PITT | SWANSON ENGINEERING
BIOENGINEERING

BIOENG 1002: Intramural Internship

2020 Spring Technical Symposium

Number of presentations = **53**

Zachary Fritts
Mentor: Dr. Tamer Ibrahim
Developing a 56-Channel Transmit Array for 7 Tesla MRI

Danesh Thirukumaran
Mentor: Dr. Tamer Ibrahim
Utilization of Diffusion Tensor Imaging Analysis for Sickle Cell Disease Related Cerebral Infarction

Matthew Saich
Mentor: Dr. Tamer Ibrahim
Construction and Testing of the Microstrip Tic-Tac-Toe Coil for 7 Tesla MRI

Mitchell Dubaniewz
Mentor: Dr. Takashi D.Y. Kozai
Novel Drug to Reduce Immune Response to Chronically Implanted Neural Electrodes

Elliot Hammersley
Mentor: Dr. William Anderst
The Effects of Age, Foot Type, and Ground Surface on Plantar Pressure and Symmetry During Walking

Jacob Levy
Mentor: Dr. William Anderst
Analysis of Gait Kinematics in Transfemoral Amputees with Socket Prosthetics

Rishabh Seth
Mentor: Dr. Tagbo Niepa
Nanoculture-Designing a Novel Culture System to Study Microbial Growth and Dynamics

Joe Sukinik
Mentor: Dr. Orit Benyamin
Designing a Testing Procedure Relating Eye Movement and Postural Control in ADHD Patients

Yannis Rigas
Mentor: Dr. Anthony St. Leger
Genetically Engineering Ocular Probiotic

Pavitra Velan
Mentor: Dr. Joseph Samosky
3D Pressure Sensing Pelvic Exam Simulator

Dana Kelly
Mentor: Dr. Steven Abramowitch
Inspiring Tomorrow's Engineers-Camp BioE

Liam Martin
Mentor: Dr. Steven Abramowitch
Impact of Pregnancy and Birth on the Maternal Sacrum and Coccyx

Aaron McVaugh
Mentor: Dr. Neeraj Gandhi
Comparison of Recording Performance of Laminar Intracortical Electrode Brands

Nishita Muppidi
Mentor: Dr. Howard Aizenstein
Using Computational Modeling to Predict Problematic Drinking Behaviors

Matthew Rosenblatt
Mentor: Dr. Howard Aizenstein
Comparing Pipelines in Magnetic Resonance Imaging Synthesis

Michael Clancy
Mentor: Dr. Patrick Loughlin
Exploring Sensory-Motor Control Through Virtual Object Manipulation

Xhoni Pashaj
Mentor: Dr. William Federspiel
Predicting Blood Clot Formation in Blood Pumps Using AI

Aamil Shah
Mentor: Dr. Sarah Haig
Increasing the Structural Resilience of Reinforced Concrete through Bioremediation

Timothy Snyder
Mentor: Dr. Mark Redfern
Strength and Balance in Older Adults

Daniela Krahe
Mentor: Dr. Tracy Cui
Melatonin Injections to Inhibit Immune Response in the Brain

Maxwell Lohss
Mentor: Dr. George Stetten
The Con-Tactor: A Novel Tactile Stimulator that Makes and Breaks Contact with the Skin

Nicolas Kshatri
Mentor: Dr. Robert Gaunt
Characterizing the Effects of an Implantable Soft Silicone Electrode Net on the Urinary Bladder

Natalie Greenlee
Mentor: Dr. Robert Gaunt
Spinal Cord Stimulation to Improve Bladder Function

Kristopher Keppel
Mentor: Dr. Robert Gaunt
Quantification of Tissue Electrode Interface Voltages During Intracortical Microstimulation

Nathaniel Luketich
Mentor: Dr. Fabrisia Ambrosio
Dose Dependency of AAV-Klotho Administration in Restoring Muscle Function in Aged Mice Post Injury

Katherine Miller
Mentor: Dr. James Wang
The Effects of Aging on Tendon Wound Healing

Muyun Zhao
Mentor: Dr. Rui Liang
Diabetes-Induced Macrophage Senescence and its Impact on Immunity

Megha Murthy
Mentor: Dr. Bryan Brown
Biological Material Induces Macrophage Response More Favorable for Angiogenesis

Judy Liang
Mentor: Dr. Bryan Brown
Manufacture Polyelectrolyte Coated Contact Lenses for the Treatment of Dry Eye Disease

Harris Chishti
Mentor: Dr. Alexander Poplawsky
CBV-Weighted fMRI Responses to Variable Odor Concentration in the Awake Mouse Olfactory Bulb

Jordan Birkhimer
Mentor: Dr. Stephen Badylak
Phylogenetic Analysis of Matrix Bound Nanovesicles

Sean Tighe
Mentor: Dr. Thomas Lozito
Single Cell Sequencing Analysis of Lizard Phagocytic Cell Populations and Their Role in Tail Regeneration

Anish Puligilla
Mentor: Dr. Ian Sigal
Biaxial Mechanical Testing of Interweaving and Non-Interweaving Fibers

Haiden McDonald
Mentor: Dr. Ian Sigal
Hemodynamics of the Lamina Cribosa due to Glaucoma

Tingjun Hao
Mentor: Dr. Hang Lin
The Chondrogenesis Potential of Induced Pluripotent Stem Cells

Patrick Bohse
Mentor: Dr. Rakié Cham
Role of Attention in Balance Autism Spectrum Disorder

Vhakish Suganthan
Mentor: Dr. Yadong Wang
Poly(glycerol-sebacate)-based Synthetic Arterial Graft

Madeline Johnson
Mentor: Dr. Gelsy Torres-Oviedo
Analyzing Leg Speed Perception Using Split-Belt Treadmill

Lucy Jones
Mentor: Dr. Jonathan Vande Geest
Peripheral Artery Disease: A New Type of Stent

Jinghang Li
Mentor: Dr. Jonathan Vande Geest
Finite Element Evaluation of Various Stent Mechanical Properties in a Knee Bending Mechanical Environment

Rachel Lau
Mentor: Dr. Jonathan Vande Geest
Monitoring Cell Monolayer Culture via an Intravital Incubation System

Richard Brigandi
Mentor: Dr. Tamer Ibrahim
7 Tesla MRI Artifact Processing

Seth Eisenberg
Mentor: Dr. Rajeev Dhupar
Characterization of MPE-Resident T-Cells: Potential for Use in Adoptive Cell Transfer Therapies

Sreyas Ravi
Mentor: Dr. Spandan Maiti
Biomechanical Assessment of Ascending Aortic Aneurysms Based from Valve Phenotype

Amritha Justin
Mentor: Dr. Alan Wells
Wound Healing with Tenascin-C and Mesenchymal Stem Cells

Katherine Dunkelberger
Mentor: Dr. Irene Mena
Don't Judge a Library by its Book Covers

Larissa Fordyce
Mentor: Dr. David Vorp
Mapping Wall Stress in Abdominal Aortic Aneurysms with Machine Learning

Mateus Pinho
Mentor: Dr. Peter Alexander
3D Culture Models for Predictive Toxicology

Kevin Lynch
Mentor: Dr. John Fowler
Carpal Tunnel Heat Map Study

Jacqueline McHale
Mentor: Dr. Richard Debski
Effect of Tibial Slopes on Contact Pressure Following Lateral Extra-Articular Tenodesis

Vatsal Patel
Mentor: Dr. Partha Roy
The Effects of Profilin 1 and Mitochondrial Morphology

Connor Gillis
Mentor: Dr. Partha Roy
Binding of Lipid Phosphatases to Profilin 1

Neeshil Patel
Mentor: Dr. Tracy Cui
Equivalent Circuit Modeling for Surface Coated Neural Electrodes