THIN FILMS

Pegasus Ballroom G-H

Chair: Mei Zhang, Florida State University

- 1:30 pm** **Organic Photovoltaics: From Molecular Design to Nanostructure Manipulation and Device Integration**
(Invited) Biwu Ma, Florida State University
- 2:00 pm** **Resistivity Size Effects in Nanoscale Metallic Conductors**
(Invited) Kevin Coffey, University of Central Florida
- 2:30 pm** **Quantum Dot Devices, What, Why, and How**
Eric Lambers and Paul Holloway, University of Florida
- 3:00 pm** **Coffee Break**

NEMS

Pegasus Ballroom G-H

Chair: Jayan Thomas, University of Central Florida, NanoScience Technology Center

- 3:20 pm** **Kinetic Inductance in Superconducting Nanowires**
(Invited) Daniel Santavicca, Jesse Adams, Lierd Grant, University of North Florida, Adam McCaughan, Karl Berggren, Massachusetts Institute of Technology
- 3:50 pm** **Polymeric Fiber Luminescent Solar Concentrators**
(Invited) Ayman Abouraddy, University of Central Florida

SPECIAL EVENTS

- 4:20 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