2ND ANNUAL RESEARCH SYMPOSIUM

Thursday, March 12th, 2015
Almeda R. Jacks Ballroom, Hendrix Student Center
Clemson University

MORNING SESSIONS - BALLROOM A

8:30 am  Doors Open/Coffee & Breakfast Served
9:00 am  Welcome  
           Tanju Karanfil

INFRASTRUCTURE RESOURCES FOR RESEARCHERS

9:15 am  CES Experts Database  
          Tanju Karanfil, CES
9:25 am  CES Searchable Equipment Inventory  
          Phil Landreth, CES
9:35 am  Machining and Technical Services  
          Phil Landreth, CES
9:45 am  Light Microscopy Facility  
          Terri Bruce
9:55 am  Electron Microscopy Facility  
          Lax Saraf
10:05 am Nuclear Environmental Engineering Science and Environmental Waste Management  
          Tim DeVol, EEES

SPOTLIGHT ON YOUNG FACULTY

10:30 am New Luminescence Laboratory  
          Luiz Jacobsohn, MSE
10:45 am Coordination of Network Systems  
          Yongqiang Wang, ECE
11:00 am Control of Human-Robot Collaboration Systems  
          Yue (Sophie) Wang, ME
11:15 am Integration of Computational and Benchtop Experimental Engineering Methods in Cardiovascular Medicine  
          Ethan Kung, ME
11:30 am Optimal Design and Operation of Renewable Energy Systems  
          Joseph Scott, ChBE
11:45 am Energy Systems Analysis and Lifecycle Assessment  
          Michael Carbajales-Dale, EEES
12:00 pm Lunch
AFTERNOON SESSIONS: BALLROOM A

BIO-MANUFACTURING

1:15 pm  Overview of Bio-manufacturing at Clemson  
Mark Blenner, ChBE

1:30 pm  Bio-patterning with the Flip of a Switch  
Guigen Zhang, BioE

1:40 pm  Nonlinear and Chaotic Microbial Dynamics in Chemostats and Biofilms: Is Information Theory Involved?  
Fred Molz, EEES

1:50 pm  Capillary-Channeled Polymer Fibers for Downstream Processing Applications  
Ken Marcus, Chem

2:00 pm  Vascular Tissue Engineering in Diabetes  
Agneta Simionescu, BioE

2:10 pm  Advanced Controls in Cell Culture  
Sarah Harcum, BioE

2:20 pm  Cell Mechanics and Mechanobiology  
Jiro Nagatomi, BioE

2:30 pm  Information Integrative Manufacturing  
Hai Xiao, ECE

2:40 pm  High Sensitivity and Robust RF Detectors  
Pingshan Wang, ECE

NANOMATERIALS

3:00 pm  Integrated Approach for the Fabrication of Multifunctional Metal and Metal Oxide Nanoparticles: Particles, Polymers, and Potential  
Thompson Mefford, MSE

3:10 pm  Transport and Visualization of Nanoparticles in Porous Media  
Christophe Darnault, EEES

3:20 pm  Inhibition of Islet Amyloid Polypeptide Aggregation  
Feng Ding, P&A

3:30 pm  Shape Memory Gradient Nanofoams for Unattended Sensing  
Igor Luzinov, MSE

3:40 pm  Synthesis and Characterization of Mesoporous Carbon  
Stephen Creager, Chem

3:50 pm  Two-Dimensional Materials for Novel Nanoscale Sensors  
Goutam Koley, ECE

Please Join us after the Symposium from 4:30–6:00pm at the Madren Center for a Post-Doctoral Poster Presentation and Social Hour
AFTERNOON SESSIONS: BALLROOM B

WATER ENERGY

1:15 pm  Introduction to the Clemson Water-Energy Consortium  David Ladner, EEES
1:30 pm  Water, Oil, Climate Change, and Deformation of Porous Materials  Larry Murdoch, EEES
1:40 pm  Metal-Organic Frameworks: Tunable Materials for Gas Storage, Separations, Sensing, and Catalysis  Rachel Getman, ChBE
1:50 pm  Hierarchical and Anisotropic Porous Ceramic Microstructures  Raj Bordia, MSE
2:00 pm  7 Billion Gallons of Clean Water Lost Every Year: A Novel Vibration-based Technique for Detecting Water Pipeline Leakage  Sez Atamturktur, CE
2:10 pm  Elucidating Molecular Behavior of Condensed Matter through Molecular Modeling and Computer Simulations  Sapna Sarupria, ChBE
2:20 pm  Multiscale and multiphysics modeling in granular materials  Qiushi Chen, CE
2:30 pm  Clemson’s New Barricaded Laboratory for Safe Use of Tetrafluoroethylene and Other Hazardous Reagents  Joe Thrasher, Chem
2:40 pm  Understanding Redox Reaction and Nanoparticle Precipitation at Mineral:Water Interfaces  Brian Powell, EEES

OTHER TOPICS

3:00 pm  Hierarchical Modeling of the Catalysis of Sugar Alcohol Transformations in Water  Rachel Getman, ChBE
3:10 pm  Corrosion of Steel in Concrete Under Stress  Amir Poursae, CE
3:20 pm  Control and Diagnostics in Connected Vehicle Systems  Pierluigi Pisu, AuE
3:30 pm  Multiphase Ceramic Composites for Energy Conversion and Storage  Kyle Brinkman, MSE
3:40 pm  Making Corrosion to Work in your Favor: Electropolishing of Nanosharp Needles  Kostya Kornev, MSE