

## Science20XX

2017

Number of presentations = **36**

**Boldfaced** names represent Bioengineering undergraduate students

**Iman L. Benbourenane**, Deanna Easley, Maurice Kotz, Steven Abramowitch  
*Comparative Analysis of Photogrammetry Versus Laser-based Methods of Measuring the Physical Dimensions of Objects*

**Tyler J. Bray**, Skip Meetze, Jon Schull, Alexander M. Spiess  
*Development of a 3D Printed, Low Cost Thumb Prosthetic*

**Nowa Bronner**, Oliver Schlüter  
*Examination of Two Tet-On Constructs with Sh95 in the Visual Cortex*

**Grace Brueggman**, Jeffrey Weiss, Robert Gaunt, Jennifer Collinger  
*Reaction Times to Intracortical Microstimulation in a Person with Tetraplegia are Similar to Those of Peripheral Tactile and Visual Stimuli in Able-bodied Subjects*

**Bianca De**, Alexander D. Malkin, William J. Federspiel, John A. Kellum, Kai Singbartl  
*Downregulation of CXCR-1 and CXCR-2 on Human Neutrophils in Extracorporeal Recirculation through Hollow Fibers with Immobilized IL-8*

**David Denberg**, Lance A. Davidson, Spandan Maiti  
*Incorporating Cellular Mechanics of Contractility and Cell Adhesion into 3D Finite Element Models of Embryonic Epithelial Morphogenesis*

**Nathan Fleming**, Nicholas Pavlovsky, Aaron Batista  
*Spatial Memory Maintenance in Dorsal Premotor Cortex*

**Madalyn R. Fritch**, Rocky Tuan, Hang Lin, He Shen  
*Modulating Inflammation through Cartilage-derived Extracellular Matrix for Potential Treatments of Cartilage Disease*

**Shayla Goller**, Uma Balakrishnan, Lance Davidson  
*Complex 3D Tissue Assembly Using Flat High-density Cell Sheets*

**Shushma Gudla**, Daniel Crompton, Jonathan H. Waters, Marina V. Kameneva  
*Nanomolar Drag Reducing Polymers (DRPs) Reduce Near-wall Margination of Rigid RBCs in Microchannels: A Potential Therapy for Sickle Cell Disease (SCD)*

**Ruben Hartogs, Christine Heisler, Kathryn LaBelle, Travis Prest, Bryan Brown**  
*Effect of PNS-ECM Hydrogel on Functional Recovery after Peripheral Nerve Injury*

**Christine Heisler, Kathryn LaBelle, Ruben Hartogs, Travis Prest, Bryan Brown**  
*Effect of Peripheral Nerve-specific Extracellular Matrix Hydrogel on Functional Recovery after Peripheral Nerve Injury*

**Le Huang, Sanjeev Shroff**  
*Whole Body Cardiovascular and Respiratory Modeling for ECMO Training Simulator*

**Daniel Jacobs, Dima Denisenko, Samuel Luketich, Richard Hoff, Xinzhu Gu, William R. Wagner, Antonio D'Amore**  
*Computational Quantification of Enhanced de novo Extracellular Matrix Elaboration in an Elastomeric Scaffold Model with Engineered Micro-Architecture*

**James Kern, Yanfei Chen, Youngjae Chun**  
*Biocompatibility and Functionality Assessment of a Novel Nitinol Tongue Prosthetic Device to Treat Dysphagia*

**Hannah Liu, BokSeng Yeow, Hongliang Ren**  
*Four-Point Fortune Teller-inspired Origami Grasper for Increased Dexterity and Less Tissue Damage in Minimally Invasive Surgery*

**Shane D. McKeon, Anusha Rangarajan, Minjie Wu, Nadim Farhat, Tales Santini, Sossena Wood, Tamer Ibrahim, Milos Ikonovic, Julia Kofler, Oscar Lopez, Bill Klunk, Howard Aizenstein**  
*Co-registration of In Vivo and Ex Vivo Human MRI Brain Images*

**Jacob Meadows, Bok Seng Yeow, Hongliang Ren**  
*Preliminary Development of a Low-cost Flexible Endoscope for Robotic Minimally Invasive Nasopharyngoscopy*

**Ian Moran, Jonquil Mau, Savio L-Y. Woo**  
*The Development of a Mg Ring for the Regeneration of a Torn ACL for Human Application*

**Nathaniel Myers, Michael Washington**  
*Thermoresponsive NIPAAm-Based Gel for Targeted Delivery to the Retina*

**Kalon J. Overholt, Riccardo Gottardi, Rocky S. Tuan**  
*Modeling Osteoarthritis in a Bone-Cartilage Bioreactor*

**Henry Phalen**, Brian Coffman, Dean Salisbury, Ervin Sejdic  
*Differential Activation of Rest-state Cortical Networks in First-episode Schizophrenia-spectrum Psychosis*

Bryan Rynearson, **Rahul Ramanathan**, Marcus Allen, Nicholas Vaudreuil, Kevin Bell, Patrick Bosch  
*Comparative Analysis of the Destabilizing Effects of Anterior Versus Posterior Releases on the Thoracolumbar and Lumbar Spine*

**Katherine Rohde**  
*Correction of Gibbs Ringing Artifact in DW-MRI with Biomimetic Brain Phantom as Ground Truth*

**Eliza Schally**, Asiyeh Golabchi, Kevin Woeppel, Ian M. Taylor, X. Tracy Cui  
*In Vitro Characterization of Melatonin-loaded Conducting Polymer Coatings for Neural Electrodes*

**Jonathan A. Scott**, Sanjeev B. Khanna, Matthew A. Smith  
*Interactions between Waveform Shape and Visuomotor Response Properties in Prefrontal Cortex*

**Yousif Shwetar**, Timothy N. Bachman, Christopher B. Link, Michael Boisen  
*Assessment of Patient Hemodynamics Pre-Left Ventricle Assist Device Implant to Determine Chance of Right Ventricular Failure*

**Rachel Sides**, Kaori Sugiyama, Aneesh Ramaswamy, MS, David Vorp, Hiromi Yanagisawa, Justin Weinbaum  
*Stimulation of Elastic Fiber Proteins by Mesenchymal Stem Cell-derived Factors*

**Andrew Sivaprakasam**, Sarah Bass, Deepan Kamaraj, MS, Alicia Koontz  
*Investigating Wheelchair Seating Parameters and Their Effect on Ramp Propulsion*

**Catherine Smith**, Gerald Ferrer, Joao Novaretti, Benjamin Rothrauff, MS, Rocky Tuan, Volker Musahl, Richard Debski  
*Biomaterial Repair of the Rat Supraspinatus Tendon Enthesis*

**Abigail M. Snyder**, Katherine L. Lorentz, Antonio D'Amore, Justin S. Weinbaum, William R. Wagner, David A. Vorp  
*Assessment of Human Stem Cell Retention and Host Cell Invasion in an Implanted Seeded Tubular Scaffold*

**Oliver Snyder**, George Stetten, Roberta Klatzky  
*Arbitrary Texture Simulation with One Degree of Freedom Normal to the Surface Using a Loudspeaker*

**Nicholas Strauch**, Ya Gao, Sachin Velankar

*Improving Fabrication of Topographically Actuating Vascular Grafts*

**Sarah Tolaymat**, Daniel Crompton, Marina V. Kameneva

*Optimization of Storage Conditions and Evaluation of Stored Drag Reducing Polymer (DRP) Solutions for Use in Preclinical Animal Studies*

**Shumeng Yang**, Kanto Nagai, William Anderst

*The Effects of an Osteoarthritis Unloader Brace on Knee Joint Space during Gait*

**Eric Zhang**, Bin Yang, Ian A. Sigal

*Collagen Fiber Orientation Mapping with Fourier Ptychography Polarized Light Microscopy*