

Biomedical Engineering Society (BMES)

2018

Number of presentations = 62

Boldfaced names represent Bioengineering undergraduate students

Skeletal Muscle Decellularization Strategies for ECM Hydrogel Preparation

Baker JS, Snowden MJ, Byrd KI, Schilling BK, Marra KG

Chronological Event Recording of Stimuli Using CRISPR/Cas9-Mediated Base Editing (2018 Pitt iGEM Team)

Becker E, Hu V, Greenwald M, Pavelek T, Pinto E, Wei Z, Telmer C, Miskov-Zivanov N, Lohmueller J, Shroff S, Deiters A

Development of the Handle Grip of a Walker for Hemiplegic Post-Stroke Patients

Bray T, Emergi B, Braun-Benjamin O

Evaluating occlusion Success of Esophocclude Prototypes in Comparison to Diameter and Radial Force

Bryson G, Chun Y, Carullo P

Validating FingerSight with a 3D Infrared Tracking System

Canady JR, Sapute SA, Klatzky R, Stetten GD

Kinetic Characterization of Nitrite Reduction to NO by the Molybdopterin Enzyme mARC2

Cecco E, Tejero J, Gladwin MT, and Sparacino-Watkins C

Mathematical Modeling of Membrane Potential and Ion Current Dynamics Under Neural Exposure to Amyloid Beta

Chalasani H, Seshaiyer P

Early-stage Sepsis in Pigs as a Basis for Mathematical Modeling

Chambers T, Swigon D, Clermont G

Pharmacological Inhibition of Myocardin-Related Transcription Factor as a Novel Strategy to Inhibit Growth and Migration of Triple-Negative Breast Cancer Cells

Dadey A, Gau D, Partha R

Development and Characterization of Ovarian Tissue-derived Hydrogel Provides an Alternative Biomaterial for Fertility Preservation

Dadi S, Buckenmeyer M, Brown B

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Neural Stem Cell Proliferation in the Secondary Neural Tube for Lizards Versus Mice

Danucalov D, Lozito T, Londono R, Hudnall M, **Tighe S**, **Martier A**, and **DeMoya C**

*Biochemical Inhibition of Key Signaling Molecules in *Lepidodactylus Lugubris* Affects Tail Regeneration*

DeMoya CD, Londono R, Hudnall ML, **Kenes SA**, **Danucalov DA**, Lozito TP

Micro BLIP: A New Tool for Instrumentation Education

Donovan JD, Stetten GD

Controlled Release Optimization of Ceftriaxone and N-Acetyl Cysteine for Transtympanic Delivery

Dunkelberger KE, Bruk LA, Fedorchak MV

Sensitive and Selective Polymer Nanocomposite for Resting-Level Dopamine Detection at Carbon Fiber Microelectrodes (Podium presentation)

Freedman NC, Taylor IM, Cui XT

*A qPCR Based Assay for Detecting *Mycoplasma* Contamination in Cell Lines*

Fritts Z, Sivan SS, Karpuj MV

Development of a High Throughput Bioreactor Compression Chamber for Rodent Mechanobiology

Gabriel N, **Ramanathan R**, Bell K, Sowa G, Vo N

Aged Muscle ECM Impairs Macrophage Infiltration And Activation During Muscle Injury

Gartner EJ, Brown BN, LoPresti ST

Angiogenic Response to IL-4 Eluting Coatings in Mesh Tissue Explants

Geisler HC, Nolfi AL, Iftikhar AI, Brown BN

Biomechanical Rehabilitation: Accessibility of Musical Systems-Drawing Music

Gilbert NA, Roth N, Benyamin OB

Use of Centrifugation to Generate Laminar Cell Sheets and Assemble Dense Scaffold-Free Multi-Laminar Tissues

Goller SE, Balakrishnan UL, Davidson LA

A Semi-Automated Axon Segmentation Technique for a More Efficient Evaluation of Peripheral Nerves

Griffith A, Zheng XS, Cui XT

In Vitro Viability Testing of pH Sensor Incorporation in Tongue Prosthetic Assist Device for Treating Dysphagia

Hastings J, Gildener-Leapman N, Chun Y

Investigation of Multiple Strategies in Modeling an Expandable Stent by Finite Element Method

Hill AB, Leo HL

PMA Stimulation of Glial Cells via Thiol Nanoparticle Surface Modifications

Jeevan S, Woepel KM, Cui XT

Mammalian Cells Injected into Lizard Tails Survive and Reconstitute Regenerated Tissues

Kenes S, **DeMoya C**, Londono R, Hudnall M, Lozito T

Building/Testing of the 64-Channel RF Head Coil Modules for Ultra-High Field Human MRI Applications (Podium presentation)

Koo M, Santini T, Vinjamuri N, Wood S, Farhat N, Martins T, Alkhateeb S, Ibrahim T

A Mechatronic System for the Magnetic Manipulation of Biomedical Specimens

Kraft CE, Behrens MR, Ruder WC

Decellularizing the Porcine Lamina Cribrosa

Krahe DN, Axman KF, Liou J, Brown B, Vande Geest JP

3D Convolutional Neural Networks for Glioma Prognosis

Li C, Islam M, King N, Ren H

In Vitro Modeling of Osteoarthritis Using iPSC-Derived Microphysiological Osteochondral Complex

Li X, Lin Z, Lin H, Tuan R

Comparing Wound Repair Mechanisms in Super Healing Mice

Martier A, Lozito T, Londono R, Hudnall M, **Tighe S**, **Danucalov D**

A Peripheral Nerve Extracellular Matrix Hydrogel Enhances Return To Function After A Sciatic Nerve Gap Injury

Martin T, Prest T, Marchal L, Skillen C, Meder T, Brown B

Co-registration of MRI-defined White Matter Lesions with Ex-Vivo Histopathology

McKeon S, Rangarajan A, Wu M, Santini T, Ibrahim T, Lopez O, Aizenstein H

System to Record Therapeutic Delivery Window of Stochastic Vibrotactile Stimulations in Infants with Neonatal Abstinence Syndrome

Meadows J, Salisbury E, Gartner M

The Design and Fabrication of a Modular Low Profile Dual Flow Bioreactor with a Porous Membrane

Moran I, Alexander P

A 3D-Printed Device for Enhanced Deployment of Living Biosensors of Infectious Diseases

Movizzo P, Long Z, Ruder W

Assessing Brain Reserve Using a Machine-Learning Brain Age Prediction Model

Muppidi N, Ly M, Karim H, Aizenstein H, Mizuno A, Klunk W

In Vitro Three-Dimensional Model Recapitulates Malignant and Benign Mineral Deposition

Narayanan N, Patel A, Sant S

Accuracy and Scalability of Two-Photon Polymerization with Varying Objectives and Power

Odeniyi O

An IL-1Beta Mediated Model of Osteochondral Tissue Catabolism

Overholt K, Tuan R, Gottardi R

Human Intestinal Stem Cell Morphogenesis in a 2.5D System Allows Formation of Crypt-like Structures

Overholt K, Lampejo A, Kassis T, Hernandez-Gordillo V, Griffith L

Utilizing Miniature Fluorescent Microscopy For In Vivo Calcium Imaging In The Nucleus Accumbens

Pashaj X, Li K, Schall T, Dong Y

Combined Neural Stem Cells and Physical Therapy Improve Somatosensory Cortex Activity After Stroke

Perry NJ, Ghuman H, Nitzsche F, Gerwig M, Moorhead J, Grice L, Poplawsky A, Wahlberg B, Ambrosio F, Modo M

Assessing the Ability to Quantify Collagen Architecture in the Vagina Using X-Ray Microtomography

Preece M, Knight K, Maiti S, De Vita R, Moalli P, Abramowitch S

Metformin Exhibits Anti-Inflammatory Properties by Suppressing Catabolic Gene Expression within the Intervertebral Disc

Ramanathan R, Sowa GA

Reversal of Chondrocyte Aging to Augment Cartilage Regeneration in the Body

Ravi S, Shen H, **Li X**, Lin H

Cortical Mapping of Hindlimb Muscle Neural Circuitry in the Mouse

Rohde K, Kolarcik C

Low-Cost 3D-Printed Tools for Biomedical Microscopy

Ruder W, Heyde K, **Kraft C**

Toward Monitoring the In-Vitro Extracellular Matrix Remodeling of Tissue Engineered Vascular Grafts

Schmidt H

Comparison of Cell Seeding Quality of Porous, Biomimetic, Tubular Scaffolds for Vascular Tissue Engineering Fabricated by Two Different Methods

Sedlak M, Lorentz K, Luketich S, Ye SH, D'Amore A, Wagner W, Weinbaum J, Vorp D

Angiogenic Response to Abdominal and Vaginal Polypropylene Mesh Implants in a Rabbit Model

Sicke M, Iftikhar A, Nolfi A, **Geisler H**, Brown B

Development of a 3D Biphasic Osteochondral Model for In Vitro Osteoporosis Drug Discovery

Snodgrass C, Garofalo V, Khalajzadeh A, Alexander P, Tuan R, Gottardi R

Characterization of Blood Temperature Changes within a Wearable Artificial Lung

Stevenson K, Orizondo R, May A, Frankowski B, Federspiel W

Effect of Pivot-Bearing Surface Roughness on Thrombus Formation: An In-Vitro Study

Stevenson K, May A, Orizondo R, Frankowski B, Wagner W, Federspiel W

Photoelectric Effect-Induced Intracortical Neural Stimulation with Free-Floating Carbon Fiber Wireless Axon Electrodes

Stocking KC, Vazquez AL, Kozai TDY

In Silico Screen For Novel Anti-angiogenic Agents Via Inhibition Of Actin:Profilin1 Interaction

Sturm J, Gau D, Francoeur P, Koes D, Roy P

Infant Feed Thickening Characterization at Children's Hospital of Pittsburgh

Toplak K, Kubistek K, Fill K, Rosen S, Gartner M

Extracellular Matrix Based Hydrogel for Peripheral Nerve Crush Injury

Tupac Yupanqui V, Prest T, Meder T, Brown B

Analyzing Right Ventricular Response to LCZ696 in Pulmonary Hypertension

Tushak CM, Sharifi Kia D, Benza E, Kim K, Simon M

Reinforcement Learning Motion Control Paradigm for Minimally Invasive Robotic Surgery
Wroge T, Islam M, Xiao X, Ren H

Residual Limb Strain Within A Socket Prosthesis In Transfemoral Amputees During Walking
Yang S, Gale T, Anderst W