

Presentations by McGowan Institute Affiliated Faculty and Trainees at the 2016 Biomedical Engineering Society Annual Meeting, Minneapolis, Minnesota

Strategies for Functional Tissue Engineering of Articular Cartilage

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A Continuous Pore Size Gradient PLLA Scaffold for Osteochondral Regeneration

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Media Shows a Difference in the Local Stress-State for BAV and TAV Aneurysmal Tissue

James Thunes¹, Julie Phillippi¹, Thomas Gleason¹, David Vorp¹, and Spandan Maiti¹

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Developmental ECM for Cardiac Regeneration and Repair

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Properties of Remodeled ECM Scaffolds in the Temporomandibular Joint

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Development of 2D and 3D Engineered Muscle Tissue Constructs

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Validation of An Osteochondral Bioreactor Applied To Study The Protective Role Of Sex Hormones

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Cell-free Synthetic Vascular Grafts: A Blank Slate to Study Host Cell Infiltration and Transformation

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Surface Patterning of an Alkylsilane Coated Layer to Control Corrosion Rate of Magnesium Devices

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Instrument-free Assay for Monitoring Bladder Cancer with High Specificity and Sensitivity in Resource Poor Settings

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Lipidoid Tail Structure Strongly Influences siRNA Delivery Activity

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An *In Vitro* Chondro-Osteo-Vascular Triphasic Model of The Osteochondral Complex

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Effect of Exercise Therapy on Supraspinatus Tears During Internal-External Rotation

Gerald Ferrer¹, R Matthew Miller¹, Jason Zlotnicki¹, Scott Tashman¹, Volker Musahl¹, and Richard E Debski¹

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Application of Adipose Precursor Cell (APC)-Seeded, Poloxamer-Filled PCL Nerve Conduits for Enhanced Nerve Regeneration in A Rat Model of Peroneal Nerve Ablation

Juliana Amaral Passipieri¹, Jack Dienes¹, Ellen Mintz¹, Jacqueline Bliley², Joseph Frank¹, Joshua Glazier¹, Andrew Portell¹, Kacey Marra², and George Christ¹

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Decoding the Multi-Modal Failures of Microelectrode-Brain Tissue Interface

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Dynamic Corrosion Behavior of Three Biodegradable Metals (Zn, Fe and Mg) in Phosphate Buffered Saline (PBS)

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Supraspinatus Tendon Degeneration is Correlated with Quantitative Ultrasound Measures

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Visualizing the Nonlinear Mechanics of Collagen in Eye Tissue

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A Biodegradable, Thermally Responsive Injectable Hydrogel with Reactive Oxygen Species Scavenging Effect

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Catch the Wave: Using Prior Knowledge of Action Potentials to Identify Neurons in Chronic Recordings

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Biodegradable and Conductive Polyurethane Elastomers

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Integrating Chemical and Optical Responsive Cells and Flexible Materials for a Biosensing Soft Robot

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Mediated Skeletal Muscle Remodeling

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Novel PEDOT Coating Functionalization Methods for Bio-interfacing Applications

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Shape Memory Polyurethane Urea for Ureteral Stents

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Effectiveness of Summer Undergraduate Research Experiences in Biomedical Engineering at Carnegie Mellon University

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Characterizing the ECM Composition and Mechanical Properties of Ovarian Tissue-Derived Hydrogels

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Contraction Wave Propagation in an Excitable Epithelial Tissue

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An Automated Comparison of the Distribution of Extracellular Matrix Molecules in the Brain

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Fabrication of Patient-Specific Intracranial Aneurysm Models For Burst Testing

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Changes in Pulmonary Arterial Hemodynamics Prior To LVAD Implant and The Association with RV Failure

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A Potential Method to Reduce Inflammation

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Effect of DRP Additives on Thrombocytes in Microvessels: A Potential Treatment for Thrombosis

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Virus Model of Early Pulmonary Hypertension

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Effect of an Alternating Pressure Operating Room Table Overlay On Sacral Skin Blood Flow

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Acoustic Vaporization of Perfluorocarbon Nanoemulsions

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Assessing the Host Inflammatory Response to Acellular Lung Scaffolds

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Towards Elimination Of The In Vitro Dynamic Culture Period of SVF Cell-Seeded TEVGs

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Engineering The Bone-Cartilage Interface: An Osteochondral Microphysiological System

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Development of A Bioreactor Aimed At Designing Spatial And Temporal Drug Delivery Profiles For Bone Regeneration Protocols

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Centrifugation-based Fabrication of Laminar High-density Tissue Aggregates

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Assessment of Schwann Cell Migration In Vitro And In Vivo Following Application of a Peripheral Nerve Specific Hydrogel

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Software for 3D Quantitative Analysis of the Eye Vasculature

Felipe Suintaxi¹, Ning-Jiun Jan¹, Andrew Voorhees¹, Konstantinos Verdelis¹, and Ian A. Sigal¹

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Modeling and Experimental Analysis of the Temporary, Fully-Retrieval Stent for Traumatic Hemorrhage Control

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Thallium Detection Using Paper-Based Cell-Free Sensor Circuitry

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Physiologically-Relevant Cellular Organization for Treatment of Volumetric Muscle Loss

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Nanotopography Promoted Neuronal Differentiation of Human Induced Pluripotent Stem Cells

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Influence of Substrate Stiffness on Fibrogenic Response of Fibroblasts to Carbon Nanotubes

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Adhesion-based Tumor Cells Capture Using Nanotopography

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Nanotopography Regulated Fibroblasts Sensing Carbon Nanotubes

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