

This brochure lists the papers, posters, and plenary talks presented by University of Florida faculty and students at the 2014 BMES Meeting.

**You are invited to join us at our presentations and to visit us at our booth to learn more about our programs.**

## ORAL LISTINGS

### Thursday, October 23, 2014 8:00am-9:30am (OP Thursday-1)

- OP-Thurs-1-4 **Glycosylated Peptide Nanofibers to Modulate Galectin Bioactivity**  
A. Restuccia (University of Florida), Y. Tian (Illinois Institute of Technology), J. Collier (University of Chicago), G. Hudalla (University of Florida)
- OP-Thurs-1-11 **Nanomagnetic Actuation: Remote Control of Cell Signaling**  
J. Dobson (University of Florida), A. Monsalve (University of Florida), B. Hu (Keele University), A. El Haj (Keele University)

### Thursday, October 23, 2014 2:00pm-3:30pm (OP Thursday-2)

- OP-Thurs-2-4 **Magneto-Active Dynamic Screening for Drug Discovery**  
J. Dobson (University of Florida), A. Lisella (Keele University), A. El Haj (Keele University)

### Thursday, October 23, 2014 2:00pm-3:30pm (Special Session – Room 204A)

**Generating Nerve Tissue and Managing Scar Tissue in Wound Healing**  
C. Schmidt (University of Florida)

### Thursday, October 23, 2014 4:30pm-6:00pm (OP Thursday-3)

- OP-Thurs-3-10 **Novel Divalent Aptamer Assembly For Controlled VEGF Receptor Activation**  
J. Dobson (University of Florida), V. Ramaswamy (University of Florida), A. Monsalve (University of Florida), B. Dollinger (University of Florida), J. Allen (University of Florida)

### Friday, October 24, 2014 8:00am-9:30am (OP Friday-1)

- OP-Fri-1-2 **Local and Sustained Delivery of BDNF Mediates Spinal Learning after Injury**  
Z. Khaing (University of Florida), J. Park (University of Florida), C. Schmidt (University of Florida), J. Grau (Texas A&M), K. Lee (Texas A&M), A. Niermerski (Texas A&M)
- OP-Fri-1-10 **Advancing Gait Analysis Techniques for the Assessment of Pain and Disability in Rodent Preclinical Models of Joint Disease**  
K. Allen (University of Florida), H. Kloefkorn (University of Florida), B. Jacobs (University of Florida)

### Saturday, October 25, 2014 1:30pm-3:00pm (OP Saturday-2)

- OP-Fri-2-2 **Pre-clinical Development of a Biomaterial-based Microparticle Vaccine for Type 1 Diabetes Attenuation**  
J. Lewis (University of Florida), M. Carstens (University of Florida), N. Dolgova (University of Florida), C-Q. Xia (University of Florida), M. Clare-Salzler (University of Florida), B. Keselowsky (University of Florida)
- OP-Fri-2-12 **Microtopographies LIMIT Bacterial Biofilm Accumulation: A Novel Approach to Decreasing Ventilator-Associated Pneumonia CASES**  
A. Brennan (University of Florida), E. Mann (Sharklet Technologies, Inc.), R. Mettetal (Sharklet Technologies, Inc.), S. Reddy (Sharklet Technologies, Inc.)
- OP-Fri-2-19 **Magnetic Fluid Hyperthermia Increases Bortezomib Cytotoxicity in Cancer Cells by Proteotoxic Stress**  
C. Rinaldi (University of Florida), M. Torres-Lugo (University of Puerto Rico), M. Alvarez (University of Puerto Rico), A. Castillo (University of Puerto Rico), O. Soto (University of Puerto Rico)

### Saturday, October 25, 2014 3:15pm-4:45pm (OP Saturday-3)

- OP-Fri-3-4 **Mechanobiology Assessment of Temporomandibular Disc Surfaces: A Nanoindentation and TEM Study**  
C. Juran (University of Florida), A. Matuska (University of Florida), P. McFetridge (University of Florida)

## POSTER & PAPER LISTINGS

### Thursday, October 23, 2014 9:30am-5:00pm (P Thursday)

- P-Th-104 **Effect of Transcranial Direct Current Stimulation on Behavior Impairments Following Neonatal HIE Stroke**  
C. Anderson (University of Florida), T. DeMarse (University of Florida), P. Carney (University of Florida), M. Weiss (University of Florida), M. Douglas-Escobar (University of Florida)
- P-Th-126 **Comparing Cyclic Tensile Properties of Native and Decellularized Porcine Knee Meniscus**  
E. Lakes (University of Florida), M. Diaz (University of Florida), P. McFetridge (University of Florida), K. Allen (University of Florida)
- P-Th-130 **Use of a Novel Behavioral Device to Measure Orofacial Mechanical Allodynia in Rats**  
E. Rohrs (University of Florida), K. Kapernaros (University of Florida), A. Jenkins (University of Florida), J. Neubert (University of Florida), K. Allen (University of Florida)
- P-Th-143 **Utilizing Engineered Microporosity to Support Recellularization and Prepare a Porcine Derived Temporomandibular Joint Disc Scaffold for Tissue Engineering**  
P. McFetridge (University of Florida), A. Matuska (University of Florida)
- P-Th-334 **Nanoparticle Charge Influences Serum Protein Adsorption, Circulation Time and Biodistribution**  
A. Bohorquez (University of Florida), K. Court (University of Puerto Rico), L. Santiago (University of Puerto Rico), M. Latorre (University of Puerto Rico), E. Mora (University of Puerto Rico), E. Juan (University of Puerto Rico), M. Torres-Lugo (University of Puerto Rico), C. Rinaldi (University of Florida)

P-Th-411 **Mechanistic Insights into Major Human Muscular Diseases**  
A. Dinasarapu (University of Florida), S. Gupta (University of California, San Diego), S-M. Kim (University of California, San Diego), Y. Wang (University of California, San Diego), S. Subramaniam (University of California, San Diego)

**Friday, October 24, 2014**

**9:30am-5:00pm (Friday)**

P-Fri-39 **Cellular Mechanisms of Tolerance Involved in a Microparticle Vaccine for Type I Diabetes**  
J. Stewart (University of Florida), J. Lewis (University of Florida), B. Keselowsky (University of Florida)

P-Fri-61 **Exogenous Delivery of Indoleamine 2,3 Dioxygenase for the Induction of Tolerance**  
E. Bracho-Sanchez (University of Florida), J. Lewis (University of Florida), B. Keselowsky (University of Florida)

P-Fri-220 **Microtopographies Inhibit Human Lens Epithelial Cell Migration in Posterior Capsule Opacification Model**  
C. Kirschner (Sharklet Technologies Inc.), M. Drinker (Sharklet Technologies Inc.), K. Cuevas (Rocky Mountain Ophthalmology, Insight Innovations), A. Brennan (University of Florida), S. Reddy (Sharklet Technologies)

P-Fri-241 **Endothelial Differentiation of Adipose-derived Stem Cells in Comparison with Whartons Jelly-Derived Mesenchymal Stem Cells**  
M. Gurel (University of Florida), P. McFetridge (University of Florida)

P-Fri-318 **Directing NPC Differentiation with Natural Biomaterials: Implications for Spinal Cord Repair**  
S. Geissler (The University of Texas), A Sabin (University of Florida), O. Gooden (University of Florida), R. Besser (University of Florida), C. Schmidt (University of Florida)

P-Fri-437 **Cell-Based Microarrays: A Platform to Facilitate Patient-Specific Therapy**  
M. Carstens (University of Florida), A. Acharya (University of California-Berkeley), J. Lewis (University of Florida), E. Huang (Cleveland Clinic, OH), B. Keselowsky (University of Florida)

P-Fri-546 **Testing Efficacy of Pain Management Therapies in a Rodent Model of Post-Traumatic Knee Osteoarthritis**  
H. Kloefkorn (University of Florida), B. Jacobs (University of Florida), K. Allen (University of Florida)

P-Fri-548 **Designing a Probe for the Magnetic Collection of Molecular Biomarkers in Joints for Early Detection of Osteoarthritis**  
Y. Shah (University of Florida), C. Velez Cuervo (University of Florida), E. Yarmola (University of Florida), D. Arnold (University of Florida), J. Dobson (University of Florida), K. Allen (University of Florida)

P-Fri-620 **The Cell as a Pump: Cytoskeletal Contractions Drive Intercellular Fluid Flow**  
S. Zehnder (University of Florida), A. Dunn (University of Florida), J. Urena (University of Florida), W. Sawyer (University of Florida), T. Angelini (University of Florida)

P-Fri-660 **Cell-Free Protein Synthesis in Miniaturized Devices and their Effects on the Synthesis Yield**  
K. Jackson (University of Florida), Z. Fan (University of Florida)

P-Fri-695 **Evaluating Antibody Conjugated Magnetic Microspheres for the Depletion of Interleukin-I Beta for Osteoarthritis Treatment**  
A. Monsalve (University of Florida), B. Kozissinik (University of Florida), A. Garraud (University of Florida), E. Yarmola (University of Florida), K. Allen (University of Florida), J. Dobson (University of Florida)

**Saturday, September 28, 2013**

**9:30am-1:00pm (Saturday-A)**

P-Sat-145 **Graphical User Interface to Quantify In Vitro Cardiomyocyte Contractility**  
K. McCarty (Rice University), I. Rivera (University of Florida), C. Simmons (University of Florida)

P-Sat-311 **Comparing Cyclic Tensile Properties of Porcine Meniscus when Hydrated in PBS versus Synovial Fluid**  
C. Kline (University of Florida), E. Lakes (University of Florida), P. McFetridge (University of Florida), K. Allen (University of Florida)