5:45PM
Comparisons of Platinum and CNT-MEA Electrodes as Peripheral Muscular Interface
C. Chen[1], W. Yi[1], X. Meng[2], C. Zhou[1], W. Wang[2], B. Cheng[2], J. Cavanaugh[1], and M. Cheng[1]
[1]Wayne State University, Detroit, MI, [2]Tsinghua University, Beijing, China, People's Republic of

Track: Bioinformatics, Computational and Systems Biology
OP-Thurs-3-15 - Room 17
From Molecules to Cells and Organs in Health and Disease

Chairs: Denise Kirschner, Jose Vilar

4:30PM
Systems Biology Track Overview
L. Saiz[1]
[1]University of California, Davis, CA

4:45PM
Quantitative Analysis of Immune Cell Cytokine Secretion Reveals Role of Cell Communication in Regulation of CXCR[3] Ligands
S. Schrier[1], A. Hill[1], and D. Lauffenburger[1]
[1]Massachusetts Institute of Technology, Cambridge, MA

5:00PM
The DIONESUS Algorithm Provides Scalable and Accurate Reconstruction of Biological Networks to Reveal New Drug Target
M. Ciaccio[1] and N. Bagheri[1]
[1]Northwestern University, Evanston, IL

5:15PM
Exploring Cellular Heterogeneity in Development by Single-Cell Transcript Profiling
A. Coskun[1] and L. Cai[1]
[1]Caltech, Pasadena, CA

5:30PM
An Agent-based Vision for Tissue Engineering: Quantifying Biocomplexity Exploit it
H. Kaul[1]
[1]University of Sheffield, Sheffield, United Kingdom

5:45PM
Co-detection and Sequencing of Genomic DNA and Messenger RNA from the Same Single Cells Facilitated by a Microfluidic System
R. Fan[1]
[1]Yale University, New Haven, CT

Track: Drug Delivery
OP-Thurs-3-16 - Room 10
Nano to Micro Devices in Delivery II

Chairs: Edward Chow, Dean Ho

4:30PM
Nanoparticle-releasing Nanofiber Composites for Enhanced *In Vivo* Vaginal Retention
E. Krogstad[1], R. Ramanathan[1], C. Nhan[1], K. Thoreson[1], and K. Woodrow[1]
[1]University of Washington, Seattle, WA

4:45PM
Microneedle-Array Patches Loaded with Hypoxia-Sensitive Vesicles for Rapid Glucose-Responsive Insulin Delivery
J. Yu[1,2], Y. Zhang[1,2], Y. Ye[1,2], D. Ranson[1], F. Ligler[1], J. Buse[3], and Z. Gu[1,2,3]
[1]University of North Carolina at Chapel Hill and North Carolina State University, Chapel Hill, NC, [2]University of North Carolina at Chapel Hill, Chapel Hill, NC, [3]University of North Carolina School of Medicine, Chapel Hill, NC

5:00PM **DREAM TEAM & CENTER**
Development of Spray Dried Curcumin Loaded Nanoparticles to Mitigate Radiation Induced Cellular Damage
A. Akalkotkar[1], M. O'Toole[1], L. Lanceta[1], B. Nunn[1], J. Eaton[1], R. Keynton[1], and P. Soucy[1]
[1]University of Louisville, Louisville, KY

5:15PM
Release of Erythromycin from Injectable Calcium Polyphosphate-derived Brushite Cement
W. Ren[1], W. Song[1,2], and D. Markel[3]
[1]Wayne State University, Detroit, MI, [2]Virotech Biomaterials Inc., Detroit, MI, [3]Providence Hospital, Southfield, MI

5:30PM
Using Affinity Polymers for the Local Slow Release of Corticosteroids in the Treatment of Osteoarthritis
E. Rivera-Delgado[1], E. Lavik[1], and H. von Recum[1]
[1]Case Western Reserve University, Cleveland, OH

5:45PM
Asymmetric Biodegradable Microdevices for Cell-borne Drug Delivery
J. Xia[1], Z. Wang[1], D. Huang[1], Y. Yan[1], Y. Li[1], and J. Guan[1]
[1]Florida State University, tallahassee, FL

Track: Nano and Micro Technologies
OP-Thurs-3-17 - Room 7-8
Nano/Microbiotechnology I

Chairs: Zi Chen, Gabe Kwong

4:30PM
Molecular Typing of Rare Trafficking Leucocytes using a Nanowire Array Microchip for Evaluating Neurodegenerative Pathology
M. Kwak[1] and R. Fan[1]
[1]Yale University, New Haven, CT

4:45PM
Nanomagnetic Actuation: Remote Control Of Cell Signaling
J. Dobson[1], H. Bin[2], and A. El Haj[3]
[1]University of Florida, Gainesville, FL, [2]Keele University, Stoke-on-Trent, United Kingdom,[3]Keele University, stoke-on-Trent, United Kingdom

5:00PM
Development of Light-Induced Shape Memory Microparticles for Biomedical Applications
Q. Guo[1], C. Bishop[2], R. Meyer[1], L. Olasov[1], D. Schesinger[1], J. Spicer[1], J. Elisseeff[1], A. Kumar[1], and J. Green[1]
[1]Johns Hopkins University, Baltimore, MD, [2]Johns Hopkins University, Baltimore, China, People's Republic of

5:15PM
NanoCluster Beacons Enable Enzyme-Free N[6]-MethyladenineDetectionJ. Obliosca1,
Y-A. Chen[1], C. Liu[1], Y-L. Liu[1], and H-C. Yeh[1]
[1]University of Texas at Austin, Austin, TX

8:30AM
Development of an Optically-Guided System for Transcranial Ultrasound Neuromodulation
V. Chaplin[1], L. Clements[2], M. Miga[2], and C. Caskey[1]
[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, [2]Vanderbilt University, Nashville, TN

8:45AM
Methods to Accelerate Thermal Ablation with MR-guided Focused Ultrasound
V. Chaplin[1], P. Gaur[1], P. Dayton[2], C. Arena[2], W. Grissom[1], and C. Caskey[1]
[1]Vanderbilt University Institute of Imaging Science, Nashville, TN, [2]University of North Carolina, Chapel Hill, NC I

9:00AM
Non-Invasive Estimation Of Acoustic Attenuation For High Intensity Focused Ultrasound Treatments
S. Johnson[1], A. Farrer[1], C. Dillon[2], D. Christensen[1], and A. Payne[2]
[1]University of Utah, Salt Lake City, UT, [2]Utah Center for Advanced Imaging Research, Salt Lake City, UT

915AM
NDevelopment of MRI-guided Focused Ultrasound for Delivery of Neurotherapy in Mice
T. Trouard[1], M. Valdez[1], S. Yuan[1], R. Rath[1], T. Matsunaga[1], and M. Romanowski[1]
[1]University of Arizona, Tucson, AZ

9:15AM
The MRI-Targeted Delivery of Brain-Penetrating Non-Viral GDNF Gene Vectors to the Striatum with Focused Ultrasound Reverses Neurodegeneration in a Parkinson's Disease Model
B. Mead[1], P. Mastorakos[2], W. Miller[1], J. S. Suk[2], A. Klibanov[1], J. Hanes[2], and R. Price[1]
[1]University of Virginia, Charlottesville, VA, [2]Johns Hopkins University, Baltimore, MD

PLATFORM SESSIONS
Fri-1

Track: Bioinformatics, Computational and Systems Biology
OP-Fri-1-14 - Room 17
Multiscale Approaches

Chairs: Stacey Finley, Victor Rodgers

8:00AM
A Systems Biology Approach to Uncovering Mechanisms Governing Host-Pathogen Interactions: Tuberculosis as a Case Study (invited)
D. Kirschner[1]
[1]The University of Michigan Medical School, Ann Arbor, MI

8:30AM
Hypoxia, Cancer Stem Cells, and CCR5: the Interplay In Triple-Negative Breast Cancer Invasion and Metastasis.
K-A. Norton[1], N. Pandey[1], T. Wallace[1], and A. Popel[1]
[1]Johns Hopkins University, Baltimore, MD

8:45AM
Validating An Agent-Based Model Of Collagen Network Remodeling
K. Gooch[1] and J. Reinhardt[1]
[1]The Ohio State University, Columbus, OH

9:00AM
Agent-based Modeling Suggests Cell Contraction Drives Organization of Endometriotic Cells
T. Jaraczewski[1], A. Fleszar[1], M. Lohr[1], M. Murrell[1], and P. Kreeger[1]
[1]University of Wisconsin-Madison, Madison, WI

9:15AM
Solving Multicomponent Reaction-transport with Coupled Cellular Trajectories and Data-driven Cellular Activation Models
Y. Lu[1], M. Y. Lee[1], T. Sinno[1], and S. Diamond[1]
[1]University of Pennsylvania, Phildadelphia, PA

Track: Drug Delivery, Tissue Engineering
OP-Fri-1-15 - Room 10
Drug Delivery in Tissue Engineering

Chairs: Elizabeth Dirk, James Moon

8:00AM
Programmable Release of Multiple Growth Factors from Aptamer-functionalized Hydrogels for Angiogenesis
Y. Wang[1], M. Battig[1], X. Zhang[1], L-J. Duan[2], and G-H. Fong[2]
[1]Penn State University, State College, PA, [2]University of Connecticut Health Center, Farmington, CT

8:15AM
Engineering Extracellular Vesicles as Multifactorial Cell-Derived Delivery Vehicles for Therapeutic Vascularization
T. Lamichhane[1], D. Patel[1], A. Jeyaram[1], and S. Jay[1]
[1]University of Maryland, College Park, MD

8:30AM
On-demand Controlled Release of Acoustically-Responsive Scaffolds using Therapeutic Ultrasound
A. Moncion[1], K. J. Arlotta[1], O. D. Kripfgans[1], R. T. Franceschi[1], A. J. Putnam[1], and M. L. Fabiilli[1]
[1]University of Michigan, Ann Arbor, MI

8:45AM
Dietary Lipids and Emulsifiers Affect Particle Transport in Intestinal Mucus
J. Lock[1], T. Carlson[1], and R. Carrier[1]
[1]Northeastern University, Boston, MA

9:00AM
Sustained Release of a P2X7 Receptor Antagonist Using an Injectable Nanohydrogel Improves Locomotion And Bladder Function After Spinal Cord Injury
I. Yazdi[1], A. Munoz[1], C. Rivera[1], N. Taghipour[1], T. B. Boone[1], and E. Tasciotti[1]
[1]Houston Methodist Research Institute, Houston, TX

9:15AM **DREAM TEAM & CENTER**
Evaluation of Ciprofloxacin, Metronidazole Encapsulated Injectable Self-Assembled Biomimetic Nanomatrix Gel on *Enterococcus faecalis* and *Treponema denticola*
S. Kaushik[1], J. Scoffield[1], G. Alexander[1], A. Andukuri[1], T. Walker[1], S. C. Choi[2], B. Brott[1], H-W. Jun[1], J-H. Park[3], and K. Cheon[1]
[1]University of Alabama at Birmingham, Birmingham, AL, [2]Kyung Hee University, Birmingham, AL, [3]Kyung Hee University, BIrmingham, AL

Track: Nano and Micro Technologies
OP-Fri-1-16 - Room 7-8
Nano/Microbiotechnology II

Chairs: Mandy Esch, Wilbur Lam

8:00AM
Virus-Dendron Hybrid Nanostructures for Cell Delivery and Imaging Applications
A. Wen[1], K. Pangilinan[1], P. Cao[1], R. Advincula[1], and N. Steinmetz[1]
[1]Case Western Reserve University, Cleveland, OH

P = Poster Session
OP = Oral Presentation
= Reviewer Choice Award

2:00PM
Screening Of Nanoparticles And Nanoparticle Delivery Strategies For Treatment Of Atherosclerosis Via Coated Angioplasty Balloons
R. IYER[1,2], S. YAMAN[1,2], A. E. KURIAKOSE[1,2], AND K. T. NGUYEN[1,2]
[1]The University of Texas at Arlington, Arlington, TX, [2]The University of Texas Southwestern Medical Center at Dallas, Dallas, TX

2:15PM
Delivery of Paclitaxel to Arterial Segments via a Perfusion Catheter: An *ex vivo* and *in vivo* Study
M. ATIGH[1], E. TURNER[1], U. CHRISTIANS[2], AND S. K. YAZDANI[1]
[1]University of South Alabama, Mobile, AL, [2]University of Colorado, Auroro, CO

2:30PM
Evaluation of Inflammation on a Self-Assembled Nanomatrix Stent Coating *In Vitro*
G. ALEXANDER[1], J. VINES[1], M. COLLIER[1], P. HWANG[1], J. KIM[1], B. BROTT[1], AND H-W. JUN[1]
[1]University of Alabama at Birmingham, Birmingham, AL

Track: Cellular and Molecular Bioengineering
OP-Fri-2-12 - Room 5-6
Young Innovators Session II: Regenerative Medicine and Drug/Cell Delivery Processes

Chairs: Michael King

1:45PM
Micelle Delivery of Parthenolide to Acute Myeloid Leukemia Cells
M. Baranello[1], L. Bauer[1], C. Jordan[2], and D. Benoit[1]
[1]University of Rochester, Rochester, NY, [2]University of Colorado Health Sciences Center, Denver, CO

1:57PM
Design of a Novel 3D Printed Bioactive Nanocomposite Scaffold for Improved Osteochondral Regeneration
N. Castro[1], R. Patel[1], and L. G. Zhang[1]
[1]The George Washington University, Washington, DC

2:09PM
Elastomeric Cell-laded Nanocomposite Microfibers for Engineering Complex Tissues
C. W. Peak[1], J. Carrow[1], A. Thakur[1], A. Singh[2], and A. K. Gaharwar[1]
[1]Texas A&M University, College Station, TX, [2]Cornell University, Cornell, NY

2:21PM
Engineering Synthetic Insulin-Secreting Cells Using Hyaluronic Acid Microgels Integrated with Glucose-Responsive Nanoparticles
J. Di[1,2], J. Yu[1,2], Y. Ye[1,2], D. Ranson[1], A. Jindal[1], and Z. Gu[1,2]
[1]University of North Carolina at Chapel Hill and North Carolina State University, Raleigh, NC,[2]University of North Carolina at Chapel Hill, Chapel Hill, NC

2:33PM
Shape-engineering of Virus-based Nanomaterials for Applications in Medicine
N. F. Steinmetz[1]
[1]Case Western Reserve University, Cleveland, OH

Track: Biomedical Imaging and Optics, Tissue Engineering
OP-Fri-2-13 - Room 11
Applications of Imaging in Tissue Engineering

Chairs: Chris Price, Chris Bashur

1:45PM
Single-Cell Lens-Free Imaging of Cell Migration in Diverse Microenvironments
C. PAUL[1], E. MATHIEU[2], R. STAHL[2], G. VANMEERBEECK[2], K. KONSTANTOPOULOS[1], AND L. LAGAE[2]
[1]Johns Hopkins University, Baltimore, MD, [2]imec, Leuven, Belgium

2:00PM
Development of an Optical Probe for Detection of Chondrocyte Apoptosis Following Cartilage Injury
Y-H. HUANG[1], J. ZHOU[1], H. WENG[1], J. BORRELLI[2], AND L. TANG[1]
[1]University of Texas at Arlington, Arlington, TX, [2]Texas Health Arlington Memorial Hospital, Arlington, TX

2:15PM
In Situ Microscale Quantification of Solute Transport via Image Correlation Spectroscopy
B. GRAHAM[1], J. SHOGA[1], AND C. PRICE[1]
[1]University of Delaware, Newark, DE

2:30PM
Modified En Bloc Staining and Clearing for Improved Imaging of Musculoskeletal Cells *In Situ*
I. BERKE[1], J. MIOLA[1], M. SMITH[1], AND C. PRICE[1]
[1]University of Delaware, Newark, DE

Track: Bioinformatics, Computational and Systems Biology
OP-Fri-2-14 - Room 17
Molecules and Molecular Systems

Chairs: Ilya Vakser, Leonor Saiz

1:45PM
Exploring the Binding Properties of Proteins by Computational Mapping
S. VAJDA[1] AND D. KOZAKOV[1]
[1]Boston University, Boston, MA

2:00PM
Three-Dimensional Modeling of Single Stranded DNA Aptamers
I. JEDDI[1] AND L. SAIZ[1]
[1]University of California, Davis, Davis, CA

2:15PM
Computational Modeling of General RTK Dimerization Kinetics
S. B. MAMER[1] AND P. I. IMOUKHUEDE[1]
[1]University of Illinois at Urbana-Champaign, Urbana, IL

2:30PM
A Computational Model Of Cell-Generated Traction Forces And Fibronectin Assembly
D. MAIR[1], T. PETET[1], L. SCOTT[1], S. WEINBERG[2], AND C. LEMMON[1]
[1]Virginia Commonwealth University, Richmond, VA, [2]Old Dominion University, Suffolk, VA

P = Poster Session
OP = Oral Presentation
= Reviewer Choice Award

Track: Bioinformatics, Computational and Systems Biology
OP-Fri-3-14 - Room 17

Cell Signaling and Therapeutics

Chairs: Jose Luis Puglisi, Cheemeng Tan

3:00PM
Quantitative Analysis of the Akt/mTOR Signaling Axis
A. Rahman[1] and J. Haugh[1]
[1]North Carolina State University, Raleigh, NC

3:15PM
Druggability of Cellular Network Motifs
F. Wu[1], C. Ma[2], and C. Tan[1]
[1]University of California Davis, Davis, CA, [2]Zhejiang University, Hangzhou, China, People's Republic of

3:30PM
Mechanistic Model of Angiogenesis Inhibitor Thrombospondin-1 in Cancer
S. Finley[1]
[1]University of Southern California, Los Angeles, CA

3:45PM
Dynamic Phosphorylation Signatures Following Stimulation Distinguish Latent HIV-Infected Primary CD4+ T Cells from Uninfected Cells
L. Fong[1], E. Sulistijo[1], and K. Miller-Jensen[1]
[1]Yale University, New Haven, CT

Track: Drug Delivery
OP-Fri-3-15 - Room 10

Multifunctional or Hybrid Systems

Chairs: Steven Jay, Tara Deans

3:00PM
A Multipurpose Prevention Technology or "Virus Trap and Safety Net" for the Delivery of Antivirals, Proteins, and Oligonucleotides against STIs
K. M. Tyo[1], T. W. Grooms-Williams[1], N. Matoba[1], and J. M. Steinbach[1]
[1]University of Louisville, Louisville, KY

3:15PM
Polyelectrolyte Multilayers Assembled from Immune Signals Promote Antigen-specific T Cell Response
P. Zhang[1] and C. Jewell[1,2,3]
[1]University of Maryland, COLLEGE PARK, MD, [2]University of Maryland Medical School, Baltimore, MD, [3]Marlene and Stewart Greenebaum Cancer Center, Baltimore, MD

3:30PM
Multispectral PLGA Nanoparticles To Assess Cellular Uptake And Distribution *In Vitro* and *In Vivo*
D. Medina[1], J. Yamaguchi[1], K. Householder[1], T. Kovalik[1], S. Bowen[1], and R. Sirianni[1]
[1]Barrow Neurological Institute, Phoenix, AZ

3:45PM
In vivo Delivery of Transcription Factors with Multifunctional Oligonucleotides
K. Lee[1], M. Rafi[2], X. Wang[2], R. Tang[2], N. Lingampalli[2], and N. Murthy[2]
[1]University of California, Berkeley, Albany, CA, [2]University of California, Berkeley, Berkeley, CA

Track: Nano and Micro Technologiesy
OP-Fri-3-16 - Room 7-8

Micro and Nano Total Analysis Systems

Chairs: Beth Pruitt, Rong Fan

3:00PM
An Acoustofluidic Device for Liquefying Human Sputum Samples On-chip
P-H. Huang[1], L. Ren[1], S. Li[1], and T. J. Huang[1]
[1]The Pennsylvania State University, University Park, PA

3:15PM
Enhancement of Surface Binding by Laser Heating Induced Mass Transport
B. Wang[1] and X. Cheng[1]
[1]Lehigh University, Bethlehem, PA

3:30PM
Single-Cell, 42-Plex Detection of Immune Effector Proteins Reveals Deep Functional Heterogeneity and Dynamic Population Architecture
R. Fan[1]
[1]Yale University, New Haven, CT

3:45PM
A High-Throughput, Low-Volume, Sensitive Microfluidic Multiplex Immunoassay
M. Ghodbane[1], E. Stucky[1], T. Maguire[1], R. Schloss[1], D. Shreiber[1], J. Zahn[1], and M. Yarmush[1,2]
[1]Rutgers, The State University of New Jersey, Piscataway, NJ, [2]Massachusetts General Hospital, Boston, MA

Tracks: Respiratory Bioengineering
OP-Fri-3-17 - Room 1

Airway Modeling and Imaging

Chairs: Bernard Sapoval, Gordana Vunjak-Novakovic

3:00PM
Role of Collagen Fibers in Translating Airway Smooth Muscle Force to Narrowing of Airways
H. Parameswaran[1], D. Marquis[1], K. Duval[1], B. Harvey[1], and K. Lutchen[1]
[1]Boston University, Boston, MA

3:15PM
Collagen Crosslinking Reagent Utilized to Stiffen Soft Palate in Equine Snoring
S. Hunt[1], J. Kuo[2], M. Brown[3], and T. Hedman[4]
[1]University of Kentucky, Lexington, KY, [2]Orthopeutics, L.P, Lexington, KY, [3]Crosscoat Medical, LLC, Lexington, KY, [4]University of Kentucky; Orthopeutics, L.P.; Crosscoat Medical, LLC, Lexington, KY

3:30PM
Patterned, Tubular Scaffolds Mimic Longitudinal and Radial Mechanics of the Neonatal Trachea
E. Mansfield[1], V. Greene[1], and D. Auguste[1]
[1]The City College of New York, New York, NY

3:45PM
Minimizing Ventilation Heterogeneity Using Multiple Frequencies of Oscillation
J. Hermann[1], M. Tawhai[2], and D. Kaczka[1]
[1]University of Iowa, Iowa City, IA, [2]University of Auckland, Auckland, New Zealand

PLATFORM SESSIONS
Fri-3

P = Poster Session
OP = Oral Presentation
= Reviewer Choice Award

2:30PM
An Ultrahigh Throughput Cell Sorter Using Standing Surface Acoustic waves (SSAW)
L. Ren[1], Y. Chen[1], P. Li[1], Z. Mao[1], J. Rufo[1], P-H. Huang[1], F. Guo[1], and T. J. Huang[1]
[1]*Pennsylvania State University, State College, PA*

2:45PM
Tunable Chemical Stimulator for Studying Cellular Response to Stimuli via Oscillating Sharp-edges
P-H. Huang[1], C. Y. Chan[1], P. Li[1], and T. J. Huang[1]
[1]*The Pennsylvania State University, University Park, PA*

Track: Bioinformatics, Computational and Systems Biology
OP-Sat-2-18 - Room 1
Big Data, Single-Cell Measurements, and Clinical Applications

Chairs: Leonor Saiz, Olivier Elemento

1:30PM
Automated Diagnosis of Leukemia (invited)
J. Vilar[1]
[1]*University of the Basque Country, Bilbao, Spain*

2:00PM
Chemical-Genetic Inference of Antibiotic Interactions for Combination Therapies
S. Chandrasekaran[1,2], J. Collins[1,2,3], and M. Cokol[4]
[1]*Harvard University, Cambridge, MA, [2]Broad Institute of MIT and Harvard, Cambridge, MA,[3]Massachusetts Institute of Technology, Cambridge, MA, [4]Sabanci University, istanbul, Turkey*

2:15PM
Hypoxic Response in Age-Related Diseases: Uncovering Cellular Phenotypes Hypoxic Response in Age-Related Diseases: Uncovering Cellular Phenotypes
A. Qutub[1]
[1]*Rice, Houston, TX*

2:30PM
Tensor GSVD Predicting Ovarian Cancer Survival and Response to Platinum-Based Chemotherapy
T. Schomay[1,2], K. Aiello[1,2], and O. Alter[1,2]
[1]*University of Utah, Salt Lake City, UT, [2]Scientific Computing and Imaging (SCI) Institute, Salt Lake City, UT*

2:45PM
Adaptive Regulation of Cancer Cell Fate Following Targeted Inhibition of the Oncogenic Pathway
M. Fallahi-Sichani[1], V. Becker[1], S. Boswell[1], and P. Sorger[1]
[1]*Harvard Medical School, Boston, MA*

Track: Undergraduate Research, Design and Leadership
Special Session - Room 9
Undergraduate Research, Design and Leadership II

Chairs: Scott Verbridge, Pam VandeVord

1:30PM
Incorporation Of Poly(ethylene-glycol) Based Microparticles With Tunable Size And Degradation Into Chondrocytic Cell Aggregates
B. Philbrick[1], T. Rinker[1], and J. Temenoff[1]
[1]*Georgia Institute of Technology and Emory University, Atlanta, GA*

1:39PM
The Effects of Terminal Sterilization On the Mechanical and Biologic Properties of Extracellular Matrix Hydrogels
A. Smoulder[1], T. Keane[1], L. White[1], A. Castleton[1], L. Zhang[1], and S. Badylak[1]
[1]*University of Pittsburgh, Pittsburgh, PA*

1:48PM
Incorporation of Nano-sized Bioactive Glass Enhances the Mechanical Properties of Electrochemically Aligned Collagen Fibers
M. Pastakia[1], T-U. Nguyen[1], and V. Kishore[1]
[1]*Florida Institute of Technology, Melbourne, FL*

1:57PM
Double Wall Microsphere Controlled Delivery System for Adipose Tissue Retention and Enhancement
C. McBride[1], A. Kelmendi-Doko[1], C. Davenport[1], and K. Marra[2]
[1]*University of Pittsburgh Adipose Stem Cell Center, Lumberton, NJ, [2]University of Pittsburgh, Pittsburgh, PA*

2:06PM
Crosslinked Core-Shell Nanogels as Vehicles for Drug Delivery
J. Towslee[1], J. Myerson[2], V. Muzykantov[2], D. Eckmann[2], and R. Composto[2]
[1]*Case Western Reserve University, Cleveland, OH, [2]University of Pennsylvania, Philadelphia, PA*

2:15PM
Raman Microspectroscopy Assesses Human Embryonic Stem Cell Cardiac Differentiation and Maturation
A. Lee[1,2], N. Shen[2,3], E. Brauchle[2,3], and K. Schenke-Layland[2,3,4]
[1]*Boston University, Boston, MA, [2]Fraunhofer Institute for Interfacial Engineering and Biotechnology (IGB), Stuttgart, Germany, [3]Research Institute of Women's Health, University Hospital of the Eberhard Karls University, Stuttgart, Germany, [4]Cardiovascular Research Laboratories, David Geffen School of Medicine at UCLA, Los Angeles, CA*

2:24PM
Effects of Kartogenin and Thalidomide on Chondrogenesis in Mesenchymal Stem Cells and Mesenchymal Stem Cells derived from Human Induced Pluripotent Stem Cells
M. Bloom[1], A. Keogh[2], M. Xu[2], M. Detamore[1], and F. Barry[2]
[1]*University of Kansas, Lawrence, KS, [2]National University of Ireland Galway, Galway, Ireland*

2:33PM
Self-Organizing Structure Formation in High Density Neuronal Human iPSC Culture
W. McAllister[1], J. Butts[2,3], and T. McDevitt[2,3]
[1]*Georgia Institute of Technology, Atlanta, GA, [2]The Gladstone Institutes, San Francisco, CA,[3]University of California – San Francisco, San Francisco, CA*

2:42PM
Encapsulation And Differentiation Of Human Induced Pluripotent Stem Cells To Form 3D Engineered Cardiac Tissue Using Methacrylated Gelatin
S. Head[1], J. Kaczmarek[1], P. Kerscher[1], and E. Lipke[1]
[1]*Auburn Univesity, Auburn, AL*

2:51PM
Coculture of hMSCs and HUVECs to aid in prevascularization of bone tissue
R. Moriarty[1], B. Nguyen[1], and J. Fisher[1]
[1]*University of Maryland- College Park, College Park, MD*