#129 "Enzymatic Generation of a Plasmid DNA Hydrogel for Cell Free Protein Synthesis"
Y. Pardo, K. Yancey, S. Hamada, D. Bassen, M. Ma, D. Luo
Track: Biomaterials • Hydrogel Biomaterials

#139 "In-Vitro Engineered Auricular Cartilage: Maximizing Interfacial Contact with 3D-Printed External Scaffolds Significantly Diminishes Cell-Mediated Construct Contraction"
Track: Biomaterials • Hydrogel Biomaterials

#202 "A Novel High-fidelity Murine Model to Study the Effects of External Beam Irradiation after Device-based Breast Reconstruction"
Track: Device Technologies and Biomedical Robotics • Implantable Devices and Implantable Electronics

#557 "Spatially resolved metagenomics to create micron-scale maps of microbial communities"
H. Shi, I. Brito, I. De Vlaminck
Track: Biomedical Imaging and Instrumentation • Translational Biomedical Engineering • Imaging Technologies in Clinical Translation

#614 "Aldolase B-Mediated Fructose Metabolism Drives Metabolic Reprogramming of Colon Cancer Liver Metastasis"
K. Xiang, P. Bu, K. Chen, C. Johnson, S. Crown, M. Herman, D. Hsu, G. Zhang, X. Shen
Track: Cancer Technologies • Metastasis, Dormancy & Treatment Response

#644 "Metabolism and the Perivascular Niche Regulate Cancer Stem Cell Properties"
M. Tan, K. Wittmann, E. Bell, O. Reizes, J. Lammerding, C. Fischbach-Teschl
Track: Cancer Technologies • Tumor Microenvironment

#647 "A Novel, Patient-specific 3D Platform for High Throughput Analysis of Breast Cancer Therapeutics"
Track: Cancer Technologies • Tumor Microenvironment

#733 "The Influence Of TGF-lower case Greek beta1 On Fiber Formation And Alignment In Fibrochondrocyte- Seeded High-Density Collagen Constructs"
J. Kim, L. Bonassar
Track: Tissue Engineering • Orthopedic and Rehabilitation Engineering • Musculoskeletal Tissue Engineering

#847 "Integrating Unidirectional Perfusion For Shear Stress-Sensitive Tissues Into Pumpless Body-On-A-Chip Systems"
Y. Wang, M. Shuler
Track: Tissue Engineering • Nano and Micro Technologies • Organ-on-Chip for Regenerative Medicine

#869 "Clinical Validation of the Program for Improving and Managing the Environment Sleep Monitoring System"
Track: Translational Biomedical Engineering • Prototype Clinical Evaluation

#910 "Fabrication of a Mineral Gradient Containing Bone Matrix Scaffold and Its Biocompatibility towards Mesenchymal Stem Cells"
H. Zhou, A. Boys, J. Harrod, L. Bonassar, L. Estroff
Track: Tissue Engineering • Stem Cell Engineering • Stem Cells in Tissue Engineering
**Poster Presentations**  
**Friday, October 19**

**Exhibit Hall A  •  9:30am – 5:00pm**

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#86  **“Clinical Validation of a Wristband Activity Tracker's Sleep Feature”**  
E. Zavrel, A. Krieger  
Track: Device Technologies and Biomedical Robotics  •  Wearable Sensors and Devices

#129  **“Hydrophobic Coatings Increase The Contact Angle And Improve The Printability Of Collagen Bioinks”**  
L. Wang, N. Diamantides, L. Bonassar  
Track: Biomaterials  •  3D Printing and Advanced Biomaterial Manufacturing

#250  **“Measuring Cell Contractility Using Quantitative Polarization Microscopy”**  
W. Wang, J. Miller, S. Pannullo, C. Reinhart-King, F. Bordeleau  
Track: Cellular and Molecular Bioengineering  •  Biomedical Imaging and Instrumentation  •  Approaches in Cellular/Molecular Imaging and Tracking

#392  **“Tri-layered and gel-like nanofibrous scaffolds with native-like anisotropic features for engineering heart valve leaflets”**  
S. Wu, J. Butcher, J. Lim, B. Duan  
Track: Tissue Engineering  •  Cardiovascular Engineering  •  Cardiovascular Tissue Engineering

#553  **“Glycocalyx-Induced Membrane Shapes and Microvesicle Biogenesis & Shedding”**  
Track: Biomechanics  •  Cancer Technologies  •  Cancer Mechanobiology

#625  **“Nipple Engineering: Maintaining Nipple Projection with Externally Scaffolded Autologous Costal Cartilage”**  
Track: Tissue Engineering  •  Engineering Replacement Tissues

#649  **“Calcium Influx Enhances TRAIL-Mediated Apoptosis of Cancer Cells”**  
J. Hope, E. Lederman, M. King  
Track: Cellular and Molecular Bioengineering  •  Bioinformatics, Computational and Systems Biology  •  Single-Cell Measurements and Models

#663  **“Spatial Pattern of New Matrix Deposition Controls the Micromechanics of Engineered Cartilage”**  
J. Middendorf, S. Shortkroff, C. Dugopolksi, S. Kennedy, E. Blahut, I. Cohen, L. Bonassar  
Track: Tissue Engineering  •  Biomechanics  •  Biomechanics in Cell and Tissue Engineering

#671  **“Plug ‘N Play: Induction Of Biomimetic And Hierarchical Angiogenesis Under Stimulation With S1P”**  
J. Buro, A. Abadeer, K. Celie, Y. Toyoda, A. Lin, D. Lara, A. Samadi, M. Wright, J. Spector  
Track: Tissue Engineering  •  Biomechanics  •  Biomechanics in Cell and Tissue Engineering
Poster Presentations
Saturday, October 20

#89  "Effect Of Glycation Time On Rheological Properties of Collagen Gels"
M. Rodríguez, N. Diamantides, L. Bonassar
Track: Undergraduate Research & Design • Biomaterials

#200  "Stibbeck Curve Analysis of the Temporomandibular Joint Disc"
S. Albahrani, J. Middendorf, L. Bonassar
Track: Undergraduate Research & Design • Biomechanics

#352  "Automated Analysis of RhoA-FRET Activity During Confined Cancer Cell Migration"
T. Chu, J. Keys, J. Lammerding
Track: Undergraduate Research & Design • Cancer Technologies

#358  "Analyzing the Role of Adipose Stromal Cells in Breast Cancer Cell Migration and Invasion"
Y. Ouyang, L. Ling, C. Fischbach-Teschl
Track: Undergraduate Research & Design • Cancer Technologies

#402  "Step-Changes in Matrix Stiffness Cause Endothelial Cell-Matrix Adhesion Remodeling"
A. Potharazu, J. VanderBurgh, C. Reinhart-King
Track: Undergraduate Research & Design • Cellular and Molecular Bioengineering

#610  "Proteoglycan Removal by Chondroitinase Enhances Adhesion of Collagen to Annulus Fibrosus"
E. Jiang, S. Sloan, L. Bonassar
Track: Undergraduate Research & Design • Orthopaedic and Rehabilitation Engineering

#617  "Changes in Bone Geometry Caused by Disruption of the Gut Microbiome Depend on Stage of Skeletal Growth"
L. Vasquez-Bolanos, M. Luna, C. Hernandez
Track: Undergraduate Research & Design • Orthopaedic and Rehabilitation Engineering

#624  "Hyaluronic Acid Induces Microvesicle Shedding in Synovial Joint Cells"
R. Yin, L. Roberts, J. Kuo, B. Peal, J. Su, M. Paszek, H. Reesink
Track: Undergraduate Research & Design • Orthopaedic and Rehabilitation Engineering