



Poster

SESSIONS

2022 ANNUAL MEETING

BMES

BIOMEDICAL ENGINEERING SOCIETY

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 1

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

**Machine Learning for Biomedical
Applications (Summer Undergraduate)**

Abstract Title: Computational Analysis of
Optical Fingerprints for Protein Identification and
Quantification

Presenter: Sophia Ty

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 2

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

**Machine Learning for Biomedical
Applications**

Abstract Title: Optimizing Hyperparameters for
Bayesian Optimal Experimental Designs in the BMP
Signaling Pathway

Presenter: Angelique Espino

Principal Investigator: Elliot Hui

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 3

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

**Machine Learning for Biomedical
Applications**

Abstract Title: Fairness in the Prediction of Acute
Postoperative Pain using Machine Learning Models

Presenter: Anis Davoudi

Principal Investigator: N/A

Author(s):

Ruba Sajdeya

Ronald Ison

Parisa Rashidi

Patrick Tighe

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 4

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

**Machine Learning for Biomedical
Applications**

Abstract Title: Automatic Segmentation of the Left
Atrium in CTA Images

Presenter: Amaan Kazi

Principal Investigator: N/A

Author(s):

Sage Betko

Prahlad Menon

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 5

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

**Machine Learning for Biomedical
Applications**

Abstract Title: Virtual AFM: Generating Synthetic
2D Multi-view Images from 3D Protein Structure

Presenter: Anwesha Sarkar

Principal Investigator: N/A

Author(s):

Jaydeep Rade

Soumik Sarkar

Adarsh Krishnamurthy

Anwesha Sarkar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 6

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Analysis of Cell Signaling

Abstract Title: Repetitive Mild Traumatic Brain
Injuries Drive Distinct Acute Cytokine and MAPK
Signaling Patterns

Presenter: Alyssa Pybus

Principal Investigator: N/A

Author(s):

Sara Bitarafan

Lilly Rohrer

Kareena Udeshi

Arushi Khaitan

Brae Davies

Erin Buckley

Levi Wood

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 7

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Analysis of Cell Signaling

Abstract Title: Stochastic Modeling of BMP
Receptor Pathways: Complex Formation and Signal
Transduction in Zebrafish Embryogenesis

Presenter: Nissa Larson

Principal Investigator: N/A

Author(s):

David Umulis

Aasakiran Madamanchi

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 8

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Analysis of Cell Signaling

Abstract Title: Deriving PLC γ Single-Molecule
Activation Statistics from Deterministic Simulations

Presenter: Ravikanth Appalabhotla

Principal Investigator: Jason Haugh

Author(s):

Jason Haugh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 9

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: Requirement for booster doses in healthy, cancer and immunosuppressed patients infected with the ancestral or variant SARS-CoV-2: Insights from a mechanistic mathematical model

Presenter: Chrysovalantis Voutouri

Principal Investigator: Lance L Munn

Author(s):

Mohammadreza Nikmaneshi

Triantafyllos Stylianopoulos

Lance Munn

Rakesh Jain

Justin Gainor

Melin Khandekar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 10

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: Probing Function and Degeneration in Elastic Biopolymers

Presenter: Anna Tarakanova

Principal Investigator: Anna Tarakanova

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 11

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: Modeling the Progression of Fibrosis with Dysregulation of TGF-beta in COVID19 Patients

Presenter: Ashlee Ford Versypt

Principal Investigator: N/A

Author(s):

Mohammad Aminul Islam

Ashlee Ford Versypt

Thursday, October 13

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Poster Session: A, Section: C, Row: C, Poster
Number: 12

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: Cell-specific mechanisms of neocortical slow oscillations: a computational modeling study.

Presenter: Beatriz Herrera

Principal Investigator: Jorge J Riera

Author(s):

Beatriz Herrera

Jeffrey Schall

Jorge Riera

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 13

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: Mechanistic Computational
 Modeling of IL6R/IL8R Signaling and Inhibition

Presenter: Christina Ray

Principal Investigator: Feilim Mac Gabhann

Author(s):

Christina Ray

Huilin Yang

Jamie Spangler

Feilim Mac Gabhann

Thursday, October 13

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Poster Session: A, Section: C, Row: C, Poster
Number: 14

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: Model of Antiviral Timing, Potency,
 Heterogeneity Effects on Epithelial Tissue Infected by
 SARS-2

Presenter: Juliano Ferrari Gianlupi

Principal Investigator: N/A

Author(s):

Tarunendu Mapder

T.J. Segó

James Sluka

Sara Quinney

Morgan Craig

Robert Stratford

James Glazier

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 14

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Abstract Title: BioModME for Building and
 Simulating Dynamic Computational Models of
 Complex Biological Networks

Presenter: Justin Womack

Principal Investigator: N/A

Author(s):

N/A Said

Audi Scott

Terhune Ranjan

Dash

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 15

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: Meso-scale model for virus-cell
 adhesion: spike-like protein and meshless membrane

Presenter: Luke Wang

Principal Investigator: N/A

Author(s):

Anand Jagota

Xiaohui (Frank) Zhang

N Northeastern University

College of Engineering

Bioengineering



AT THE INTERFACE OF ENGINEERING AND MEDICINE

Northeastern University's Bioengineering Program provides a broad-based, interdisciplinary engineering curriculum that offers a rigorous yet flexible education. The Department of Bioengineering has a robust Bachelors, Masters and PhD Program. The goal of the curriculum in Bioengineering is to provide students with a broad understanding of the quantitative analysis of biological systems and a deep expertise in an area of engineering of their choice.

Bioengineering students will have unique opportunities in the classroom, research labs, and experiential learning. The projects that they may be able to contribute to include bio-bandages that monitor bacterial growth or that help damaged ligaments heal faster; sheets of cells folded like origami to form a working kidney; and new materials that—like a leaf in the sun—automatically sense and adapt to changes in the environment.

There are four concentrations:

- Biomechanics, Biotransport and MechanoBiology
- Devices, Imaging, Instrumentation and Signal Processing
- Molecular, Cell and Tissue Engineering
- Systems, Synthetic and Computational Bioengineering



Thursday, October 13

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Poster Session: A, Section: C, Row: C, Poster
Number: 16

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: The Role of Gravity and Mechanical Properties of Elastin and Collagen on Lung Pressure-Volume Curves

Presenter: Linzheng Shi

Principal Investigator: N/A

Author(s):

Linzheng Shi

Jacob Herrmann

Samer Bou Jawde

Jason Bates

Hadi Nia

Bela Suki

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 17

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Multiscale Computation Modeling

Abstract Title: Estimation of myocardial mechanical properties by deep learning approach

Presenter: Rana Raza Mehdi

Principal Investigator: N/A

Author(s):

Emilio Mendiola

Adam Sears

Roderic Pettigrew

Reza Avaz

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 18

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Other / Non-specified (Summer Undergraduate)

Abstract Title: An Agent-Based Model to Compare Mycobacterium avium Infection in Pre-Menopausal vs. Post-Menopausal Patients

Presenter: Alexa Stern

Principal Investigator: Elsje Pienaar

Author(s):

Catherine Weathered

Elsje Pienaar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 19

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Precision and Predictive Medicine

Abstract Title: Using Gaussian Process Models to Generate Semi-Synthetic Clinical Data

Presenter: Joshua Fuller

Principal Investigator: N/A

Author(s):

Joshua Fuller

Alexey Abramov

Philippe Lemaitre

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: C, Poster
Number: 20

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Microphysiological Systems (MPS) Manufacturing

Abstract Title: Modular Integration Of Endothelialized Barrier For Disease Modelling.

Presenter: Bhumi Suthar

Principal Investigator: N/A

Author(s):

Bhumi Suthar

Charles Alver

Ashutosh Agarwal

Thursday, October 13

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Poster Session: A, Section: C, Row: D, Poster
Number: 41

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Microphysiological Systems (MPS) Manufacturing

Abstract Title: A Novel Tissue Bioreactor for Retinal Organoid Microenvironmental Control

Presenter: Emma Drabbe

Principal Investigator: N/A

Author(s):

Emma Drabbe

Ashutosh Agarwal

Timothy Arcari

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 42

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Microphysiological Systems (MPS) Manufacturing

Abstract Title: Dimensionality-dependent Mechanical Stretch Regulation of Cell Behavior

Presenter: kun man

Principal Investigator: N/A

Author(s):

Jiafeng Liu

Khang Phan

Hamid Sadat

Yong Yang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 43

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Biomaterials

Abstract Title: Cell-adhesive peptide density positively correlates with oligodendrocyte progenitor cell (OPC) growth in Rapidly Assembling Pentapeptides for Injectable Delivery (RAPID) hydrogels

Presenter: Anna Kittel

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster**Number:** 44**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Biomaterials****Abstract Title:** Cell Coating with Chondroitin Sulfate Mimetic Peptide Amphiphiles for Enhanced Bioregeneration**Presenter:** Christopher Sollenberger**Principal Investigator:** Samuel Stupp**Author(s):**

Ruomeng Qiu

Samuel Stupp

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster**Number:** 45**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Abstract Title:** ECM Gel Injection Enhances Recovery from Disuse and Degenerative Muscle Atrophy**Presenter:** Chris Slavin**Principal Investigator:** N/A**Author(s):**

Jeff Wolchok

Tai Huynh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster**Number:** 46**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Biomaterials****Abstract Title:** Biphasic 3D-Printed Osteochondral Biomaterial for Temporomandibular Joint (TMJ) Mandibular Condyle Regeneration**Presenter:** David Nedrelov**Principal Investigator:** N/A**Author(s):**

David Nedrelov

Ali Rassi

Boushra Ajeeb

Pedro Huebner

Fabio Ritto

Wendy Williams

Michael Detamore

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster**Number:** 47**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Biomaterials****Abstract Title:** Nerve Regeneration Facilitated by Electrical Stimulation of Dual Layer Microspheres for Drug Delivery**Presenter:** Ahmad Zunnu Rain**Principal Investigator:** Harini Sundararaghavan**Author(s):**

Harini Sundararaghavan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster

Number: 48

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Biomaterials

Abstract Title: The Effect Of Substrate Stiffness On Human Schwann Cell Behavior

Presenter: Christine Hampton

Principal Investigator: Christine Hampton

Author(s):

Harini Sundararaghavan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster

Number: 49

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Biomaterials

Abstract Title: Enhanced tissue regeneration using human serum albumin nanoparticles

Presenter: Jinmyoung Joo

Principal Investigator: Jinmyoung Joo

Author(s):

N/A

POSTDOCTORAL POSITIONS IN SYNTHETIC TISSUE DEVELOPMENT

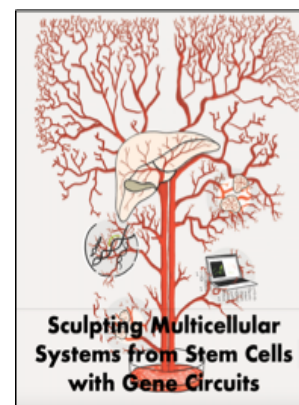
The **laboratory of Synthetic Biology and Regenerative Medicine** at the University of Pittsburgh is looking for two postdoc candidates to join our research program on **developing multicellular systems and human organoids**. The projects will use synthetic gene circuits to direct the morphogenesis of human tissues in vitro. The candidate applies different technologies (including the gene-editing developed in the PI lab) to further engineer and/or record information within developmental events at the level of single-cell and tissues. Additionally, s/he has a chance to collaborate with computational biology scientists in collaborator labs at **Johns Hopkins University and Carnegie Mellon University**. The tissues are developed from human iPSCs and will be scalable, with high robustness and functionality.

The lab is located within the world-class **Pittsburgh Liver Research Center (PLRC)**, home to a cutting-edge interdisciplinary research program on liver diseases. We are also part of the **McGowan Institute for Regenerative Medicine, Departments of Pathology and Bioengineering**. The candidate will have the opportunity to **lead cutting-edge, highly interdisciplinary projects with collaborators at Carnegie Mellon University, the University of British Columbia, and Johns Hopkins University**. The candidate will engage with the **stem cell and synthetic biology** communities by presenting work at conferences and publishing high-impact papers and patents.

Minimum/Basic Qualifications: MD and/or Ph.D. degree in a related field of study (bioengineering, molecular biology, and/or cell biology). Attention to detail, a high degree of organization and analytical skills, and the ability to perform standard molecular biology and mammalian cell culture techniques are needed. Familiarity with synthetic and systems biology techniques, stem cells and organoids, in vivo mouse models, liver biology, and the hematopoietic system is a plus. A good track record of publication and the ability to lead projects in fast-paced environments is needed.

For more information, please see www.ebrahimkhanilab.bio

Applicants from underrepresented groups are encouraged to apply. Interested candidates should contact Dr. Mo Ebrahimkhani (mo.ebr@pitt.edu) with their **CV, cover letter, and contact information of at least two referees** included in the email.



Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 50

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Biomaterials

Abstract Title: Development of a Multi-Structured
 Scaffold for Regeneration of the Myotendinous
 Junction

Presenter: Kariman Shama

Principal Investigator: Brittany Taylor

Author(s):

Marisa Pacheco

Sebastian Kharileh

Andrea McPherson

Brittany Taylor

Whitney Stoppel

Kaitlyn Turner

Elizabeth Aikman

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 51

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Biomaterials

Abstract Title: Atomic vacancies in nanomaterials
 boost mitochondrial biogenesis and bioenergetics

Presenter: John Soukar

Principal Investigator: N/A

Author(s):

Kanwar Abhay Singh

Anna Keller

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 52

Track: BIOMATERIALS

Biomaterials (Summer Undergraduate)

Abstract Title: Designing and Confirming a Model
 for Predicting Diffusion Behavior through Granular
 Hydrogels

Presenter: Veronica Bubay

Principal Investigator: Edward A. Phelps (PhD)

Author(s):

Adrienne Widener

Rebecca Erwin

Edward Phelps

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 53

Track: BIOMATERIALS

Biomaterials (Summer Undergraduate)

Abstract Title: Bridging the Gap: Developing
 Self-Rolling Azlactone Hydrogels for Nerve Injury
 Applications

Presenter: Annabelle Hendrickson

Principal Investigator: Maren Buck

Author(s):

Arshiyah Alam Laaj

Jueun Lee

Melany Garcia

Alexis Ziemba

Maren Buck

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 54

Track: BIOMATERIALS

Biomaterials (Summer Undergraduate)

Abstract Title: Evaluation of Glutaraldehyde Crosslinked Chitosan-Elastin Electrospun Membranes for skin wounds

Presenter: Ethan Wales

Principal Investigator: Joel D. Bumgardner

Author(s):

Alex Bryan

ALI SADEGHIANMARYAN

Joel Bumgardner

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 55

Track: BIOMATERIALS

Biomaterials (Summer Undergraduate)

Abstract Title: Electrospun Silk Fibroin and Hyaluronic Acid Based Nerve Conduit for Peripheral Nerve Regeneration

Presenter: Madeline Badrak

Principal Investigator: N/A

Author(s):

Judy Senanayake

C H

Harini Sundararaghavan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 56

Track: BIOMATERIALS

Biomaterials (Summer Undergraduate)

Abstract Title: Determining the Effect of an Infusible Extracellular Matrix Material in an In-Vitro Model of Endothelial Cell Activation

Presenter: Filiberto Quintero Karen Christman

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 57

Track: BIOMATERIALS

Biomaterials (Summer Undergraduate)

Abstract Title: Meniscus Cell Mechano-Activation During Microgel Assisted Tissue Bulking

Presenter: Seth J. Ack Robert L. Mauck

Principal Investigator: N/A

Author(s):

Ryan Locke

Ryan Daniels

Robert Mauck

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 58

Track: BIOMATERIALS
Biomaterials (Summer Undergraduate)

Abstract Title: PDGFR α Expression of Hydrogel-Cultured Human Lung Fibroblasts

Presenter: Shachaf Orren

Principal Investigator: N/A

Author(s):

Madeline Eiken

Claudia Loebel

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 59

Track: BIOMATERIALS
Biomaterials

Abstract Title: Applications of Chitosan-PVA Hydrogel for Wound Healing

Presenter: Ruchi Borole

Principal Investigator: Vladimir Reukov

Author(s):

Bryan Shim

Lucas Tavares Tavares

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: D, Poster
Number: 60

Track: BIOMATERIALS
Biomaterials

Abstract Title: Technical Considerations and Recommendations for Assessment of Decellularized Tissues

Presenter: Allison Campbell

Principal Investigator: N/A

Author(s):

Deanna Bousalis

Allison Campbell

Gopal Agarwal

Elisa Nieves

Michaela McCrary

Shruti Kolli

Young Hye Song

Christine Schmidt

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 81

Track: BIOMATERIALS
Biomaterials

Abstract Title: Oxygen Eluting GelMA Microneedle Arrays for the Treatment of Chronic Wounds

Presenter: Lindsay Barnum

Principal Investigator: Ali Tamayol

Author(s):

Mohamadmahdi Samandari

Pejman Ghelich

Jacob Quint

Ali Tamayol

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 82

Track: BIOMATERIALS
Biomaterials

Abstract Title: Functional Tunability of a Hyaluronan-Protein Bioconjugate for Peripheral Nerve Applications

Presenter: Bassam Smadi

Principal Investigator: N/A

Author(s):

Abdullah Afridi

Yuan Li

Madison Cydis

Mary Kasper

Christine Schmidt

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 83

Track: BIOMATERIALS
Biomaterials

Abstract Title: Shape Memory Polymer (SMP) Bioglass Composite Scaffolds to Heal Complex Bone Defects

Presenter: Brandon Nitschke

Principal Investigator: N/A

Author(s):

Melissa Grunlan

Whitney Sloan

Alexander Konz

Ashley Hicks

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 84

Track: BIOMATERIALS
Biomaterials

Abstract Title: Functionalization of PVDF-TrFE with decellularized ECM directs Schwann Cell Phenotype

Presenter: Andrew Bryan

Principal Investigator: N/A

Author(s):

Jacob Orkwis

Ann Wolf

Zachary Mularczyk

Greg Harris

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 85

Track: BIOMATERIALS
Biomaterials

Abstract Title: A dynamic cell-based therapy patch for accelerating wound healing

Presenter: Christian Schreib

Principal Investigator: N/A

Author(s):

Omid Veisheh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 86

Track: BIOMATERIALS
Biomaterials

Abstract Title: Antimicrobial Peptide Functionalized Bacterial Cellulose for Chronic Wound Dressing Applications

Presenter: Elizabeth van Zyl

Principal Investigator: N/A

Author(s):

Elizabeth van Zyl

Jeannine Coburn

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 87

Track: BIOMATERIALS
Biomaterials

Abstract Title: Effect of Fibrous Biomimetic Basement Membranes on Wound Healing

Presenter: Dina Gadalla

Principal Investigator: N/A

Author(s):

Mustafa Suppah

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 88

Track: BIOMATERIALS
Biomaterials

Abstract Title: Shape Memory Polymer Nanocomposites for Rapid Hemostasis of Gunshot Wounds

Presenter: Giriraj Lokhande

Principal Investigator: N/A

Author(s):

Lindy Jang

Sarah Hargett

Duncan Maitland

Akhilesh Gaharwar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 89

Track: BIOMATERIALS
Biomaterials

Abstract Title: Nanoceria (CeO₂) and its Effects on Lactic Acid Production from Streptococcus mutans

Presenter: Herchel Patel

Principal Investigator: N/A

Author(s):

Herchel Patel

Kamal Patel

Rani Patel

Dhruvi Patel

Vladimir Undergraduatekov

Anton Sorkin

VIJAY MOHAKAR

alyssa che

Sejal Gandhi



BIOMEDICAL ENGINEERING

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LEADING BIOMEDICAL ENGINEERING INNOVATION



TEXAS A&M UNIVERSITY
Department of
Biomedical Engineering

engineering.tamu.edu/biomedical

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: C, Row: E, Poster
Number: 90

Track: BIOMATERIALS
Biomaterials

Abstract Title: Core-shell electrospun nanofibrils containing hyaluronic acid for corneal regeneration
Presenter: Hyuksang Yoo
Principal Investigator: N/A
Author(s):
 N/A

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: C, Row: E, Poster
Number: 91

Track: BIOMATERIALS
Biomaterials

Abstract Title: Anti-infective strontium-based nanocomposite hydrogel for enhanced periodontal regeneration
Presenter: Isha Mutreja
Principal Investigator: Isha Mutreja
Author(s):
 Dhiraj Kumar
 Conrado Aparicio

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: C, Row: E, Poster
Number: 92

Track: BIOMATERIALS
Biomaterials

Abstract Title: 316L Stainless Steel Modified via Plasma Electrolytic Oxidation for Orthopedic Implants
Presenter: James A Michael
Principal Investigator: N/A
Author(s):
 Ketul Popat

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: C, Row: E, Poster
Number: 93

Track: BIOMATERIALS
Biomaterials

Abstract Title: Neurotrophin-3 mRNA Delivery from Electrospun Fibers for Neural Tissue Engineering Applications
Presenter: Jessica Funnell
Principal Investigator: N/A
Author(s):
 N/A

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: C, Row: E, Poster
Number: 94

Track: BIOMATERIALS
Biomaterials

Abstract Title: EDC/NHS Cross-Linked ECM Sponge: Hemostasis And Tissue Remodeling After Kidney Tumor Removal Surgery
Presenter: Jae Yun Kim
Principal Investigator: N/A
Author(s):
 Dong-Woo Cho
 Tugce Sen
 Jae Yeon Lee

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E,
Poster **Number:** 95

Track: BIOMATERIALS
Biomaterials

Abstract Title: A Novel Fibrin-Fibronectin Matrix Accelerates Mice Skin Wound Healing

Presenter: Li Han

Principal Investigator: N/A

Author(s):
Yuguo Lei

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E,
Poster **Number:** 97

Track: BIOMATERIALS
Biomaterials

Abstract Title: miR-200c-Incorporated Gelatin Coatings on 3D-Printed PCL Scaffolds Enhance Bone Regeneration

Presenter: Maria Mendez Santos

Principal Investigator: N/A

Author(s):
Brad Amendt
Liu Hong

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Dr. Megan McCain



Dr. Keyue Shen

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 97

Track: BIOMATERIALS
Biomaterials

Abstract Title: Evaluating regenerative dressings in a clinically relevant pre-clinical model

Presenter: Maria Mendez Santos

Principal Investigator: N/A

Author(s):
Chongwen Duan
Guillermo Ameer

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 98

Track: BIOMATERIALS
Biomaterials

Abstract Title: Development and Characterization of a Piezoelectric Nanofiber Conduit for Nerve Regeneration

Presenter: Zachary Mularczyk

Principal Investigator: N/A

Author(s):

Maksym Krutko

Andrew Bryan

Jacob Orkwis

Ryan Collar

Greg Harris

Leyla Esfandiari

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 99

Track: BIOMATERIALS
Biomaterials

Abstract Title: Aligned, Crosslinked Fibrin Sponges for Skeletal Muscle Tissue Regeneration

Presenter: Natalie Kozan

Principal Investigator: Jonathan Grasman

Author(s):

Jonathan Grasman

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: E, Poster
Number: 100

Track: BIOMATERIALS
Biomaterials

Abstract Title: Highly Optimized Iron Oxide Embedded Poly (Lactic Acid) Nanocomposites for Effective Magnetic Hyperthermia and Biosecurity

Presenter: Chiseon Ryu

Principal Investigator: N/A

Author(s):

Jae Young Lee

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 121

Track: BIOMATERIALS
Biomaterials

Abstract Title: Human Heart ECM Preconditioning Enhances iPSC Cardiac Differentiation and Functional Maturity

Presenter: S. Gulberk Ozcebe

Principal Investigator: N/A

Author(s):

Pinar Zorlutuna

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster

Number: 122

Track: BIOMATERIALS

Biomaterials

Abstract Title: Laser-Activated Sealants For Gastrointestinal Tissue Sealing and Repair

Presenter: Vanshika Singh

Principal Investigator: Kaushal Rege

Author(s):

Vanshika Singh

Deepanjan Ghosh

MALLIKARJUN GOSANGI

Subhadeep Dutta

Jordan Yaron

Kaushal Rege

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F,

Poster **Number:** 123

Track: BIOMATERIALS

Biomaterials

Abstract Title: A Novel Acellular Tissue Engineered Vascular Graft using Fibroblast-based Extracellular Matrix

Presenter: Yeh-Chia Tseng

Principal Investigator: Feng Zhao

Author(s):

Weilue He

Yeh-Chia Tseng

Feng ZHao

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster

Number: 124

Track: BIOMATERIALS

Biomaterials

Abstract Title: Engineering pro-angiogenic biomaterials via chemoselective extracellular vesicle immobilization

Presenter: Yunhui Xing

Principal Investigator: N/A

Author(s):

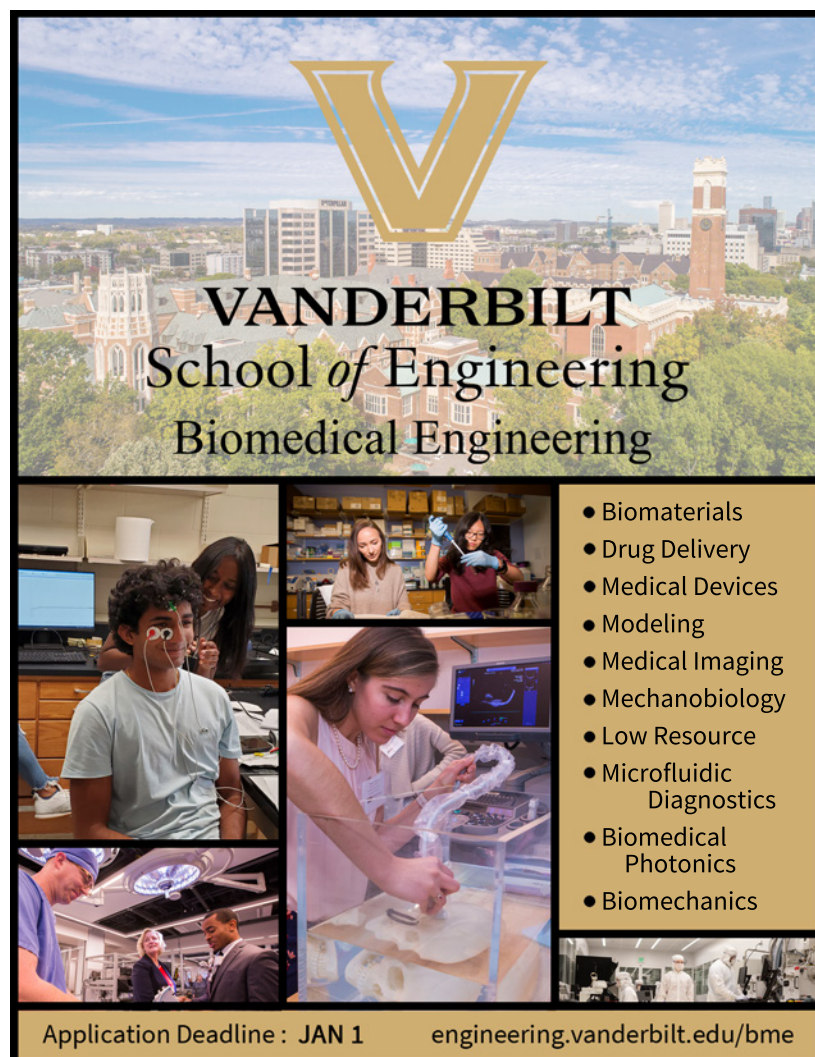
Phil Campbell

Xi Ren

Rebecca Taylor

Saigopalakrishna Yerneni

Weitao Wang



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- Low Resource
- Microfluidic Diagnostics
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POSTER SESSIONS

BMES 2022

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 126

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Engineering Controlled Multi-Therapeutic Release from 3D-Printed PDMS-based Scaffolds

Presenter: Taylor Lansberry

Principal Investigator: Cherie Stabler

Author(s):

Taylor Lansberry

Robert Accolla

Jiapu Liang

Justin Walsh

Cherie Stabler

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 127

Track: BIOMECHANICS

Computational and Multiscale Modeling In Biomechanics

Abstract Title: Patient-Specific Finite Element Modeling to Predict Risks of Percutaneous Pulmonary Valve Implantation

Presenter: Carly Donahue

Principal Investigator: Victor H. Barocas

Author(s):

VARUN AGGARWAL

Victor Barocas

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 128

Track: BIOMECHANICS

Computational and Multiscale Modeling In Biomechanics

Abstract Title: Musculoskeletal Modelling for Gait Control Studies in Spinal Cord Injury with OpenSim Moco

Presenter: Holly Warner

Principal Investigator: Ronald Triolo

Author(s):

Musa Audu

Gabrielle Labrozzi

Nathan Makowski

Ronald Triolo

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 129

Track: BIOMECHANICS

Computational and Multiscale Modeling In Biomechanics

Abstract Title: A Physics-Based Multiscale Model of Mechanical Ventilation of COVID-19-Infected Lungs

Presenter: Shea Middleton

Principal Investigator: N/A

Author(s):

Ali Vahdati

Stephanie George

Elizabeth Dimbath

Andrew Ju

Matthew Peach

Veeranna Maddipati

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 130

Track: BIOMECHANICS

Human Performance/Sports Biomechanics

Abstract Title: A Wearable Sensor System for Measuring Pathological Gait Parameters
Presenter: Wenwen Zhang
Principal Investigator: Peyman Servati/ Calvin Kuo
Author(s):
Calvin Kuo
Peyman Servati

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 131

Track: BIOMECHANICS

Human Performance/Sports Biomechanics (Summer Undergraduate)

Abstract Title: Changes in Articular Cartilage Thickness Following Passive and Active Recovery
Presenter: Kust Shu-Jin
Principal Investigator: N/A
Author(s):
Dana Voinier
Dawn Elliott
Daniel White
Axel Moore

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 132

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology (Summer Undergraduate)

Abstract Title: Assessing Cell-Cell Adhesion and Force Transmission Using Bulk Rheology
Presenter: Venkat Maruthamuthu
Principal Investigator: Bhavana Bhavanam
Author(s):
Bhavana Bhavanam

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 133

Track: BIOMECHANICS

Computational and Multiscale Modeling In Biomechanics (Summer Undergraduate)

Abstract Title: Visualizing the Biomechanical Stresses on Abdominal Aortic Aneurysms using Augmented Reality
Presenter: Aakash Kottakota
Principal Investigator: N/A
Author(s):
David Vorp
Timothy Chung

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 134

Track: BIOMECHANICS

Computational and Multiscale Modeling In Biomechanics (Summer Undergraduate)

Abstract Title: Toward Development of a Finite Element Model of Skull Representing Average Adult Femal
Presenter: Allison Kosub
Principal Investigator: Marzieh Hajiaghamemar
Author(s):
Marzieh Hajiaghamemar
Mohammadreza Ramzanpour

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 135

Track: BIOMECHANICS
**Computational and Multiscale
Modeling In Biomechanics (Summer
Undergraduate)**

Abstract Title: Computational Fluid Dynamics
Simulations of Pulmonary Hypertension in Sickle
Cell Disease Patients
Presenter: Gracie Finnegan
Principal Investigator: N/A
Author(s):
Gracie Finnegan
Fatemeh Bahmani
Stephanie George

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 136

Track: BIOMECHANICS
**Computational and Multiscale
Modeling In Biomechanics (Summer
Undergraduate)**

Abstract Title: Development of a Finite Element
Model of Ferret Brain to Study Traumatic Brain
Injury
Presenter: Paulina Munoz Santos
Principal Investigator: N/A
Author(s):
Mohammadreza Ramzanpour
Marzieh Hajiaghamemar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 137

Track: BIOMECHANICS
**Human Performance/Sports
Biomechanics (Summer Undergraduate)**

Abstract Title: Flexor Hallucis Longus Muscle
Activation in Dancers versus Non-Dancers
Presenter: Maya Acampora
Principal Investigator: N/A
Author(s):
Andrew Boyd
Jennifer Currey
Amy Loya

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster
Number: 138

Track: BIOMECHANICS
**Human Performance/Sports
Biomechanics (Summer Undergraduate)**

Abstract Title: Myoelectric Manifestations of
Muscular Fatigue in the Bicep Brachii when Using
The Life Handle.
Presenter: Andrew Boyd
Principal Investigator: N/A
Author(s):
Amy Loya
Jennifer Currey
Maya Acampora



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MARIA CORONEL



PAUL JENSEN



KARIN JENSEN



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Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster**Number:** 139**Track:** BIOMECHANICS**Human Performance/Sports
Biomechanics (Summer Undergraduate)****Abstract Title:** Design and Development of Testing System to Evaluate Hand-Arm Coordination**Presenter:** Daniella Pinho**Principal Investigator:** N/A**Author(s):**

Takafumi Asaki

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: F, Poster**Number:** 140**Track:** BIOMECHANICS**Human Performance/Sports
Biomechanics (Summer Undergraduate)****Abstract Title:** Heels Up Vs. Heels Down: A Pilot Study On The Kinetics Of Small Ballet Jumps**Presenter:** Kathleen Bieryla**Principal Investigator:** Katt Gamblin**Author(s):**

Katherine Gamblin

Jessica Yoshioka

Glenna Clifton

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster**Number:** 161**Track:** BIOMECHANICS**Human Performance/Sports
Biomechanics (Summer Undergraduate)****Abstract Title:** The Effect of Safety Modifications on Head Accelerations Experienced During a Punch Front Tuck**Presenter:** Kambrie Brandt**Principal Investigator:** Joel D. Stitzel and Jillian E. Urban**Author(s):**

Nicholas Pritchard

Logan Miller

Joel Stitzel

Jillian Urban

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster**Number:** 162**Track:** BIOMECHANICS**Human Performance/Sports
Biomechanics (Summer Undergraduate)****Abstract Title:** Characterization of Head Acceleration Exposure in Dirt Track Motorsport**Presenter:** Nicholas Tom**Principal Investigator:** Joel Stitzel**Author(s):**

Nitya Venkatiahgari

Tanner Filben

Nicholas Pritchard

Garrett Bullock

Logan Miller

Laura Flashman

Christopher Miles

Jillian Urban

Joel Stitzel

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 163

Track: BIOMECHANICS

**Human Performance/Sports
Biomechanics (Summer Undergraduate)**

Abstract Title: Comparing Vehicle Crash Accelerations and Self-Reported Concussion Symptoms in Dirt Track Racing

Presenter: Nitya Venkatahgar

Principal Investigator: N/A

Author(s):

Nicholas Tom

Tanner Filben

Nicholas Pritchard

Logan Miller

Garrett Bullock

Laura Flashman

Christopher Miles

Jillian Urban

Joel Stitzel

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 165

Track: BIOMECHANICS

**Human Performance/Sports
Biomechanics (Summer Undergraduate)**

Abstract Title: Comparison of Soccer Heading Technique and Head Impact Magnitude Between Sexes and Levels of Play

Presenter: Zoie Mink

Principal Investigator: Jillian Urban, Joel Stitzel

Author(s):

Tanner Filben

Logan Miller

Joel Stitzel

Kristen Nicholson

Jillian Urban

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 166

Track: BIOMECHANICS

**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Obtaining all Material Sensitivities of a Biomechanical Model from a Single Simulation

Presenter: Douglas Cook

Principal Investigator: Douglas D. Cook

Author(s):

Joseph Carter

Christopher Stubbs

Andrew Gibbons

Anton Bowden

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 164

Track: BIOMECHANICS

Abstract Title: Heterogeneous Nuclear Uptake in Cancer

Presenter: Nick Scott

Principal Investigator: N/A

Author(s):

N/A Sapun

Parekh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 167

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Assessment of Injury Thresholds in a
Typical Human Lumbar Vertebral System
Presenter: Anindya Deb
Principal Investigator: N/A
Author(s):
Sanketh Ramachandra
Ananya Barui

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 168

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Contractile Adaptation of Left
Ventricular Myocardium Following Myocardial
Infarction
Presenter: Emilio Mendiola
Principal Investigator: N/A
Author(s):
Sunder Neelakantan
Reza Avaz

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 169

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Physical Modeling to Optimize
Design of Therapeutic T Cells
Presenter: Roberto Alonso Matilla
Principal Investigator: N/A
Author(s):
Paolo Provenzano
David Odde

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 170

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Nanoscale Simulations of Stretching-
induced Deformation of Complex Neuronal
Membranes With versus Without Cholesterol
Presenter: Anh Vo
Principal Investigator: N/A
Author(s):
Anh Vo
Michael Murphy
Phong Phan
Raheleh Miralami
Sara Adibi Sedeh
Filip To
Tonya Stone

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 171

Track: BIOMECHANICS

Computational and Multiscale Modeling in Biomechanics

Abstract Title: A 1D Computational Model of Lymphatics: Pacemakers and Spatiotemporal Distribution of Contractions
Presenter: Farbod Sedaghati
Principal Investigator: N/A
Author(s):
Brandon Dixon
Rudolph Gleason

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 172

Track: BIOMECHANICS

Computational and Multiscale Modeling in Biomechanics

Abstract Title: Development of 3D Geometry of the Ovine Thorax for Finite Element Modeling
Presenter: Juliette Caffrey
Principal Investigator: N/A
Author(s):
Juliette Caffrey
Patricia Thomas
Francis Gayzik

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 173

Track: BIOMECHANICS

Computational and Multiscale Modeling in Biomechanics

Abstract Title: 3D-DIC Analysis of Skin Penetration in Ballistic Impact
Presenter: Joseph LeSueur
Principal Investigator: N/A
Author(s):
Jared Koser
Carolyn Hampton
Frank Pintar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 174

Track: BIOMECHANICS

Computational and Multiscale Modeling in Biomechanics

Abstract Title: A Model of Differential Cortical Expansion Predicts Cortical Stress and Microstructure during Folding
Presenter: Kara Garcia
Principal Investigator: N/A
Author(s):
N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 175

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Calibration and Validation of a
Biomechanical Model of Neuronal Migration and
Cortical Folding
Presenter: Maria Holland
Principal Investigator: N/A
Author(s):
Shuolun Wang
Kengo Saito
Hiroshi Kawasaki
Maria Holland

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 176

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Finite Element Modeling of the
Female Pelvic Floor and Associated Structures
Presenter: Marc Mounzer
Principal Investigator: N/A
Author(s):
Sriram Balasubramanian
Anita Singh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 177

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Blood Clot Adhesion to Material
Surfaces: Modeling and Tensile Testing
Presenter: Nicolas Tobin
Principal Investigator: N/A
Author(s):
Jose Monclova
Keefe Manning
Eathan DiTullio

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 178

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Development and Finite Element
Analysis of Foot-Ankle Complex Biomechanics for
Sport Wearable Device Assessment
Presenter: Phong Phan
Principal Investigator: N/A
Author(s):
Phong Phan
Anh Vo
Amirhamed Bakhtiarydavijani
Harish Chander
Undergraduateben Burch
Youssef Hammi



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Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 179

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Characterization on Mechanical Behavior of Gastrocnemius: Analytical and Finite Element Analyses
Presenter: Shunafra White
Principal Investigator: Matthew B.A. McCullough
Author(s):
Shunafra White
Matthew McCullough

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: G, Poster
Number: 180

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Development of Virtual Pediatric Spinal Biomechanical Models
Presenter: Than Huynh
Principal Investigator: N/A
Author(s):
James Stadler

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 201

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Development of a Two – Dimensional Finite Element Model of the Neonatal Brachial Plexus with Anatomical Variations Compared to a Validated Control Model.
Presenter: Sarah Trapp
Principal Investigator: N/A
Author(s):
Michele Grimm

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 202

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Computational modeling of collective cell migration: wound healing, cancer invasion, and gastrulation
Presenter: Zi Chen
Principal Investigator: Zi Chen
Author(s):
Jacopo Ferruzzi
Jeffrey Fredberg
Hamed Hosseinzadeh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 203

Track: BIOMECHANICS
**Computational and Multiscale Modeling
in Biomechanics**

Abstract Title: Development of an Empirical
Correlation to Predict Cooling Penetration into
Tissue for Practical Use
Presenter: Liang Zhu
Principal Investigator: N/A
Author(s):
Alexander Caporale
Jacob Lombardo
Manpreet Singh
Liang Zhu

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 204

Track: BIOMECHANICS
**Human Performance/Sports
Biomechanics**

Abstract Title: Statistical Parametric Mapping for
the Analysis of Muscle Forces: An Alternative to Peak
Forces
Presenter: Michael Torry
Principal Investigator: JACOB MICHAEL
TORRY
Author(s):
Michael Torry
Adam Jagodinsky

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 205

Track: BIOMECHANICS
**Human Performance/Sports
Biomechanics**

Abstract Title: A Computational Modelling Method
for Stiffness Measurement of American Football
Facemasks
Presenter: Noah Wright
Principal Investigator: N/A
Author(s):
N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 206

Track: BIOMECHANICS
**Human Performance/Sports
Biomechanics**

Abstract Title: A Method to Estimate the Exercise
Capability of Cardiopulmonary Patients.
Presenter: Pooja Rajesh Shukla
Principal Investigator: N/A
Author(s):
Jinglu Tan
Pooja Rajesh Shukla
Limberg Jacqueline

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 207

Track: BIOMECHANICS
Human Performance/ Sports Biomechanics

Abstract Title: Characterization of Head Acceleration Exposure during Youth Football Practice Drills Using an Instrumented Mouthpiece
Presenter: Ty Holcomb
Principal Investigator: N/A
Author(s):
Jillian Urban
Madison Marks
Joel Stitzel
Logan Miller
Nicholas Pritchard
Mark Espeland
Christopher Miles
Ty Holcomb

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 208

Track: BIOMECHANICS
Biomechanics In Cell and Tissue Engineering

Abstract Title: Evolution of Solid Stresses in Normal Brain by Age
Presenter: Siyi Zheng
Principal Investigator: Hadi Tavakoli Nia
Author(s):
Rohin Banerji
Hadi Nia
Sue Zhang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 209

Track: BIOMECHANICS
Mechanics of the Respiratory System

Abstract Title: Micro-elastography of the Functioning Lung at Multiple Length Scales in Health and Disease
Presenter: Robert LeBourdais
Principal Investigator: Hadi Nia
Author(s):
Hadi Nia
Gabrielle Grifno
Kathryn Regan
Rohin Banerji

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 210

Track: BIOMECHANICS
Biomechanics in Cell and Tissue Engineering

Abstract Title: Multiplexed mechanical mapping reveals macrophage mediated remodeling of brain in vivo
Presenter: Woong Young So
Principal Investigator: Kandice Tanner
Author(s):
Giuliano Scarcelli
Kandice Tanner

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 211

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Design and Curriculum

Abstract Title: Optimization of Lung Tissue
Processing to Preserve Cell Subpopulations Using
Nebulized mRNA

Presenter: Aram Shajii

Principal Investigator: James Dahlman

Author(s):

Hyejin Kim

Ryan Zenhausern

James Dahlman

Andrea Li

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 212

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

K-12 Outreach

Abstract Title: Hands-on Biomedical Engineering
Immersion for K-12 students to Build STEM
Curiosity

Presenter: Abbie Clevenger

Principal Investigator: Shreya Raghavan

Author(s):

Sabrina VandenHeuvel

Valentina Garcia

Claudia Collier

Shreya Raghavan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 213

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Industry and Biomedical Engineering (Summer Undergraduate)

Abstract Title: The Development of an ATD-like
Human Model for the THOR M50

Presenter: Diego Pensado

Principal Investigator: F. Scott Gayzik

Author(s):

Seth Mischo

Brian von Kleeck

Francis Gayzik

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 214

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Other / Non-specified (Summer Undergraduate)

Abstract Title: CT Imaging of Gold-Loaded
Polymersomes to Detect Glioblastoma

Presenter: Emily Barnett

Principal Investigator: Jessica Larsen & Angela
Alexander-Bryant

Author(s):

Joseph LaValla

Emily Barnett

Jessica Larsen

Angela Alexander-Bryant

Megan Pitz

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 215

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**ABET Program Criteria, Student
Outcomes (Summer Undergraduate)**

Abstract Title: Application of Supervised
Machine Learning for Bacteria Analysis in Droplet
Microfluidics

Presenter: Shawn Bliss

Principal Investigator: Melikhan Tanyeri

Author(s):
N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 216

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**ABET Program Criteria, Student
Outcomes (Summer Undergraduate)**

Abstract Title: Brain Spatial Multi-Omic Imaging
& Analysis Protocol: Alzheimer's Disease Proof-of-
Concept

Presenter: Thomas Paterson

Principal Investigator: Colleen Crouch

Author(s):
Ryan Thompson
Anna Crouch
Daniel Jacobson

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 217

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**ABET Program Criteria, Student
Outcomes**

Abstract Title: Preparing Future Ethical Engineers:
Comparing Experiences with Ethics in Industry
Practice and Academic Research

Presenter: Justin Hess

Principal Investigator: N/A

Author(s):
Nicholas Fila
Alison Kerr
Athena Lin
Michael Loui
Carla Zoltowski
Andrew Brightman

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 218

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**Experiential Learning (Curricular and
Co-Curricular)**

Abstract Title: Gleaning Best Practices from
Emergency Online Delivery of a Biomaterials
Research & Innovation Course

Presenter: Karen Burg

Principal Investigator: N/A

Author(s):
Timothy Burg

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 219

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**Experiential Learning (Curricular and
Co-Curricular)**

Abstract Title: Design Thinking Project (Design
Project Zero) in First-Year Biomedical Engineering
Lab Course Increases Learning and Builds
Community

Presenter: Anatheia Pepperl

Principal Investigator: Thea Pepperl

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: C, Row: H, Poster
Number: 220

**Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)**

Experiential Learning (Curricular and Co-
Curricular)

Abstract Title: Data management program for a
biomedical engineering research group

Presenter: Joshua Borycz

Principal Investigator: Audrey Bowden

Author(s):

Audrey Bowden

POSTER SESSIONS

BME 2022



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Research Areas

- Biomedical & Biological Imaging
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- Cellular & Molecular Bioengineering
- Neural Engineering
- Orthopedic Engineering
- Regenerative Engineering in Medicine
- Women's Health Technologies

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Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 241

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Experiential Learning (Curricular and Co-Curricular)

Abstract Title: Experiential Pedagogy: Learn by Building in Millifluidics

Presenter: siavash ahrar

Principal Investigator: N/A

Author(s):

Chung Thai

Drew Ramos

THaotho Nguyen

Christian Hernandez

Kunaal Sarhaya

siavash ahrar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 242

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Experiential Learning (Curricular and Co-Curricular)

Abstract Title: Student-Perceived Self-Efficacy Improvements in an Intensive Clinical Needs-Identification Course

Presenter: Joseph Towles

Principal Investigator: N/A

Author(s):

Joseph Towles

Ross Venook

David Camarillo

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 243

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Abstract Title: Differentiation of multiple tumor-targeted NIR nanoprobe using a single-chip image sensor for simultaneous detection of heterogeneous tumors

Presenter: Benjamin Lew

Principal Investigator: Viktor Gruev

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 244

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Abstract Title: Design and Fabrication of Porcine Crystal Ribcage for High Resolution Ex Vivo Imaging

Presenter: Dylan Smolen

Principal Investigator: Hadi Nia

Author(s):

Hadi Nia

Rohin Banerji

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 245

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Born-normalization approach to address optical property heterogeneities in fluorescent emission tomography

Presenter: Hang Nguyen

Principal Investigator: Kenneth M. Tichauer

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 246

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Toward creating muscle fascicle B-mode ultrasound phantoms with SLA 3D printed elastic resin

Presenter: Samuel Gillespie

Principal Investigator: Wendy Murray

Author(s):

Samuel Gillespie

Caralyn Collins

Eric Perreault

Cheng Sun

Wendy Murray

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 247

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems (Summer Undergraduate)

Abstract Title: Comparing Confocal and Airyscan Microscopy to Identify and Quantify Filopodia-like Spine Precursors

Presenter: Nicole Bohatch

Principal Investigator: Karen Litwa

Author(s):

Karen Litwa

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 248

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems (Summer Undergraduate)

Abstract Title: Designing Engineering Solutions to Characterize Sickle Cell Disease in an Ovine Model

Presenter: Emma Warrner

Principal Investigator: Graca Almeida-Porada

Author(s):

Ritu Ramamurthy

Caroline Kuczynski

Misha Regouski

Iuri Viotti Perisse

Anthony Atala

Irina Polejaeva

Christopher Porada

Graca Almeida-Porada

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 249

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems (Summer Undergraduate)

Abstract Title: Wearable Transcranial Doppler Ultrasound Device for Stroke Prevention

Presenter: Kiersten Reeser

Principal Investigator: Greg Bashford

Author(s):

Sequoia Truong

Ethan Krings

Greg Bashford

Eric Markvicka

Jared Zollinger

Benjamin Hage

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 250

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems (Summer Undergraduate)

Abstract Title: Methodology for Formalin-Fixed Paraffin Embedded Cardiac Tissue Analysis

Presenter: Leah Gutzwiller

Principal Investigator: Colleen Crouch

Author(s):

Anna Crouch

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 251

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems (Summer Undergraduate)

Abstract Title: Decoding Gut Choreography: Intestinal Motility Monitoring Informs Enteric Sensory Neuron Function

Presenter: Runxin Wu

Principal Investigator: David Linden

Author(s):

Xi Yu

Arthur Beyder

David Linden

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 252

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems (Summer Undergraduate)

Abstract Title: Design and Development of a Wearable Ultrasound Patch for Measuring Cerebral Blood Flow

Presenter: Sequoia Truong

Principal Investigator: Eric Markvicka

Author(s):

Kiersten Reeser

Ethan Krings

Eric Markvicka

Benjamin Hage

Greg Bashford

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 253

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems (Summer Undergraduate)

Abstract Title: 3D Investigation of Porcine Cochleae' Morphological Characteristics and LGR5 Expression

Presenter: Sasank Sivadanam

Principal Investigator: Alon Greenbaum

Author(s):

chen li

Sasank Sivadanam

Yuheng Cai

Frances Ligler

Alon Greenbaum

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 254

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Contrast-Enhanced Ultrasound and Therapeutic Ultrasound (US)

Abstract Title: Exploring Use of Ultrasound Therapy for Improved Metabolic Hormone Release from Thyroid Gland

Presenter: Bridget Thorpe

Principal Investigator: N/A

Author(s):

Bridget Thorpe

Andrew Chen

Michael Ryan

julia stern

Aleksandar Jeremic

Vesna Zderic

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 255

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Contrast-Enhanced Ultrasound and Therapeutic Ultrasound (US)

Abstract Title: Deep Learning Method for Detecting Mixed Population Ultrasound Contrast Agents with Different Shells

Presenter: Nasrin Akter

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 256

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Contrast-Enhanced Ultrasound and Therapeutic Ultrasound (US)

Abstract Title: Ultra-resolution Elasto-acoustic Gram as a Noninvasive Method to Predict Early Osteoarthritis and Subchondral Bone Alteration

Presenter: Yi-Xian Qin

Principal Investigator: N/A

Author(s):

Adnan Rayes

Qifa Zhou

Carmen Shum

Elias Georgas

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 257

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Deep Learning and Artificial Intelligence in Microstructural Imaging

Abstract Title: Virtual Immunohistochemical Staining of Label-free Breast Tissue Using Deep Learning

Presenter: Bijie Bai

Principal Investigator: N/A

Author(s):

Hongda Wang

Yuzhu Li

Kevin de Haan

Yijie Zhang

Jingxi Li

Morgan Darrow

Elham Kamangar

Yair Rivenson

Aydogan Ozcan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 258

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Deep Learning and Artificial Intelligence in Microstructural Imaging

Abstract Title: Deep Learning Based Method for Illumination Beam Correction in Light-Sheet Fluorescence Microscopy

Presenter: Chen Li

Principal Investigator: N/A

Author(s):

Man Rai

Alon Greenbaum

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 259

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Deep Learning and Artificial Intelligence in Microstructural Imaging

Abstract Title: Automated Segmentation of Fluorescent Neurons using Deep Learning

Presenter: Marina Ayad

Principal Investigator: N/A

Author(s):

Marina Ayad

Ilker Hacıhaliloglu

Timothy Mahon

Marina Minto Cararo Lopes

Bonnie Firestein

Nada Boustany

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: I, Poster
Number: 260

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Deep Learning and Artificial Intelligence in Microstructural Imaging

Abstract Title: Automatic Detection and Classification of Neurons and Glia in Tissue Cleared Mouse Brains

Presenter: Yuheng Cai

Principal Investigator: Alon Greenbaum

Author(s):

Yuheng Cai

Xuying Zhang

Chen Li

Troy Ghashghaei

Alon Greenbaum

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 281

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging Tissue, Organs, and
 Physiological Systems**

Abstract Title: Role of Adaptor Molecule MyD88 in
 Host Immunity Against *S. aureus* Undergraduates and *P.*
aeruginosa in Wounded Skin

Presenter: Alex Vargas

Principal Investigator: Scott I. Simon

Author(s):

Scott Simon

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 282

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging Tissue, Organs, and
 Physiological Systems**

Abstract Title: Optogenetic Control of *Drosophila*
 Cardiac Function with ChRmine Opsin

Presenter: Fei Wang

Principal Investigator: CHao Zhou

Author(s):

Elena Gracheva

Abby Matt

Hongwu Liang

CHao Zhou

Matthew Fishman

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 283

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging Tissue, Organs, and
 Physiological Systems**

Abstract Title: Comparing Two 3-Dimensional
 Tissue Imaging Methods

Presenter: Fiza Qureshi

Principal Investigator: N/A

Author(s):

Bernard Choi

Danny Xie

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 284

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging Tissue, Organs, and
 Physiological Systems**

Abstract Title: Incorporation of Quantum Dots to
 Enhance Electrochemical Impedance Spectroscopy for
 Plaque Detection

Presenter: Justin Chen

Principal Investigator: N/A

Author(s):

TZUNG KEITH MD, PHD HSIAI

Qingyu Cui

KAIDONG WANG

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 285

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION
Imaging Tissue, Organs, and Physiological Systems

Abstract Title: A Rapid Method of Fluorescent Microsphere Measurement of Regional Organ Perfusion

Presenter: Michael Nelappana

Principal Investigator: N/A

Author(s):

Wawrzyniec Dobrucki

Michael Nelappana

Karl Baumgartel

Iwona Dobrucki

Michael Insana

Leopold Pinot

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 286

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Deep Learning and Artificial Intelligence in Microstructural Imaging

Abstract Title: Quantitative Analysis of In Vitro Angiogenesis Using Region-Based Convolutional Neural Networks

Presenter: Sugiyama Suguru

Principal Investigator: N/A

Author(s):

Cocoro Ito

Kosuke Tsukada

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 287

Track: CANCER TECHNOLOGIES
Cancer Drug Delivery

Abstract Title: Fusogenic Peptide-Mediated Delivery of siRNA in vivo for Ovarian Cancer Treatment

Presenter: Kharimat Alatisé

Principal Investigator: Angela Alexander-Bryant

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 288

Track: CANCER TECHNOLOGIES
Cancer Drug Delivery

Abstract Title: Local and systemic tumor control of pancreatic cancer using intratumoral nanoseed eluting immunotherapy

Presenter: Corrine Ying Xuan Chua

Principal Investigator: Alessandro Grattoni

Author(s):

Hsuan-Chen Liu

Alessandro Grattoni

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 289

Track: CANCER TECHNOLOGIES
Computational Modeling of Cancer

Abstract Title: Using the Lorentz Model to Investigate Breast Cancer Invasion

Presenter: Emmanuel Mintah

Principal Investigator: Corey S. O'Hern

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 290

Track: CANCER TECHNOLOGIES
Computational Modeling of Cancer

Abstract Title: Characterizing the Three-Dimensional Nuclear Morphology of Normal Appearing, Immune, and Cancer Cells in Cancer Tumor Microenvironment

Presenter: Kanika Yadav

Principal Investigator: Shikhar Uttam

Author(s):

Shikhar Uttam

Aatur Singhi

Rajdeep Pawar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 291

Track: CANCER TECHNOLOGIES
Imaging Strategies In Cancer Detection, Diagnosis, and Prognosis

Abstract Title: Informing the dosing schedule design of cancer immunotherapy by monitoring the size variation of tumor draining lymph nodes

Presenter: Yanpu

Principal Investigator: Angela M. Belcher

Author(s):

Angela Belcher

Shengnan Huang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 292

Track: CANCER TECHNOLOGIES
Imaging Strategies In Cancer Detection, Diagnosis, and Prognosis

Abstract Title: Early prediction of Breast Cancer: Urine-based biosensor (iBiosenC) with Machine Learning Model

Presenter: Saundarya Prithweeraj

Principal Investigator: Saundarya Prithweeraj

Author(s):

Hemalatha Kanniyappan

Mathew Mathew

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 293

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: Examination of the Effect of Glucose on Cancer-Associated Fibroblast Phenotype

Presenter: Madison Bates

Principal Investigator: Cynthia A. Reinhart-King

Author(s):

Cynthia Reinhart-King

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 294

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: Investigating Extracellular Matrix Influence on Cancer Cell Interactions in an Engineered Hydrogel System

Presenter: Benjamin Kaufman

Principal Investigator: Blanka Sharma

Author(s):

Blanka Sharma

Madison Temples

Suzanne Lightsey

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 295

Track: CANCER TECHNOLOGIES
Cancer Drug Delivery (Summer Undergraduate)

Abstract Title: Selective Functionalization of Leukocyte Subpopulations with E-Selectin Liposomes

Presenter: Sarah Shibuya

Principal Investigator: N/A

Author(s):

Zhenjiang Zhang

Jenna Dombroski

Michael King

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 296

Track: CANCER TECHNOLOGIES
Computational Modeling of Cancer

Abstract Title: Stochastic Cancer Immune Evasion via Tumor Antigen Downregulation Sculpts Post-Escape Immunogenicity

Presenter: Annice Najafi

Principal Investigator: Jason George

Author(s):

Jason George

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 297

Track: CANCER TECHNOLOGIES
Molecular Profiling In Cancer (Summer Undergraduate)

Abstract Title: Development and Characterization of Radioresistant Syngeneic Breast Cancer Cells

Presenter: Chloe Demellier

Principal Investigator: Anna Sorace

Author(s):

Chloe Demellier

Patrick Song

Carlos Gallegos

Shannon Lynch

Anna Sorace

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 298

Track: CANCER TECHNOLOGIES
Tumor Microenvironment (Summer Undergraduate)

Abstract Title: Cancer-Associated Fibroblasts Regulate Cadherin Expression in a 3D Co-Culture System
Presenter: Mary Kathryn Sewell-Loftin
Principal Investigator: Mary Kathryn Sewell-Loftin
Author(s):
Faith Muriuki
Vaishali Bala
Mary Kathryn Sewell-Loftin

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 299

Track: CANCER TECHNOLOGIES
Computational Modeling of Cancer

Abstract Title: Optimizing combination anti-angiogenic treatment and chemotherapy to control drug delivery and tumor growth
Presenter: Lance Munn
Principal Investigator: N/A
Author(s):
Rakesh Jain
Mohammadreza Nikmaneshi
Lance Munn

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: J, Poster
Number: 300

Track: CANCER TECHNOLOGIES
Computational Modeling of Cancer

Abstract Title: Mathematically Modeling the Spatio-Temporal Response of Breast Cancer Cells Treated with Doxorubicin
Presenter: Hugo Miniere
Principal Investigator: N/A
Author(s):
Thomas Yankeelov
Amy Brock

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 321

Track: CANCER TECHNOLOGIES
Computational Modeling of Cancer

Abstract Title: A Cell-Based Computational Model to Quantify Impact of Organ-Specific Microenvironment on Cancer Cells
Presenter: Morgan Connaughton
Principal Investigator: N/A
Author(s):
Mahsa Dabagh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 322

Track: CANCER TECHNOLOGIES
Tumor Microenvironment (Summer Undergraduate)

Abstract Title: The Effect of Fibronectin on the Reactivation of Breast Cancer Cells from Dormancy to Proliferation

Presenter: Grace May

Principal Investigator: Luis Solorio

Author(s):

Jordanna Payne

Luis Solorio

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 323

Track: CANCER TECHNOLOGIES
Cancer Drug Delivery

Abstract Title: Microfluidic Fabrication and Characterization of Radiopaque Barium Sulfate PEG Hydrogel Microspheres

Presenter: Ether Dharmesh

Principal Investigator: N/A

Author(s):

Ether Dharmesh

Samuel Stealey

Silviya Zustiak

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 324

Track: CANCER TECHNOLOGIES
Cancer Drug Delivery

Abstract Title: Light-Activatable Ethanol Injection for the Treatment of Locally Unresectable Tumors

Presenter: Jeffrey Yang

Principal Investigator: N/A

Author(s):

Jeffrey Yang

Chen-Hua Ma

Huang Chiao Huang

Jenna Mueller

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 325

Track: CANCER TECHNOLOGIES
Cancer Drug Delivery

Abstract Title: Reducing Hypoxia in Glioblastoma with PLGA-encapsulated Manganese Oxide Nanoparticles

Presenter: Ryan Blanchard

Principal Investigator: N/A

Author(s):

Isaac Adjei

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 326

Track: CANCER TECHNOLOGIES
Imaging Strategies in Cancer Detection, Diagnosis, and Prognosis

Abstract Title: Forward-View Optical Coherence Tomography Probe for Renal Cell Carcinoma Diagnosis

Presenter: Chen Wang

Principal Investigator: N/A

Author(s):

Paul Calle

Feng Yan

Kar-Ming Fung

Chongle Pan

Qinggong Tang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 327

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: Incorporation of Tumor Spheroids into an ex-vivo Tissue Culture Model for Investigating Cancer Cell- Microvascular Interactions

Presenter: Arinola Lampejo

Principal Investigator: N/A

Author(s):

Suzanne Lightsey

Blanka Sharma

Walter Murfee

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 328

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: TAM Receptors Influence Cancer-Immune Cell Crosstalk

Presenter: Anisha Datta

Principal Investigator: N/A

Author(s):

Douglas Lauffenburger

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 329

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: Role of the HU177 Cryptic Collagen Epitope in Differentially Controlling Breast Tumor Cell Behavior

Presenter: Jordan Miner

Principal Investigator: N/A

Author(s):

Jordan Miner

Karissa Tilbury

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 330

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: Migration of MDA-MB-231 Cells Towards Mechanically-Active Tumor Microenvironments

Presenter: Mary Kathryn Sewell-Loftin

Principal Investigator: M.K. Sewell-Loftin

Author(s):

Adam Kotar

Mary Kathryn Sewell-Loftin

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 331

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: Glioblastoma on-a-Chip to Investigate Tumor-Perivascular Niche Interactions at Single-Cell Resolution

Presenter: Mehdi Nikkhah

Principal Investigator: N/A

Author(s):

Jaimeson Veldhuizen

Samantha O'Connor

Emmanuella Adjei-Sowah

Shwetal Mehta

Costanza Lo Cascio

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 332

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: In vivo Collagen Morphology Analysis from Immunotherapy-Treated and Control Mouse Melanoma Tumors

Presenter: Nate Burkard

Principal Investigator: N/A

Author(s):

Alexa Heaton

Melissa Skala

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 333

Track: CANCER TECHNOLOGIES
Tumor Microenvironment

Abstract Title: Confined mitosis combines with myosin-II suppression to increase heritable loss of chromosomes

Presenter: Steven Phan

Principal Investigator: N/A

Author(s):

Steven Phan

Brandon Hayes

Mai Wang

Dennis Discher

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 334

Track: CANCER TECHNOLOGIES
Metastasis, Dormancy & Treatment Response

Abstract Title: Cathepsin-B Promotes Triple-Negative Breast Cancer Chemotherapy Resistance
Presenter: Emily Henrich
Principal Investigator: N/A
Author(s):
N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 335

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: In Vitro Piezoelectric Heart-on-Chip Platform as Drug Screening Tool for Cardiomyopathy
Presenter: Kartik Balachandran
Principal Investigator: Alexis Applequist
Author(s):
Alexis Applequist
Lance Cordes
Ishita Tandon

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 336

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Novel Pneumatic Cardiac Machine Perfusion Device Preserves Porcine Hearts up to 24 hours
Presenter: Riley Lopez
Principal Investigator: N/A
Author(s):
Riley Lopez
Exal Cisneros Tuch
Isabella Cano
Rafael Veraza
Kristina Andrijauskaite
Zachary Maxwell
Michelle Watt
LEONID BUNEGIN

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 337

Track: CARDIOVASCULAR ENGINEERING
Other / Non-specified

Abstract Title: A Comparative Analysis of Fluorescent Probes Used for the Identification of Cardiovascular Calcification
Presenter: Aashiya Kolengaden
Principal Investigator: Joshua Hutcheson
Author(s):
N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 338

Track: CARDIOVASCULAR ENGINEERING
Other / Non-specified (Summer Undergraduate)

Abstract Title: Extracellular Vesicle Isolation from Perivascular Adipose Tissue and Skeletal Muscle

Presenter: Anne Barnes

Principal Investigator: Alisa Clyne

Author(s):

Gurneet Sangha

Alisa Clyne

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 339

Track: CARDIOVASCULAR ENGINEERING

Abstract Title: Effect of Topographical Micropatterning on the Thrombogenicity of Endothelial Cells

Presenter: Hannah Cooper

Principal Investigator: N/A

Author(s):

Meghan Fallon

Monica Hinds

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: K, Poster
Number: 340

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: A novel wireless ECG system for prolonged monitoring of multiple zebrafish for heart disease and drug screening studies

Presenter: Tai Le

Principal Investigator: Hung Cao

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 361

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Addressing Unmet Clinical Need- Polymeric Valve Technology to Optimize TAVR Devices and Dedicated Design for Treating Unique Patient Anatomies

Presenter: Brandon Kovarovic

Principal Investigator: N/A

Author(s):

Ryan Helbock

Kyle Baylous

Oren Rotman

Marvin Slepian

Danny Bluestein

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 362

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Fluid Dynamic Study of the Penn State Pediatric Total Artificial Heart

Presenter: Cody Kubicki

Principal Investigator: N/A

Author(s):

Peter Selinsky

Emma Raich

Sailahari Ponnaluri

Steven Deutsch

William Weiss

Keefe Manning

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 363

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Bioadhesive pacing lead for atraumatic cardiac monitoring and stimulation in vivo

Presenter: Jue Deng

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 364

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: High Fidelity Simulation Of Heartmate Iii Left Ventricular Assist Device

Presenter: Hamid Sadat

Principal Investigator: N/A

Author(s):

Mishal Raza

Morteza Heydari

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 365

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Dynamic Prediction of Right Ventricular Decompensation After Left Ventricular Mechanical Unloading

Presenter: Kimberly Lamberti

Principal Investigator: Elazer R. Edelman

Author(s):

Steven Keller

Elazer Edelman

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 366

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Abnormal Red Blood Cell and Leukocyte Interactions Induced by Mechanical Circulatory Support Devices

Presenter: Kylie Foster

Principal Investigator: N/A

Author(s):

Kylie Foster

Hendra Setiadi

Phillip Coghill

Zheila Azartash-Namin

Ahmed El Banayosy

Edgar O'Rear

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 367

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Effects of ECM-Envelope on Fibrous Capsules of Pacemaker Implants

Presenter: Roche de Guzman

Principal Investigator: N/A

Author(s):

Allison Meer

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 368

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: The Process Of Innovating Medical Technology: Aortic Endograft Explantation

Presenter: Solyman Hatami

Principal Investigator: Maham Rahimi

Author(s):

Shannon Lu

Vamsi Maturi

Alwin Mathew

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 369

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Investigation of Metal Stent Expansion in a Theoretical Aorta

Presenter: Tre Welch

Principal Investigator: Tre Welch

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 370

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Prohealing Multifunctional Nanomatrix Coated Stent Evaluation in the Rabbit Iliac Artery Balloon Injury Model

Presenter: Xixi Zhang

Principal Investigator: N/A

Author(s):

Patrick Hwang

Jun Chen

Brigitta Brott

Hanjoong Jo

Ho-Wook Jun

Peter Anderson

Renu Virmani

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 371

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: An Ex-Vivo Model Study to Determine the Impact of Drug Coated Balloon Delivery Parameters

Presenter: Saami Yazdani

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 372

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Differential Protein Expressions on Calcified and Non-calcified Bioprosthetic Heart Valve Explants

Presenter: Yingfei Xue

Principal Investigator: N/A

Author(s):

Alexey Abramov

Rajesh SONI

Giovanni Ferrari

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 373

Track: CARDIOVASCULAR ENGINEERING
Other / Non-specified

Abstract Title: Tubular Perfusion Bioreactor for Endothelialization of Surface-Modified Silicone Tubes to Model Percutaneous Transluminal Angioplasty In Vitro

Presenter: Luis Soto-Garcia

Principal Investigator: N/A

Author(s):

Enrique Villafuerte

Safia Baset

Austin Armentrout

Kytai Nguyen

Thursday, October 13**9:30 AM - 10:30 AM****Poster Session:** A, Section: D, Row: L, Poster**Number:** 374**Track:** CARDIOVASCULAR ENGINEERING**Other / Non-specified****Abstract Title:** Opportunities for Mass Spectrometry Imaging in Cardiovascular Studies: Proof-of-Concept in Murine Models**Presenter:** Anna Crouch**Principal Investigator:** N/A**Author(s):**

N/A

Thursday, October 13**9:30 AM - 10:30 AM****Poster Session:** A, Section: D, Row: L, Poster**Number:** 375**Track:** CARDIOVASCULAR ENGINEERING**Other / Non-specified****Abstract Title:** An Investigation on Sphingolipid Metabolism in Vascular Endothelial Cells under Oxidative Stress**Presenter:** Jordan Johnson**Principal Investigator:** N/A**Author(s):**

Isra Alam

G. Ekin Atilla-Gokcumen

B. Rita Alevriadou

Thursday, October 13**9:30 AM - 10:30 AM****Poster Session:** A, Section: D, Row: L, Poster**Number:** 376**Track:** CARDIOVASCULAR ENGINEERING**Other / Non-specified****Abstract Title:** Understanding Endovascular Aortic Repair Limitations by Investigating Endograft-Aorta Geometric Compatibility**Presenter:** Junsung Kim**Principal Investigator:** N/A**Author(s):**

N/A

Thursday, October 13**9:30 AM - 10:30 AM****Poster Session:** A, Section: D, Row: L, Poster**Number:** 377**Track:** CARDIOVASCULAR ENGINEERING**Other / Non-specified****Abstract Title:** Assessing Local Delivery Capability of a Novel Septal Ablation System via an ex vivo Pig Heart Model**Presenter:** Jun Liao**Principal Investigator:** N/A**Author(s):**

Katherine Copeland

Uday Chintapula

Joyita Roy

Liping Tang

Yi Hong

Kytai Nguyen

Thursday, October 13**9:30 AM - 10:30 AM****Poster Session:** A, Section: D, Row: L, Poster**Number:** 378**Track:** CARDIOVASCULAR ENGINEERING**Other / Non-specified****Abstract Title:** Glutamine Upregulates Both Contractile and Glycolytic Genes in Vascular Smooth Muscle Cells**Presenter:** Pattie Mathieu**Principal Investigator:** N/A**Author(s):**

Alisa Clyne

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 379

Track: CARDIOVASCULAR ENGINEERING
Other / Non-specified

Abstract Title: Phenotypic States of Smooth Muscle Cells in a Coculture Model under High Wall Shear Stress Condition

Presenter: Kaoru Sawasaki

Principal Investigator: N/A

Author(s):

Masanori Nakamura

Naoyuki Kimura

koji kawahito

HIROMICHI FUJIE

Naoya Sakamoto

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: L, Poster
Number: 380

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: Mechanical and In Vitro Functional Assessment of a Pediatric Pulmonary Heart Valve Scaffold

Presenter: Ben Leslie

Principal Investigator: William R. Wagner

Author(s):

Drake Pedersen

Antonio D'Amore

William Wagner

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 401

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices (Summer Undergraduate)

Abstract Title: Comprehensive Mechanical Assessment of Metallic Scaffolds in Percutaneous Cardiac Devices

Presenter: Kara Ngheim

Principal Investigator: N/A

Author(s):

Youngjae Chun

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 402

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: A Finite Element Investigation Into Aortic Arch Dissection Repair With Stenting

Presenter: Žiga Donik

Principal Investigator: N/A

Author(s):

Janez Kramberger

Seth Sankary

Luka Pocivavsek

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 403

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Reprogramming/Directed
Differentiation In Stem Cell Engineering

Abstract Title: Synergistic Genetic and Microenvironmental Engineering for Human iPSC-derived Hepatocyte Maturation

Presenter: Kristen Cotton

Principal Investigator: Salman Khetani

Author(s):

Kristen Cotton

Yang Yuan

Kyle Mathes

Shang Gao

Xinge Wang

Yang Dai

Jalees Rehman

Bradley Merrill

Salman Khetani

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 404

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Reprogramming/Directed
Differentiation In Stem Cell Engineering

Abstract Title: Electrogenic Gene Dynamics During Forebrain Differentiation from Embryonic Stem Cells

Presenter: Luke Zirretta

Principal Investigator: Adele Doyle

Author(s):

Adele Doyle

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 405

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Reprogramming/Directed
Differentiation In Stem Cell Engineering

Abstract Title: Reversing Cisplatin-Induced Acute Kidney Injury using Mesenchymal Stem Cell Derived Extracellular Vesicles

Presenter: Raina Kikani Avnesh Thakor

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 406

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Micro/Nano Tools In Molecular Biology
(Genomics, Proteomics) (Summer Undergraduate)

Abstract Title: Comparing CRISPR/Cas9 Knockout and shRNA Knockdown for EPH Receptors in Colorectal Cancer Cell Lines

Presenter: Aaron Streit

Principal Investigator: Giovanna Tosato

Author(s):

Michael DiPrima

Giovanna Tosato

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 407

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Micro/Nano Tools In Molecular Biology
(Genomics, Proteomics) (Summer
Undergraduate)**

Abstract Title: Substrate Optimization for Tunable
Expansion Microscopy

Presenter: Rylee Newport

Principal Investigator: Stefan Wilhelm

Author(s):

Vinit Sheth

Stefan Wilhelm

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 409

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Epigenetics and Chromatin Regulation

Abstract Title: Nuclear actin polymerization
promotes DNA damage response

Presenter: Alice Anais Varlet

Principal Investigator: Jan Lammerding

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 410

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Epigenetics and Chromatin Regulation

Abstract Title: Using CRISPR-Cas9 to Understand
the Role of SNAI2 in Malignant Peripheral Nerve
Sheath Tumors (MPNST) Cell Lines

Presenter: Hilda Jafarah

Principal Investigator: N/A

Author(s):

Hilda Jafarah

Xiyuan Zhang

Bega Murray

John Shern

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 411

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Epigenetics and Chromatin Regulation

Abstract Title: Chromatin Remodeling in MSC on
the Application of Hyper Oxidative Stress

Presenter: Lauren Monroe

Principal Investigator: Soham Ghosh

Author(s):

Lauren Monroe

Samantha Kaonis

Neda Kabi

Abigail Fennell

Jack Forman

Soham Ghosh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 412

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Micro/Nano Tools in Molecular Biology
 (Genomics, Proteomics)**

Abstract Title: Genetically encoded phase-separation sensors for intracellular probing of biomolecular condensates

Presenter: Alexa Regina Avecilla

Principal Investigator: N/A

Author(s):

Jeremy Thomas

Felipe Quiroz

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 413

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Reprogramming/Directed
 Differentiation in Stem Cell Engineering**

Abstract Title: Stretch Mechanotransduction for MSC Osteogenesis and the Role of YAP and ROCK

Presenter: Kim Eunju

Principal Investigator: N/A

Author(s):

Jung Yul Lim

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 414

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Reprogramming/Directed
 Differentiation in Stem Cell Engineering**

Abstract Title: Generation of endothelial cells from pluripotent stem cells through CRISPR activation of ETV2

Presenter: Aining Fan

Principal Investigator: Jeffrey Millman

Author(s):

Jeffrey Millman

Matthew Ishahak

Kameron Bradley

Erica Marquez

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 415

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Reprogramming/Directed
 Differentiation in Stem Cell Engineering**

Abstract Title: Nanotechnology-driven Non-viral Vasculogenic and Neurogenic Reprogramming of Fibroblasts: Potential Applications in the Treatment of Alzheimer's Disease

Presenter: Diego Alzate Correa

Principal Investigator: Daniel Gallego Perez

Author(s):

Jonathan Stranan

Maria Angelica Rincon Benavides

William Lawrence

Natalia Higuera-Castro

Daniel Gallego-Perez

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 416

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Reprogramming/Directed
Differentiation in Stem Cell Engineering**

Abstract Title: FOXA1/2 Depletion Drives Global Reprogramming Of Differentiation State And Metabolism In A Human Hepatic Cell Line and Human Stem Cell-Derived Hepatic Progenitor Cells

Presenter: Daniel Guiggey

Principal Investigator: N/A

Author(s):

Daniel Guiggey

Natesh Parashurama

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 417

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Reprogramming/Directed
Differentiation in Stem Cell Engineering**

Abstract Title: Highly Efficient Reprogramming of Adult Human Fibroblasts into Endothelial Cells by ETV2 and Sox17

Presenter: Alexander Grath

Principal Investigator: GuoHao Dai

Author(s):

GuoHao Dai

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 418

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Reprogramming/Directed
Differentiation in Stem Cell Engineering**

Abstract Title: CRISPR-activation of a Novel Gene Increases Target Gene Expression in CRISPR-activation Multiplex Upregulated Cells

Presenter: Hunter Levis

Principal Investigator: Robby D. Bowles

Author(s):

Elise Stockham

Jacob Weston

Robert Bowles

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 419

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Reprogramming/Directed
Differentiation in Stem Cell Engineering**

Abstract Title: Sphingosine-1-phosphate regulate Alveolar Type I cell behavior during repair of acute lung injury

Presenter: Manwai Chan

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: M, Poster
Number: 420

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
**Reprogramming/Directed
Differentiation in Stem Cell Engineering**

Abstract Title: Interplay of Wnt/BMP Signaling
with Cellular Metabolism and Epigenetics for
Enhanced Multipotency of Skin Derived Neural Crest
Stem Cells

Presenter: Pihu Mehrotra

Principal Investigator: Stelios Andreadis

Author(s):

Izuagie Ikhapoh

Pedro Lei

Georgios Tseropoulos

Yali Zhang

Jianmin Wang

Stelios Andreadis

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 441

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
**Reprogramming/Directed
Differentiation in Stem Cell Engineering**

Abstract Title: It Takes a Heart to Make the Lung:
Recapitulate Human Cardio-pulmonary Co-
development Using Stem Cells

Presenter: Xi Ren

Principal Investigator: N/A

Author(s):

Wai Hoe Ng

Elizabeth Johnston

Jacqueline Bliley

Adam Feinberg

Xi Ren

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 442

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
**Reprogramming/Directed
Differentiation in Stem Cell Engineering**

Abstract Title: ModRNA-based CRISPR Systems
for Robust Genome Editing in Human Stem Cells

Presenter: Xiaojun Lian

Principal Investigator: Xiaojun Lian

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 443

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Cell Migration

Abstract Title: Inhibition of Neutrophil Extracellular
Traps in Brain Metastatic Breast Cancer Limits
Tumor-Associated Neutrophil Infiltration and Tumor
Invasion

Presenter: Simrit Safarulla Musallyarakath Arakkal

Principal Investigator: Arvind Chandrasekaran

Author(s):

Arvind Chandrasekaran

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 444

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Assistive Technology (Summer
Undergraduate)**

Abstract Title: Survey of Quadriplegics to Find the
Advantages and Disadvantages of Robotic Assistive
Feeding Devices

Presenter: Sierra Andrews

Principal Investigator: Eric Schearer

Author(s):

Eric Schearer

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 445

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Assistive Technology (Summer
Undergraduate)**

Abstract Title: Development of three-dimensional
visualization system for pills

Presenter: Juhui Lee

Principal Investigator: N/A

Author(s):

YoungJae Kim

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 446

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Assistive Technology (Summer
Undergraduate)**

Abstract Title: Analyzing Kinematics of ASL Signs
Versus Transitional Articulator Movements Using
Multi-Modal Sensing Data

Presenter: Rebecca Keating

Principal Investigator: Evie Malaia

Author(s):

Evguenia Malaia

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 447

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Assistive Technology (Summer
Undergraduate)**

Abstract Title: Using Motion Planning for Successful
Bite Transfers

Presenter: Brian Ngoh Eric Schearer

Principal Investigator: N/A

Author(s):

Eric Schearer

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 448

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Assistive Technology

Abstract Title: Safety Analysis Of A Tissue
Retraction Ring For Use During Unicondylar Knee
Arthroplasty

Presenter: Nicolette Fournelis

Principal Investigator: N/A

Author(s):
Lauren Paffrath

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 449

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Assistive Technology

Abstract Title: Ergonomic Design of the Enteral
Syringe to Improve Patient Quality of Life

Presenter: Susan Freudzon

Principal Investigator: N/A

Author(s):
Susan FUndergraduatedzon

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 450

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Assistive Technology

Abstract Title: Sonomyography Enables
Investigation of Motor Control Principles at the
Single Joint Level

Presenter: Shriniwas Patwardhan

Principal Investigator: N/A

Author(s):
Jonathon Schofield
Wilsaan Joiner
Siddhartha Sikdar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 451

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Design and Control of Prostheses and
Exoskeletons**

Abstract Title: Using Trajectory Corrections from an
Exoskeleton to Improve the System Identification of
an Electrically Stimulated Arm: A Simulation Study

Presenter: Cameron LaMack

Principal Investigator: N/A

Author(s):
Eric Schearer

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 452

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Design and Control of Prostheses and Exoskeletons

Abstract Title: Development of a Soft Self-Powered
Elbow Exoskeleton

Presenter: Emma Treadway

Principal Investigator: N/A

Author(s):

Camille Heidelbaugh

Aislinn Marcee

Emma Treadway

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 453

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Design and Control of Prostheses and Exoskeletons

Abstract Title: Hip Joint Brace For Improved Patient
Outcomes During Athletic Activity

Presenter: Megan Mentzer

Principal Investigator: N/A

Author(s):

Sarah Breen

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 454

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Implantable Sensors and Devices

Abstract Title: Treatment effects on natural
biomaterial-based oxygen sensors: oxygen sensitivity
and mechanical properties of different hydrogel
matrices

Presenter: Waqas Saleem

Principal Investigator: N/A

Author(s):

Waqas Saleem

ANANTHAKRISHNAN SOUNDARAM

JEEVARATHINAM

Michael McShane

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 455

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Implantable Sensors and Devices

Abstract Title: Near-Infrared Emissive
Phosphorescent Nanoparticles for Oxygen and
Metabolite Monitoring

Presenter: Ananthakrishnan Soundaram

Jeevarathinam

Principal Investigator: N/A

Author(s):

Waqas Saleem

ANANTHAKRISHNAN SOUNDARAM

JEEVARATHINAM

Michael McShane

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 456

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Implantable Sensors and Devices

Abstract Title: Effects of Data Processing Algorithm
and Strain Gage Configuration on Applied Load
Prediction Accuracy in a Prototype Instrumented
Trapezium

Presenter: Josephine Kalshoven

Principal Investigator: N/A

Author(s):

Josephine Kalshoven

Amy Morton

Rohit Badida

Julia Henke

Douglas Moore

Joseph Crisco

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 457

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Implantable Sensors and Devices

Abstract Title: Hydrogel Sensor for Monitoring
Glucose during Hypoglycemia

Presenter: Ridhi Pradhan

Principal Investigator: N/A

Author(s):

Michael McShane

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 458

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Implantable Sensors and Devices

Abstract Title: Development of Implantable Dual
L-glutamateGABA Microsensors for Neuroscience
Studies

Presenter: Sung Sik Chu

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 459

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Implantable Sensors and Devices

Abstract Title: Glucose Biosensors Based on
Poly(ethylene glycol) Hydrogels with Chemo-Optical
Sensing Microdomains

Presenter: Tyrell Williams

Principal Investigator: Daniel Alge

Author(s):

Michael McShane

Tyrell Williams

Daniel Alge

ANANTHAKRISHNAN SOUNDARAM

JEEVARATHINAM

Paul Kim

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: D, Row: N, Poster
Number: 460

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Implantable Sensors and Devices

Abstract Title: Pulsed Plasma Deposition of
Amorphous Silicon Carbide for Implantable Medical
Devices
Presenter: Yupeng Wu
Principal Investigator: N/A
Author(s):
Alexandra Joshi-Imre
Stuart Cogan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 481

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Biosensors

Abstract Title: Planar Conformal Radio-frequency
Sensors for Detection of Tissue Abnormality
Presenter: J.C. Chiao
Principal Investigator: N/A
Author(s):
Sen Bing
Khengdauliu Chawang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 482

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Optimization of a Nanogel-Cytokine
Conjugate for Macrophage Immunotherapy
Presenter: Danuta Radyna
Principal Investigator: John R. Clegg
Author(s):
Danuta Radyna
Rana Ajeeb
Trinity Hoff
John Clegg

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 483

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Evaluating the Mechanisms of Yoda1
Sensitization of TRAIL-Mediated Apoptosis in
Glioblastoma Cells
Presenter: Shanay Desai
Principal Investigator: Michael King
Author(s):
Samantha Knoblauch
Jenna Dombroski
Nicole Sarna
Michael King

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 484

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Layer-By-Layer Nanoparticles for Targeted Delivery to Ovarian Cancer and Immune Cells

Presenter: Victoria Gomerding

Principal Investigator: Paula T. Hammond

Author(s):

Victoria Gomerding

Apoorv Shanker

Gil Covarrubias

Ivan Pires

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 485

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Intraoperative cone-beam CT scans can inform drug retention following intratumoral delivery of cisplatin in lung tumors.

Presenter: Victor Mori

Principal Investigator: N/A

Author(s):

Lisa Pierre

Jason Bates

C. Matthew Kinsey

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 486

Track: DRUG DELIVERY
Respiratory Drug Delivery

Abstract Title: Anti-Inflammatory Effects of Organ-Specific Electrosprayed Extracellular Matrix Nanoparticles

Presenter: Keith Li

Principal Investigator: Rebecca Heise

Author(s):

Rebecca Heise

Casie Slaybaugh

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 487

Track: DRUG DELIVERY
Respiratory Drug Delivery

Abstract Title: Extracellular Matrix Nanoparticles Modulate Immune Response to Lipopolysaccharide-Induced Lung Injury

Presenter: Jessica Nguyen

Principal Investigator: Rebecca L Heise

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 488

Track: DRUG DELIVERY
Cancer Drug Delivery (Summer Undergraduate)

Abstract Title: Controlled Release Oral Medication for Long-Term Pain Management of Cancer Patients
Presenter: Devina Jaiswal
Principal Investigator: Leah Mikkelsen
Author(s):
Leah Mikkelsen
Madison Jakielaszek
Sara Cunha

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 489

Track: DRUG DELIVERY
Cancer Drug Delivery (Summer Undergraduate)

Abstract Title: Ultrahigh Drug Loaded Micelles for Drug Delivery Applications
Presenter: Jean Jerome
Principal Investigator: Richard D'Arcy
Author(s):
Richard d'Arcy
Craig Duvall

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 490

Track: DRUG DELIVERY
Cancer Drug Delivery (Summer Undergraduate)

Abstract Title: Higher Collagen Content in Pancreatic Cancer Correlates with Reduced Drug Delivery
Presenter: Dhruv Ranjan
Principal Investigator: Kenneth Tichauer
Author(s):
Cody Rounds
Kenneth Tichauer

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 491

Track: DRUG DELIVERY
Cancer Drug Delivery (Summer Undergraduate)

Abstract Title: Stably Conjugated Endosomal Release Domains Improve Cancer Vaccine Delivery by VIPER
Presenter: Tran Luu
Principal Investigator: Suzie H. Pun
Author(s):
Tran Luu
Dinh Chuong Nguyen
Kefan Song
Suzie Pun

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 492

Track: DRUG DELIVERY
Cancer Drug Delivery (Summer Undergraduate)

Abstract Title: Vandetanib-loaded Radiopaque Drug-eluting Beads for Transarterial Chemoembolization of Liver Tumors
Presenter: Aneesh Zutshi
Principal Investigator: Bradford J. Wood
Author(s):
 Andrew Mikhail
 Bradford Wood

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 493

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Evaluation of the Composition and Shelf-life of the Novel Doxorubicin Loaded Starch-Based Hydrogel
Presenter: Anna Jones
Principal Investigator: N/A
Author(s):
 Anna Jones
 Elizabeth Barker
 Jenny Patel
 Rachel Ivy
 Alissa Hendricks

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 494

Track: DRUG DELIVERY

Abstract Title: Platinum Nanoparticles' Mechanism of Action in Triple Negative Breast Cancer
Presenter: Ashish Kokkula
Principal Investigator: Aida Lopez Ruiz, Kathleen McEnnis
Author(s):
 N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 495

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Tissue-specific Nanoparticle PEGylation Strategies to Overcome the ECM Barrier
Presenter: Devorah Cahn
Principal Investigator: N/A
Author(s):
 Matthew Wolf
 Gregg Duncan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 496

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Tumor-Targeted Oxidative Stress-Amplifying Micelles for Combination Anticancer Therapy

Presenter: Dongwon Lee

Principal Investigator: Dongwon Lee

Author(s):

Sooyeon Kim

hayoung jun

Gayoung Kwon

Soonyoung Kwon

Nuri Kim

Dongwon Lee

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 497

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Carbohydrate-based Ionic Liquid Coated Polymer Nanoparticles for Selective Targeting of Cancer Cell

Presenter: Gagandeep Singh

Principal Investigator: N/A

Author(s):

Eden Tanner

Gaya Dasanayake

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 498

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Remote Loading of Doxorubicin and Gas Bubbles into PLA Microcapsules: A novel strategy for on-demand drug release and in vivo targeting

Presenter: Ghazal Rastegar

Principal Investigator: Shashank Sirsi

Author(s):

Shashank Sirsi

Arvin Honari

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 499

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Novel Tunable Amyloid Aggregates for Cancer Drug Delivery

Presenter: Mathumai Kanapathipillai

Principal Investigator: N/A

Author(s):

Maytham Ismail

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: O, Poster
Number: 500

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Hyper-Compliant Polyacrylamide Microparticles for Hydrophobic Drug Delivery

Presenter: Rebeka Sowers

Principal Investigator: N/A

Author(s):

Rebeka Sowers

Joseph Urban

Edith Mathiowitz

Eric Darling

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 521

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Development of an In Vitro Test Bed for the Optimization of Drug Diffusion in Pediatric Solid Tumors

Presenter: Rachel Ivy

Principal Investigator: N/A

Author(s):

Anna Jones

Rachel Ivy

Alissa Hendricks

Elizabeth Barker

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 522

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Nanoparticle-Protein Interaction is Sensitive to Isomeric Differences in Surface Chemistry

Presenter: Sridevi Baradhwaj Conjeevaram

Principal Investigator: N/A

Author(s):

Sridevi Baradhwaj Conjeevaram

Shelby McCoy

Amulya Kadaba

Isaac Adjei

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 523

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Novel Drug Delivery System Embedded within Vesosomes for Controlled and Sustained Drug Release

Presenter: Seoyoon Song

Principal Investigator: N/A

Author(s):

Seoyoon Song

Mina Lee

Sunhee Yoon

Sun Min Kim

Tae-Joon Jeon

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 524

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Niclosamide-loaded Polyanhydride Nanoparticles for Breast Cancer Therapy

Presenter: Susheel Kumar Nethi

Principal Investigator: Surya K Mallapragada

Author(s):

Brianna White

satyanarayana Rachagani

Surya Mallapragada

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 525

Track: DRUG DELIVERY
Respiratory Drug Delivery

Abstract Title: Pharmacodynamic Model of Tobramycin and Colistin Activity Against Pseudomonas Aeruginosa Biofilms

Presenter: Swarnima Roychowdhury

Principal Investigator: Charles Roth

Author(s):

Swarnima Roychowdhury

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 526

Track: DRUG DELIVERY
Respiratory Drug Delivery

Abstract Title: Impact of Nebulization on the Physicochemical Properties of Polymeric Nanoparticles for Pulmonary Drug Delivery

Presenter: Jyothi Menon

Principal Investigator: N/A

Author(s):

Andrea Gonsalves

Kalindu Perera

Jyothi Menon

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 527

Track: DRUG DELIVERY
Respiratory Drug Delivery

Abstract Title: Mechanical Properties of Injured Swine Airway Treated with Corticosteroid Coated ET Tube

Presenter: Gabriela Cervantes-Gonzales

Principal Investigator: Teja Guda

Author(s):

Teja Guda

Solaleh Miar

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 528

Track: DRUG DELIVERY
Respiratory Drug Delivery

Abstract Title: Mucus Penetrating Biodegradable Nanoparticles for Treatment of Idiopathic Pulmonary Fibrosis

Presenter: Harish Ramachandramoorthy

Principal Investigator: N/A

Author(s):

kun man

Trinh Nguyen

Uday Chintapula

Tanviben Kotadia

Tam Nguyen

Yong Yang

Kytai Nguyen

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 529

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: Polymersomes deliver stress granule deaggregating peptides as aids in peripheral nerve regeneration

Presenter: Kayleigh Trumbull

Principal Investigator: Conner Nathaniel Lumb, Jessica Larsen

Author(s):

Conner Lumb

Jessica Larsen

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 530

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: Membrane-Wrapped Alginate Microgels as Tunable Drug Release Depots

Presenter: Lauren Mottel

Principal Investigator: Jason Gleghorn

Author(s):

Allyson Dang

Jason Gleghorn

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 531

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: Polyethylene glycol-b-poly(lactic acid) polymersome elongation through osmotic pressure mediated membrane tension and fusion

Presenter: Owen Tabah

Principal Investigator: Jessica Larsen

Author(s):

Jessica Larsen

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 532

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: Expedited Development and Characterization of Tablet Formulations

Presenter: Ternya Gibson

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 533

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: Cholesterol Depletion Increases Nanogel Uptake in iPSC Derived Brain Microvascular Endothelial Cells

Presenter: Viviana Alpizar

Principal Investigator: Alisa Morss Clyne

Author(s):

Alisa Clyne

Tao Lowe

Bilal Moiz

Eman Mirdamadi

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 534

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Biocompatible Gelatin-Gallic acid Microcomplexes Releasing GO/Cu Nanocomposites for Antibacterial and Anti-biofilm Effect

Presenter: Jiwon Kim

Principal Investigator: N/A

Author(s):

Jonghoon Choi

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 534

Track: NANO AND MICRO TECHNOLOGIES
Organ-on-Chip for Regenerative Medicine

Abstract Title: Biodegradable membrane-based glomerulus-on-a-chip for modeling blood filtration

Presenter: Jiwon Kim

Principal Investigator: N/A

Author(s):

Xingrui Mou

Jessica Shah

Samira Musah

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 535

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Systematic Degradation and Toxicity Analysis of Copper-Based Semiconductor Nanomaterials

Presenter: George Katsarakes

Principal Investigator: Allison Dennis

Author(s):

Xingjian Zhong

Allison Dennis

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 536

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Engineering Hybrid Exosomes for Biomedical Applications

Presenter: Daniela De Nobrega Viaje

Principal Investigator: N/A

Author(s):

Brandon Bakka

Tyrone Porter

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 537

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Analysis of the Trauma Biomarker Hyaluronic Acid using Solid-State Nanopores

Presenter: Carla Rodriguez

Principal Investigator: Adam R. Hall

Author(s):

Adam Hall

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 538

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Decoupling Vasculogenic Cell-Based and Extracellular Vesicle Therapy for Alzheimer's Disease

Presenter: Natalia Mendonca

Principal Investigator: Natalia Higueta-Castro

Author(s):

Natalia Mendonca

Diego Alzate Correa

Jonathan Stranan

Maria Angelica Rincon Benavides

Luke Lemmerman

Ludmila Diaz-Starokozheva

William Lawrence

Daniel Gallego-Perez

Natalia Higueta-Castro

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 539

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Heparosan-Conjugated Nanoparticles Demonstrate Increased Uptake in Innate Immune Cells

Presenter: Sarah Butterfield

Principal Investigator: Stefan Wilhelm

Author(s):

Wen Yang

Stefan Wilhelm

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: P, Poster
Number: 540

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Fabrication of Magnetically Tunable Erythrocyte Based Micromotors

Presenter: Sarah Gatti

Principal Investigator: Jamel Ali

Author(s):

David Quashie

Sophie Jermyn

Jamel Ali

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 561

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Exposure to Nanoplastics Induces an Inflammatory Response in Healthy and Type 2 Diabetic Primary Human Proximal Tubular Epithelial Cells

Presenter: Shereen Yassine

Principal Investigator: Steven T. Haller and David J. Kennedy

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 562

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Accessing Superhydrophobic Microwell Arrays Devices for High-Throughput Culture of 3D Cancer Models

Presenter: TinTin Nguyen

Principal Investigator: Michael R. King

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 563

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Anti-inflammatory Polymer Decorated Nanoparticles for Sepsis Control

Presenter: Yitian Zhu

Principal Investigator: Paula Hammond

Author(s):

Apoorv Shanker

Paula Hammond

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 564

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies In Molecular and Cellular Bioengineering, Medicine and Biology (Summer Undergraduate)

Abstract Title: Role of macrophages in processing nanotherapeutics in breast cancer liver metastasis

Presenter: Anjana Tiwari Biana Godin

Principal Investigator: N/A

Author(s):

Eric Chau

Karem Pinto

Biana Godin

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 565

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Machine Learning Based Flow Cytometer for Biomedical and Clinical Applications

Presenter: Dharmakeerthi Nawarathna

Principal Investigator: N/A

Author(s):

Umamaheswara Rao Tida

Noah Vandal

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 566

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Examining the Effects of Nanoscale Patterning of TGF- β Receptors and Viscoelastic Material Properties on Regulating TGF- β Signaling

Presenter: Aryssa Simpson

Principal Investigator: N/A

Author(s):

Ashley Brown

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster**Number:** 567**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology****Abstract Title:** An Abuse-Deterrent Formulation Against Smoking of Prescription Opioids**Presenter:** Anastasiia Vasiukhina**Principal Investigator:** Luis Solorio**Author(s):**

Anastasiia Vasiukhina

sheryhan Gad

Elyssia Wellington

Danielle Wilmes

Yoon Yeo

Luis Solorio

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster**Number:** 568**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology****Abstract Title:** Effect of Topography and Micropattern Geometry on YAP localization in Corneal Fibroblasts**Presenter:** David Schmidtke**Principal Investigator:** N/A**Author(s):**

Divya Subramanian

Nathaniel Tjahjono

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster**Number:** 569**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology****Abstract Title:** DMEM as a Base Medium for Production of GPMVs in a Friendlier Cell Culture Environment**Presenter:** William Doherty**Principal Investigator:** N/A**Author(s):**

Ryan Koppes

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster**Number:** 570**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology****Abstract Title:** Exosomes Derived from Differentiated Human ADMSC with the Schwann Cell Phenotype Modulate Peripheral Nerve-Related Cellular Functions and Regeneration**Presenter:** Bin Duan**Principal Investigator:** N/A**Author(s):**

Bo Liu

Yunfan Kong

Wen Shi

Mitchell Kuss

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 571

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Quantification of Extracellular Nitric Oxide Released by Cells Via Carbon Nanotube Sensor Platforms

Presenter: Ivon Acosta Ramirez

Principal Investigator: N/A

Author(s):
 Nicole Iverson

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 572

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Lipid Nanoparticles Optimization for mRNA Delivery in Skin Cells

Presenter: Karem Court

Principal Investigator: N/A

Author(s):
 Biana Godin

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 573

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Wound Repair in Stentor Coeruleus Depends on Cell Size and Wound Size

Presenter: Kevin Zhang

Principal Investigator: N/A

Author(s):
 Kevin Zhang
 Ambika Nadkarni
 Rebecca McGillivray
 Wallace Marshall
 Sindy Kam Yan Tang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 574

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Fabrication of Superhydrophobic Microwell Arrays for High-Throughput Culture of 3D Cancer Models

Presenter: Maria Lopez Cavestany

Principal Investigator: Michael R. King

Author(s):
 Kalana Jayawardana
 Olivia Wright
 Noah Reckhorn
 Michael King

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster**Number:** 575**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology****Abstract Title:** Temperature Drives Non-Fibrillar Assembly Conformations of Co-Assembling Synthetic Peptides**Presenter:** Ryan Clark**Principal Investigator:** N/A**Author(s):**

Gregory Hudalla

Benjamin Keselowsky

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster**Number:** 576**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology****Abstract Title:** In Vitro Bioreactor for Mechanical Control and Characterization of Tissue Constructs**Presenter:** Samuel Coeyman**Principal Investigator:** N/A**Author(s):**

Amy Bradshaw

William Richardson

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster**Number:** 577**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology****Abstract Title:** Exploring a Novel Biomimetic Nanostructure as a Cancer Targeted T2-weighted MRI Contrast Agent**Presenter:** Shiva Rahmati**Principal Investigator:** N/A**Author(s):**

Allan David

Xin Fan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster**Number:** 578**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology****Abstract Title:** Oxygen Loaded Dextran Based Nanobubbles for Treatment of Central Retinal Artery Occlusion**Presenter:** Victoria Messerschmidt**Principal Investigator:** N/A**Author(s):**

Joseph Irudayaraj

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 579

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Rapid magnetic purification of Baculovirus via E3 and K3 coiled-coil binding
Presenter: Xiaoyue Yang
Principal Investigator: N/A
Author(s):
 ZhongcHao Yi
 Sheng Tong
 Chiziterem Onyenekwe

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: Q, Poster
Number: 580

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Monolithic Silica Microchannels Enable Thin Layer Chromatography Analysis of Single Cells
Presenter: Ming Yao
Principal Investigator: N/A
Author(s):
 Yuli Wang
 Christopher Sims
 Nancy Allbritton

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 601

Track: NEURAL ENGINEERING
Neural Device Interfaces

Abstract Title: Towards In-situ Monitoring of Electrode Health During Low Frequency Alternating Current Stimulation
Presenter: Tyler Johnson
Principal Investigator: N/A
Author(s):
 Justin-Thuy Parks
 Abigail Beard
 Ken Yoshida

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 602

Track: NEURAL ENGINEERING
Neuromodulation: Peripheral Nerve Stimulation

Abstract Title: Characterizing Feasibility and Performance of Injectable Gold Microwires for Neural Interfacing
Presenter: Danny Lam
Principal Investigator: Andrew Shoffstall
Author(s):
 N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 603

Track: NEURAL ENGINEERING
**Computational Neural Modeling
(Summer Undergraduate)**

Abstract Title: Modeling Selective Activation of the Median Nerve

Presenter: Marianna Urdaneta Morillo

Principal Investigator: Katharine H. Polasek

Author(s):

Marianna Urdaneta Morillo

Madelyne Klunder

Katharine Polasek

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 604

Track: NEURAL ENGINEERING
**Computational Neural Modeling
(Summer Undergraduate)**

Abstract Title: In-Ear Silicon Electrodes to Detect Neural Brain Abnormalities

Presenter: Ryan Ahmed

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 605

Track: NEURAL ENGINEERING
**Neuromodulation: Peripheral Nerve
Stimulation (Summer Undergraduate)**

Abstract Title: Towards an Ultrasonic Tibial Nerve Stimulation Platform

Presenter: Michael Sobota

Principal Investigator: Steve Majerus

Author(s):

Steve Majerus

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 606

Track: NEURAL ENGINEERING
**Neuromodulation: Peripheral Nerve
Stimulation (Summer Undergraduate)**

Abstract Title: Comparing Cortical Responses to Mechanically- and Electrically-Evoked Somatosensations

Presenter: Peter Ruffolo

Principal Investigator: Katharine Polasek

Author(s):

Peter Ruffolo

Sarah Heinowski

Carolyn Atkinson

Katharine Polasek

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: E, Row: R, Poster
Number: 607

Track: NEURAL ENGINEERING
Computational Neural Modeling

Abstract Title: Adomian Decomposition Solution to FitzHugh Nagumo Model of Neural Membrane Conductance

Presenter: Benjamin Schwartz

Principal Investigator: N/A

Author(s):

Benjamin Schwartz

Shaun Brown

Jonathan Duncan

Jit Muthuswamy

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: E, Row: R, Poster
Number: 608

Track: NEURAL ENGINEERING
Computational Neural Modeling

Abstract Title: Role of Graphene Oxide in Disentangling Amyloid Beta Fibrils

Presenter: Brianna Duswalt

Principal Investigator: N/A

Author(s):

Brianna Duswalt

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: E, Row: R, Poster
Number: 609

Track: NEURAL ENGINEERING
Computational Neural Modeling

Abstract Title: Transcranial Alternating Current Stimulation Induces Neural Entrainment in Neuronal Network Models

Presenter: Zhihe ZHao

Principal Investigator: Alexander Opitz

Author(s):

Sina Shirinpour

Harry Tran

Alexander Opitz

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: E, Row: R, Poster
Number: 610

Track: NEURAL ENGINEERING
Neuromodulation: Peripheral Nerve Stimulation

Abstract Title: Spatial and Hybrid Optical-electrical Modulation of Optogenetic Peripheral Motor Nerve Activity

Presenter: Jordan Williams

Principal Investigator: N/A

Author(s):

Jordan Williams

Thursday, October 13**9:30 AM - 10:30 AM**

Poster Session: A, Section: E, Row: R, Poster
Number: 611

Track: NEURAL ENGINEERING
Neuromodulation: Peripheral Nerve Stimulation

Abstract Title: Ramped Kilohertz-Frequency Signals Enable Nerve Conduction Block without Transient Excitation

Presenter: Edgar Pena

Principal Investigator: N/A

Author(s):

Warren Grill

Nicole (Nikki) Pelot

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 612

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
**Orthopedic and Rehabilitation
Engineering: Implant and Prosthetic
Biomechanics**

Abstract Title: Effect of Magnetohydrodynamics
Induced Fluid Shear Stress on Fibroblast Migration

Presenter: Eyerusalem Gebreyesus

Principal Investigator: Keat Ghee Ong

Author(s):

Eyerusalem Gebreyesus

Alice Park

Robert Guldborg

Keat Ghee Ong

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 613

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING (Late
Breaking) > - Orthopedic and Rehabilitation
Engineering: Implant and Prosthetic Biomechanics
(Late Breaking)

**Orthopedic and Rehabilitation
Engineering: Implant and Prosthetic
Biomechanics**

Abstract Title: Osseointegrated interface reduces
pain and improves limb preference during gait in the
transfemoral amputee: a case study

Presenter: Sonia-Frida Ndifon

Principal Investigator: N/A

Author(s):

Kacie Hanna

Sonia-Frida Ndifon

Brock Lindsey

Sergiy Yakovenko

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 614

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING (Summer
REU) > - Orthopedic and Rehabilitation
Engineering: Implant and Prosthetic Biomechanics
(Summer REU)

**Orthopedic and Rehabilitation
Engineering: Implant and Prosthetic
Biomechanics (Summer Undergraduate)**

Abstract Title: Scratch Assay for in Vitro Wound
Healing on Plasticized Silk Scaffold

Presenter: Victoria Williams

Principal Investigator: N/A

Author(s):

Chiara Ghezzi

Neal Lojek

Miryam Adelfio

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 615

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING >
Orthopedic and Rehabilitation Engineering: Implant
and Prosthetic Biomechanics

**Orthopedic and Rehabilitation
Engineering: Implant and Prosthetic
Biomechanics**

Abstract Title: Biofabrication and Analysis of 3D
Printed Implants Containing Metalized Halloysite
Nanotube

Presenter: Femi Alakija

Principal Investigator: David K. Mills

Author(s):

David Mills

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 616

Track: ORTHOPAEDIC AND REHABILITATION ENGINEERING > Orthopedic and Rehabilitation Engineering: Implant and Prosthetic Biomechanics
Orthopedic and Rehabilitation Engineering: Implant and Prosthetic Biomechanics

Abstract Title: A Biomechanical Investigation of Shape Memory Staple Configurations
Presenter: Denis DiAngelo
Principal Investigator: N/A
Author(s):
 Perri Johnson
 Parker Duncan
 Clayton Bettin
 Chase Mareno

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 617

Track: ORTHOPAEDIC AND REHABILITATION ENGINEERING > Orthopedic and Rehabilitation Engineering: Implant and Prosthetic Biomechanics
Orthopedic and Rehabilitation Engineering: Implant and Prosthetic Biomechanics

Abstract Title: The Hubble: A Novel Magnetic Length Modulating Hip Implant
Presenter: Melanie Peterson
Principal Investigator: N/A
Author(s):
 Sang-Eun Song
 Ezat El-said
 Michael Tyrel Garner
 Austin Wynn

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 618

Track: ORTHOPAEDIC AND REHABILITATION ENGINEERING > Orthopedic and Rehabilitation Engineering: Implant and Prosthetic Biomechanics
Orthopedic and Rehabilitation Engineering: Implant and Prosthetic Biomechanics

Abstract Title: Plasticized Silk Scaffold for Improved Mechanical Interface with Transdermal Prostheses
Presenter: Neal Lojek
Principal Investigator: N/A
Author(s):
 Miryam Adelfio
 Chiara Ghezzi

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 619

Track: ORTHOPAEDIC AND REHABILITATION ENGINEERING > Articular Cartilage, Meniscus and Joints
Articular Cartilage, Meniscus and Joints

Abstract Title: Cartilage Protection with a Tissue-Infiltrating Hyaluronic Acid Hydrogel System
Presenter: Jay Patel
Principal Investigator: N/A
Author(s):
 Michael Kowalski
 Jay Patel

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: R, Poster
Number: 620

Track: TISSUE ENGINEERING
Biomechanics of Engineered Tissues

Abstract Title: Neutrophil Extracellular Traps (NETs) Must Spread and Overlap to Adversely Affect Mucus Rheology

Presenter: Simrit Safarulla Musallyarakath Arakkal

Principal Investigator: Arvind Chandrasekaran

Author(s):

Arvind Chandrasekaran

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 641

Track: TISSUE ENGINEERING
Biomechanics of Engineered Tissues

Abstract Title: Cell-Mediated Hydrogel Compaction as a Tool for Engineering Tumor Stroma with Structural and Mechanical Properties that Mimic Solid Tumors

Presenter: Jae McKee Mark Mondrinos

Principal Investigator: Kyle Lampe

Author(s):

Elisabet Olsen

Wills Kpeli

Mark Mondrinos

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 642

Track: TISSUE ENGINEERING
Stem Cells In Tissue Engineering and Disease Modeling

Abstract Title: Matrix Metalloproteinases as Diagnostic Tools within an In Vitro Blood-Brain Barrier Modeling Acute Inflammation

Presenter: Daniel DiMartino

Principal Investigator: Thomas Gaborski

Author(s):

Daniel DiMartino

Louis Widom

Thomas Gaborski

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 643

Track: TISSUE ENGINEERING
Stem Cells In Tissue Engineering and Disease Modeling

Abstract Title: Tissue-Engineered Blood Vessel Aortic Aneurysm Model using hiPSC-Derived Smooth Muscle Cells

Presenter: Ying Yang

Principal Investigator: N/A

Author(s):

Dogukan Mizrak

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 644

Track: TISSUE ENGINEERING
Stem Cells In Tissue Engineering and Disease Modeling

Abstract Title: Development of a cGMP-compliant L7 Medium for Reprogramming and Expansion of Human Induced Pluripotent Stem Cells
Presenter: Suman Nath
Principal Investigator: N/A
Author(s):
N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 645

Track: TISSUE ENGINEERING
Stem Cells In Tissue Engineering and Disease Modeling

Abstract Title: Adaptation of Microfluidic System for Use in Scalable Cell Encapsulation
Presenter: Ravi Nataraj
Principal Investigator: N/A
Author(s):
Mohammadjafar Hashemi
Yuan Tian
Ferdous Finklea
Elizabeth Lipke

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 646

Track: TISSUE ENGINEERING
Stem Cells In Tissue Engineering and Disease Modeling

Abstract Title: Characterization of Effects of inkjet Bioprinting of Human Fibroblasts into Stem Cell Environment Using RNA Sequencing Analysis
Presenter: Patricia Ablanedo Morales
Principal Investigator: N/A
Author(s):
Kayla Molina
April Ruiz
Jonathon Mohl
Thomas Boland

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 647

Track: TISSUE ENGINEERING
Multi-Cellular Engineered Living Systems

Abstract Title: Optimizing Human Hepatocyte Organoid Expansion for In Vitro Testing
Presenter: Shannon Mitchell
Principal Investigator: N/A
Author(s):
Sarah Saxton
Kelly Stevens
Inkyung Kang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 648

Track: TISSUE ENGINEERING
Biomechanics of Engineered Tissues
(Summer Undergraduate)

Abstract Title: A Low Cost, Customized System For
Exogenous Cell Stretch
Presenter: Ari Rapalino
Principal Investigator: Nathaniel Huebsch
Author(s):
Nathaniel Huebsch
David Schuftan
Lavanya Aryan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 649

Track: TISSUE ENGINEERING
Biomechanics of Engineered Tissues
(Summer Undergraduate)

Abstract Title: Collagen Matrix Remodeling:
Normal versus DC Fibroblasts
Presenter: Xuan Fey Chew
Principal Investigator: N/A
Author(s):
Austin Segrest
Mel Vaughan
Gang Xu

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 650

Track: TISSUE ENGINEERING
Developmental Biology and
Morphogenesis of Engineered Tissues
(Summer Undergraduate)

Abstract Title: Comparing Intrinsic Profibrotic
Potential of Lung Cancer Associated Fibroblasts
and Normal Lung Fibroblasts in 2D Cultures and
Engineered Anisotropic Tissues
Presenter: Keefer Boone
Principal Investigator: Mark Mondrinos
Author(s):
Elisabet Olsen
Ashley Martier
Mark Mondrinos

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 651

Track: TISSUE ENGINEERING
Developmental Biology and
Morphogenesis of Engineered Tissues
(Summer Undergraduate)

Abstract Title: Whole-mount in situ Hybridization
Reveals the Pattern of Expression of pitx1 in A. sagrei
Presenter: Lily Gowens
Principal Investigator: Douglas B. Menke
Author(s):
Amber Rittgers
Douglas Menke

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 652

Track: TISSUE ENGINEERING
**Stem Cells In Tissue Engineering
and Disease Modeling (Summer
Undergraduate)**

Abstract Title: Collective Behaviors Drive Vascular
Network Formation in Fetal Liver Organoids
Presenter: Rayna Schoenberger
Principal Investigator: N/A
Author(s):
Joshua Hislop
Mo Ebrahimkhani

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 653

Track: TISSUE ENGINEERING
**Stem Cells In Tissue Engineering
and Disease Modeling (Summer
Undergraduate)**

Abstract Title: Incorporation of Tricalcium
Phosphate in 2D Bone Scaffolds and Effect on MCF-
7 Cancer Cell Behavior
Presenter: Emma Worthington
Principal Investigator: Karen J.L. Burg
Author(s):
Weitong Chen
Timothy Burg
Karen Burg

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 654

Track: TISSUE ENGINEERING
**Stem Cells In Tissue Engineering
and Disease Modeling (Summer
Undergraduate)**

Abstract Title: Electrospun Collagen/HA
Composite Nanofibers for Bone Tissue Engineering
Presenter: Noah Sinishtaj
Principal Investigator: Yawen Li
Author(s):
Yawen Li
Therese Bou-Akl

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster
Number: 655

Track: TISSUE ENGINEERING
**Stem Cells In Tissue Engineering
and Disease Modeling (Summer
Undergraduate)**

Abstract Title: Effect of SIRT1 Increased Expression
on Myogenesis and Angiogenesis In Tissue
Engineered Skeletal Muscle
Presenter: Anthony Gisolfi Christopher Rathbone
Principal Investigator: N/A
Author(s):
Settimio Pacelli
Bryan Sullivan
Chris Rathbone

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster**Number:** 656**Track:** TISSUE ENGINEERING**Biomechanics of Engineered Tissues****Abstract Title:** Plant-derived Biomaterials for Vascular Tissue Engineering**Presenter:** Nicholas Merna**Principal Investigator:** N/A**Author(s):**

Gianna Rinaldi

Nicholas Merna

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster**Number:** 657**Track:** TISSUE ENGINEERING**Biomechanics of Engineered Tissues****Abstract Title:** Effect of cellular environment on nuclear morphology of cultured aortic smooth muscle cells: toward tissue engineering application**Presenter:** SHUKEI SUGITA**Principal Investigator:** N/A**Author(s):**

Hideto OHKITA

Yoshihiro Ujihara

Masanori Nakamura

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster**Number:** 658**Track:** TISSUE ENGINEERING**Developmental Biology and Morphogenesis of Engineered Tissues****Abstract Title:** The Role of Cell-ECM Crosstalk in Mediating the Progression of Fibrosis in a 3D Culture Model**Presenter:** Kristin Kim**Principal Investigator:** N/A**Author(s):**

Christopher Lemmon

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster**Number:** 659**Track:** TISSUE ENGINEERING**Developmental Biology and Morphogenesis of Engineered Tissues****Abstract Title:** Harnessing CNC Micromilling to Engineer Epithelial – Mesenchyme Microtissues to Study Cell – Cell Signaling**Presenter:** Jacob Reynolds**Principal Investigator:** N/A**Author(s):**

Jacob Reynolds

Brian Johnson

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: S, Poster**Number:** 660**Track:** TISSUE ENGINEERING**Developmental Biology and Morphogenesis of Engineered Tissues****Abstract Title:** Vascular Engineering to Study Sexual Dimorphisms During Development**Presenter:** Taylor Chavez**Principal Investigator:** N/A**Author(s):**

Eda Yildirim

Sharon Gerecht

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 681

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Unveiling Calcium Mishandling Mechanism of Hypertrophic Cardiomyopathy using iPSC Micro Heart Muscle

Presenter: Jingxuan Guo

Principal Investigator: N/A

Author(s):

Jingxuan Guo

Huanzhu Jiang

David Schuftan

Druv Bhagavan

Daniel Simmons

Nathaniel Huebsch

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 682

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: A Comparison of Small Molecule and Growth Factor Based hiPSC-EP Differentiation Methods

Presenter: Brett Stern

Principal Investigator: N/A

Author(s):

Janet Zoldan

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 683

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Proline Restores Mitochondrial Function and Reverses Aging Hallmarks in Aged Stem Cells

Presenter: Debanik Choudhury

Principal Investigator: N/A

Author(s):

Debanik Choudhury

Na Rong

Ramkumar Thiyagarajan

yulun wu

Nika Rajabian

Ashis Kumar Podder

Pihu Mehrotra

Kenneth Seldeen

Bruce Troen

Stelios Andreadis

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 684

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Developing a combinational stem cell-based tissue engineering approach to treat spina bifida before birth

Presenter: Dake Hao

Principal Investigator: N/A

Author(s):

Dake Hao

Su Yeon Lee

Christopher Pivetti

Abd-elrahman Hassan

Priyadarsini Kumar

Edwin Kulubya

Kent Leach

Diana Farmer

Aijun Wang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 685

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Metabolic Driver Of IPSC Differentiation Into Lymphatic Endothelial Cells

Presenter: Donghyun Jeong

Principal Investigator: N/A

Author(s):

Donghyun Jeong

Sanjoy Saha

Donny Hanjaya-Putra

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 686

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Impact of alginate-gelatin hydrogel properties on chondrogenic differentiation of mesenchymal stem cells

Presenter: Gargi Ghosh

Principal Investigator: N/A

Author(s):

Mohamad Orabi

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 687

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: A Biocompatible Scaffold Engineered with Proangiogenic Proteoglycan Mimetics and Loaded with Endothelial Cells Promotes Deep Burn Wound Healing

Presenter: Hengyue Song

Principal Investigator: N/A

Author(s):

Kewa Gao

Dake Hao

Andrew Li

Ruiwu Liu

Qianyu Jin

Alyssa Panitch

Diana Farmer

Aijun Wang

Bryan Anggito

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 688

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Heuristic Method for the Discovery of a Common Media for hPSC Derived Diabetes-On-Chip Platform
Presenter: Ishan Goswami
Principal Investigator: Kevin E. Healy
Author(s):
Kevin Healy

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 689

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Gelatin-based Microparticle Scaffolds for Enhanced Mesenchymal Stem Cell Osteogenic Differentiation
Presenter: Seth Edwards
Principal Investigator: KyungJae Jeong
Author(s):
KyungJae Jeong

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 690

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Bioprinted Human Liver Organoids (HLOs) on a Pillar/Perfusion Plate Platform for High-Throughput Compound Screening
Presenter: Sunil Shrestha
Principal Investigator: Moo-Yeal Lee
Author(s):
N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 691

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Patient-Specific Biological Engineered Blood Vessels Based on Adipose Stem Cells and Fibroblasts
Presenter: Bryan Wonski
Principal Investigator: N/A
Author(s):
Mai Lam

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 692

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Comparing Extracellular Vesicles from Bone Marrow-Derived and Adipose-Derived Mesenchymal Stem Cells
Presenter: Yuan Liu
Principal Investigator: N/A
Author(s):
Yuan Liu
Li Sun
Leanne Duke
Christina Holmes

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 693

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Impact of Simulated Microgravity on Brain Micro-Architecture through Human Organoid Models
Presenter: Yu Huang
Principal Investigator: N/A
Author(s):
N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 694

Track: TISSUE ENGINEERING

Abstract Title: Effect Of Electrical Stimulation On Plexiform Neurofibroma Schwann Cells
Presenter: Judy Senanayake
Principal Investigator: N/A
Author(s):
Judy Snanayake
Harini Sundararaghavan
Ray Mattingly

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 695

Track: WOMEN'S HEALTH
Other / Non-specified

Abstract Title: Uterine Fibroids Exhibit Distinct Structural and Mechanical Properties
Presenter: Daniella Fodera
Principal Investigator: Kristin Myers
Author(s):
Daniella Fodera
Johanna Lund
Shuyang Fang
Michelle Oyen
Kristin Myers

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 696

Track: WOMEN'S HEALTH
**Menopause related Technologies
 (Summer Undergraduate)**

Abstract Title: Quantification of Fibrogenesis Following Vaginal Prolapse Mesh Implantation Under Normoglycemic and Hyperglycemic Conditions
Presenter: Abigail Fisk
Principal Investigator: Rui Liang
Author(s):
 Abigail Fisk
 Rui Liang

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 697

Track: WOMEN'S HEALTH
Other / Non-specified (Summer Undergraduate)

Abstract Title: The Differential Role of Sex Hormones in the Angiogenesis of Male and Female Pulmonary Endothelial Cells
Presenter: Catherine Clark
Principal Investigator: Jason P. Gleghorn
Author(s):
 N/A

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 698

Track: WOMEN'S HEALTH

Other / Non-specified (Summer Undergraduate)

Abstract Title: Ethnicity-linked Error in Machine Learning Methods to predict BV status
Presenter: Dion Ming
Principal Investigator: Ivana Parker
Author(s):
 Ivana Parker
 Zoe Schaefer

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 699

Track: WOMEN'S HEALTH
Other / Non-specified

Abstract Title: A Pipeline of Engineered Cultures and Human Sera for Elucidating Liver Functional Changes During Pregnancy
Presenter: Dinithi Samarasekera
Principal Investigator: N/A
Author(s):
 Dinithi Samarasekera
 Beatriz Peñalver Bernabé
 Salman Khetani

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: T, Poster
Number: 700

Track: WOMEN'S HEALTH
Other / Non-specified

Abstract Title: Estradiol Promotes Integrity of the Inner Blood Retinal Barrier in Diabetic Retinopathy of Females
Presenter: Maribel Vazquez
Principal Investigator: N/A
Author(s):
 Natalia Castro
 Juan Pena

Thursday, October 13

9:30 AM - 10:30 AM

Poster Session: A, Section: E, Row: U, Poster
Number: 721

Track: WOMEN'S HEALTH
Other / Non-specified

Abstract Title: Development of Novel Morcellation Tool for Laparoscopic Myomectomy
Presenter: Anita Kodali
Principal Investigator: N/A
Author(s):
Olivia Coiado

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: B, Section: C, Row: G, Poster
Number: 186

Track: CELLULAR AND MOLECULAR BIOENGINEERING
Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: The Effect of Body Checking Technique on Head Kinematics in Ice Hockey
Presenter: Keith Kolaczyk
Principal Investigator: Joel D. Stitzel
Author(s):
Abigail Swenson
Nicholas Pritchard
Logan Miller
Jillian Urban
Joel Stitzel

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 1

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY
Multiscale Computation Modeling

Abstract Title: In Silico Model Characterizing In Vitro M. Tuberculosis Granuloma Dynamics
Presenter: Alexis Hoerter
Principal Investigator: Elsje Pienaar
Author(s):
Alexa Petrucciani
Elsje Pienaar

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 2

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY
Multiscale Computation Modeling

Abstract Title: Monitoring PRN Medications for Polypharmacy Patients
Presenter: Colin Drummond
Principal Investigator: Colin K. Drummond
Author(s):
Joel Setya
Himanshu Setya

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 3

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Analysis of Cell Signaling (Summer Undergraduate)

Abstract Title: A Mathematical Model of Endothelial Cell Nitric Oxide and Endothelin-1 Dynamics

Presenter: Acharya Ranawat Naomi Chesler

Principal Investigator: N/A

Author(s):

Acharya Ranawat

Naomi Chesler

Mitchel Colebank

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 4

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Analysis of Cell Signaling (Summer Undergraduate)

Abstract Title: Towards a computational model of endothelin-1 signaling in valve interstitial cells

Presenter: Mia Zheng Daniel Howsmon

Principal Investigator: N/A

Author(s):

Toni West

Mia Zheng

Michael Sacks

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 5

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Multiscale Computation Modeling (Summer Undergraduate)

Abstract Title: Its More than the Amount: Finite-Element Models Reveal that the Regional Distribution of Fat Infiltration Influences Muscle Force Production in the Medial Gastrocnemius Muscle

Presenter: Mackenzie Conner

Principal Investigator: Silvia Blemker

Author(s):

Ridhi Sahani

Allison McCrady

Silvia Blemker

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 6

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Multiscale Computation Modeling (Summer Undergraduate)

Abstract Title: 3D Finite Element Models Reveal that the Position of Volumetric Muscle Loss Injuries Influence Muscle Force in the Rat Lateral Gastrocnemius Muscle

Presenter: Makayla Garner

Principal Investigator: Silvia Salinas Blemker

Author(s):

Matthew DiSalvo

Silvia Blemker

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster**Number:** 7**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Multiscale Computation Modeling (Summer Undergraduate)****Abstract Title:** miRNA Regulation of Glycosylation Genes in Cancer Cell Lines**Presenter:** Lavie Ngo**Principal Investigator:** Sepideh Dolatshahi**Author(s):**

Sepideh Dolatshahi

Remziye Erdogan

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster**Number:** 9**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Machine Learning for Biomedical Applications****Abstract Title:** Topological Data Analysis of Hierarchical Self-Organized Patterning in Heterogeneous Cell Populations**Presenter:** Dhananjay Bhaskar**Principal Investigator:** Smita Krishnaswamy**Author(s):**

William Zhang

Ian Wong

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster**Number:** 10**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Machine Learning for Biomedical Applications****Abstract Title:** Problem Behavior Prediction for Severe Autism Spectrum Disorder using Patient and Environmental Data**Presenter:** Jenny Ferina**Principal Investigator:** Juergen Hahn**Author(s):**

Jennifer Ferina

Melanie Kruger

Uwe Kruger

Daniel Ryan

Conor Anderson

Jenny Foster

Theresa Hamlin

Juergen Hahn

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster**Number:** 11**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Machine Learning for Biomedical Applications****Abstract Title:** Automating Endocrine Cell Quantification in Human Pancreata**Presenter:** Hunter Hakimian**Principal Investigator:** N/A**Author(s):**

Jerelyn Nick

Kevin Otto

Hunter Hakimian

Marda Jorgensen

Mark Atkinson

Clive Wasserfall

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 12

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Machine Learning for Biomedical Applications

Abstract Title: Deep Learning-Based Phenotyping
 of Breast Cancer Cells Using Lens-Free Digital In-line
 Holography

Presenter: Kwonmoo Lee

Principal Investigator: N/A

Author(s):
 N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 13

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Machine Learning for Biomedical Applications

Abstract Title: Structure-Informed Improvement
 of Machine Learning-Assisted Directed Evolution
 Approaches

Presenter: Lane Yutzy

Principal Investigator: Philip Jung

Author(s):
 Lane Yutzy
 Philip Jung

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 14

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Machine Learning for Biomedical Applications

Abstract Title: Brain Connectivity Analysis via Deep
 Learning for Parkinson's Diagnosis

Presenter: Diego Machado Reyes

Principal Investigator: N/A

Author(s):
 Hanqing CHao
 ManSu Kim
 Li Shen
 Pingkun Yan

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 15

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Machine Learning for Biomedical Applications

Abstract Title: Application of Machine Learning
 Pipeline to Elucidate Cell Type-dependent Uptake of
 Therapeutic Triblock Amphiphilic Polymer P188

Presenter: Anne Alsup

Principal Investigator: N/A

Author(s):
 Kelli Fowlds
 Nagham Alatrash
 Rafiul Shihab
 Jacob Lubber
 Michael Cho

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 16

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Machine Learning for Biomedical Applications

Abstract Title: Development of Machine Learning Algorithms for Automated Analysis of Calcium Dynamics in β -Cells

Presenter: Kelli Fowlds

Principal Investigator: N/A

Author(s):

Anne Alsup

Michael Cho

Jacob Lubner

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 17

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Machine Learning for Biomedical Applications

Abstract Title: A Data Augmentation Method to Generate New Patient Data Using Regression and Linear Optimization

Presenter: Timothy Chung

Principal Investigator: N/A

Author(s):

David Vorp

Jason Lee

Isabelle Chickanosky

Pete Gueldner

Timothy Chung

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 18

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Machine Learning for Biomedical Applications

Abstract Title: Integrating Nonlinear Analysis and Machine Learning for Cardiotoxicity Classification Based on hiPSC-Derived Cardiomyocytes

Presenter: Zhen Ma

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 19

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Other / Non-specified

Abstract Title: Inhibition of Interactions between Nucleoside Diphosphate Kinase and G protein via Graphene Oxide

Presenter: Ryan Jaworski

Principal Investigator: N/A

Author(s):

RyanRyan JaworJaworskiski

Alexa Fiorica

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: C, Poster
Number: 20

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Other / Non-specified

Abstract Title: Graphical Model of Engineered Multipopulational Bacterial Systems

Presenter: Kayla Chun

Principal Investigator: N/A

Author(s):

Kayla Chun

William Bentley

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 41

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Other / Non-specified

Abstract Title: Computational Modeling of Gene Delivery Emphasizes Effects of Post-Nuclear Events in Successful Transfection of Human Mesenchymal Stem Cells

Presenter: Luke Samuelson

Principal Investigator: N/A

Author(s):

Angela Pannier

Tadeusz Wysocki

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 42

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Other / Non-specified

Abstract Title: Developing a Deep Learning Based Algorithm Trained by CFD to Predict Aneurysm Growth

Presenter: Pushyan Jhaveri

Principal Investigator: N/A

Author(s):

Mahsa Dabagh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 43

Track: BIOMANUFACTURING

Biomaterials for Cell Manufacturing and Tissue Biofabrication

Abstract Title: Adding Hyaluronic Acid Methacrylate (HAMA) and Poly(lactic-co-glycolic acid) (PLGA) Nanoparticles to Gelatin Methacryloyl (GelMA) Creates an Extrudable Biomaterial Ink Suitable for Mimicking the Blood-Brain Barrier (BBB)

Presenter: Cody Crosby

Principal Investigator: N/A

Author(s):

Kristie Cheng

Noah Pyles

John Clegg

Cody Crosby

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: D, Poster
Number: 44

Track: BIOMANUFACTURING
Cellular Biomanufacturing

Abstract Title: Designing Bioactive Microcapsules for Maintenance of Primary Hepatocytes

Presenter: Kihak Gwon

Principal Investigator: Alexander Revzin

Author(s):

Jose de Hoyos Vega

Alexander Revzin

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: D, Poster
Number: 45

Track: BIOMANUFACTURING
Cellular Biomanufacturing (Summer Undergraduate)

Abstract Title: Impacts on Protein Transportation and Localization by Overexpression of SAR1A in CHO Cells

Presenter: Haaris Jilani

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: D, Poster
Number: 46

Track: BIOMANUFACTURING
Molecular Biomanufacturing (Summer Undergraduate)

Abstract Title: Characterizing and Optimizing Silicatein Biomineralization for the Sustainable Biomanufacturing of Nanoparticles

Presenter: Mary-Jean Rowson

Principal Investigator: Bryan Berger

Author(s):

Toriana Vigil

Bryan Berger

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: D, Poster
Number: 47

Track: BIOMANUFACTURING
Biomaterials for Cell Manufacturing and Tissue Biofabrication

Abstract Title: Development Of Integrin-Guided Substrates To Improve Cardiac Cell Yields And Potency

Presenter: Carlos Barreto Gamarra

Principal Investigator: N/A

Author(s):

Maribella Domenech

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: D, Poster
Number: 48

Track: BIOMANUFACTURING
Cellular Biomanufacturing

Abstract Title: Numerical And Experimental Analysis Of Mechanical Forces In Bioprinted Blood Vessels

Presenter: Kunal Mitra

Principal Investigator: N/A

Author(s):

Khemraj Deshmukh

Saurabh Gupta

Arindam Bit

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 49

Track: BIOMANUFACTURING
Cellular Biomanufacturing

Abstract Title: An Integrated Generation of Induced Pluripotent Stem Cells in a Low-Cost Device

Presenter: Li Han

Principal Investigator: Yuguo Lei

Author(s):

Yuguo Lei

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 50

Track: BIOMANUFACTURING
Cellular Biomanufacturing

Abstract Title: Scale-Down Modeling of Dissolved Oxygen Transport for a Stir-Tank Bioreactor

Presenter: Luke Perreault

Principal Investigator: N/A

Author(s):

Luke Perreault

Simon Hubbard

Radu Cimpeanu

Glenn Gaudette

Daniel Harris

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 51

Track: BIOMANUFACTURING
Cellular Biomanufacturing

Abstract Title: MSC Morphological Screening Identifies Heparan Sulfate Variants that Improve Growth and Function

Presenter: Thomas Spoerer

Principal Investigator: N/A

Author(s):

Thomas Spoerer

Kanupriya Daga

Andrew Larey

Ross Marklein

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 52

Track: BIOMATERIALS
Biomechanics of Biomaterials

Abstract Title: Differential Temporal Remodeling of Collagen I:Fibrin Matrices Via Musculoskeletal Progenitor Cells

Presenter: Gennifer Chiou

Principal Investigator: Teja Guda

Author(s):

Joo Ong

Rena Bizios

Teja Guda

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 53

Track: BIOMATERIALS
Biomechanics of Biomaterials

Abstract Title: Gel Adhesive Puncture-Sealing Sutures for Wound Closure

Presenter: Zhenwei Ma

Principal Investigator: Jianyu Li

Author(s):

Jianyu Li

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 54

Track: BIOMATERIALS
**Engineering the Stem Cell
Microenvironment**

Abstract Title: Investigating the Effect of Porosity in Microporous Annealed Particle Scaffolds on Stem Cell Function
Presenter: Blaise Pfaff
Principal Investigator: Donald R. Griffin
Author(s):
Donald Griffin

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 55

Track: BIOMATERIALS
Natural and Bioinspired Biomaterials

Abstract Title: Peptomers for Tunable Degradation of Biomaterial Platforms
Presenter: Carolyn Watkins
Principal Investigator: Adrianne Rosales
Author(s):
Adrianne Rosales
Mariah Austin

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 56

Track: BIOMATERIALS
Natural and Bioinspired Biomaterials

Abstract Title: Crosslinked Chitosan and Carboxymethyl Cellulose Formulation Enhance Wound Closure While Inhibiting Bacterial Growth
Presenter: Abdul-Razak Masoud
Principal Investigator: David Keith Mills
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 57

Track: BIOMATERIALS
Natural and Bioinspired Biomaterials

Abstract Title: Sex-specific Valvular Myofibroblast Activation in Response to Nano-scale Stiffness Cues
Presenter: Rayyan Gorashi
Principal Investigator: Brian Aguado
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster
Number: 58

Track: BIOMATERIALS
Natural and Bioinspired Biomaterials

Abstract Title: Controlling Probiotic Release in Engineered Living Materials
Presenter: Tyler Corazao
Principal Investigator: Taylor Ware
Author(s):
Laura Rivera
Manivannan Sivaperuman Kalairaj
Mahjabeen Javed
Sargurunathan Subashchandrabose
Philippe Zimmern
Taylor Ware

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster

Number: 59

Track: BIOMATERIALS

Other / Non-specified

Abstract Title: The Electrochemical Behavior of Peri-Implant Artificial Saliva with Inflammatory Properties

Presenter: Sara Kishta

Principal Investigator: Mathew Mathew

Author(s):

Mostafa Alhamad

Mathew Mathew

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: D, Poster

Number: 60

Track: BIOMATERIALS

Biomechanics of Biomaterials (Summer Undergraduate)

Abstract Title: Mechanical Characterization of Isolated Electrospun PCL Fibers

Presenter: Ethan Ramos

Principal Investigator: Manuel Rausch

Author(s):

Alberto Madariaga

Manuel Rausch

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster

Number: 81

Track: BIOMATERIALS

Biomechanics of Biomaterials (Summer Undergraduate)

Abstract Title: Determining Cell Stiffness Properties via Hyperspectral Imaging Analysis

Presenter: James Bell

Principal Investigator: N/A

Author(s):

QUYNH HOANG

Jeanette Hariharan

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster

Number: 82

Track: BIOMATERIALS

Biomechanics of Biomaterials (Summer Undergraduate)

Abstract Title: Shear Generation in Tissue Samples with a Biaxial Testing Machine

Presenter: Michael Chiariello

Principal Investigator: N/A

Author(s):

Daniel Pearce

Colleen Witzenburg

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster

Number: 83

Track: BIOMATERIALS

Biomechanics of Biomaterials (Summer Undergraduate)

Abstract Title: Mechanical Properties of Fibrin Fibers Alongside Erythrocytes

Presenter: Paula Delgado Sapun Parekh

Principal Investigator: N/A

Author(s):

Sapun Parekh

Yu-Jen Wang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster**Number:** 84**Track:** BIOMATERIALS**Biomechanics of Biomaterials (Summer Undergraduate)****Abstract Title:** Tuning Viscoelastic Response of Pentenoate-Functionalized Hyaluronic Acid (PHA) Hydrogels for Probing Cellular Behavior**Presenter:** Ravi Nataraj**Principal Investigator:** Jenny Robinson**Author(s):**

Jennifer Robinson

Philip Elrod

Kyley Burkey

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster**Number:** 85**Track:** BIOMATERIALS**Other / Non-specified (Summer Undergraduate)****Abstract Title:** A Comparison Study of Nitric-Oxide Releasing Polyurethanes for Blood-Contacting Medical Devices**Presenter:** Terence Dupree**Principal Investigator:** Elizabeth Brisbois**Author(s):**

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster**Number:** 86**Track:** BIOMATERIALS**Other / Non-specified (Summer Undergraduate)****Abstract Title:** The Impact of Cell Adhesion Motifs on Peptide Hydrogel Assembly Using Molecular Dynamics Simulations**Presenter:** Andrew Thede**Principal Investigator:** Kyle J. Lampe**Author(s):**

Clare Cocker

Justin Kim

Kyle Lampe

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster**Number:** 87**Track:** BIOMATERIALS**Other / Non-specified (Summer Undergraduate)****Abstract Title:** An Analysis of S-nitroso-N-acetylpenicillamine (SNAP) Stability within Varying Polymeric Make-ups**Presenter:** Emily Reitz**Principal Investigator:** Hitesh Handa, Elizabeth J. Brisbois**Author(s):**

Sarah Wilson

Elizabeth Brisbois

Hitesh Handa

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 88

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Ultrasound-Induced Degradation of Polycaprolactone Polymers

Presenter: Tyus Yeingst

Principal Investigator: N/A

Author(s):

Julien Arrizabalaga

Ferdousi Sabera Rawnaque

Julianna Simon

Daniel Hayes

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 89

Track: BIOMATERIALS
Biomechanics of Biomaterials

Abstract Title: Measuring Interactions of Polymers with Porous Protein Crystals by Atomic Force Microscopy and Tuning Cell Responses via Ligand Presentation

Presenter: Dafu Wang

Principal Investigator: N/A

Author(s):

Mohammadhasan Hedayati

Julius Stuart

Ketul Popat

Christopher Snow

Matt Kipper

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 90

Track: BIOMATERIALS
Biomechanics of Biomaterials

Abstract Title: Tough Thermo-Sensitive Bioadhesives Based on Gelatin-Caffeic Acid Conjugates

Presenter: Hossein Montazerian

Principal Investigator: N/A

Author(s):

Hossein Montazerian

Elham Davoodi

Nasim Annabi

Alireza Khademhosseini

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 91

Track: BIOMATERIALS
Biomechanics of Biomaterials

Abstract Title: Boolean Logic-Degradable Crosslinkers for On-demand Control of Mechanical Stimuli in Hydrogels

Presenter: Jonah Kern

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 92

Track: BIOMATERIALS

Biomechanics of Biomaterials

Abstract Title: Surface modification of IOL in IOL: Lens Capsule Interactions and PCO potential

Presenter: Joyita Roy

Principal Investigator: N/A

Author(s):

Arjun Jaitli

Liping Tang

Amjad Chatila

Jun Liao

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 93

Track: BIOMATERIALS

Biomechanics of Biomaterials

Abstract Title: Novel High-Range Adhesion Force Apparatus to Investigate PCO Potential of IOLs In Vitro

Presenter: Le Hoang

Principal Investigator: N/A

Author(s):

Amjad Chatila

Joyita Roy

Liping Tang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 94

Track: BIOMATERIALS

Biomechanics of Biomaterials

Abstract Title: Quantitative Polarization Microscopy as a Potential Tool for Quantification of Stresses within 3D Matrices

Presenter: Reza Alavi

Principal Investigator: N/A

Author(s):

Reza Alavi

Louise Dewit

Carole Luthold

LEO PIQUET

Solange Landreville

Hamid Akbarzadeh

Francois Bordeleau

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 95

Track: BIOMATERIALS

Engineering the Stem Cell Microenvironment

Abstract Title: Synthetic Hydrogels Induce Expression Changes to Central Histone Acetylators and Methylators in Human Stem Cells

Presenter: Anna Kersey

Principal Investigator: N/A

Author(s):

Akhilesh Gaharwar

Kaivalya Deo

Irtisha Singh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 96

Track: BIOMATERIALS
**Engineering the Stem Cell
Microenvironment**

Abstract Title: Silk Hydrogels Mimic Native Salivary Gland Matrix Mechanics and Support Basement Membrane Deposition
Presenter: Eugenia Morales Carrillo
Principal Investigator: N/A
Author(s):
Solaleh Miar
Chih-Ko Yeh
Joo Ong
Teja Guda

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 97

Track: BIOMATERIALS
**Engineering the Stem Cell
Microenvironment**

Abstract Title: Localized Passive Diffusion Device for Patterning Human Forebrain Organoids
Presenter: Feiyu Yang
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 98

Track: BIOMATERIALS
**Engineering the Stem Cell
Microenvironment**

Abstract Title: Gelatin Maleimide Granular Hydrogels for a Model of the Hematopoietic Perivascular Niche
Presenter: Gunnar Thompson
Principal Investigator: N/A
Author(s):
Ana Mora-Boza
Andres Garcia
Brendan Harley

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 99

Track: BIOMATERIALS
**Engineering the Stem Cell
Microenvironment**

Abstract Title: Design of 3D Hydrogels Towards Modeling Pulmonary Fibrosis in Alveolar Epithelial Organoids
Presenter: Madeline Eiken
Principal Investigator: N/A
Author(s):
Madeline Eiken
Jason Spence
Claudia Loebel

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: E, Poster
Number: 100

Track: BIOMATERIALS
**Engineering the Stem Cell
Microenvironment**

Abstract Title: Photopatterning Facilitates Deterministic Crypt Formation in iPSC-Derived Intestinal Organoids
Presenter: Michael Blatchley
Principal Investigator: Kristi Anseth
Author(s):
Francis Yavitt
Patrick McGrath
Peter Dempsey
Kristi Anseth

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 121

Track: BIOMATERIALS
**Engineering the Stem Cell
Microenvironment**

Abstract Title: In Vitro Midbrain Model Using hiPSC-derived Neuronal Cultured in Hyaluronic Acid-Based Hydrogel
Presenter: Ze Zhong Wang
Principal Investigator: N/A
Author(s):
Stephanie Seidlits

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 122

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Tunable MeHA Hydrogel Microneedles for Analyte Uptake from Interstitial Fluid
Presenter: Emilee Madsen
Principal Investigator: N/A
Author(s):
Emilee Madsen
Jacqueline Linnes

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 123

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Direct Modification of DNA Origami Scaffolds for Highly Functional DNA Nanoparticles
Presenter: Esra Oktay
Principal Investigator: N/A
Author(s):
Joshua Bush
Remi Veneziano
Dylan Scarton

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 124

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Novel 3D Cell Culture Technique Utilizing a Silicon Titanium Diboride Micropatterned Substrate for Differentiating Mesenchymal Stem Cells into Insulin Producing Cells
Presenter: Fatima Merchant
Principal Investigator: Fatima Merchant
Author(s):
Jefferson Friguglietti
MARAM QUTTINA
Wanda Zagozdzon-Wosik
Fatima Merchant

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 125

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: A Flipped External Ester Group Methacrylate Macromer as a Potential EGDMA Alternative in Dental Formulations
Presenter: Dhiraj Kumar
Principal Investigator: N/A
Author(s):
Robert Bolskar
Robert Jones

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 126

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Fabrication and Characterization of Biopsy Tract Sealants Based on Hydrogel/Shape Memory Polymer Foam Composites
Presenter: Matthew Jungmann
Principal Investigator: Daniel Alge
Author(s):
Tyler Touchet
Duncan Maitland
Daniel Alge

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 127

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Evaluation of Silicone Meta-Structure Material Hardness for Use in Diabetic Foot Orthoses
Presenter: Kyle Walker
Principal Investigator: N/A
Author(s):
Adam Johnson
John DesJardins

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 128

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Calorimetric Study of Nanoceria's Impact on Cellular Metabolism
Presenter: Jani Maxwell
Principal Investigator: Vladimir Reukov
Author(s):
Maxwell Jani
Stephen Joseph

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 129

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Predicting Microparticle Hydrogel Properties from Compositions of a Poly(Ethylene Glycol) and Dextran Aqueous Two Phase System
Presenter: Thomas Tigner
Principal Investigator: N/A
Author(s):
Grant Scull
Ashley Brown
Daniel Alge

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 130

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Development of Wüstite Nanoparticles as ROS-Inducing Agents for Cancer Therapy
Presenter: ZhongcHao Yi
Principal Investigator: Sheng Tong
Author(s):
Sheng Tong

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 131

Track: BIOMATERIALS
Natural and Bioinspired Biomaterials (Summer Undergraduate)

Abstract Title: Bioinspired adhesive patch for sutureless repair of gastrointestinal defects
Presenter: Jingjing Wu
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 132

Track: BIOMATERIALS
Biomaterials for Immunoengineering (Summer Undergraduate)

Abstract Title: Engineered Scaffolds to Surveil Immune-Related Prenatal Complications
Presenter: Lauren Hesse
Principal Investigator: Lonnie Shea
Author(s):
Lonnie Shea
Elizabeth Lombard
Chengchuan Xiao
Russell Urie

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 133

Track: BIOMECHANICS
Mechanobiology of Stem Cell Engineering

Abstract Title: Characterization of mechanics driven phenotypic distribution in human BM-MSD
Presenter: Samantha Kaonis
Principal Investigator: Samantha Kaonis
Author(s):
Samantha Kaonis

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: F, Poster
Number: 134

Track: BIOMECHANICS
Cancer Mechanobiology (Summer Undergraduate)

Abstract Title: YAP/TAZ Activity and Collagen Density Modulate 3D Breast Cancer Invasion
Presenter: Jacopo Ferruzzi
Principal Investigator: Haider Ali
Author(s):
 Haider Ali

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: F, Poster
Number: 135

Track: BIOMECHANICS
Cancer Mechanobiology (Summer Undergraduate)

Abstract Title: Biomechanical Characterization of Human Colorectal Cancer
Presenter: Nicole Huning
Principal Investigator: Jacopo Ferruzzi
Author(s):
 Adil Khan
 Jacopo Ferruzzi

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: F, Poster
Number: 136

Track: BIOMECHANICS
Mechanics of the Respiratory System (Summer Undergraduate)

Abstract Title: Computational Modeling of Vocal Fold Vibration and its Relationship with Lung Pressure

Presenter: Durwash Badr
Principal Investigator: N/A
Author(s):
 Isabella McCollum
 Alexis Throop
 Rana Zakerzadeh

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: F, Poster
Number: 137

Track: BIOMECHANICS
Other / Non-specified (Summer Undergraduate)

Abstract Title: Bone Mechanical Property Changes in Rats Exposed to Galactic Cosmic Radiation
Presenter: Alexandra Stibler
Principal Investigator: Anthony G. Lau
Author(s):
 Anthony Lau
 Catherine Davis

Friday, October 14**9:30 AM - 10:30 AM**

Poster Session: C, Section: C, Row: F, Poster
Number: 138

Track: BIOMECHANICS
Other / Non-specified (Summer Undergraduate)

Abstract Title: Mechanical Properties of the Mammalian Cochlea
Presenter: Elyse Jones
Principal Investigator: Jong-Hoon Nam
Author(s):
 Elyse Jones
 Jong-Hoon Nam

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 139

Track: BIOMECHANICS

Other / Non-specified (Summer Undergraduate)

Abstract Title: Characterizing Diaphragm Muscle Tissue Mechanical Properties During In Vivo Loading Conditions

Presenter: Kaitlyn Hixson

Principal Investigator: Silvia Blemker

Author(s):

Kaitlyn Hixson

Ridhi Sahani

Silvia Blemker

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: F, Poster
Number: 140

Track: BIOMECHANICS

Other / Non-specified (Summer Undergraduate)

Abstract Title: The Effects of Galactic Cosmic Radiation on Mechanical Properties of Bone

Presenter: Michelle Meyers

Principal Investigator: Anthony Lau

Author(s):

Anthony Lau

Catherine Davis

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 161

Track: BIOMECHANICS

Other / Non-specified (Summer Undergraduate)

Abstract Title: Ex-Vivo Compound Action Potential Measurements: Implications For Those With Vocal Fold Paralysis

Presenter: Zachary Miller

Principal Investigator: Jonathan Vande Geest

Author(s):

Nicholas Vasas

Jonathan Vande Geest

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 162

Track: BIOMECHANICS

Biofluid Mechanics (Summer Undergraduate)

Abstract Title: Fabrication of a 3D-Printed Blood-Brain Barrier Model

Presenter: Aidan Curran

Principal Investigator: N/A

Author(s):

Aidan Curran`

Louis Paone

Peter Galie

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 163

Track: BIOMECHANICS

Other / Non-specified (Summer Undergraduate)

Abstract Title: Translation from Research to Practice: Development of Anti-Vibration Glove Selection Tool

Presenter: Kyle Dickinson

Principal Investigator: N/A

Author(s):

Takafumi Asaki

Donald Peterson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 164

Track: BIOMECHANICS

Biofluid Mechanics

Abstract Title: Multiplex Approach to Study Circulating Prostate Cancer Cell Mechanotransduction Under Shear Stress

Presenter: Abigail Fabiano

Principal Investigator: N/A

Author(s):

Abigail Fabiano

Michael King

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 165

Track: BIOMECHANICS

Biofluid Mechanics

Abstract Title: Prediction of Flows through Y-shaped Biological Structures using Physics-Informed and Geometry-Informed Neural Networks

Presenter: Abdullahi Olapojoye

Principal Investigator: N/A

Author(s):

fatemeh hassanipour

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 166

Track: BIOMECHANICS

Biofluid Mechanics

Abstract Title: Vibration-Induced Reduction of Perfusion Flow Rate in Vocal Fold Models

Presenter: Cooper Thacker

Principal Investigator: N/A

Author(s):

Scott Thomson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 167

Track: BIOMECHANICS

Biofluid Mechanics

Abstract Title: 3D Printed Cone Rheometer for High-Throughput Characterization of Fluid Mechanotransduction

Presenter: Sarah Kubik

Principal Investigator: N/A

Author(s):

Sarah Kubik

Gi-hun Lee

Frances Ligler

William Polacheck

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 168

Track: BIOMECHANICS
Biofluid Mechanics

Abstract Title: Transient Valve Effects in Obstructed Ventricular Catheters

Presenter: Shreyash Gulati

Principal Investigator: N/A

Author(s):

James Killeffer

James Coder

Stephanie TerMaath

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 169

Track: BIOMECHANICS
Biofluid Mechanics

Abstract Title: Optimization of Extraoral Suction Device to Minimize Aerosol Dispersion in Dental Clinics

Presenter: Shamudra Dey

Principal Investigator: N/A

Author(s):

GUILHERME GARCIA

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 170

Track: BIOMECHANICS
Cancer Mechanobiology

Abstract Title: Mechanical regulation of chromosome loss in lung adenocarcinoma spheroids

Presenter: Alisya Anlas

Principal Investigator: N/A

Author(s):

Dennis Discher

Brandon Hayes

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 171

Track: BIOMECHANICS
Cancer Mechanobiology

Abstract Title: Increased Nuclear Compliance Confers Enhanced Invasive Potential in Mesenchymal Glioblastoma

Presenter: Landon Teer

Principal Investigator: Joseph Chen

Author(s):

Landon Teer

Joseph Chen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 172

Track: BIOMECHANICS
Cancer Mechanobiology

Abstract Title: Piezo-1 Regulated Calcium Flux is Modulated by Matrix Stiffness, Controlling EMT in Prostate Cancer Cells

Presenter: Maria Lopez Cavestany

Principal Investigator: Michael R. King

Author(s):

Jacob Hope

Noah Reckhorn

Joshua Greenlee

Samantha Schwager

Jacob VanderBurgh

Cynthia Reinhart-King

Michael King

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 173

Track: BIOMECHANICS
Cancer Mechanobiology

Abstract Title: In vivo multiscale measurements of solid stresses in tumors reveal scale-dependent stress transmission

Presenter: Sue Zhang

Principal Investigator: N/A

Author(s):

Sue Zhang

Rachel Passaro

Kathryn Regan

Gabrielle Grifno

Siyi Zheng

Rohin Banerji

Darren Roblyer

Mark Grinstaff

Hadi Nia

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 174

Track: BIOMECHANICS
Cancer Mechanobiology

Abstract Title: Tumor Evolution through Selection by ECM Stiffness

Presenter: Ting-Ching Wang

Principal Investigator: Tanmay Lele

Author(s):

Ting-Ching Wang

Charles Baer

Tanmay Lele

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 175

Track: BIOMECHANICS
Mechanobiology of Stem Cell Engineering

Abstract Title: Cyclic mechanical stretch sustains multipotency of human mesenchymal stem cells

Presenter: Kun Man

Principal Investigator: N/A

Author(s):

Jiafeng Liu

Yong Yang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 176

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Comparative Testing of the Standard Endotracheal Tube and a Novel Endotracheal Tube System

Presenter: Carlos Bedolla

Principal Investigator: N/A

Author(s):
Lyle Hood

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 177

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: ECIS Analysis of Acute Respiratory Distress Syndrome Model of Epithelial Cell Damage and Recovery

Presenter: Carolina Chi

Principal Investigator: N/A

Author(s):
Eiichiro Yamaguchi
Donald Gaver

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 178

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: The Posterior Deep Subregion of the Supraspinatus Muscle Acts as an External Rotator

Presenter: Hugo Giambini

Principal Investigator: N/A

Author(s):

Takuma Yuri

Jose Treviño

Alexander Hooke

Hugo Giambini

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 179

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Role of Mechanotransduction on Decision Making for Treatment of Chronic Wounds

Presenter: Kelly McElvain

Principal Investigator: Mahsa Dabagh

Author(s):
Alessandra Ebben
Joshua Klister
Mahsa Dabagh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: G, Poster
Number: 180

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Impact Performance Assessment of Bull Riding Helmets: Test Method Development and Preliminary Results

Presenter: Madysn Cardinal

Principal Investigator: N/A

Author(s):
Madysn Cardinal
John DesJardins
Gregory Batt
Katharine Gruber
William Ferriell

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 201

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Material Testing and Modeling of Ovine Hide

Presenter: Patricia Thomas
Principal Investigator: N/A
Author(s):
Juliette Caffrey
Francis Gayzik

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 202

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Quantifying Embryonic Torsion

Presenter: Ashok Ramasubramanian
Principal Investigator: N/A
Author(s):
Takashi Buma
Sebastian Santelices

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 203

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Device for Testing Partial Trunk Control in Adults

Presenter: Rachel Necky
Principal Investigator: N/A
Author(s):
Dylan Mulligan
Mary Arico

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 204

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Gait symmetric adaptation and retention to functional electrical stimulation during treadmill walking

Presenter: Seung-Jae Kim
Principal Investigator: N/A
Author(s):
Elijah Brown

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 205

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Plasma Cofactor Regulation of the Proteolytic Cleavage of von Willebrand Factor

Presenter: Yi Liu
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 206

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Kinetic Analysis of an Ovine Model of Hypophosphatasia

Presenter: Aaron Henry

Principal Investigator: Andrew B. Robbins

Author(s):

Aaron Henry

Michael Moreno

Andrew Robbins

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 207

Track: BIOMECHANICS
Biomechanics of Rehabilitation/Injury

Abstract Title: In-vivo Biomechanical Responses of Hypoxic Neonatal Brachial Plexus

Presenter: Anita Singh

Principal Investigator: N/A

Author(s):

Rachel Magee

Virginia Orozco

Sriram Balasubramanian

Anita Singh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 208

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Genotoxic Stress- and Oxidative Stress-Induced DNA Damage and Senescence in Vascular Endothelial Cells

Presenter: Erick Munoz

Principal Investigator: N/A

Author(s):

B. Rita Alevriadou

Anthony Donato

Jisok Lim

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 209

Track: BIOMEDICAL ENGINEERING EDUCATION (BME)

Diversity, Equity, and Inclusion

Abstract Title: A Systematic Review Towards Understanding the Role of Graduate Engineering Lab Microcultures for Underrepresented Students

Presenter: Cheryl Gomillion

Principal Investigator: Cheryl Gomillion

Author(s):

Patterson Shriner

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 210

Track: BIOMEDICAL ENGINEERING EDUCATION (BME)

Other/Non-specified

Abstract Title: Simple Force Sensing Apparatus as an Educational Tool for Motion Planning Experiments

Presenter: Arturo Ramirez

Principal Investigator: James L. Patton

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 211

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Teaching, Learning, and Pedagogy

Abstract Title: Preliminary Perceptions of Online
PBL Facilitators within an In-Person Modality
Introductory BME Course

Presenter: Sara Arena

Principal Investigator: Sara Arena

Author(s):

Liesl Baum

Andre Muelenaer

Christopher Arena

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 212

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Mentorship (Summer Undergraduate)

Abstract Title: Cardiac Phantom for Magnetic
Resonance Imaging

Presenter: Anna Andrews

Principal Investigator: Mathews Jacob

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 213

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Mentorship (Summer Undergraduate)

Abstract Title: Ball Size and Weight Effects on
Pitching Kinematics and Kinetics in Youth Baseball
Athletes

Presenter: Charles Jay Arnold Kristen Faith
Nicholson

Principal Investigator: N/A

Author(s):

Garrett Bullock

Kristen Nicholson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 214

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Mentorship (Summer Undergraduate)

Abstract Title: K14+ Leader Cell and Cancer-
Associated Fibroblast Interactions Control Cancer
Cell Migration

Presenter: Trey P. Redman Priscilla Y. Hwang

Principal Investigator: N/A

Author(s):

Priscilla Hwang

Jessanne Lichtenberg

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 215

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**Other/Non-specified (Summer
Undergraduate)**

Abstract Title: Synthesis of Metal Organic
Frameworks Conjugated with Gold Nanorods

Presenter: Maria MEJIA

Principal Investigator: Maria Catalina Cabarique
Mejia

Author(s):

Mohammed Attia

Jing Yong Ye

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 216

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**Other/Non-specified (Summer
Undergraduate)**

Abstract Title: Promoting a Culture of Wellness in
Engineering: Perceptions and Ideas from Faculty and
Staff

Presenter: Sara Vohra

Principal Investigator: Karin Jensen

Author(s):

Eileen Johnson

Joseph Mirabelli

Jeanne Sanders

Karin Jensen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 217

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**Other/Non-specified (Summer
Undergraduate)**

Abstract Title: Shear Stress in Ovarian Cancer
Metastasis via MUC15 Down-regulation

Presenter: Zoe Jackson

Principal Investigator: Geeta Mehta

Author(s):

Eric Horst

Geeta Mehta

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 218

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**Multidisciplinary and Interdisciplinary
Curriculum**

Abstract Title: Click Actuating Implantable Pump
for Bolus Drug Self Administration

Presenter: Cho Rim Kim

Principal Investigator: N/A

Author(s):

Cho Rim Kim

Yong Chan Cho

Jae Hoon Han

Min Ji Kim

Han Bi Ji

Chang Hee Min

Young Bin Choy

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 219

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

**Multidisciplinary and Interdisciplinary
Curriculum**

Abstract Title: Impact of Biomedical Engineering
Accelerator Program: Teaching Translational
Innovation to Diverse Multidisciplinary Teams

Presenter: Meghan Pinezich

Principal Investigator: Andrew Laine

Author(s):

Andrew Laine

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: C, Row: H, Poster
Number: 220

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Teaching, Learning, and Pedagogy

Abstract Title: Impact of Immersing Students in
Biomolecular Engineering Through Visual-based and
Inquiry-based Learning

Presenter: Charles Patrick

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 241

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Teaching, Learning, and Pedagogy

Abstract Title: Implementation of a Health Equity-
focused Python/Machine Learning Module in an
Introductory Course

Presenter: Eileen Haase

Principal Investigator: N/A

Author(s):

Kaitlyn Storm

Jerry Zhang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 242

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Teaching, Learning, and Pedagogy

Abstract Title: Disparities in response, motivations,
and self-efficacy to Entrepreneurially Minded
Learning within underrepresented students' groups

Presenter: Mostafa Elsaadany

Principal Investigator: N/A

Author(s):

Kaitlin Hall

Raj Rao

Mostafa Elsaadany

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 243

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Teaching, Learning, and Pedagogy

Abstract Title: Evaluating Virtual Resources
Designed to Enhance Graduate Pedagogy in a High
School STEM Program

Presenter: Nhien Tran-Nguyen

Principal Investigator: N/A

Author(s):

Nhien Tran-Nguyen

Nicolas Ivanov

Fatima Ali

Joshua Mogyoros

Dawn Kilkenny

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 244

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Other / Non-specified

Abstract Title: Electrograms Denoise and Artifact
Removal using Coordinate-based Autoencoder

Presenter: Hansong Gao

Principal Investigator: N/A

Author(s):

ZicHao Wen

Zhexian Sun

Yong Wang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 245

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Other / Non-specified

Abstract Title: Treatment-related Cognitive
Impairment and Neurovascular Coupling in Cancer
Patients

Presenter: Summer Edwards

Principal Investigator: Han Yuan

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 246

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Other / Non-specified

Abstract Title: Nitrogen Vacancy Diamond
Nanoparticles for High Spatial Resolution μ T Scale
Magnetometry

Presenter: Yash Gokhale

Principal Investigator: N/A

Author(s):

Yash Gokhale

Tsani Rogers

Maya Lines

Jack Phillips

Tianxiang Zhu

Alireza Ashtiani

Aviad Hai

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 247

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Abstract Title: Design of CHAMP-3: Controlled
Heating Apparatus for Microfluidics and Portability

Presenter: Alexander Pueschel

Principal Investigator: N/A

Author(s):

Margaret Bennewitz

Kasey Freshwater

Hassan Alkadrawi

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 248

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Abstract Title: Using Convolutional Neural
Networks and Magnetic Resonance Images to Screen
Obstructive Sleep Apnea

Presenter: Sarthak Tiwari

Principal Investigator: Sarthak Tiwari

Author(s):

Bhaswati Roy

Rajesh Kumar

Daniel Tward

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 249

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION
Deep Learning and Artificial Intelligence In
Microstructural Imaging (Summer Undergraduate)

Abstract Title: Using Convolutional Neural
Network and Different Data Augmentation
Techniques for Automatic Detection of Astrocyte
Reactivity Following Traumatic Brain Injury

Presenter: Marissa Redington

Principal Investigator: Marzieh Hajiaghamemar

Author(s):

Mohammadreza Ramzanpour

Marzieh Hajiaghamemar

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 250

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION
**Deep Learning and Artificial Intelligence
In Microstructural Imaging (Summer
Undergraduate)**

Abstract Title: Bridging the Gap Between Clinical
and Laboratory Label-free Two-photon Excitation
Microscopy

Presenter: Tien Long Dinh

Principal Investigator: Irene Georgakoudi

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 251

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI) (Summer Undergraduate)

Abstract Title: Assessment of Oxidative Stress and Neuronal Activity Affected in PTSD Subjects

Presenter: Antonia Susnjar

Principal Investigator: Meden Issac Lamb

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 252

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI) (Summer Undergraduate)

Abstract Title: Measuring Brain Hemodynamics with Quantitative BOLD imaging: Accuracy and Mean Squared Error

Presenter: Anahita Tavakoli

Principal Investigator: Audrey Fan

Author(s):

Linh Le

Greg Wheeler

Audrey Fan

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 253

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI) (Summer Undergraduate)

Abstract Title: Association of Cerebral Blood Flow with Affective Symptoms after Sport-Related Concussion

Presenter: Daniel Hudson

Principal Investigator: Christopher Whitlow

Author(s):

Richard Barcus

Christopher Sheridan

Megan Lipford

Christopher Whitlow

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 254

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI) (Summer Undergraduate)

Abstract Title: White Matter Changes Associated with Sleep Disturbance after Sport-Related Concussion.

Presenter: Hannah Chapman

Principal Investigator: Christopher T. Whitlow

Author(s):

Christopher Sheridan

Richard Barcus

Christopher Whitlow

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 255

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI) (Summer Undergraduate)

Abstract Title: Automated Positioning System For Benchtop Characterization Of RF Coils

Presenter: Jeanpaul Posso

Principal Investigator: N/A

Author(s):

Vy Chu

Jacob Degitz

Carla Bassil

Joseph Busher

Edith Valle

Mary McDougall

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 256

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI) (Summer Undergraduate)

Abstract Title: Brain Temperature as a Potential Marker for Chronic Pain

Presenter: Rishab Agarwal

Principal Investigator: Candace C. Fleischer

Author(s):

Daniel Harper

Candace Fleischer

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 257

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: Graphical User Interface for Multi-channel Magnetic Resonance Spectroscopy Combination

Presenter: Travis Carrell

Principal Investigator: Mary McDougall

Author(s):

Travis Carrell

Mary McDougall

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 258

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: Post-Surgical Metal Wear Particle Artifact Correction in MR Imaging by Deep Neural Networks

Presenter: Dominique Barnes

Principal Investigator: Braden C. Flemming

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 259

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: Impact of Sickle Cell Disease on Cerebral Blood Flow, Neuropathic Pain and Fluid Cognition: A Pilot Study

Presenter: Daniel Sop

Principal Investigator: N/A

Author(s):

Joel Steinberg

Wally Smith

John Wilson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: I, Poster
Number: 260

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: Reporting of Race, Sex, and Ethnicity in Neuroimaging Studies: A Systematic Review

Presenter: Elijah Sterling

Principal Investigator: N/A

Author(s):

Hannah Pearl

Zexuan Liu

Jason Allen

Candace Fleischer

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 281

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: High-Intensity Exercise Affects Brain Stiffness and Executive Function

Presenter: Grace McIlvain

Principal Investigator: N/A

Author(s):

Grace McIlvain

Emily Magoon

Rebecca Clements

Curtis Johnson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 282

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: Agreement between hemodynamic delay maps derived from breathing task and resting state fMRI data

Presenter: Jingxuan Gong

Principal Investigator: N/A

Author(s):

Rachael Stickland

Molly Bright

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 283

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

**Magnetic Resonance Imaging and
Applications (MRI)**

Abstract Title: The Application of Nested Coils for
Multinuclear NMR

Presenter: Joseph Busher

Principal Investigator: Mary P. McDougall

Author(s):

Joseph Busher

Edith Valle

Steven Wright

Mary McDougall

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 284

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

**Magnetic Resonance Imaging and
Applications (MRI)**

Abstract Title: Shear Stiffness Gradients in the Brain
During Development and Maturation

Presenter: Kyra Twohy

Principal Investigator: N/A

Author(s):

Kyra Twohy

Grace McIlvain

Curtis Johnson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 285

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

**Magnetic Resonance Imaging and
Applications (MRI)**

Abstract Title: MR Elastography with Pre-Strain to
Determine Nonlinear Mechanical Properties

Presenter: Olivia Bailey

Principal Investigator: N/A

Author(s):

Olivia Bailey

Alexa Diano

Mary Kramer

Curtis Johnson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 286

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

**Magnetic Resonance Imaging and
Applications (MRI)**

Abstract Title: Modeling of Microwave and
Radiofrequency Wave Propagation through the Brain

Presenter: Robert Thurston

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 287

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: Improved Myocardial Image Registration using Classification-based Super-Resolution Reconstruction

Presenter: Tanmay Mukherjee

Principal Investigator: Reza Avazmohammadi

Author(s):

Tanmay Mukherjee

Maziyar Keshavarzian

Elizabeth Fugate

Diana Lindquist

Sakthivel Sadayappan

Reza Avaz

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 288

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: MRI Preamplifier Design

Presenter: Folk Narongrit

Principal Investigator: Joseph V. Rispoli

Author(s):

Folk Narongrit

Joseph Rispoli

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 289

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Magnetic Resonance Imaging and Applications (MRI)

Abstract Title: Quantitative assessment of oxygenation levels within biocompatible hydrogels

Presenter: Yuka Sugamura

Principal Investigator: N/A

Author(s):

Amy Emerson

Jessica Weaver

Vikram Kodibagkar

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 290

Track: CANCER TECHNOLOGIES

Cancer Immunoengineering, Immunomodulation and Immunotherapy

Abstract Title: Microfluidic Co-Cultures of Cancer Spheroids and Leukocytes for Testing Immunotherapy

Presenter: Alan Gonzalez-Suarez

Principal Investigator: Alexander Revzin

Author(s):

Alexander Revzin

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 291

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Aptamer-functionalized Resins
for Continuous Flow Cell Isolation of Blood Cell
Populations

Presenter: Melissa Ling

Principal Investigator: Suzie Pun

Author(s):

Kefan Song

Suzie Pun

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 292

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Development of Immunotherapy for
Acute Lymphoblastic Leukemia by Targeting Cancer
Exosomes

Presenter: Lauren Spadt

Principal Investigator: N/A

Author(s):

Farnaz Naeemikia

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 293

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy (Summer
Undergraduate)**

Abstract Title: T Cell Infiltration in Murine
Mammary Tumors Treated with Radiation Therapy

Presenter: Erica Lin

Principal Investigator: Marjan Rafat

Author(s):

Benjamin Hacker

Shannon Martello

Charles Caskey

Marjan Rafat

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 294

Track: CANCER TECHNOLOGIES
**Heart Valve Structure, Function, and
Disease (Summer Undergraduate)**

Abstract Title: Feasibility of an In Vitro Cardiac
Flow Loop System for Planning Valve-in-Valve TAVR
Procedures

Presenter: Emma Minadeo

Principal Investigator: N/A

Author(s):

Christine Miller-Buffinton

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 295

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Enhancing Immunotherapy via
Chemokine-Driven Natural Killer Cells in 3D
Melanoma Organoids

Presenter: Srija Chakraborty

Principal Investigator: Aleksander Skardal

Author(s):

Aleksander Skardal

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 296

Track: CANCER TECHNOLOGIES
**Cancer mmunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Facile discovery of a therapeutic agent
for NK-mediated synergistic antitumor effects using a
patient-derived 3D platform

Presenter: Eunjung Lee

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 297

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Chromosomal Instability Can Favor
Macrophage-mediated Tumor Clearance & Anti-
Cancer Acquired Immunity

Presenter: Brandon Hayes

Principal Investigator: N/A

Author(s):

Brandon Hayes

Mai Wang

Hui Zhu

Jason Andrechak

Dennis Discher

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 298

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Applied Fluid Shear Stress Enhances
Ex Vivo Activation of Mouse Bone Marrow Dendritic
Cells

Presenter: Jenna Dombroski

Principal Investigator: Michael King

Author(s):

Jenna Dombroski

Schyler Rowland

Jacob Hope

Michael King

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 299

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Evaluating The Impact of Interstitial Fluid Flow on CAR T Cell Therapy For GBM In Vitro

Presenter: Julio Arroyo

Principal Investigator: N/A

Author(s):

Julio Arroyo

Gabriela Geraldo Mendes

Conner Brocke

Jenny Munson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: J, Poster
Number: 300

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Cell-Sized Lipid Vesicles as Artificial Antigen-Presenting Cells for Antigen-Specific T Cell Activation

Presenter: Jui Yi Chen

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 321

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Genetic Reprogramming of Melanoma via Signal 2 and 3 Delivery Drives an Anti-Tumor Response In Vivo

Presenter: Kathryn Luly

Principal Investigator: N/A

Author(s):

Jordan Green

Stephany Tzeng

Joel Sunshine

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 322

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Promoting T-Lymphocyte Cancer Cytotoxicity Via an Immune Enhanced Tumor on a Chip Platform (iTOC)

Presenter: Marco Antonio Rodriguez

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 323

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Losartan prevents immunotherapy-associated edema and enhances survival in glioblastoma
Presenter: Meenal Datta
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 324

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Systems biology analysis of anti-tumor immunity
Presenter: Lance Munn
Principal Investigator: N/A
Author(s):
Mohammadreza Nikmaneshi
Timothy Padera
James Baish
Lance Munn

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 325

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: NanoEngineering gone viral: plant virus-based cancer immunotherapies
Presenter: Nicole Steinmetz
Principal Investigator: Nicole Steinmetz
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 326

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Harnessing Cell Death Mechanisms After Irreversible Electroporation And High-Frequency Irreversible Electroporation In Breast Cancer
Presenter: Sofie Saunier
Principal Investigator: N/A
Author(s):
Nastaran Alinezhad
Rafael Davalos

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 327

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Polymer-Drug Conjugates for
STING Pathway Activation to Enhance Cancer
Immunotherapy

Presenter: Taylor Sheehy

Principal Investigator: N/A

Author(s):

KARAN ARORA

David Florian

Blaise Kimmel

John Wilson

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 328

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Longitudinal Monitoring of
Angiogenesis of Pancreatic Tumor using Optical
Coherence Tomography

Presenter: Trisha Valerio

Principal Investigator: Wei R. Chen

Author(s):

Feng Yan

Qinggong Tang

Wei Chen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 329

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Analyzing Mechanisms for
the Enhanced Immunogenicity of Irreversible
Electroporation Cancer Lysates

Presenter: Joseph Vallin

Principal Investigator: N/A

Author(s):

Samira Azarin

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 330

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Individualization of Immunotherapy
by Mechanobiology and Machine Learning

Presenter: Xin Wang

Principal Investigator: N/A

Author(s):

Lance Kam

Lingting Shi

Jia Guo

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 331

Track: CANCER TECHNOLOGIES

Imaging Strategies in Cancer Detection, Diagnosis, and Prognosis

Abstract Title: Targeting Prostate Specific Membrane Antigen For Fluorescence Image Guided Surgery Of Breast Cancer

Presenter: Aditi Shirke

Principal Investigator: James P Basilion

Author(s):

Xinning Wang

Gopal Ramamurthy

James Basilion

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 332

Track: CANCER TECHNOLOGIES

Imaging Strategies in Cancer Detection, Diagnosis, and Prognosis

Abstract Title: Detection of Kidney Tumor using Polarization-Sensitive Optical Coherence Tomography in Ex Vivo Human Kidneys

Presenter: Feng Yan

Principal Investigator: N/A

Author(s):

Chen Wang

Yuyang Yan

Zaid Alhajeri

Aubrey McNiel

Kar-Ming Fung

Qinggong Tang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 333

Track: CANCER TECHNOLOGIES

Imaging Strategies in Cancer Detection, Diagnosis, and Prognosis

Abstract Title: Wavelet-Based Anisotropy Analysis of SHG Imaged Breast Tissue Trends with BI-RADS Assessment Score

Presenter: Joshua Hamilton

Principal Investigator: N/A

Author(s):

Joshua Hamilton

Mary Isabelle Wisell

Karissa Tilbury

Andre Khalil

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 334

Track: CANCER TECHNOLOGIES

Imaging Strategies in Cancer Detection, Diagnosis, and Prognosis

Abstract Title: Wireless Implantable In Vivo Light Dosimetry System For Photodynamic Therapy

Presenter: Sung Il Park

Principal Investigator: N/A

Author(s):

Sungcheol Hong

Ibrahim Khot

David Jayne

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 335

Track: CANCER TECHNOLOGIES
Imaging Strategies In Cancer Detection, Diagnosis, and Prognosis (Summer Undergraduate)

Abstract Title: Altered Metabolism in Gliomas with Isocitrate Dehydrogenase Mutations
Presenter: Hannah Pearl
Principal Investigator: Candace C. Fleischer
Author(s):
Candace Fleischer

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 336

Track: CARDIOVASCULAR ENGINEERING
Cardiac/Cardiovascular Regeneration and Stem Cells

Abstract Title: hiPSC-Cardiomyocyte Mechanobiology: Modeling Altered Biomechanics of Hypertrophic Cardiomyopathy
Presenter: Alison Vander Roest
Principal Investigator: Alison Vander Roest
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 337

Track: CARDIOVASCULAR ENGINEERING
Cardiac/Cardiovascular Regeneration and Stem Cells

Abstract Title: Pentagalloyl Glucose Reduces Macrophage Induced Smooth Muscle Cell Pathogenicity
Presenter: Gregory Halsey
Principal Investigator: Naren Vyavahare
Author(s):
Narendra Vyavahare

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 338

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: Image-guided Subject-specific Modeling of Glymphatic Transport and Amyloid Deposition
Presenter: SHaolie Hossain
Principal Investigator: N/A
Author(s):
Michael Johnson
Michael Abdelmalik
Frimpong Baidoo
Andrew Badachhape
Thomas Hughes
SHaolie Hossain

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 339

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease (Summer Undergraduate)

Abstract Title: Inflammatory Factors from Macrophages and Aortic Valve Stenosis Patient Sera Differentially Activate Male and Female Valvular Myofibroblasts

Presenter: Adam Engler

Principal Investigator: Steven Robles Blasini, Brian Aguado

Author(s):
Brian Aguado

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: K, Poster
Number: 340

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease (Summer Undergraduate)

Abstract Title: Patient-Specific 3D Printed Models for Determining Ideal Procedure for Carotid Disease Patients

Presenter: CORY ARNOLD

Principal Investigator: N/A

Author(s):
Evan Garner
Lucas Jentsch
Kunaal Sarhaya

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 361

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease (Summer Undergraduate)

Abstract Title: Quantitative Polarized Light Imaging of Aortic Heart Valve Leaflets

Presenter: Connor Link

Principal Investigator: Colleen M. Witzenburg

Author(s):
Colleen Witzenburg

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 362

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: An Extensive Review Regarding the Deposition of Calcium in Coronary Atherosclerotic Plaque

Presenter: Nathan Nguyen Heather Hayenga

Principal Investigator: Heather Hayenga

Author(s):
Fatima Rehman
Quynh Tran
Jeremy Warren

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 363

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics
(Summer Undergraduate)

Abstract Title: Resuscitation from Hemorrhagic Shock (HS) Comparing Synthetic Crystalloids, Synthetic Colloids and Natural Colloids
Presenter: Carlos Munoz
Principal Investigator: Bridget Floss, Pedro Cabrales
Author(s):
Carlos Munoz
Bridgit Floss
Daniela Lucas
Cynthia Rodrigues Muller
Pedro Cabrales

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 364

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics
(Summer Undergraduate)

Abstract Title: Development of a Closed-loop, Task-Based, Behavioral Feedback and Data Acquisition System with Concurrent Wide-Field Optical Imaging
Presenter: Evan William Morris Dr. Adam Q. Bauer
Principal Investigator: N/A
Author(s):
Adam Bauer
Jonah Padawer-curry

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 365

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics
(Summer Undergraduate)

Abstract Title: On the Presence of Porous Intraluminal Thrombus and Oxygen Flow in Abdominal Aortic Aneurysms
Presenter: Alexis Throop
Principal Investigator: Rana Zakerzadeh
Author(s):
Durwash Badr
Rana Zakerzadeh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 366

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics
(Summer Undergraduate)

Abstract Title: Toward mechanical characterization of perivascular tissues: a combined in situ-ex vivo biomechanical analysis of murine arteries
Presenter: Zach Tentor
Principal Investigator: Matthew Bersi
Author(s):
Matthew Bersi
Caleb Snider

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster

Number: 367

Track: CARDIOVASCULAR ENGINEERING
**Cardiac/Cardiovascular
 Regeneration and Stem Cells (Summer
 Undergraduate)**

Abstract Title: Optimizing iPSC-CM
 Normalization Using Micropattern Assays for a High
 Throughput Analysis of Cardiomyocyte Alignment
 and Morphology

Presenter: Sharvari Apte Christopher Chen

Principal Investigator: N/A

Author(s):

Christopher Chen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster

Number: 368

Track: CARDIOVASCULAR ENGINEERING
**Cardiac/Cardiovascular Regeneration
 and Stem Cells**

Abstract Title: Stress Pathways Govern Cardiac
 Matrix Responses after Injury in a lncRNA-dependent
 Manner

Presenter: Alex Whitehead

Principal Investigator: N/A

Author(s):

Adam Engler

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster

Number: 369

Track: CARDIOVASCULAR ENGINEERING
**Cardiac/Cardiovascular Regeneration
 and Stem Cells**

Abstract Title: Cardiomyocyte-Specific In Vivo
 Reprogramming to Pluripotency in Mice

Presenter: Irene de Lazaro

Principal Investigator: N/A

Author(s):

David Mooney

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster

Number: 370

Track: CARDIOVASCULAR ENGINEERING
**Cardiac/Cardiovascular Regeneration
 and Stem Cells**

Abstract Title: A Novel Approach to Establishing
 a Hypoxic Zebrafish Model for Cardiovascular
 Applications

Presenter: Jimmy Zhang

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 371

Track: CARDIOVASCULAR ENGINEERING
**Cardiac/Cardiovascular Regeneration
and Stem Cells**

Abstract Title: Biomimetic Substrate Impact on
iPSC-CM Differentiation and Function

Presenter: Nikhith Kalkunte

Principal Investigator: Janet Zoldan

Author(s):

Talia Delambre

Sogu Sohn

Janet Zoldan

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 372

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: β IV-spectrin is responsible for
orienting concentric versus eccentric cardiomyocyte
hypertrophy

Presenter: Shivangi Mohta

Principal Investigator: Thomas Hund

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 373

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: Investigating the Mechanical
properties of the Murine Thoracic Aorta During
Pregnancy

Presenter: Ana Vargas

Principal Investigator: Chiara Bellini, Rouzbeh
Amini

Author(s):

Rouzbeh Amini

Chiara Bellini

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 374

Track: CARDIOVASCULAR ENGINEERING
Other / Non-specified

Abstract Title: Aortic Shape Sparse Sample Predicts
Successful Thoracic Endovascular Aortic Repair

Presenter: Kameel Khabaz

Principal Investigator: Luka Pocivavsek

Author(s):

Kameel Khabaz

Karen Yuan

Seth Sankary

Luka Pocivavsek

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 375

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: The Effects of Pathological Shear Stress on Macrophages in Discrete Subaortic Stenosis
Presenter: Griffin Kingsley
Principal Investigator: K. Jane Grande-Allen
Author(s):
Elysa Jui
Jane Grande-Allen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 376

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: Investigating Endothelial Cell Response to Pathological Macrophage Secretome in Discrete Subaortic Stenosis
Presenter: Sarah Jimenez
Principal Investigator: K. Jane Grande-Allen
Author(s):
Jane Grande-Allen
Jennifer Connell
Elysa Jui

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 377

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease

Abstract Title: On Changes in the Human Mitral Valve In-Vivo Functional State in Transcatheter Edge-to-Edge Repair
Presenter: Natalie Simonian
Principal Investigator: N/A
Author(s):
Natalie Simonian
Hao Liu
Joseph Gorman
Michael Sacks

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 378

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease

Abstract Title: A Clot Generation Device for Mechanical Heart Valves
Presenter: Sreyashi Chakraborty
Principal Investigator: N/A
Author(s):
Alessandro Bellofiore

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 379

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease

Abstract Title: Ex-vivo Assessments of Calcification Hardness of Aortic Stenosis Valves
Presenter: Takashi Shirakawa
Principal Investigator: N/A
Author(s):
 N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: L, Poster
Number: 380

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease

Abstract Title: Polyoxazoline Modification of Bioprosthetic Heart Valve Leaflets Mitigates Protein-Glycation Induced Structural Degeneration
Presenter: Andrey Zakharchenko
Principal Investigator: Robert Levy
Author(s):
 Samuel Keeney
 Giovanni Ferrari
 Yingfei Xue
 Michael Chorny
 Hajime Takano
 Stanley Stachelek
 Ivan Alferiev
 Robert Levy

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 401

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: A Computational Assessment of Aortic Arch Hemodynamics for Stroke Prediction
Presenter: Brennan Vogl
Principal Investigator: N/A
Author(s):
 Brennan Vogl
 Hoda Hatoum

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 402

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: Computational Characterization of Subaortic Flow Dynamics in Steepened Left Ventricular Outflow Tracts: Potential Significance to Discrete Subaortic Stenosis and Secondary Valvopathy
Presenter: Philippe Sucosky
Principal Investigator: N/A
Author(s):
 Jason Shar
 Sundeeep Keswani
 Jane Grande-Allen
 Philippe Sucosky

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 403

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: A Parallel Plate Flow Chamber to Investigate Endothelial Glycocalyx Remodeling After Pneumonectomy

Presenter: Taylor Paradis

Principal Investigator: N/A

Author(s):

Natasha Cruz-Calderon

Gillian Miller

Lydia Masse

Samantha Raskind

Aaron Waxman

Kristen Billiar

SOLOMON MENSAH

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 404

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: Modeling Blood Flow and Clot Migration in an Anatomical Cerebral Vascular Model

Presenter: Saurabh Bhardwaj

Principal Investigator: N/A

Author(s):

Brent Craven

Francesco Costanzo

Scott Simon

Keefe Manning

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 405

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: Computational Estimation of Segment-specific Shear Stress Heterogeneity at the Capillary Level in Angiogenic Rat Mesenteric Microvascular Networks

Presenter: Nien-Wen Hu

Principal Investigator: N/A

Author(s):

Nien-Wen Hu

Mir Md Nasim Hossain

Walter Murfee

Peter Balogh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 406

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering

Abstract Title: Engineering cardiac organoid vascularization via fluid shear stress and vascular-promoting growth factors

Presenter: Angello Huerta Gomez

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 407

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering

Abstract Title: Tissue Engineered Vascular Sheets with Atherosclerosis Features for Drug Evaluation

Presenter: Jun Chen

Principal Investigator: N/A

Author(s):

Jun Chen

Xixi Zhang

Brigitta Brott

Hanjoong Jo

Young-sup Yoon

Jeonga Kim

Ho-Wook Jun

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 408

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering

Abstract Title: Vascular Patch Repair in Pediatric Patients

Presenter: Dipasha Sinha

Principal Investigator: N/A

Author(s):

Dipasha Sinha

Narendra Vyavahare

Agnes Nagy-Mehesz

John Mayer

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 409

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering

Abstract Title: Stem Cell-Derived Tissue Engineered Blood Vessels to Study Radiation-Induced Vascular Damage

Presenter: Danielle Yarbrough

Principal Investigator: N/A

Author(s):

Danielle Yarbrough

Sharon Gerecht

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 410

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Abstract Title: The Batten disease gene product CLN3 is required for the clearance of glycerophosphodiester from lysosomes

Presenter: Wentao Dong

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 411

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Engineering and the Microbiome

Abstract Title: Non-replicating Bacterial Minicells for Target-specific Delivery of Anti-cancer Treatments to Colon Cancer

Presenter: Woojung Shin

Principal Investigator: N/A

Author(s):

Jack xiaoyu Chen

Makoto Lalwani

Qianchang Wang

Nayoung Kim

Jim Collins

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 412

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: Antimicrobial Activities of Amyloid-beta Aggregates

Presenter: Fahimeh Maghsoodi

Principal Investigator: Eva Y. Chi

Author(s):

Eva Chi

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 413

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: The Disulfide Bonds in the C-terminal Domains of the Insulin Receptor Regulate Insulin-mediated Receptor Endocytosis

Presenter: Stella Park

Principal Investigator: Eunhee Choi

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 414

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: Identification of Senescent Cells after Heterochronic Blood Exchange

Presenter: Zachery Robinson

Principal Investigator: Irina M. Conboy

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 415

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Single-Cell Measurements and Models

Abstract Title: Developing New Strategies to Uncover Single-Cell Metabolic Heterogeneity

Presenter: Gianna Busch

Principal Investigator: Arjun Raj

Author(s):

Gianna Busch

Ryan Boe

Arjun Raj

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 416

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Engineering and the Microbiome
(Summer Undergraduate)**

Abstract Title: Increasing Carbohydrate Metabolism
Capabilities of Lactococcus lactis

Presenter: Amy Apgar

Principal Investigator: Thomas Mansell

Author(s):

Amy Apgar

Swastik Sen

Thomas Mansell

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 417

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Degradation of the Environmental
Hazard 1,2,3-Trichloropropane (TCP) Using
the Thermal Stabilized DhaA31 Haloalkane
Dehalogenase.

Presenter: Sachely Antuna

Principal Investigator: Sagar Khare

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 418

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Maresin 1 Mediation of Muscle
Regeneration Following Volumetric Muscle Loss

Presenter: Bonnie Spence

Principal Investigator: Carlos Aguilar

Author(s):

Carlos Aguilar

Jacqueline Larouche

Emily Wallace

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 419

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Elucidation of the Mechanical
Properties of Mesenchymal Stem Cells on a Collagen
Surface

Presenter: Janie Johnson

Principal Investigator: Masahiro Kino-Oka

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: M, Poster
Number: 420

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Mitochondrial Dysfunction Linked
to Pathologic Enzyme Activity as a Biomarker for
GM1 Gangliosidosis

Presenter: Morgan Ethridge

Principal Investigator: Jessica Larsen

Author(s):

Jessica Larsen

Alexandria Hood

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 441

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Development of an Age-Appropriate
Parkinson's Disease Model in Zebrafish

Presenter: Minhyun Shin

Principal Investigator: Jessica Larsen

Author(s):

Emmeline Bagwell

Jessica Larsen

Doris Migliaccio

Nicole Henkel

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 442

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: A Comparative Study on the
Application of Human Plasma and Serum as a Culture
Media for Endothelial Cells

Presenter: Mitesh Rathod

Principal Investigator: William Polacheck

Author(s):

William Polacheck

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 443

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Assessing Endothelial Cell Behavior
in an in vitro PEG-DA Hydrogel Cell Culture Assay
of Idiopathic Pulmonary Fibrosis

Presenter: Tara Tavakol

Principal Investigator: Shayn M. Peirce

Author(s):

Tara Tavakol

Julie Leonard-Duke

Caleb Tyson

Yixuan Yuan

Annika Szytniec

Shayn Peirce

Lakeshia Taite

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 444

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Reprogramming/Directed
Differentiation In Stem Cell Engineering
(Summer Undergraduate)**

Abstract Title: Integrating attb_miRNA-375 via
BXB1 mediated recombination into a suicide circuit
to select for endodermic/pancreatic cells in teratomas

Presenter: Adam Engler

Principal Investigator: Nikolai Haines, Prashant
Mali

Author(s):
Hammza Hammza Khaliq
Prashant Mali

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 445

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular Bioengineering (Summer
Undergraduate)**

Abstract Title: Modeling the Effects of Stiffness on
Ovarian Cancer Peritoneal Metastasis

Presenter: Burton Carbino

Principal Investigator: David I. Shreiber

Author(s):
David Shreiber
Kelly Kyker-Snowman

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 446

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular Bioengineering (Summer
Undergraduate)**

Abstract Title: PsychLight: a Genetically Encoded
Fluorescent Sensor for Drug Discovery

Presenter: Caroline Daggett Melikan Tanyeri

Principal Investigator: N/A

Author(s):
Melikhan Tanyeri

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 447

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular Bioengineering (Summer
Undergraduate)**

Abstract Title: Vinculin Phosphorylation of
Fibroblasts due to Magnetically Tunable ECM
Substrate Stiffness

Presenter: Hayley Sussman

Principal Investigator: Elise Corbin

Author(s):
Elise Corbin
Atia Rahman

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 449

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Single-Cell Measurements and Models (Summer Undergraduate)

Abstract Title: Fibroblast Extracellular Matrix
Remodeling: Differences in Idiopathic and Normal
Pulmonary Fibrosis

Presenter: Celine Ertin

Principal Investigator: Samir Ghadiali

Author(s):

Celine Ertin

Vasudha Shukla

Samir Ghadiali

Caymen Novak

Megan Ballinger

Landon Locke

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 450

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Single-Cell Measurements and Models (Summer Undergraduate)

Abstract Title: Integrating Shear Flow and Trypsin
Susceptibility to Assess Adhesion Strength

Presenter: Venkat Maruthamuthu

Principal Investigator: Antra Patel

Author(s):

Antra Patel

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 451

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Engineering and the Microbiome

Abstract Title: Alteration of the Gut Microbiota Can
Influence Bone Matrix Strength Without New Bone
Formation

Presenter: Erika Cyphert

Principal Investigator: N/A

Author(s):

Chongshan Liu

Jacob Nixon

Angie Morales

Nicholas Natsoulas

Christopher Hernandez

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 452

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Engineering and the Microbiome

Abstract Title: A long-term in vitro 3D gingival
tissue model to investigate host-pathogen interactions

Presenter: Miryam Adelfio

Principal Investigator: N/A

Author(s):

Chiara Ghezzi

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 453

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Other / Non-specified

Abstract Title: Molecular Studies of Protein-Lipid
 Interaction for Stable Tear Film Lipid Layer (TFL)

Presenter: Ahmed Fuwad

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 454

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 ImmunoEngineering**

Abstract Title: Biomanufacturing of Chimeric
 Antigen Receptor T-Cell Using Two-Step mRNA
 Electroporation

Presenter: Dharmakeerthi Nawarathna

Principal Investigator: N/A

Author(s):

Alison Greteman

Sena Dere

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 455

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 ImmunoEngineering**

Abstract Title: Nuclear Transport of STAT6
 Determines the Mechanosensitive M2 Activation of
 Macrophage

Presenter: Dong-Hwee Kim

Principal Investigator: Dong-Hwee Kim

Author(s):

Jeong-Ki Kim

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 456

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 ImmunoEngineering**

Abstract Title: Regulation of Adiposity through
 Osteocytic Connexin 43

Presenter: Francisca Acosta

Principal Investigator: N/A

Author(s):

Francisca Acosta

Jingruo Zhang

Elizabeth Hernandez

Eric Brey

Jean Jiang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 457

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular and Cellular
ImmunoEngineering**

Abstract Title: Monodisperse Biodegradable
Polymeric Microparticles as Artificial Antigen
Presenting Cells

Presenter: Hongzhe Yu

Principal Investigator: N/A

Author(s):

Elana Ben-Akiva

Randall Meyer

Jordan Green

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 458

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular and Cellular
ImmunoEngineering**

Abstract Title: Improvement of islet engrafts via Treg
induction using artificial Antigen Presenting Cells
(TolAPCs)

Presenter: Joshua Doloff

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 459

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: The Role of Collagen in Matrix-
Bound Nanovesicle Production and Behavior

Presenter: Marley Dewey

Principal Investigator: N/A

Author(s):

George Hussey

Stephen Badylak

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: D, Row: N, Poster
Number: 460

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: Differences in the Electrophoretic
Mobilities of Live and Dead Bovine Chondrocytes

Presenter: Nehal Abu-Lail

Principal Investigator: Nehal Abu-Lail

Author(s):

Lindsey Attebery

Abraham Rodriguez

robert stannert

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 481

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: SARS-CoV-2-Induced Platelet
Activation

Presenter: Toni Warnick

Principal Investigator: N/A

Author(s):

Martine LaBerge

Robert Latour

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 482

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: Constructing Synthetic Organelles
for Mammalian Cellular Engineering

Presenter: Wentao Wang

Principal Investigator: Matthew C Good

Author(s):

Mikael Garabedian

Rachel Welles

Matthew Good

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 484

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Single-Cell Measurements and Models

Abstract Title: Deciphering Subcellular Signaling
Networks Using Image-based Protein Multiplexing

Presenter: Shuangyi Cai

Principal Investigator: Ahmet Coskun

Author(s):

Thomas Hu

Mythreye Venkatesan

Mayar Allam

Ahmet Coskun

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 485

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Single-Cell Measurements and Models

Abstract Title: High-Throughput Screening for
Novel Hormone-Responsive Transcription Factors

Presenter: Scott Gaines

Principal Investigator: N/A

Author(s):

Uros Kuzmanovic

James Galagan

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 486

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: Linking Glucose Metabolism and EMT to the Migratory Phenotype of Breast Cancer Cells

Presenter: Jenna Mosier

Principal Investigator: Cynthia Reinhart-King

Author(s):

Samantha Schwager

Reethi Padmanabhan

Addison White

Qinzhe Xing

Lauren Hapach

Paul Taufalele

Ismael Ortiz

Cynthia Reinhart-King

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 487

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Other / Non-specified

Abstract Title: Material Compatibility Testing for SARS-CoV-2 Loop-Mediated Isothermal Amplification (LAMP)

Presenter: Jiyuan Yang

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 488

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Interventional Devices and Robotics (Summer Undergraduate)

Abstract Title: Characterization of a Thermochromic Tissue Phantom for Assessment of Microwave Ablation Devices

Presenter: Amber Lintz

Principal Investigator: Punit Prakash

Author(s):

Amber Lintz

Clay Hardin

Anna Bottiglieri

Jan Sebek

Ghina Zia

Punit Prakash

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 489

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Interventional Devices and Robotics (Summer Undergraduate)

Abstract Title: Electronics Development for Improving a Portable Suction Unit for Medical First-Responders

Presenter: J. Drayton Darby

Principal Investigator: R. Lyle Hood

Author(s):

Saketh Ram Peri

Robert Brothers

Robert De Lorenzo

Lyle Hood

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 490

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Development of a Programmable
Ventilator for Negative and Positive Pressure
Ventilation in Mice

Presenter: Johnathan Muhvich

Principal Investigator: N/A

Author(s):

Linzhen Shi

Rohin Banerji

Gabrielle Grifno

Hadi Nia

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 491

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: A New Device for Haptic-Acoustic
Feedback

Presenter: Karina Atiegha

Principal Investigator: George Stetten

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 492

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: An Electronic Device For
Multiplexed, Electrically-Induced Spheroid
Disaggregation

Presenter: Riley Flores

Principal Investigator: Anubhav Tripathi

Author(s):

Cel Welch

Anubhav Tripathi

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 494

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Design and Fabrication of an
Adjustable Tissue Slicer for Ferret Brain

Presenter: James Wallace

Principal Investigator: N/A

Author(s):

Morteza Seidi

Marzieh Hajiaghameh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 495

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Interventional Devices and Robotics

Abstract Title: A Novel Medical Device to Treat and Prevent Stomal Prolapse: NoLapse

Presenter: Hoang Nguyen

Principal Investigator: N/A

Author(s):

Natali Pan

Eun Sung Kim

Jasper Mak

Olajire Idowu

Sunghoon Kim

Ryan Nguyen

Jimmy Tran

Caroline Nguyen

Tina Zhou

Folarin Erogbogbo

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 496

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Neural Devices and Electronics

Abstract Title: Fully Injectable Tissue Engineered Bioelectronic Implants for the Brain

Presenter: Alexander Boys

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 497

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Neural Devices and Electronics

Abstract Title: Development and Characterization of a Bioelectronic Scaffold for 3D Tissue Integration

Presenter: Brian Timko

Principal Investigator: Brian Timko

Author(s):

Akshita Rao

Megan Cote

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 498

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Other / Non-specified

Abstract Title: Temperature Assessment Enabled Simulation Mannequin (TAESM)

Presenter: Amelia Wellmon

Principal Investigator: N/A

Author(s):

Emily Eisele

Sean Blade

Jessica Guarino

Mason Klaus

Amelia Wellmon

Ria Mazumder

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 499

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Other / Non-specified

Abstract Title: Poly (3,4-ethylenedioxythiophene)
 (PEDOT)-Based Sensors for the Uptake and

Detection of Nitrate Ions

Presenter: Michael Kohler

Principal Investigator: N/A

Author(s):

michael kohler

Fang Li

Ziqian (Cecilia) Dong

Reza Khalaj Amineh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: O, Poster
Number: 500

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Other / Non-specified

Abstract Title: Proteomic Adaptation to Hypoxia
 and Crowding in Drosophila Embryos

Presenter: Nolan Frey

Principal Investigator: Philip R. LeDuc

Author(s):

Utku Sonmez

Philip LEDUC

Jonathan Minden

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 521

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Other / Non-specified

Abstract Title: Preventing Surgical Suction Clogging
 and Improving Flow Rates

Presenter: Robert Loving

Principal Investigator: Justin Bird

Author(s):

Caleb Haeussler

Tanner Walker

Michael Moreno

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 522

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Other / Non-specified

Abstract Title: Comparison of Two Pipeline Flow
 Diverter Generations

Presenter: Roya Kamali

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 523

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Other / Non-specified

Abstract Title: Modular, Automated Micropipette
Filling Station for Patch Clamp Electrophysiology
Presenter: Timothy West
Principal Investigator: Craig Forest
Author(s):
Mighten Yip

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 524

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Other / Non-specified

Abstract Title: Assessment of Surgical Radar
Tracking Accuracy Across Different Material
Encasings
Presenter: Anish Easwaran
Principal Investigator: N/A
Author(s):
Anish Easwaran
Aaron Henry
Andrew Robbins

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 525

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: In vitro analysis of a novel tandem
peptide for siRNA delivery for glioblastoma
multiforme treatment
Presenter: Jessie Boulos
Principal Investigator: Angela Alexander Bryant
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 526

Track: DRUG DELIVERY
**Nucleic Acid Delivery (Summer
Undergraduate)**

Abstract Title: Disease Progression Effects on In
Vivo Lipid Nanoparticle Mediated mRNA Delivery
in Wilson's Disease
Presenter: Andrea Li
Principal Investigator: James Dahlman
Author(s):
Andrea Li
Aram Shajii
Hyejin Kim
Ryan Zenhausern
Sebastian Huayamares
Afsaneh Radmand
James Dahlman

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 527

Track: DRUG DELIVERY
Nucleic Acid Delivery (Summer Undergraduate)

Abstract Title: Tandem Peptide Mediated Delivery of siRNAs into Epithelial Ovarian Cancer Cells
Presenter: Carleigh Coffin
Principal Investigator: Angela Alexander-Bryant, Ph.D.
Author(s):
Carleigh Coffin
Timothy Samec
Kharimat Alatisé
Angela Alexander-Bryant

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 528

Track: DRUG DELIVERY
Nucleic Acid Delivery (Summer Undergraduate)

Abstract Title: Polymersomes Deliver Cas9 Ribonucleoprotein to MCF10A-Clover Cells for Gene Knockdown
Presenter: Caroline Argenti
Principal Investigator: Jessica Larsen
Author(s):
Chlo Forenzo
Danielle LaVigne
Vaishnavi Kanduri
Caroline Argenti
Jessica Larsen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 529

Track: DRUG DELIVERY
Nucleic Acid Delivery (Summer Undergraduate)

Abstract Title: Specific T cell Targeting Approaches for Poly(Beta Amino Ester) (PBAE) mRNA Nanoparticles
Presenter: Jawaun Harris
Principal Investigator: Jordan Green
Author(s):
Savannah Est
Sarah Yoseph
Jordan Green
Stephany Tzeng

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 530

Track: DRUG DELIVERY
Nucleic Acid Delivery (Summer Undergraduate)

Abstract Title: Bile Acid-Containing Lipid Nanoparticles For mRNA Delivery to the Gastrointestinal Tract
Presenter: Savan Patel
Principal Investigator: Michael Mitchell
Author(s):
Savan Patel
Margaret Billingsley
Hannah Safford
Michael Mitchell

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 531

Track: DRUG DELIVERY

Nucleic Acid Delivery (Summer Undergraduate)

Abstract Title: Characterization of a Novel Tandem Peptide for Glioblastoma Multiforme Drug Delivery

Presenter: Tyler Willis

Principal Investigator: Angela Alexander-Bryant

Author(s):

Jessie Boulos

Jorrian Abadeer

Angela Alexander-Bryant

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 532

Track: DRUG DELIVERY

Nucleic Acid Delivery (Summer Undergraduate)

Abstract Title: Synthesizing Nanoparticles Targeting CD133+ Stem-Like Cells in Glioblastoma

Presenter: Valeria Virrueta

Principal Investigator: Stephanie Seidlits

Author(s):

Alireza Sohrabi

Stephanie Seidlits

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 533

Track: DRUG DELIVERY

Abstract Title: Transcranial Blood-brain-tumor barrier modulation for enhancing drug delivery to glioblastoma

Presenter: Qi Cai

Principal Investigator: N/A

Author(s):

Zhenpeng Qin

Hejian Xiong

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 533

Track: DRUG DELIVERY

Nucleic Acid Delivery

Abstract Title: Quantifying the miRNA Loading and Release Behavior of Polycationic Nanoparticles In Vitro

Presenter: Deidra Ward

Principal Investigator: Nicholas A Peppas

Author(s):

Nicholas Peppas

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 534

Track: DRUG DELIVERY

Nucleic Acid Delivery

Abstract Title: Macrophage-specific Nanoparticle Delivery of MicroRNAs to Mitigate Ventilator-Induced Lung Injury

Presenter: Qinqin Fei

Principal Investigator: N/A

Author(s):

Qinqin Fei

Joshua Englert

Samir Ghadiali

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 535

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: Ionic Liquid for Enhancing Mitochondria Target Oligonucleotide Delivery
Presenter: Gaya Dasanayake
Principal Investigator: Eden E. L Tanner
Author(s):
Eden Tanner
Gagandeep Singh

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 536

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: Ligand-Installed Lipidoids for Targeted RNA Delivery to Treat Liver Fibrosis
Presenter: Xuexiang Han
Principal Investigator: N/A
Author(s):
Michael Mitchell
Ningqiang Gong
Lulu Xue
Margaret Billingsley
Sarah Shepherd

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 537

Track: DRUG DELIVERY

Nucleic Acid Delivery

Abstract Title: Structure-Guided Siloxane Lipid Nanoparticles Mediate Tissue-Specific mRNA Delivery
Presenter: Lulu Xue
Principal Investigator: N/A
Author(s):
Michael Mitchell

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 538

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: Novel lipid nanoparticle provides potent SARS-CoV-2 mRNA vaccine at low dose with high thermostability and limited systemic biodistribution
Presenter: Manuel Carrasco
Principal Investigator: Mohamad-Gabriel Alameh
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 539

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: Nanoparticles for Protein and Gene Delivery: An Alternative Treatment for Peripheral Arterial Disease
Presenter: Na Nguyen
Principal Investigator: N/A
Author(s):
Tam Nguyen
Priyanka Iyer
Vy Tran
Kytai Nguyen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: P, Poster
Number: 540

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: Engineered Myeloid-Derived Suppressor Cells Serve as Vehicles to Deploy Therapeutic Extracellular Vesicles to Various Diseased Tissues

Presenter: Ana Panic

Principal Investigator: N/A

Author(s):

Ana Panic

Silvia Duarte-Sanmiguel

Daniel Dodd

William Lawrence

Natalia Higueta-Castro

Daniel Gallego-Perez

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster
Number: 561

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: Synthesis and Characterization Cystamine Core PAMAM Derivatives Modified with Nuclear Localization Signal Derived from Lactoferrin as Carriers for Efficient Gene Delivery

Presenter: Jeil Lee

Principal Investigator: Kyungjae Jeong

Author(s):

KyungJae Jeong

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster
Number: 562

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: Mitigating the Immunogenicity of AAV-mediated Gene Therapy by Phosphoserine-containing Zwitterionic Peptides

Presenter: Ruoxin Li

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster
Number: 563

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: siRNA Delivery from Extracellular Vesicles for Vascular Elastic Matrix Regenerative Repair

Presenter: SAJEESH THAMPI

Principal Investigator: N/A

Author(s):

Anand Ramamurthi

Andrine Larsen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster
Number: 564

Track: DRUG DELIVERY
Nucleic Acid Delivery

Abstract Title: Anti-ICAM1-EpoR NPs for Targeting Therapy for Peripheral Arterial Disease

Presenter: Vy Tran

Principal Investigator: Kytai Nguyen

Author(s):

Tam Nguyen

Priyanka Iyer

Na Nguyen

Kytai Nguyen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster
Number: 565

Track: GLOBAL HEALTH TECHNOLOGIES
Other / Non-specified

Abstract Title: A Smartphone-based Digital CRISPR Platform and Deep Learning for HIV Viral Load Quantification

Presenter: Hoan Ngo

Principal Investigator: Tza-Huei (Jeff) Wang

Author(s):

Pei-Wei Lee

Joon Soo Park

Kuangwen Hsieh

Tza-Huei Wang

Alexander Trick

Patarajarin Akarapipad

Fan-En Chen

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster
Number: 566

Track: GLOBAL HEALTH TECHNOLOGIES
Other / Non-specified

Abstract Title: Correlation between Linguistic Racism and Anxiety using Physiological Data

Presenter: Susan Pham

Principal Investigator: Nathalia Peixoto

Author(s):

Elizabeth Kwari

McKenna Olsen

Pamela Benitez

Nathalia Peixoto

Linghan Zhang

Jung Yeon Park

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster
Number: 567

Track: GLOBAL HEALTH TECHNOLOGIES
Other / Non-specified (Summer Undergraduate)

Abstract Title: Responsive Transtibial Ankle Prosthetic Implementing Muscle Wire for Amputees in Developing Countries

Presenter: Delphine Dean

Principal Investigator: Isabelle Museck

Author(s):

Isabelle Museck

Katherine Summers

Kaitlyn Cimney

Joshua Londhe

John DesJardins

Delphine Dean

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster

Number: 568

Track: GLOBAL HEALTH TECHNOLOGIES

Other / Non-specified (Summer Undergraduate)

Abstract Title: Flow Rate Optimization of Detection Pad for Lateral Flow Immunoassays

Presenter: Kaushik Subramanian

Principal Investigator: Jacqueline C. Linnes

Author(s):

Lucy Tecle

Jacqueline Linnes

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster

Number: 569

Track: GLOBAL HEALTH TECHNOLOGIES

Other / Non-specified (Summer Undergraduate)

Abstract Title: Factors Explaining Higher Cancer Rates in Vietnamese Immigrants in the United States

Presenter: TinTin Nguyen

Principal Investigator: Georgia Robins Sadler

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster

Number: 570

Track: GLOBAL HEALTH TECHNOLOGIES

Other / Non-specified

Abstract Title: Mask Filter for Car Pollutants

Presenter: Emma Harrington

Principal Investigator: N/A

Author(s):

Joshua Brady

Allison Jacob

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster

Number: 571

Track: GLOBAL HEALTH TECHNOLOGIES

Other / Non-specified

Abstract Title: Duplex RT-LAMP Assay for Rapid Detection of SARS-CoV-2 and Internal control in Saliva

Presenter: Navaporn Sritong

Principal Investigator: N/A

Author(s):

Winston Ngo

Marina Sala de Medeiros

Karin Ejendal

Jacqueline Linnes

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster**Number:** 572**Track:** GLOBAL HEALTH TECHNOLOGIES**Other / Non-specified****Abstract Title:** In Vivo Evaluation of Safety and Efficacy of Ethyl Cellulose-Ethanol Ablation in Swine Cervix Model**Presenter:** Tri Quang**Principal Investigator:** N/A**Author(s):**

Tri Quang

Jeffrey Yang

michele kaluzienski

Anna Parrish

Asma Farooqui

Jenna Mueller

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster**Number:** 573**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems (Summer Undergraduate)****Abstract Title:** Optimizing Triangular and Sinusoidal Surface Textures on a μ Tesla Pump**Presenter:** Zeinab Ajami**Principal Investigator:** N/A**Author(s):**

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster**Number:** 574**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems (Summer Undergraduate)****Abstract Title:** Effect of Obesity on Lymphatic Function in Microphysiological Model**Presenter:** Zoe Turner**Principal Investigator:** Evangelia Bellas**Author(s):**

Evangelia Bellas

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster**Number:** 575**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems****Abstract Title:** Blood-derived endothelial cells: A primary disease and patient-specific cell source for organ-chips**Presenter:** Abhishek Jain**Principal Investigator:** N/A**Author(s):**

Tanmay Mathur

James Tronolone

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster**Number:** 576**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems****Abstract Title:** Development of a Microfluidic Organotypic Device as a Model for Anastomotic Leak**Presenter:** Amanda Roley**Principal Investigator:** N/A**Author(s):**

Amanda Roley

Stuart Tobet

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster**Number:** 577**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems****Abstract Title:** Griddient: a reconfigurable microfluidic platform for spatial biology.**Presenter:** Cristina Sanchez de Diego**Principal Investigator:** N/A**Author(s):**

Sara Abizanda Campo

Maria Virumbrales-Muñoz

Brock Hermes

Terry Juang

Duane Juang

Jeremiah Riendeau

Emmanuel Contreras Guzman

Melissa Skala

David Beebe

Jose Ayuso

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster**Number:** 578**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Tools for Precision Medicine****Abstract Title:** Novel Clinical Paradigm of Non-Destructive Sample Testing Applied to Dengue NS1 Detection**Presenter:** Anjana Dissanayaka**Principal Investigator:** David R. Myers**Author(s):**

David Myers

Jesse Waggoner

Sara Ping

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster**Number:** 579**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Tools for Precision Medicine****Abstract Title:** Platinum Nanoparticles, Targeted Delivery System for Triple Negative Breast Cancer**Presenter:** Aida Lopez Ruiz**Principal Investigator:** N/A**Author(s):**

Kathleen McEnnis

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: Q, Poster
Number: 580

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Tools for Precision Medicine

Abstract Title: Targeted Nanoparticles for Mitigation of Pulmonary Hypertension in Chronic Obstructive Pulmonary Disorder
Presenter: Kalindu Perera
Principal Investigator: N/A
Author(s):
 Maeve DURKIN
 Jyothi Menon

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 601

Track: NEURAL ENGINEERING
Neurorehabilitation

Abstract Title: The Effect of Spinal Cord Stimulation on Reticulospinal Contributions to Lower Limb Functions in Range of Motion and Precision Control Tasks in Able-Bodied Humans.
Presenter: Rachel Hawthorn
Principal Investigator: N/A
Author(s):
 Rachel Hawthorn
 Jie Fei
 Noah Bryson
 Ismael Seáñez

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 602

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: Site-specific Therapeutics for Non-genetic Noninvasive Neuromodulation
Presenter: Zhimin Hunag
Principal Investigator: Jerzy O. Szablowski
Author(s):
 Andrei Mitrofan
 Shirin Nouraein
 Manwal Harb
 Jerzy Szablowski

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 603

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation (Summer Undergraduate)

Abstract Title: Magneto-Electrical Stimulation Of Neurons
Presenter: Ania Dudek
Principal Investigator: Gabriela Romero Uribe
Author(s):
 Amanda Gomez
 Gabriela Romero

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 604

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation (Summer Undergraduate)

Abstract Title: Comparison of Subthalamic Nucleus Activation Metrics in Deep Brain Stimulation for Parkinson Disease
Presenter: Matthew Kroen
Principal Investigator: Matthew Kroen
Author(s):
Karlo Malaga

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 605

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation (Summer Undergraduate)

Abstract Title: Spinal Cord Stimulation for Bladder Function Evokes Sporadic Nerve Activity
Presenter: Savannah Waymer
Principal Investigator: Robert Gaunt
Author(s):
Maria Jantz
Chaitanya Gopinath
Robert Gaunt

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 606

Track: NEURAL ENGINEERING
Neuro-Regenerative Engineering (Summer Undergraduate)

Abstract Title: Development of a 3D printed shock tube model to under neural damage on a simulated brain phantom model
Presenter: Amarachukwu Oti
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 607

Track: NEURAL ENGINEERING
Neuro-Regenerative Engineering (Summer Undergraduate)

Abstract Title: Quantifying and Classifying the Planarian Response to Light Stimuli
Presenter: Constantine Kapetanakis
Principal Investigator: Mary Staehle
Author(s):
Mary Staehle

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 608

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation (Summer Undergraduate)

Abstract Title: Artificial Memory Reactivation Using a Red-Shifted Opsin
Presenter: Anna Vena
Principal Investigator: N/A
Author(s):
Jacob Norman
John White

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 609

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: A Miniaturized Coil for Studying Transcranial Magnetic Stimulation in Rodents
Presenter: Wenxuan Jiang
Principal Investigator: N/A
Author(s):
Robert Isenhardt
Zhouxiao Lu
huijing xu
Darrin Lee
Charles Liu
Dong Song

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 610

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: Wireless Brain Stimulation Using Magnetolectric Nanoparticles
Presenter: Mostafa Abdel-Mottaleb
Principal Investigator: N/A
Author(s):
Mostafa Abdel-Mottaleb
Elric Zhang
Victoria Andre

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 611

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: Theta oscillations propagate by ephaptic coupling in vivo
Presenter: Muthumeenakshi Subramanian
Principal Investigator: N/A
Author(s):
Dominique Durand
Muthumeenakshi Subramanian

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 612

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: Spatially Selective Non-Invasive Spinal Cord Stimulation by Multi-Electrode Configuration.

Presenter: Noah Bryson

Principal Investigator: N/A

Author(s):

Noah Bryson

John Peiffer

Jie Fei

Rachel Hawthorn

Ismael Seáñez

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 613

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: Investigating Early Neural Responses During Transcranial Magnetic Stimulation in Non-human Primates

Presenter: Nipun Perera

Principal Investigator: Alexander Opitz

Author(s):

Sina Shirinpour

Miles Wischnewski

Alexander Opitz

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 614

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: Structural Connectivity of Motor Brain Regions in Essential Tremor Over Time

Presenter: Sebastian Tirado-Vélez

Principal Investigator: N/A

Author(s):

Brandon Parks

Aysegul Gunduz

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 615

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: Barrel Cortex Stimulation Using Magnetoelectric Nanoparticles

Presenter: Victoria Andre

Principal Investigator: N/A

Author(s):

Victoria Andre

Mostafa Abdel-Mottaleb

Elric Zhang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 616

Track: NEURAL ENGINEERING
Neuro-regenerative Engineering

Abstract Title: The Role of Top2b in the Motility of Transplantable Retinal Progenitor Cells

Presenter: Maribel Vazquez

Principal Investigator: N/A

Author(s):

Brianna Rodriguez

Alexandra Dabrowski

Param Amin

Li Cai

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 617

Track: NEURAL ENGINEERING
Neuro-regenerative Engineering

Abstract Title: Olfactory Mucosa-derived Mesenchymal Stem Cells Differentiate Towards a Schwann Cell-Like Phenotype for Peripheral Nerve Regeneration

Presenter: Katelyn Neuman

Principal Investigator: Ryan Koppes

Author(s):

Dominic Pizzarella

Abigail Koppes

Ryan Koppes

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 618

Track: NEURAL ENGINEERING
Neuro-regenerative Engineering

Abstract Title: Wireless Localized Electrical Stimulation of Neurons Using EDOT-Pyrrole Nanoparticles

Presenter: Nicolas Muzzio

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 619

Track: NEURAL ENGINEERING
Neuro-regenerative Engineering

Abstract Title: Antioxidants to Counteract Ionizing Radiation in the Retina

Presenter: Richard Cliver

Principal Investigator: N/A

Author(s):

Natalia Castro

Maribel Vazquez

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: R, Poster
Number: 620

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Rehabilitation Engineering

Abstract Title: Motion Tracking Glove for Remote
Monitoring of Forearm-Hand Rehabilitation

Presenter: Erfan Jabari

Principal Investigator: Paola Pergami

Author(s):

Erfan Jabari

Li-Qun Zhang

Friday, October 14

9:30 AM - 10:30 AM

Poster **Session:** C, Section: E, Row: S, Poster **Number:**
641

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Rehabilitation Engineering

Abstract Title: Gamification Elements and System
Features of an Interactive Health Technology in
Adolescent ACL Reconstruction Rehabilitation

Presenter: Michelle Riffitts

Principal Investigator: N/A

Author(s):

Ethan Ruh

Kevin Bell

Michael McClincy

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 642

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
**Rehabilitation Engineering (Summer
Undergraduate)**

Abstract Title: Tools For Self-Care Robots

Presenter: Justin Gliha

Principal Investigator: Eric Schearer

Author(s):

Eric Schearer

John Schultz

Cameron LaMack

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 643

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
**Rehabilitation Engineering (Summer
Undergraduate)**

Abstract Title: Robotic Mirror Therapy Exoskeleton

Presenter: Nathalia Peixoto Nathalia Peixoto

Principal Investigator: N/A

Author(s):

Elizabeth Kwari

Omar AlSuhaibani

Justin Matthews

Nathalia Peixoto

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 644

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Bone

Abstract Title: Microstructural anisotropy in bone
lamellar like silk-based constructs promotes self-
mineralization

Presenter: Anyelo Diaz

Principal Investigator: N/A

Author(s):

Chiara Ghezzi

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 645

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Bone

Abstract Title: The Use of Patient Specific 3D
Printed Anatomical Models in Pre-Operative
Planning and Patient Engagement to Improve Hip
Arthroscopy Outcomes
Presenter: Terry Witherspoon
Principal Investigator: John DesJardins
Author(s):
Terry Witherspoon
Cynthia Vu
Natalie Osten
Madison Stanley
Zachary Sutton
Jason Folk
John DesJardins

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 646

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Rehabilitation Engineering

Abstract Title: Prosthetic Grip Selection With
Regenerative Peripheral Nerve Interfaces And
Intramuscular Electrodes
Presenter: Christina Lee
Principal Investigator: N/A
Author(s):
Christina Lee
Alex Vaskov
Michael Gonzalez
Philip Vu
Deanna Gates

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 647

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Rehabilitation Engineering

Abstract Title: Integration of Soft Optical Sensor
into Pediatric SCI Rocking Chair Safety Harness
Presenter: Johnathan George
Principal Investigator: Thomas Roussel
Author(s):
Andrea Behrman
Thomas Roussel
Cindy Harnett
Ji-Tzuoh Lin

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 648

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES
Prevention

Abstract Title: Development of a high-throughput
screening platform for mosquito repellents
Presenter: Kevin Janson
Principal Investigator: Omid Veischi
Author(s):
Kevin Janson
Brendan Carter
Samuel Jameson
Jane de Verges
Erika Dalliance
Madison Royse
Paul Kim
DAWN WESSON
Omid Veischi

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 649

Track: TECHNOLOGIES FOR EMERGING INFECTIOUS DISEASES

Prevention

Abstract Title: Surfaces with Instant and Persistent Antimicrobial Efficacy

Presenter: Taylor Repetto

Principal Investigator: N/A

Author(s):

Geeta Mehta

Catherine Snyder

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 650

Track: TECHNOLOGIES FOR EMERGING INFECTIOUS DISEASES

Drug Delivery (Vaccines, Novel ways to deliver antivirals) (Summer Undergraduate)

Abstract Title: Characterization of a Polyanhydride Nanovaccine for the Prevention of Respiratory Syncytial Virus

Presenter: Hannah Rudewick

Principal Investigator: Balaji Narasimhan

Author(s):

Balaji Narasimhan

Jodi McGill

Teresi Maina

Elizabeth Grego

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 651

Track: TECHNOLOGIES FOR EMERGING INFECTIOUS DISEASES

Prevention (Summer Undergraduate)

Abstract Title: Mask Efficacy: A Comparative Study of Masks Using Outward Leakage Testing

Presenter: Autymn Shreffler

Principal Investigator: N/A

Author(s):

Autymn Shreffler

Corbin Myers

Carina Pannelle

Jose Cano

Marza Cruz Montes

Chris Geiger

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 652

Track: TECHNOLOGIES FOR EMERGING INFECTIOUS DISEASES

Other / Non-specified

Abstract Title: Microfluidic diffusional sizing (MDS) measurements of the neutralizing antibody affinity against SARS-CoV-2 in saliva samples

Presenter: Congyue Peng

Principal Investigator: Congyue Peng

Author(s):

Delphine Dean

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 653

Track: TECHNOLOGIES FOR EMERGING
 INFECTIOUS DISEASES

Other / Non-specified

Abstract Title: Complex Gold-silver Nanostructures
 for Imaging and Therapeutic Delivery for Infectious
 Disease Treatment

Presenter: Maryam Hajfathalian

Principal Investigator: N/A

Author(s):

Maryam Hajfathalian

Jessica Hsu

Ahmad Amirshaghghi

Yuxi Dong

David Cormode

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 654

Track: TECHNOLOGIES FOR EMERGING
 INFECTIOUS DISEASES

Other / Non-specified

Abstract Title: Wastewater Surveillance in Remote
 Areas: Stability of SARS-CoV-2 RNA in the Absence
 of Cold Chain

Presenter: Soroosh Torabi

Principal Investigator: Scott M. Berry

Author(s):

Soroosh Torabi

Atena Amirsoleimani

Mohammad Dehghan Banadaki

Ann Noble

William Strike

Alexus Rockward

James Keck

Scott Berry

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 655

Track: TECHNOLOGIES FOR EMERGING
 INFECTIOUS DISEASES

**Technology Advancements (3D Printing,
 Devices, etc.)**

Abstract Title: Green Pathogen Disinfection using
 Reactive Oxygen Species generated from Water
 Microdroplets

Presenter:

Principal Investigator: Jae Kyoo Lee

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 656

Track: TECHNOLOGIES FOR EMERGING
 INFECTIOUS DISEASES

**Technology Advancements (3D Printing,
 Devices, etc.)**

Abstract Title: Automated Extraction of SARS-
 CoV-2 RNA from Wastewater Samples

Presenter: Mohammad Dehghan Banadaki

Principal Investigator: N/A

Author(s):

Mohammad Dehghan Banadaki

Soroosh Torabi

William Strike

Ann Noble

Alexus Rockward

Scott Berry

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 657

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES

**Technology Advancements (3D Printing,
Devices, etc.) (Summer Undergraduate)**

Abstract Title: Inflammation and Drug Eluting
Endotracheal Tubes Impact the Microbiota of the
Upper Airway in Swine

Presenter: Emily Mahadevan

Principal Investigator: N/A

Author(s):

Gabriela Cervantes-Gonzales

Teja Guda

Solaleh Miar

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 658

Track: TISSUE ENGINEERING

Musculoskeletal Tissue Engineering

Abstract Title: Development of Tissue Engineered
Skeletal Muscle Engineered to Overexpress SIRT-1

Presenter: Bryan Sullivan

Principal Investigator: Christopher Rathbone

Author(s):

Settimio Pacelli

Chris Rathbone

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 659

Track: TISSUE ENGINEERING

Musculoskeletal Tissue Engineering

Abstract Title: Proteomic, Mechanical, and
Biochemical Development of Tissue-Engineered
Neocartilage

Presenter: Benjamin Bielajew

Principal Investigator: N/A

Author(s):

Ryan Donahue

Elliott Lamkin

Vincent Hascall

Jerry Hu

Kyriacos Athanasiou

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: S, Poster
Number: 660

Track: TISSUE ENGINEERING

**Organ-on-Chip for Regenerative
Medicine**

Abstract Title: Single-cell Transcriptomics of
Caco-2 Intestinal Epithelium that Underwent
Mechanodynamic Stimulation and 3D
Morphogenesis in a Human Gut-on-a-chip

Presenter: Hyun Jung

Principal Investigator: N/A

Author(s):

Woojung Shin

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 681

Track: TISSUE ENGINEERING
Organ-on-Chip for Regenerative Medicine

Abstract Title: Engineered tumor tissues induce local and distant vascular inflammation in a multicompartiment microphysiological model of premetastatic niche cultivation

Presenter: Caroline Culp

Principal Investigator: Mark Mondrinos

Author(s):

Gabrielle Fortes

Charles Byrne

Mark Mondrinos

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 682

Track: TISSUE ENGINEERING
Organ-on-Chip for Regenerative Medicine (Summer Undergraduate)

Abstract Title: Extracellular Matrix Degradation of Microvascular Networks

Presenter: Jessalyn Arteta

Principal Investigator: Kara McCloskey

Author(s):

Kara McCloskey

Jose Zamora

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 683

Track: TISSUE ENGINEERING
Neural and Neurovascular Tissue Engineering

Abstract Title: Engineering Choroid Plexus Organoid Derived from Human Pluripotent Stem Cells

Presenter: Chang Liu

Principal Investigator: N/A

Author(s):

Yan Li

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 684

Track: TISSUE ENGINEERING

Abstract Title: Effect of Hydrogel Matrix Properties and Stiffness on Spheroid Characteristics and Drug Responsiveness

Presenter: Shabnam Nejat

Principal Investigator: N/A

Author(s):

Joseph Bruns

Silviya Zustiak

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 685

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: A bioactive material with dual integrin-targeting ligands regulates endogenous cell adhesion and promotes vascularized bone regeneration in adult and fetal bone defects

Presenter: Dake Hao

Principal Investigator: N/A

Author(s):

Dake Hao

Ruiwu Liu

Tomas Gonzalez Fernandez

Christopher Pivetti

Edwin Kulubya

Alyssa Panitch

Kent Leach

Diana Farmer

Aijun Wang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 686

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Increased Feeding Frequency Improves Viability of Engineered Skeletal Muscle Tissue Equivalents

Presenter: Isabella Bagdasarian

Principal Investigator: N/A

Author(s):

Joshua Morgan

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 687

Track: TISSUE ENGINEERING
Neural and Neurovascular Tissue Engineering

Abstract Title: Astrocyte Extracellular Vesicles Promote Axonal Elongation, Angiogenesis, and Synapse Formation

Presenter: Nhi Phan

Principal Investigator: Tatiana Segura

Author(s):

Shangjing Xin

Lucy Zhang

Tatiana Segura

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 688

Track: TISSUE ENGINEERING
Neural and Neurovascular Tissue Engineering

Abstract Title: Hydrogel Encapsulated Oligodendrocyte Precursor Cells Response After Blast Induced Traumatic Brain Injury

Presenter: Ryosuke Yokosawa

Principal Investigator: Pamela J VandeVord

Author(s):

Pamela VandeVord

Rachel Mazur

Kyle Lampe

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 689

Track: TISSUE ENGINEERING
**Organ-on-Chip for Regenerative
Medicine**

Abstract Title: Injectable Janus Base Nano-Matrix for
Cartilage Tissue Chips
Presenter: Anne Yau
Principal Investigator: Yupeng Chen
Author(s):
N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 690

Track: TISSUE ENGINEERING
**Organ-on-Chip for Regenerative
Medicine**

Abstract Title: Medium-throughput, 3D wound-on-
a-chip screening platform to assess provisional matrix
assembly
Presenter: Anish Vasan
Principal Investigator: N/A
Author(s):
Megan Griebel
Christopher Chen
Jeroen Eyckmans

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 691

Track: TISSUE ENGINEERING
**Organ-on-Chip for Regenerative
Medicine**

Abstract Title: Biodegradable membrane-based
glomerulus-on-a-chip for modeling blood filtration
Presenter: Jessica Shah
Principal Investigator: N/A
Author(s):
Xingrui Mou
Jessica Shah
Samira Musah

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 692

Track: TISSUE ENGINEERING
**Organ-on-Chip for Regenerative
Medicine**

Abstract Title: Microphysiological Model for
Rheumatoid Arthritis and Atherosclerosis
Presenter: Mingzhi Xu
Principal Investigator: N/A
Author(s):
Mingzhi Xu
George Truskey

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 693

Track: TISSUE ENGINEERING
Organ-on-Chip for Regenerative Medicine

Abstract Title: A Microphysiological System for Studying Enteric Neuron Modulation of Epithelial Barrier Formation

Presenter: Kyla Nichols

Principal Investigator: N/A

Author(s):

Jessica Thompson

Adam Bindas

Ryan Brady

Ryan Koppes

Abigail Koppes

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 694

Track: TISSUE ENGINEERING
Organ-on-Chip for Regenerative Medicine

Abstract Title: Synergistic Pipeline to Proliferate and Redifferentiate Primary Human Hepatocytes in Engineered Platforms

Presenter: Vedant Vijay Bodke

Principal Investigator: N/A

Author(s):

Chase Monckton

Salman Khetani

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 695

Track: TISSUE ENGINEERING
Organ-on-Chip for Regenerative Medicine

Abstract Title: Hierarchical Vessel Supported Tumor Model-on-a-Chip Constructed by Induced Anastomosis

Presenter: Yuyuan Zhou

Principal Investigator: Yaling Liu

Author(s):

XIAOCHEN QIN

Yaling Liu

Ratul Paul

Yue Wu

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 696

Track: TISSUE ENGINEERING
Organ-on-Chip for Regenerative Medicine

Abstract Title: Microfluidic Arrays of Dermal Spheroids for Screening Active Ingredients of Skincare Products

Presenter: Zhengkun Chen

Principal Investigator: Eugenia Kumacheva

Author(s):

N/A

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 697

Track: TISSUE ENGINEERING
Stem Cells in Tissue Engineering and Disease Modeling

Abstract Title: Creating A 3D Tissue Engineered Blood Vessel from Co-Seeded hMSCs and Endothelial Cells
Presenter: William DeMaria
Principal Investigator: William DeMaria
Author(s):
 Marsha Rolle

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 698

Track: WOMEN'S HEALTH
Sex-related Differences In chronic Diseases

Abstract Title: Defining the Effects of Estradiol on Fibroblast Gene Expression Patterns and Vasculogenesis in Biological Sex-Matched Engineered Tissue Models
Presenter: Ashley Martier
Principal Investigator: Mark Mondrinos
Author(s):
 Mark Mondrinos

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 699

Track: WOMEN'S HEALTH
Sex-related Differences In chronic Diseases

Abstract Title: Sex Differences of Interacting Genetic and Imaging Biomarkers in Progression of Alzheimer's Disease
Presenter: Jordan Williamson
Principal Investigator: Yuan Yang
Author(s):
 Jordan Williamson
 Shirley James
 Andriy Yabluchanskiy
 Peter Mukli
 Dee Wu
 Carrie Ciro
 Yuan Yang

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: T, Poster
Number: 700

Track: WOMEN'S HEALTH
Sex-related Differences In chronic Diseases

Abstract Title: Inflammatory responses of sex-specific hormones in iPSC-derived male and female macrophages
Presenter: Maria Samaritano
Principal Investigator: Gordana Vunjak-Novakovic
Author(s):
 Maria Samaritano
 Roberta Lock
 Pamela Graney
 Daniel Tavakol
 Gordana Vunjak-Novakovic

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: U, Poster
Number: 721

Track: WOMEN'S HEALTH

Sex-related Differences In chronic Diseases

Abstract Title: A Computational Model Predicts Mechanisms of Sex Dimorphism in Cardiac Fibroblasts

Presenter: Mukti Chowkwale

Principal Investigator: Malcolm Fidelis O'Malley, Jeffrey J Saucerman

Author(s):
Jeffrey Saucerman

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: U, Poster
Number: 722

Track: WOMEN'S HEALTH (Summer REU)

Sex-related Differences In chronic Diseases (Summer Undergraduate)

Abstract Title: Lean and obese perivascular adipose tissue did not change endothelial cell eNOS phosphorylation

Presenter: Donaysia Torbit

Principal Investigator: Alisa Morss Clyne

Author(s):
Gurneet Sangha
Ryan Sapp
Alisa Clyne

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: U, Poster
Number: 724

Track: WOMEN'S HEALTH

Cancers of female organs

Abstract Title: Classification with diffuse optical tomography reconstruction and co-registered Ultrasound image features

Presenter: MingHao Xue

Principal Investigator: Quing Zhu

Author(s):
MengHao Zhang
Shuying Li
Yun Zou

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: U, Poster
Number: 725

Track: WOMEN'S HEALTH

Cancers of female organs

Abstract Title: Pilot Study of Active Learning Methods for Visually Expressing Expectations of Appearance Outcomes

Presenter: Mia Markey

Principal Investigator: N/A

Author(s):
Haoqi Wang
Seung Choi
Greg Reece
Ashleigh Francis
Mia Markey

Friday, October 14

9:30 AM - 10:30 AM

Poster Session: C, Section: E, Row: U, Poster
Number: 726

Track: WOMEN'S HEALTH

Mechanics of Pregnancy and Birth

Abstract Title: The Rat as an Animal Model for Studying the Support Function of the Uterosacral Ligaments

Presenter: Kandace Donaldson

Principal Investigator: N/A

Author(s):

Raffaella De Vita

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 1

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Single Cell Analysis of Proinflammatory Gene Expression Reveals Changing Population Dynamics in Trained Immunity

Presenter: Aoife O'Farrell

Principal Investigator: Arjun Raj

Author(s):

Juan McCook

Zijian Niu

Arjun Raj

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 2

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Exploring small molecule treatment of Ebola virus infection with in silico models

Presenter: Xiao Liu

Principal Investigator: Elsje Pienaar

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 3

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Modeling Simultaneous Two-Wavelength Axial Ratiometry Imaging of Clathrin Mediated-Endocytosis

Presenter: Alexa Mattheyses

Principal Investigator: Yancey Williams II

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 4

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

**Omics Data: Methods, Modeling and
 Analysis**

Abstract Title: Visualizing Cell State and Clonal
 Dynamics via In-situ Detection of RNA and
 Heritable Barcode

Presenter: Xiangyi Fang

Principal Investigator: Arjun Raj

Author(s):

Arjun Raj

Ian Dardani

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 5

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

**Single-Cell Measurements and Models
 (Summer Undergraduate)**

Abstract Title: TriFusion – A Software for the
 Automated Quantification of Muscle Growth and the
 Impact of Fluorescence Characteristics on TriFusion

Presenter: Miranda Copenhaver

Principal Investigator: Andres Ocampo aaocampo@
 mines.edu co-presenter, Miranda G. Copenhaver,
 Michael Gower and Homayoun Valafar

Author(s):

Andres Ocampo

Candice Cheung

Michael Gower

Miranda Copenhaver

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 6

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Precision and Predictive Medicine

Abstract Title: Computational analysis of oxygen
 transport through heterogenous microvascular
 networks: A physiologically-relevant toolbox for
 quantitating vasculogenesis and angiogenesis

Presenter: Abhishek Jain

Principal Investigator: N/A

Author(s):

Tanmay Mathur

James Tronolone

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 7

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Precision and Predictive Medicine

Abstract Title: Blood Cytokine Levels as a Predictor
 of Mesh Exposure After Pelvic Organ Prolapse
 Surgery

Presenter: Mihyun Waugh

Principal Investigator: N/A

Author(s):

Nick Boltin

Lauren Wolf

Jane Goodwin

Patti Parker

Ronnie Horner

Matthew Hermes

Thomas Wheeler

Rich Goodwin

Melissa Moss

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 8

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Precision and Predictive Medicine

Abstract Title: The influence of SNR on parameter estimation in an image-driven mathematical model of glioma growth and angiogenesis

Presenter: Megan LaMonica

Principal Investigator: N/A

Author(s):

David Hormuth

Thomas Yankeelov

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 9

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Precision and Predictive Medicine

Abstract Title: Intermittent Hypoxemia: Risk Factor for Retinopathy of Prematurity in Preterm Infants

Presenter: Samaneh Rabienia Haratbar

Principal Investigator: N/A

Author(s):

Samaneh Rabienia Haratbar

Li Chen

Qiang Cheng

Anchit bhattacharya

Xuhui Liu

Faraneh Fathi

Mehrana Mohtasebi

Dara Singh

henrietta S Bada

Elie Abujawdeh

Guoqiang Yu

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 10

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Precision and Predictive Medicine

Abstract Title: Unobserved Heterogeneity in Circulating Autoantibodies in Clinical Subgroups of Rheumatoid Arthritis

Presenter: Jaeyun Sung

Principal Investigator: N/A

Author(s):

Kevin Cunningham

Benjamin Hur

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 11

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Mechanisms of PARP inhibitor resistance in ovarian cancer

Presenter: Adriana Del Pino Herrera

Principal Investigator: N/A

Author(s):

Meghan Ferrall-Fairbanks

Joon-Hyun Song

Mehdi Damaghi

Snigdha Kanadibhotla

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 12

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Logarithmic Signaling Regulate MAPK Stress Response and Survival

Presenter: Hossein Jashnsaz

Principal Investigator: N/A

Author(s):

Zachary Fox

Brian Munsy

Gregor Neuert

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 13

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Elucidating the molecular basis of Atoh1 lineage diversity in the developing hindbrain

Presenter: Jessica Butts

Principal Investigator: N/A

Author(s):

Sih-Rong Wu

Mark Durham

Ryan Dhindsa

Huda Zoghbi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 14

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Uncovering the Role of Methylated Nucleic Acids with Spatial Epigenetics in Cancer Cells

Presenter: Nicholas Zhang

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 15

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Modeling Simultaneous Two-Wavelength Axial Ratiometry Imaging of Clathrin Mediated-Endocytosis

Presenter: Yancey Williams

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster**Number:** 16**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Abstract Title:** Identification of Endogenous Ligands for TREM2 through Unbiased Virtual Screening**Presenter:** Rory Greer**Principal Investigator:** N/A**Author(s):**

Hunter Dean

Thomas Brett

Erik Roberson

Yuhua Song

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster**Number:** 17**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Multiscale Computation Modeling (Summer Undergraduate)****Abstract Title:** The Role of miRNAs and Their Target Genes in Differentiation State of Thyroid Carcinomas**Presenter:** Anna Tang**Principal Investigator:** N/A**Author(s):**

Yonatan Degefu

Mohammad Fallahi-Sichani

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster**Number:** 18**Track:** BIOMANUFACTURING
Cryopreservation In Biomanufacturing**Abstract Title:** Effect of Cryopreservation on Hepatic Stellate, Kupffer, and Sinusoidal Endothelial Cell Viability**Presenter:** Bradley Ellis**Principal Investigator:** Basak Uygun**Author(s):**

Huyun Chen

Mohammadreza Mojoudi

Korkut Uygun

Basak Uygun

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster**Number:** 19**Track:** BIOMANUFACTURING
Cryopreservation in Biomanufacturing**Abstract Title:** High-Throughput Methods for Design of Cryopreservation Procedures**Presenter:** Nima Ahmadvani**Principal Investigator:** N/A**Author(s):**

Adam Higgins

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 20

Track: BIOMATERIALS

Biomaterials Scaffolds (Summer Undergraduate)

Abstract Title: Biomaterials Design for Bioengineered Meat

Presenter: Cara Klinger

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 21

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: Immune Complexes Reduce Disease Severity in Male and Female Preclinical Multiple Sclerosis Models

Presenter: Marian Ackun-Farmmer

Principal Investigator: Christopher M. Jewell

Author(s):

Robert Oakes

Christopher Jewell

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 22

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: Design of Supramolecular Nanofibers for Gastrointestinal Immunotherapies

Presenter: Mia Woodruff

Principal Investigator: Joel Collier

Author(s):

Mia Woodruff

Elizabeth Curvino

Joel Collier

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 23

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: Amyloidogenic Potency and Immunogenicity of Cross-Beta-rich Peptide Biomaterial Vaccines

Presenter: Paresh Shrimali

Principal Investigator: Jai S. Rudra

Author(s):

Sheng Chen

Meredith Jackrel

Jai Rudra

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster

Number: 24

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: Creation of Antibody Fragment Capable of Binding with Protein A for Convenient Purification

Presenter: Misae Nazuka

Principal Investigator: N/A

Author(s):

Atsushi Kuwahara

Koji Sode

Ryutaro Asano

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 25

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: In Situ Visualization of Organoid-Derived Chemokine Gradients within a 3-Dimensional Extracellular Matrix Hydrogel

Presenter: Magdalena Samojlik

Principal Investigator: Cherie Stabler

Author(s):

Edward Phelps

Cherie Stabler

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 26

Track: BIOMATERIALS

**Biomaterials for Immunoengineering
(Summer Undergraduate)**

Abstract Title: DNA-Scaffolded Biomaterials Enable Ratiometric and Density Control of T-cell Stimulation Cues

Presenter: Lariana Cline

Principal Investigator: Tejal Desai

Author(s):

Pierce Hadley

Xiao Huang

Emilie Ronin

Patrick Ho

Qizhi Tang

Tejal Desai

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 27

Track: BIOMATERIALS

**Biomaterials for Immunoengineering
(Summer Undergraduate)**

Abstract Title: Time-Dependent Response of Immune Cells to Modified Titanium Surfaces

Presenter: Luke Sheakley

Principal Investigator: Rene Olivares-Navarrete

Author(s):

Rene Olivares-Navarrete

lais carvalho

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 28

Track: BIOMATERIALS

**Biomaterials for Immunoengineering
(Summer Undergraduate)**

Abstract Title: Optimization of a Hyaluronic Acid-Based Injectable Hydrogel for Macrophage Immunotherapy

Presenter: Mulan Tang

Principal Investigator: John Clegg

Author(s):

John Clegg

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 29

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials (Summer Undergraduate)

Abstract Title: Investigating the Potential of Nacre as a Bone Cement

Presenter: JingJing Liang

Principal Investigator: Ronke Olabisi

Author(s):

Adriana Marble

Ryan Chang

Kristopher White

Ronke Olabisi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 30

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials (Summer Undergraduate)

Abstract Title: Ultraviolet Light Catalyzed Covalent Crosslinking on Benzophenone-Functionalized Cellulose Nanocrystal-Soy Protein Isolate Nanocomposites Increases Mechanical Properties and Water Resistance

Presenter: Kenadie Doty

Principal Investigator: Marcus Foston

Author(s):

Zhenqin(Jerry) Wang

HUIYONG LI

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 31

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: Influenza antigen stability upon release from nanovaccines

Presenter: Alaric Siddoway

Principal Investigator: N/A

Author(s):

Alaric Siddoway

david verhoeven

Kathleen Ross

Michael Wannemuehler

Surya Mallapragada

Balaji Narasimhan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 32

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: High-throughput In Vivo Screening of Immunomodulatory Biomaterials Using Cellular Barcoding for Islets Transplantation

Presenter: Boram Kim

Principal Investigator: N/A

Author(s):

Omid Veisheh

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 33

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: Multidomain Peptide Hydrogel Adjuvants Elicit Strong Bias Towards Humoral Immunity

Presenter: Brett Pogostin

Principal Investigator: Kevin McHugh and Jeffrey Hartgerink

Author(s):

Brett Pogostin

Marina Yu

Alon Azares

ERIN EULIANO

Cheuk Sun Edwin Lai

Gabriel Saenz

Sarah Melhorn

Tyler Graf

Darren Woodside

Jeffrey Hartgerink

Kevin McHugh

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 34

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: Rescuing Macrophage Function to Promote Vascularization in Aged-Populations

Presenter: Justin Silberman

Principal Investigator: N/A

Author(s):

Erika Moore

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 35

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: Analyzing Immune Response to Engineered Hydrogels by Hierarchical Clustering of Inflammatory Cell Subsets

Presenter: Marc Fernandez-Yague

Principal Investigator: Andres J. Gacia

Author(s):

Edward Botchwey

Andres Garcia

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: C, Poster
Number: 36

Track: BIOMATERIALS

Biomaterials for Immunoengineering

Abstract Title: The Development of the Therapeutic mAb Bevacizumab Monitoring System using Anti-idiotypic Aptamer

Presenter: Madoka Nagata

Principal Investigator: Koji Sode

Author(s):

Koji Sode

Kazunori Ikebukuro

Saturday, October 15**9:30 AM - 10:30 AM****Poster Session:** E, Section: C, Row: C, Poster**Number:** 37**Track:** BIOMATERIALS**Biomaterials for Immunoengineering****Abstract Title:** Augmentation of Oral Immunotherapy with Tolerance-inducing Nanoparticles**Presenter:** Rian Harriman**Principal Investigator:** N/A**Author(s):**

N/A

Saturday, October 15**9:30 AM - 10:30 AM****Poster Session:** E, Section: C, Row: C, Poster**Number:** 38**Track:** BIOMATERIALS**Biomaterials for Immunoengineering****Abstract Title:** Development of a Tetravalent Antibody-Enzyme Complexes as an Electrochemical Immunosensing Element**Presenter:** Miho Oda Miho Oda**Principal Investigator:** N/A**Author(s):**

Koji Sode

Kazunori Ikebukuro

Ryutaro Asano

Saturday, October 15**9:30 AM - 10:30 AM****Poster Session:** E, Section: C, Row: C, Poster**Number:** 39**Track:** BIOMATERIALS**Biomaterials for Immunoengineering****Abstract Title:** Development of DNA Aptamers Specifically Recognizing Single-chain Variable Fragments**Presenter:** Mai Hamasaki**Principal Investigator:** Sode Koji**Author(s):**

Ryutaro Asano

Kazunori Ikebukuro

Koji Sode

Saturday, October 15**9:30 AM - 10:30 AM****Poster Session:** E, Section: C, Row: C, Poster**Number:** 40**Track:** BIOMATERIALS**Biomaterials for Immunoengineering****Abstract Title:** N-dihydrogalactochitosan Initiates STING Permeabilization of Lysosomes Causing Type I IFN Production**Presenter:** Sayre Tillery**Principal Investigator:** N/A**Author(s):**

Wei Chen

Sayre Tillery

Saturday, October 15**9:30 AM - 10:30 AM****Poster Session:** E, Section: C, Row: D, Poster**Number:** 41**Track:** BIOMATERIALS**Biomaterials for Immunoengineering****Abstract Title:** T Cell-Responsive Macroporous Hydrogel for In Situ T Cell Expansion**Presenter:** Yusheng Liu**Principal Investigator:** Hua Wang**Author(s):**

Rimsha Bhatta

Joonsu Han

Hua Wang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 42

Track: BIOMATERIALS**Biomaterials for Immunoengineering**

Abstract Title: Dendritic Cell Stimulation and Immune Checkpoint Blockade Using Stimuli Responsive Nanogels

Presenter: Dennis Huang**Principal Investigator:** N/A**Author(s):**

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 43

Track: BIOMATERIALS**Natural and Bioinspired Biomaterials**

Abstract Title: DNA Nanotechnology-based Multiplexed Temporal Controlled Release System Within Gelatin Hydrogel

Presenter: Chih-Hsiang Hu**Principal Investigator:** Remi Veneziano**Author(s):**

Remi Veneziano

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 44

Track: BIOMATERIALS**Natural and Bioinspired Biomaterials**

Abstract Title: Silk Fibroin as a Coating to Extend Corneal Tissue Preservation

Presenter: Devon Hartigan**Principal Investigator:** N/A**Author(s):**

Chiara Ghezzi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 45

Track: BIOMATERIALS**Natural and Bioinspired Biomaterials**

Abstract Title: Structure-Property Relationship of Bottlebrush Polymers in Dilute Solution

Presenter: Ethan Corey**Principal Investigator:** N/A**Author(s):**

Justin Kennemur

Courtney Leo

Ethan Corey

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 46

Track: BIOMATERIALS**Natural and Bioinspired Biomaterials**

Abstract Title: Programmable Polymer-DNA Composite Materials as Synthetic Alternatives to Protein Assemblies

Presenter: Elena Di Mare**Principal Investigator:** Adam J. Gormley**Author(s):**

Rahul Upadhy

Travis Meyer

Adam Gormley

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster

Number: 47

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: In Vitro Release of Encapsulated Proteins in Decellularized Cardiac Tissue Derived Hydrogel

Presenter: Jiazhu Xu

Principal Investigator: N/A

Author(s):

Jiazhu Xu

Kytai Nguyen

Jun Liao

Ge Zhang

Yi Hong

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster

Number: 48

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Sweet Corn Phytoglycogen as a Protein Stabilizing Excipient

Presenter: Junha Park

Principal Investigator: Gregory A. Hudalla

Author(s):

Junha Park

Renjie Liu

Susan Boehlein

Márcio Resende Jr.

Gregory Hudalla

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster

Number: 49

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Hybridgel: Lung ECM Derived Hydrogel with a Cryogel Backbone

Presenter: Leigh-Ann Antczak

Principal Investigator: N/A

Author(s):

Leigh-Ann Antczak

Karah Moore

Rebecca Heise

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster

Number: 50

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Carboxymethyl Kappa-Carrageenan Improves Hemocompatibility and Antibacterial Activity of Surfaces

Presenter: Matt Kipper

Principal Investigator: N/A

Author(s):

Liszt Madruga

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 51

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Highly Resilient Silk Fibroin Elastomers via Conformation-driven Strategy

Presenter: Xuan Mu

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 52

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Development of an Injectable, Supramolecular Hyaluronic Acid Hydrogel for Cell Delivery

Presenter: Sarea Recalde Phillips

Principal Investigator: Daniel Alge

Author(s):

Daniel Alge

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 53

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Antimicrobial Susceptibility Testing Platform Using Chromatic Vesicle Sensors Bearing

Hydrogel

Presenter: Seoyoon Song

Principal Investigator: N/A

Author(s):

Huisoo Jang

Deborah Lee

Sun Min Kim

Tae-Joon Jeon

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 54

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Lignin Composites with Sustained Oxygenation and Antioxidant Properties Improve Neovascularization and Healing of Diabetic Wounds

Presenter: Swathi Balaji

Principal Investigator: Swathi Balaji

Author(s):

Phillip Kogan

Jangwook Jung

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 55

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Disrupted Extracellular Matrix as Cell Culture Substrate to Assess Matrix Regenerative Therapeutics

Presenter: Taylor Krajewski

Principal Investigator: N/A

Author(s):

Taylor Krajewski

Anand Ramamurthi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 56

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Controlled Actuation of Microactuators Towards Adhesives Inspired by Endoparasites

Presenter: Yoo Jin Lee

Principal Investigator: N/A

Author(s):

Yoo Jin Lee

Mustafa Abdelrahman

Taylor Ware

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 57

Track: BIOMATERIALS

Natural and Bioinspired Biomaterials

Abstract Title: Hierarchically Structured Functional Hydrogel and Microbe-Cell Interaction System for Label-free Analysis

Presenter: Yoon Jeong

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 58

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Rheological Behavior Of DSPC-, DBPC-, and DPPC-Lipid Oxygen Microbubbles

Presenter: Riaz Ur Rehman Mohammed

Principal Investigator: Benjamin S. Terry

Author(s):

Riaz Ur Rehman Mohammed

Anna Levorson

Alexander Fan

Awaneesh Upadhyay

Kang-Ho Song

Mark Borden

Ben Terry

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 59

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Mechanisms of Nanoparticle Internalization in Chondrocytes for Cartilage-Targeted Delivery

Presenter: Arjun Panicker

Principal Investigator: N/A

Author(s):

Jessica Aldrich

Kyle Allen

Blanka Sharma

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 60

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Pre-Impact Fall Detection Using ConvLSTM and ResNet

Presenter: Bummo Koo

Principal Investigator: N/A

Author(s):

Jongman Kim

Seung Hee Lee

Sumin Yang

Younho Kim

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 61

Track: BIOMECHANICS

Biofluid Mechanics

Abstract Title: Fluid-Structure Interaction Simulation Of Pulmonary Hypertension In Sickle Cell Disease Patients

Presenter: Fatemeh Bahmani

Principal Investigator: Stephanie M. George

Author(s):

Ali Vahdati

Veeranna Maddipati

Stephanie George

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 62

Track: BIOMECHANICS

Biomechanics In Cell and Tissue Engineering

Abstract Title: Hyperglycemia Alters FAK-associated Protein Mechanosensitivity in Unstimulated Macrophages

Presenter: Courtney Johnson

Principal Investigator: Helim Aranda - Espinoza, PhD and John P. Fisher, PhD

Author(s):

John Fisher

Helim Aranda-Espinoza

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 63

Track: BIOMECHANICS

Cardiovascular Biomechanics

Abstract Title: Aortic Strain as an Early Indicator of Type A Aortic Dissection Risk

Presenter: Leslie George

Principal Investigator: N/A

Author(s):

Ronald Fortunato

David Vorp

Spandan Maiti

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 64

Track: BIOMECHANICS

Cardiovascular Biomechanics

Abstract Title: Difference in the Mechanics of Vascular Smooth Muscle Cells from Wild Type and Apolipoprotein-E Knockout Mice

Presenter: Nisha Khatiwada

Principal Investigator: Zhongkui Hong

Author(s):

Alex Rickel

Zhongkui Hong

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 65

Track: BIOMECHANICS

Other / Non-specified

Abstract Title: Fluid Flow of Different Viscosity Liquids Through Baby Bottle Nipples

Presenter: Amelia Wellmon

Principal Investigator: N/A

Author(s):

Amelia Wellmon

Mark Nicosia

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 66

Track: BIOMECHANICS

Biomechanics In Cell and Tissue Engineering (Summer Undergraduate)

Abstract Title: Collagen Damage Area Fraction, Measured from Second Harmonic Generation Images, Increases Following Tendon Overload in a Rat Model of Synergist Ablation

Presenter: Alyssa Giordani

Principal Investigator: N/A

Author(s):

Lily Lin

Ellen Bloom

Dawn Elliott

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 67

Track: BIOMECHANICS

Biomechanics In Cell and Tissue Engineering (Summer Undergraduate)

Abstract Title: A modular and autonomous bioreactor utilizing an electromechanical system for application of continuous mechanical stimuli on tissue-engineered meniscus constructs

Presenter: Charlotte Lee

Principal Investigator: N/A

Author(s):

Lawrence Bonassar

Byumsu Kim

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 68

Track: BIOMECHANICS

**Biomechanics In Cell and Tissue
 Engineering (Summer Undergraduate)**

Abstract Title: Myofibroblast Differentiation in
 Cardiomyocyte-Cardiac Fibroblast Bilayer Tissues on
 Tunable Synthetic Fibrous Matrices

Presenter: Darcy Huang

Principal Investigator: Brendon Baker

Author(s):

Samuel DePalma

Austin Stis

Robert Kent

Brendon Baker

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 69

Track: BIOMECHANICS

**Biomechanics In Cell and Tissue
 Engineering (Summer Undergraduate)**

Abstract Title: Strategies to Improve
 Osseointegration in a Botox-induced Compromised
 Bone Model

Presenter: Eleanor Sabalewski

Principal Investigator: David Cohen

Author(s):

Jingyao Deng

David Cohen

Zvi Schwartz

Barbara Boyan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 70

Track: BIOMECHANICS

**Biomechanics In Cell and Tissue
 Engineering (Summer Undergraduate)**

Abstract Title: Glioblastoma Core and Rim Exhibit
 Distinct Mechanical and Ultrastructural Signatures

Presenter: Zachary P. Fowler

Principal Investigator: Joseph Chen

Author(s):

Zachary Fowler

Bradley Mahaffey

Joseph Chen

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 71

Track: BIOMECHANICS

**Cardiovascular Biomechanics (Summer
 Undergraduate)**

Abstract Title: Expanding an Artificial Intelligence
 Framework to Predict Wall Stresses in Abdominal
 Aortic Aneurysms

Presenter: Christian Hangey

Principal Investigator: Timothy K. Chung

Author(s):

David Vorp

Timothy Chung

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster

Number: 72

Track: BIOMECHANICS

Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: Optimizing Stereo Digital Image Correlation and 3D Surface Reconstructions in a Bubble Inflation Testing Apparatus

Presenter: Pete Gueldner

Principal Investigator: N/A

Author(s):

David Vorp

Pete Gueldner

Cyrus Darvish

Timothy Chung

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster

Number: 73

Track: BIOMECHANICS

Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: Cardiac Performance and Mortality during Hemorrhagic Shock and REBOA

Presenter: Enrique Carrasco Perez

Principal Investigator: Elaheh Rahbar

Author(s):

Fahim Mobin

Antonio Renaldo

Elaheh Rahbar

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster

Number: 74

Track: BIOMECHANICS

Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: Assessing Density-Driven Rupture of Aortic Aneurysms by Protein Degradation of Porcine Aortic Tissue

Presenter: Emma Ahlgren

Principal Investigator: David Vorp

Author(s):

Pete Gueldner

Isabelle Chickanosky

Cyrus Darvish

Timothy Chung

David Vorp

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster

Number: 75

Track: BIOMECHANICS

Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: Race-Based Differences in Cardiovascular Health with Hypertension: A Pilot Study

Presenter: Naomi Chesler

Principal Investigator: Aiyanna Adams

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 76

Track: BIOMECHANICS
Biofluid Mechanics (Summer Undergraduate)

Abstract Title: Integrating Computational Fluid Dynamics and Transcriptomics to Reveal High-Fat Diet-Induced Myofibroblast Differentiation to Increase Differential Arterial Stiffness
Presenter: Mehrdad Roustaei
Principal Investigator: Tzung K Hsiai
Author(s):
TZUNG KEITH MD, PHD HSIAI
Jae Min Cho
Susana Cavallero

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 77

Track: BIOMECHANICS
Computational and Multiscale Modeling In Biomechanics (Summer Undergraduate)

Abstract Title: Analysis of the Microstructure of Bone Affected by Galactic Cosmic Radiation
Presenter: Nicholas Cavallero
Principal Investigator: Anthony G. Lau
Author(s):
Catherine Davis
Anthony Lau

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 78

Track: BIOMECHANICS
Biomechanics in Cell and Tissue Engineering

Abstract Title: In-Vitro Device Controlling Spatio-temporal Changes for Cardiac Fibroblasts Activation
Presenter: Zheng Cao
Principal Investigator: N/A
Author(s):
Zheng Cao
Elise Corbin

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 79

Track: BIOMECHANICS
Biomechanics in Cell and Tissue Engineering

Abstract Title: Effects of Thermoneutral Housing on Trabecular Bone
Presenter: Andrea Jacobson
Principal Investigator: N/A
Author(s):
Joseph Wallace
Andrea Jacobson

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: D, Poster
Number: 80

Track: BIOMECHANICS

Biomechanics in Cell and Tissue Engineering

Abstract Title: Degradation of Intervertebral Disc Annulus Material Properties with Repeated Loading

Presenter: Kirsten Sipek

Principal Investigator: N/A

Author(s):

Jack Seifert

Alok Shah

Youjie Zhang

narayan Yoganandan

James Sheehy

Brian Stemper

Timothy Bentley

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 81

Track: BIOMECHANICS

Biomechanics in Cell and Tissue Engineering

Abstract Title: A Novel Approach To Measure Stiffness of Tissues: Application To Human Precision Cut Lung Slices

Presenter: Jae Hun Kim

Principal Investigator: N/A

Author(s):

Niccole Schaible

Joseph Hall

Elizabeth Bartolak-Suki

Yuqing Deng

Kenneth Lutchen

Bela Suki

Ramaswamy Krishnan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 82

Track: BIOMECHANICS

Biomechanics in Cell and Tissue Engineering

Abstract Title: Transient nuclear deformation primes epigenetic state and promotes cell reprogramming

Presenter: Yang Song

Principal Investigator: Song Li

Author(s):

Song Li

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 83

Track: BIOMECHANICS

Cardiovascular Biomechanics

Abstract Title: Effect of Doxorubicin Cumulative Dose and Administration Method on Cardiotoxicity in Mice

Presenter: Ashley Herrick

Principal Investigator: Chiara Bellini

Author(s):

Mireia Perera Gonzalez

Deanna Moradi

Jacqueline Matz

Chiara Bellini

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 84

Track: BIOMECHANICS
Cardiovascular Biomechanics

Abstract Title: Reducing Current Risks Of Left Ventricular Assist Device Implants

Presenter: Aishwarya Mantagani

Principal Investigator: Zachary Lawson

Author(s):

Aishwarya Mantagani

anushka bhawsinka

Ankita Rao

Shannon Ingram

Michael Moreno

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 85

Track: BIOMECHANICS
Cardiovascular Biomechanics

Abstract Title: Pentagalloyl Glucose (PGG) Prevents And Restores Mechanical Changes Caused By Elastic Fiber Fragmentation In The Mouse Ascending Aorta

Presenter: Christie Crandall

Principal Investigator: N/A

Author(s):

BRYANT CABALLERO

Jessica Wagenseil

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 86

Track: BIOMECHANICS
Cardiovascular Biomechanics

Abstract Title: Effects of Pulmonary Hypertension on Right Ventricular Perfusion: Insights from a Computational Model

Presenter: Lei Fan

Principal Investigator: N/A

Author(s):

Lei Fan

Jenny Choy

Ghassan Kassab

Lik Chuan Lee

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 87

Track: BIOMECHANICS
Cardiovascular Biomechanics

Abstract Title: Computational simulations of the nonsymmetric fibrous growth and remodeling of arteries under torsion

Presenter: Hai-CHao Han

Principal Investigator: N/A

Author(s):

Qin Liu

Seungik Baek

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 88

Track: BIOMECHANICS

Cardiovascular Biomechanics

Abstract Title: A Novel Image-based Computational Framework to Evaluate In Vivo Material Properties of Arterial Tissue

Presenter: Yifan Wang

Principal Investigator: Luke Timmins

Author(s):

Edward Hsu

Lucas Timmins

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 89

Track: BIOMECHANICS

Cardiovascular Biomechanics

Abstract Title: The Effect of Calcium on Embolus Analog Mechanical Properties

Presenter: Jose Monclova

Principal Investigator: Keefe B. Manning

Author(s):

Priyanka Patki

Francesco Costanzo

Scott Simon

Keefe Manning

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 90

Track: BIOMECHANICS

Cardiovascular Biomechanics

Abstract Title: Extracellular Matrix Regulates Force Transduction At VE-cadherin Adhesions

Presenter: Deborah Leckband

Principal Investigator: N/A

Author(s):

Xinyu Kong

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 91

Track: BIOMECHANICS

Cardiovascular Biomechanics

Abstract Title: Dynamic Viscoelastic Properties of Neonatal and Adult Porcine Heart Muscles

Presenter: Jun Liao

Principal Investigator: Jun Liao

Author(s):

Timothy Eastep

Diana Alatalo

zhi-ping liu

Yi Hong

fatemeh hassanipour

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 92

Track: BIOMECHANICS
Cardiovascular Biomechanics

Abstract Title: Strain History Modulates Cytoskeletal Activation in Cyclically Stretched Valve Interstitial Cells
Presenter: Toni West
Principal Investigator: N/A
Author(s):
Toni West
Daniel Howsmon
Miles Massidda
Aaron Baker
Michael Sacks

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 93

Track: BIOMECHANICS
Cardiovascular Biomechanics

Abstract Title: Effect of ECM and mechanical strain on vascular cell plasticity
Presenter: Travis Brady
Principal Investigator: Sharon Gerecht
Author(s):
Sharon Gerecht

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 94

Track: BIOMECHANICS
Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: Validation of Biomechanical Model-based Elasticity Imaging Methodology with Cardiac Catheterization derived Left Ventricle Pressure-Volume Stiffness
Presenter: Venise Jan Castillon
Principal Investigator: N/A
Author(s):
Jared Weis
Caroline Miller

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 95

Track: BIOMECHANICS
Cardiovascular Biomechanics (Summer Undergraduate)

Abstract Title: Pressure, Axial Stretch and Viscosity Have No Effect on Hydraulic Conductance in Mouse Ascending Aorta
Presenter: Melanie Roberts
Principal Investigator: N/A
Author(s):
Christie Crandall
Jacob Rother
Jessica Wagenseil

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster

Number: 96

Track: BIOMECHANICS

Mechanics of the Respiratory System

Abstract Title: Collapsible Tubes: A Simple Model of Airflow Limitation in Obstructive Sleep Apnea

Presenter: Guilherme Garcia

Principal Investigator: N/A

Author(s):

GUILHERME GARCIA

Shamudra Dey

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster

Number: 97

Track: BIOMECHANICS

Mechanics of the Respiratory System

Abstract Title: Improved Ventilation Distribution Using Airway Impedance Matching for Mechanical Ventilation

Presenter: Liran Oren

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster

Number: 98

Track: BIOMECHANICS

Mechanics of the Respiratory System

Abstract Title: Estimating Single Alveolar Septal Wall Stiffness in Human Precision Cut Lung Slices

Presenter: Joseph Hall

Principal Investigator: N/A

Author(s):

Joseph Hall

Jae Hun Kim

Ramaswamy Krishnan

Kenneth Lutchén

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster

Number: 99

Track: BIOMECHANICS

Mechanics of the Respiratory System (Summer Undergraduate)

Abstract Title: A Quantitative Study of Surfactant Delivery in a Bioengineered Neonatal Lung Airway Tree

Presenter: Beaty Lillian

Principal Investigator: N/A

Author(s):

Hannah Combs

Jacob Heiss

Hossein Tavana

Taylor Shark

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster

Number: 100

Track: BIOMEDICAL ENGINEERING EDUCATION (BME)

Multidisciplinary and Interdisciplinary Curriculum (Summer Undergraduate)

Abstract Title: Understanding the Mechanisms of Diabetes-Related Neurodegeneration

Presenter: David Hernandez-Guzman

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 101

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Multidisciplinary and Interdisciplinary Curriculum (Summer Undergraduate)

Abstract Title: Characterization of Bioprinted Fibroblasts using Molecular and Cytological Techniques

Presenter: Kayla Molina

Principal Investigator: Thomas Boland

Author(s):

PATRICIA ABLANEDO MORALES

April Ruiz

Jonathon Mohl

Thomas Boland

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 102

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Multidisciplinary and Interdisciplinary Curriculum (Summer Undergraduate)

Abstract Title: Algorithmic Detection of Pediatric Chewing Sequences

Presenter: Sarah Sellen

Principal Investigator: Edward Sazonov, Memorie Gosa

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 103

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Experiential Learning (Curricular and Co-Curricular)

Abstract Title: Designing Effective Training Programs for Summer Undergraduate Research Experiences

Presenter: Mark Chapman

Principal Investigator: Mark A. Chapman

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 104

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Design and Curriculum

Abstract Title: Student Team Experiences in a Clinical Immersion Course

Presenter: Ally Bailey

Principal Investigator: N/A

Author(s):

Alexandra Bailey

henry grady rylander

Mia Markey

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 105

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Using Optical Coherence Tomography to Observe Mechanical Changes of Vessels in a Prefusion Bioreactor

Presenter: Reece Fratus

Principal Investigator: Bruce Z. Gao

Author(s):

Adam Baker

Tong Ye

Bruce Gao

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 106

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: In Vitro Utilization of Alpha Technology to Validate Molecular Probes for Diabetic Kidney Disease Detection

Presenter: Jordan Womack

Principal Investigator: Kennita Johnson

Author(s):

Jordan Womack

Rachel Walmer

James Tsuruta

Kennita Johnson

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 107

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging System Development & Emerging Imaging Technologies

Abstract Title: Three-Dimensional Reconstruction of Microscopic Samples from Scanning Electron Microscopy Via Photogrammetry

Presenter: Naman Srivastava

Principal Investigator: N/A

Author(s):

Terry Nguyen

David Le

Jillian Taylor

Kerem Yildiz

Mariele Ford

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 108

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging System Development & Emerging Imaging Technologies (Summer Undergraduate)

Abstract Title: Ex Vivo Phantom Studies to Guide DC Tracking Using Magnetic Particle Imaging

Presenter: Alexander Armstrong

Principal Investigator: Carlos M. Rinaldi-Ramos

Author(s):

Bo Yu

Ginger Moore

Duane Mitchell

Carlos Rinaldi-Ramos

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 109

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

**Imaging System Development & Emerging Imaging Technologies
(Summer Undergraduate)**

Abstract Title: Ergonomic External Endoscope Attachment Device For Smaller Hands

Presenter: Ruth Ochia

Principal Investigator: Ruth Ochia

Author(s):

Grace Buckwalter
Carmel Alexander
Christalle Wilson
Joshua Pletcher
Rania Bakhri

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 110

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging System Development & Emerging Imaging Technologies

Abstract Title: Investigation of quantitative parameters to detect minor changes in tidemark mineralization in adult bovine explants via Scanning Acoustic Microscopy (SAM)

Presenter:

Principal Investigator: Caroline Hoemann

Author(s):

Parag Chitnis
Caroline Hoemann
John Mutersbaugh

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 111

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging System Development & Emerging Imaging Technologies

Abstract Title: Infrared videography of a subcutaneous tattoo overcomes skin motion artifact in rodent kinematics

Presenter: Andrew Spence

Principal Investigator: Andrew J. Spence

Author(s):

George Moukarzel
Bradley Rauscher
Chetan Patil
Andrew Spence

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 112

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging System Development & Emerging Imaging Technologies

Abstract Title: Deep-learning Aided Endoscopic Optical Coherence Tomography for Veress Needle Guidance

Presenter: Chen Wang

Principal Investigator: N/A

Author(s):

Justin Reynolds
Paul Calle
Feng Yan
Yuyang Yan
Kar-Ming Fung
Sanjay Patel
Chongle Pan
Qinggong Tang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 113

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

Abstract Title: Size Distribution Effects on
 Adhesion Efficiency and Specificity of Cloaked-RGD
 Microbubbles

Presenter: Jair Castillo

Principal Investigator: N/A

Author(s):

Mark Borden

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 114

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging System Development &
 Emerging Imaging Technologies**

Abstract Title: Determining The Location and Size
 of Brain Tumor

Presenter: Roshan Bhatt

Principal Investigator: N/A

Author(s):

Roshan Bhatt

Prabir Patra

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 115

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging System Development &
 Emerging Imaging Technologies**

Abstract Title: Using BASIN-ML for Cellular
 Analysis and Data Interpretation

Presenter: Sam Haas

Principal Investigator: N/A

Author(s):

Tim Hartman

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 116

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging System Development &
 Emerging Imaging Technologies**

Abstract Title: DNA-Caged Polymer Micelles for
 Erasable, Repeated Cell Labeling

Presenter: Silvio Fernandes-Junior

Principal Investigator: N/A

Author(s):

Jessica Winter

Jose Otero

Elizabeth Jergens

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 117

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging System Development &
 Emerging Imaging Technologies**

Abstract Title: Conventional And Pioneering
 Technologies In Cardiovascular Imaging

Presenter: Quinn Hanses

Principal Investigator: N/A

Author(s):

Quinn Hanses

Yasser Aboelkassem

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 118

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging System Development &
 Emerging Imaging Technologies**

Abstract Title: Labeling Dendritic Cells with
 Magnetic Nanoparticles Tailored for Magnetic
 Particle Imaging

Presenter: Bo Yu

Principal Investigator: N/A

Author(s):

Bo Yu

N'Quel Bonner

Ginger Moore

Sitong Liu

Angelie Rivera-Rodriguez

Duane Mitchell

Carlos Rinaldi-Ramos

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 119

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

Abstract Title: MR Spectroscopy Investigation
 of Brain Metabolites in High School Football and
 Soccer Players

Presenter: Antonia Susnjar

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: E, Poster
Number: 120

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Imaging System Development &
 Emerging Imaging Technologies**

Abstract Title: eeDAP Registration Accuracy for
 Validation of Whole Slide Imaging Systems

Presenter: Katherine Elfer

Principal Investigator: N/A

Author(s):

Anant Agrawal

Brandon Gallas

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 121

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: Metabolic Imaging of Neuroblastoma
Cells in Response to Interferon Gamma
Presenter: Cole Weaver
Principal Investigator: N/A
Author(s):
Cole Weaver
Dan Pham
Melissa Skala

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 122

Track: CANCER TECHNOLOGIES
**Cancer Cell Motility and Migration
(Summer Undergraduate)**

Abstract Title: Evaluating the Normal Tissue
Radiation Response Using Extracellular Matrix
Hydrogels
Presenter: Anastasia Shostak
Principal Investigator: Marjan Rafat
Author(s):
Marjan Rafat

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 123

Track: CANCER TECHNOLOGIES
**Cancer Cell Motility and Migration
(Summer Undergraduate)**

Abstract Title: Optimization of cell-mediated gelatin
hydrogel for efficient migration assays
Presenter: Danna Valentina
Principal Investigator: Sanchez Hernandez
Author(s):
Amir K. Miri
Elvan DOGAN KUMTEPE

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 124

Track: CANCER TECHNOLOGIES
**Cancer Cell Motility and Migration
(Summer Undergraduate)**

Abstract Title: Investigating Traction Forces
of Breast Cancer K14+ Leader Cells in Tumor
Organoids
Presenter: Ella Ramamurthy
Principal Investigator: Priscilla Hwang
Author(s):
Jessanne Lichtenberg
Priscilla Hwang
Christopher Lemmon

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 125

Track: CANCER TECHNOLOGIES
Cancer Cell Motility and Migration
(Summer Undergraduate)

Abstract Title: Fisetin Inhibition of Invasion of Triple Negative Breast Cancer Cells in a 3D Tumor Model

Presenter: Nina Treacher

Principal Investigator: Hossein Tavana

Author(s):

Jacob Heiss

Astha Lamichhane

Hossein Tavana

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 126

Track: CANCER TECHNOLOGIES
Cancer Cell Motility and Migration
(Summer Undergraduate)

Abstract Title: Mechanisms of Macrophage Recruitment and Infiltration in HER2+ Breast Cancer

Presenter: Laurel Koehler

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 127

Track: CANCER TECHNOLOGIES
Cancer Cell Motility and Migration

Abstract Title: Membrane Cholesterol Depletion Modulates Adhesion of Non-small Cell Lung Cancer Cells on E-selectin

Presenter: Amina Mohammadalipour

Principal Investigator: N/A

Author(s):

Amina Mohammadalipour

Christian Showalter

Amir Farnoud

Monica Burdick

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 128

Track: CANCER TECHNOLOGIES
Cancer Cell Motility and Migration

Abstract Title: Studying Glioblastoma Invasion Dynamics with a 3D Spheroid Assay

Presenter: Bhoomija Hariprasad

Principal Investigator: N/A

Author(s):

Bhoomija Hariprasad

Adam Hall

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 129

Track: CANCER TECHNOLOGIES
Cancer Cell Motility and Migration

Abstract Title: Cell migration simulator-based biomarkers for glioblastoma

Presenter: Jay Hou

Principal Investigator: N/A

Author(s):

David Odde

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 130

Track: CANCER TECHNOLOGIES

Cancer Cell Motility and Migration

Abstract Title: Cancer-secreted aquaporin-containing extracellular vesicles: cancer promoting signals of the tumor microenvironment.

Presenter: Ian Smith

Principal Investigator: N/A

Author(s):

Kimberly Stroka

Steven Jay

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 131

Track: CANCER TECHNOLOGIES

Cancer Cell Motility and Migration

Abstract Title: Maternal Obesity Driven Changes in Breast Extracellular Matrix Induces Invasive Cell Phenotype

Presenter: Jensen Amens

Principal Investigator: N/A

Author(s):

Gokhan Bahcecioglu

Kiera Dwyer

Sharon Stack

Tyvette Hilliard

Pinar Zorlutuna

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 132

Track: CANCER TECHNOLOGIES

Cancer Cell Motility and Migration

Abstract Title: Modeling Biomechanical Initiating Events in Ovarian Cancer Metastasis to the Peritoneum

Presenter: Kelly Kyker-Snowman

Principal Investigator: N/A

Author(s):

David Shreiber

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 133

Track: CANCER TECHNOLOGIES

Cancer Cell Motility and Migration

Abstract Title: Laminin Isoforms Selectivity in the Control of Skeletal Metastasis Migration: a Mechanism Involving Mesenchymal Stem Cells

Presenter: Rodrigo Somoza

Principal Investigator: N/A

Author(s):

Miguel Fuentes

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 135

Track: CANCER TECHNOLOGIES

Cancer Cell Motility and Migration

Abstract Title: Migrational Crosstalk in Glioblastoma-Normal Human Astrocyte Co-Cultures in Brain Mimetic Hydrogels

Presenter: Jessica Winter

Principal Investigator: N/A

Author(s):

Yixiao Cui

Paul Lee

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 136

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies (Summer Undergraduate)

Abstract Title: A 3D Microtissue Model for Quantifying Cancer Cell Migration and Directionality

Presenter: Mary Kathryn Sewell-Loftin

Principal Investigator: M.K. Sewell-Loftin

Author(s):

Peyton Clark

Mary Kathryn Sewell-Loftin

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 137

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies (Summer Undergraduate)

Abstract Title: Engineering an Organ Chip Assay for Measuring Cancer-Induced Endothelial Barrier Dysfunction

Presenter: Omar Ahmad

Principal Investigator: Mark Mondrinos

Author(s):

Mark Mondrinos

Ashley Martier

Charles Byrne

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 138

Track: CANCER TECHNOLOGIES
Other / Non-specified (Summer Undergraduate)

Abstract Title: The Effects of Low-Dose Ionizing Radiation on MCF-12 Breast Cells and Free Extracted RNA in Solution

Presenter: Delphine Dean

Principal Investigator: Maria Dobransky

Author(s):

Maria Dobransky

Riya Gupta

Delphine Dean

Congyue Peng

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 139

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Peristalsis Mechanotransduction Drives Colorectal Cancer Invasion via YAP1 Activation

Presenter: Abbie Clevenger

Principal Investigator: N/A

Author(s):

Anirudh Madyastha

Annaliese Fowler

Dillon Noltensmeyer

Shreya Raghavan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 140

Track: CANCER TECHNOLOGIES

Engineered Cancer Models for In Vitro Studies

Abstract Title: Matrix Stiffness Regulates CD44, HIF1-A, MMP Expressions in 3D Bioprinted Soft Tissue Sarcoma

Presenter: Amir K. Miri

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 141

Track: CANCER TECHNOLOGIES

Engineered Cancer Models for In Vitro Studies

Abstract Title: Tumor Cells Ablate Lymphatic Endothelium During Vascular Escape of Engineered Breast Microtumors

Presenter: Alex Seibel

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 142

Track: CANCER TECHNOLOGIES

Metastasis, Dormancy & Treatment Response

Abstract Title: Metastasis of breast cancer patient-derived circulating tumor cells in zebrafish model

Presenter: Hyeyeon Gong

Principal Investigator: N/A

Author(s):

Hyeyeon Gong

Xiaoming He

Kandice Tanner

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster

Number: 143

Track: CANCER TECHNOLOGIES

Metastasis, Dormancy & Treatment Response

Abstract Title: Piezo1 Mechano-Activation is Augmented by Resveratrol and Differs Between Colorectal Cancer Cells of Primary and Metastatic Origin

Presenter: Joshua Greenlee

Principal Investigator: N/A

Author(s):

Kevin Liu

Maria Lopez Cavestany

Michael King

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 144

Track: CANCER TECHNOLOGIES
Metastasis, Dormancy & Treatment Response

Abstract Title: Optimizing Impedance-based In Vitro Assays For Characterization Of Breast Cancer Metastatic Potential

Presenter: Kyndra Higgins

Principal Investigator: N/A

Author(s):

Kyndra Higgins

Cheryl Gomillion

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 145

Track: CANCER TECHNOLOGIES
Metastasis, Dormancy & Treatment Response

Abstract Title: Investigating the Role of Neutrophil-Endothelial Interactions in Triple Negative Breast Cancer Recurrence

Presenter: Shannon Martello

Principal Investigator: N/A

Author(s):

Marjan Rafat

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 146

Track: CANCER TECHNOLOGIES
Metastasis, Dormancy & Treatment Response

Abstract Title: Macrophage Nano-Immunotherapies Reduce Ovarian Cancer Liver Metastasis in Bioengineered 3D Model

Presenter: Sabrina VandenHeuvel

Principal Investigator: N/A

Author(s):

Dillon Noltensmeyer

Heather Farris

Sanjana Roy

Eric Chau

Alex Walsh

Biana Godin

Shreya Raghavan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 147

Track: CANCER TECHNOLOGIES
Metastasis, Dormancy & Treatment Response

Abstract Title: Magnetic Microrobots for Liver Cancer Cell Manipulation and Treatment

Presenter: Sudipta Mallick

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 148

Track: CANCER TECHNOLOGIES
Metastasis, Dormancy & Treatment Response

Abstract Title: Engineering a Tapered Vascular Structure for Studying the Extravasation Pattern of Breast Circulating Tumor Microemboli
Presenter: Ting-Yuan Tu
Principal Investigator: N/A
Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 149

Track: CANCER TECHNOLOGIES
Circulating Biomarkers: CTCs, Extracellular Vesicles and DNA (Summer Undergraduate)

Abstract Title: Impact of Focused Ultrasound on Breast Cancer-derived Extracellular Vesicle Release In Vitro
Presenter: Nini Tran
Principal Investigator: N/A
Author(s):
Nghi Tran
Natasha Sheybani
Eric Thim
Sarah Hernandez

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 150

Track: CANCER TECHNOLOGIES
Tumor Microenvironment (Summer Undergraduate)

Abstract Title: Determining the role of metabolism and ROS production on heterogeneous breast cancer cell migration
Presenter: Reethi Padmanabhan
Principal Investigator: N/A
Author(s):
Jenna Mosier
Samantha Schwager
Addison White
Qinzhe Xing
Andrea Valero
Lauren Hapach
Paul Taufalele
Ismael Ortiz
Cynthia Reinhart-King

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 151

Track: CARDIOVASCULAR ENGINEERING
Angiogenesis and Engineered Vascularization

Abstract Title: Prevascularization of Tissue-Engineered Cardiac Patch using Human Induced Pluripotent Stem Cell Derived Endothelial Cells
Presenter: Te-An Chen
Principal Investigator: Feng ZHao
Author(s):
Te-An Chen
Sameeksha Sharma
Xiaojun Lian
Feng ZHao

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 152

Track: CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis

Abstract Title: Thrombin Initiates Coagulation While Limiting Clot Firmness in the Context of Rotational Thromboelastometry

Presenter: Evan Elko

Principal Investigator: Keefe B Manning

Author(s):

Connor Watson

Keefe Manning

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 153

Track: CARDIOVASCULAR ENGINEERING
Angiogenesis and Engineered Vascularization (Summer Undergraduate)

Abstract Title: ROCK Regulates TSP-1 and Endothelial Marker Expression in Vasa Vasorum-Derived Pericyte Spheroids

Presenter: Dalia Fantini

Principal Investigator: Julie Phillippi

Author(s):

Julie Phillippi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 154

Track: CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis (Summer Undergraduate)

Abstract Title: Estimation of Changes in Tissue Oxygen Consumption by the Tissue after Hemorrhagic Shock Resuscitation

Presenter: Adam Engler

Principal Investigator: Pedro Cabrales

Author(s):

Pedro Cabrales

Carlos Munoz

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 155

Track: CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis (Summer Undergraduate)

Abstract Title: Using DNA Origami Nanostructures to Understand the Impact That Clustering of von Willebrand Factor's (VWF) Arginine-Glycine-Aspartate (RGD) Motif has on Platelet Spreading

Presenter: Lesley Martinez

Principal Investigator: N/A

Author(s):

Molly Mollica

Nathan Sniadecki

Wendy Thomas

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 156

Track: CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis (Summer Undergraduate)

Abstract Title: Blood Clot Composition in Mouse Model Deep Vein Thrombosis

Presenter: Riley McDonald

Principal Investigator: Colleen Crouch

Author(s):

Leah Gutzwiller

Anna Crouch

Bryan Good

Rahul Sheth

Ryan Thompson

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 157

Track: CARDIOVASCULAR ENGINEERING
Other / Non-specified (Summer Undergraduate)

Abstract Title: Primary cilia loss renders pyramidal neurons susceptible to perinatal ketamine-induced dendritic degeneration and learning deficits

Presenter: Nikita Reddy

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 158

Track: CARDIOVASCULAR ENGINEERING
Angiogenesis and Engineered Vascularization

Abstract Title: Two-dimensional Nanosilicates Stimulate Angiogenesis in Endothelial Cells

Presenter: Giriraj Lokhande

Principal Investigator: N/A

Author(s):

Kanwar Abhay Singh

Anna Kersey

Irtisha Singh

Akhilesh Gaharwar

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: F, Poster
Number: 159

Track: CARDIOVASCULAR ENGINEERING
Angiogenesis and Engineered Vascularization

Abstract Title: Electromics: Concurrent Electrical Stimulation, TEER Monitoring and Gene Expression

Presenter: Anthony Guiseppi-Elie

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 161

Track: CANCER TECHNOLOGIES
**Cancer Immunoengineering,
Immunomodulation and
Immunotherapy**

Abstract Title: The Macrophage-Endothelial Interface Mediates CAR T-cell Associated Toxicities In Vitro

Presenter: Robert Rosen

Principal Investigator: N/A

Author(s):
Martin Yarmush

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 162

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Cell Migration

Abstract Title: Microcontact Printing to Study Migration in 2D Confinement

Presenter: Allen Yesin

Principal Investigator: Andrew Holle

Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 163

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: Progerin-induced Changes on Endothelial Cell Migration During Wound Healing under Shear

Presenter: Julie Ji

Principal Investigator: Julie Y. Ji

Author(s):
Yizhi Jiang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 164

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration (Summer Undergraduate)

Abstract Title: PEG Reinforced Gelatin Scaffold Promotes Uniform Chondrogenesis of Human MSCs

Presenter: Alyssa Aguglia

Principal Investigator: N/A

Author(s):
Hang Lin

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 165

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration (Summer Undergraduate)

Abstract Title: Evaluation of Nucleolin as an E-Selectin Ligand on Breast Cancer Cell Lines

Presenter: James Smith

Principal Investigator: Monica M. Burdick

Author(s):
Yinan Huang
Monica Burdick

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 166

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Cell Migration (Summer Undergraduate)

Abstract Title: THP-1 Macrophages Influence
 SNAP CAR-T Cell Infiltration in the Tumor
 Microenvironment

Presenter: Jacob Antonello

Principal Investigator: Ioannis Zervantonakis

Author(s):

Ioannis Zervantonakis

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 167

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Cell Migration (Summer Undergraduate)

Abstract Title: Different Effects of Collagens I and
 IV on Collective Cell Migration

Presenter: Kenny Nguyen

Principal Investigator: Amit Pathak

Author(s):

Christopher Walter

Hannah Zmuda

Amit Pathak

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 168

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Cell Migration (Summer Undergraduate)

Abstract Title: Investigating Actin and Microtubule
 Crosstalk through Physical Linkage

Presenter: Lauren Brown

Principal Investigator: Tatyana Svitkina

Author(s):

Tatyana Svitkina

Xingyuan Fang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 169

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Cell Migration (Summer Undergraduate)

Abstract Title: Analyzing the Molecular Regulation
 of Toroid Development

Presenter: Savannah Orton

Principal Investigator: Jay D. Potts

Author(s):

Mark Uline

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 170

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Cell Migration (Summer Undergraduate)

Abstract Title: Using an Active-gel Field Theory to Describe the Self-Assembly of Cells into Spheroids and Toroids in Collagen

Presenter: Sean Folan

Principal Investigator: N/A

Author(s):

Sean Folan

Mark Uline

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 171

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Imaging In Live Cells (Summer Undergraduate)

Abstract Title: FRET Multiplexing Platform to Investigate cAMP/PKA and ERK Signaling Crosstalk

Presenter: Ananya Bharath

Principal Investigator: Jin Zhang

Author(s):

Clara Posner

Jeremiah Keyes

Jin Zhang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 172

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Imaging In Live Cells (Summer Undergraduate)

Abstract Title: Force-Induced Accumulation of Tensin and LIM Proteins Along Keratin Fibers

Presenter: Karen ZHao

Principal Investigator: Soichiro Yamada

Author(s):

Joleen Cheah

Soichiro Yamada

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 173

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Imaging in Live Cells

Abstract Title: A fluorescent sensor for imaging islet amyloid in living cells reveals intracellular amyloid aggregates in human diabetic beta cells

Presenter: Ivan Arrelola

Principal Investigator: N/A

Author(s):

Ivan Arreola

Sun Jiawei

WENJUN TANG

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 174

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: M2 but not M1 macrophages can be induced to migrate against the direction of shear flow

Presenter: Alexander Buffone

Principal Investigator: Alexander Buffone

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 175

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: Fluid Viscosity Enhances Breast Cancer Metastasis Through Coordinated Activity Between Volume-Regulatory And Mechanosensitive Ion Channels

Presenter: Alexander Kiepas

Principal Investigator: N/A

Author(s):

Kaustav Bera

Ines Godet

Selma Serra

ANINDYA Sen

Se Jong Lee

Yuqi Zhang

Daniele Gilkes

Miguel Valverde

Konstantinos Konstantopoulos

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 176

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: Leader Cells and Vimentin Intermediate Filaments in 3D Collective Migration

Presenter: Alex Hruska

Principal Investigator: N/A

Author(s):

Alex Hruska

Ian Wong

Alejandro Marzoratti

Haiqian Yang

ming guo

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 177

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: Examining the Relationship Between P-cadherin and the Hippo Signaling Pathway in Collective Cell Migration

Presenter: Amanda Pearson

Principal Investigator: Priscilla Hwang

Author(s):

Amanda Pearson

Sydney Tran

Priscilla Hwang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 178

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Cell Migration

Abstract Title: Directional CD4+ T Cells Migration under Flow on ICAM-1 Depends on Microfluidic Channel Width
Presenter: Adam Suppes
Principal Investigator: N/A
Author(s):
Adam Suppes
Daniel Hammer

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 179

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Cell Migration

Abstract Title: Metastasis of Breast Cancer Cells Through the Chorioallantoic Membrane Vascular Network of the Chick Embryo.
Presenter: Gilda Castellanos
Principal Investigator: Carlos Luna-Lopez
Author(s):
Carlos Luna

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 180

Track: CELLULAR AND MOLECULAR

BIOENGINEERING

Cell Migration

Abstract Title: Dynamic changes in the niche and transcription trigger early murine and human pluripotent stem cell-derived liver organogenesis
Presenter: Daniel Guiggey
Principal Investigator: N/A
Author(s):
Daniel Guiggey
Ogechi Ogoke
Natesh Parashurama

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 181

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Cell Migration

Abstract Title: Modulation of Cell Motility via Integrin-mediated Single Molecular Force
Presenter: Dong-Hwee Kim
Principal Investigator: Dong-Hwee Kim
Author(s):
Seong-Beom Han

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 182

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Cell Migration

Abstract Title: Neutrophils: A Journey to the Center of the Swarm
Presenter: Jacob Doon-Ralls
Principal Investigator: N/A
Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 183

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Cell Migration

Abstract Title: A Microfluidic Enrichment of Presenescent Stem Cells Based on Differences in the Migratory Potential
Presenter: Farshad Amiri
Principal Investigator: N/A
Author(s):
Farshad Amiri
Farnaz Hemmati
Panagiotis Mistriotis

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 184

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Cell Migration

Abstract Title: Investigating P-cadherin Mediated Traction Forces in Epithelial Collective Cell Migration
Presenter: Sydnie Tran
Principal Investigator: Priscilla Hwang
Author(s):
Sydnie Tran
Santiago Lopez
Christopher Lemmon
Daniel Conway
Priscilla Hwang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 185

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Molecular Imaging in Live Cells

Abstract Title: Imaging Respiratory Syncytial Virus Infection with High Spatial and Temporal Resolution
Presenter: Margaret Mitrovich
Principal Investigator: N/A
Author(s):
Michael Vahey

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 186

Track: CELLULAR AND MOLECULAR
BIOENGINEERING
Molecular Imaging in Live Cells

Abstract Title: Characterization of Small Cytotoxic Membrane Vesicles Produced by *Pseudomonas aeruginosa*
Presenter: Qi Xu
Principal Investigator: N/A
Author(s):
Natalia Kirienko
Emily Zhou

Saturday, October 15**9:30 AM - 10:30 AM**

Poster Session: E, Section: C, Row: G, Poster
Number: 187

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Single-Cell Measurements and Models

Abstract Title: Persister E. coli Cells Respond to
 Ampicillin Treatment through Surface Manipulations:
 AFM Study

Presenter: Nehal Abu-Lail

Principal Investigator: Nehal I Abu-Lail

Author(s):
 Samuel Uzoechi

Saturday, October 15**9:30 AM - 10:30 AM**

Poster Session: E, Section: C, Row: G, Poster
Number: 188

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Abstract Title: Untargeted metabolomic and
 lipidomic profiling for Golgi molecular content via
 immunoprecipitation (Golgi-IP)

Presenter: Wentao Dong

Principal Investigator: N/A

Author(s):
 N/A

Saturday, October 15**9:30 AM - 10:30 AM**

Poster Session: E, Section: C, Row: G, Poster
Number: 189

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Companion Diagnostics for
 Treatment of Chronic Kidney Disease

Presenter: Ali Soleimani

Principal Investigator: Maral Mousavi

Author(s):
 Farbod Amirghasemi
 Maral Mousavi

Saturday, October 15**9:30 AM - 10:30 AM**

Poster Session: E, Section: C, Row: G, Poster
Number: 190

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Selective Detection of Acetylcholine
 with a Fluorous-Phase Superhydrophobic Sensing
 Membrane

Presenter: Farbod Amirghasemi

Principal Investigator: Maral Mousavi

Author(s):
 Maral Mousavi

Saturday, October 15**9:30 AM - 10:30 AM**

Poster Session: E, Section: C, Row: G, Poster
Number: 191

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Using Nanoparticle-Enabled
 Immunoassay to Detect Extracellular Vesicle Surface
 Markers in an Electrochemical Microtiter Plate

Presenter: Seonhwa Lee

Principal Investigator: Alexander Revzin

Author(s):
 Alan Gonzalez-Suarez
 Alexander Revzin

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 192

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Biosensors (Summer Undergraduate)

Abstract Title: Frequency Analysis of sEMG Data to
 Compare Swallow and Non-Swallow Muscle Activity

Presenter: Caitlin Greene

Principal Investigator: Todd Freeborn PhD, and
 Memorie Gosa PhD, CCC-SLP, BCS-S

Author(s):
 Todd Freeborn

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 193

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Biosensors (Summer Undergraduate)

Abstract Title: A rapid label-free electrochemical
 urine biosensor for Chronic Kidney Disease
 management

Presenter: Varun Gunda

Principal Investigator: Shalini Prasad

Author(s):
 Varun Gunda
 Antra Ganguly
 Shalini Prasad

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 194

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Redox Peak Tracking for Longer-
 Lasting and Reference-Electrode-Free Electrochemical
 Biosensing

Presenter: Mark Friedel

Principal Investigator: N/A

Author(s):
 Adam McHenry
 Mark Friedel
 Jason Heikenfeld

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 195

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Automated Hypoxia Chamber
 for Cell Culture with High Accuracy and Mobile
 Visualization

Presenter: Harish Ramachandramoorthy

Principal Investigator: Kytai Nguyen

Author(s):
 Tuan Dang
 Ankitha Srinivasa
 Kytai Nguyen
 VP Nguyen

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 196

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Biosensors

Abstract Title: Detecting Physiological
Concentrations of Alzheimer's Disease Associated
Amyloid- β Oligomers Using Cell-Based Response and
Aggregation-Based Amplification
Presenter: Brittany Watson
Principal Investigator: N/A
Author(s):
Melissa Moss

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 197

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Biosensors

Abstract Title: A Split Enzyme-based System for
Sensitive Detection of Proteins and Small Molecules
at the Point of Care
Presenter: Catherine Majors
Principal Investigator: N/A
Author(s):
Keith Tyo

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 198

Track: DEVICE TECHNOLOGIES AND

BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Glucose and Galactose Utilization
Determination through Electrochemical Sensors
(GUIDES): A Platform to Assess Human Metabolic
Responses
Presenter: Cornelia Greyling
Principal Investigator: N/A
Author(s):
Shalini Prasad

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 199

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Biosensors

Abstract Title: Induced Charge Electrophoresis of
Janus Microparticles for Biosensing
Presenter: Cooper Thome
Principal Investigator: N/A
Author(s):
Cooper Thome

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: G, Poster
Number: 200

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Biosensors

Abstract Title: Fabricating Stretchable Paper-
Based Substrates with a Core-Sheath Structure for
Papertronics
Presenter: Joab Dorsainvil
Principal Investigator: N/A
Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 201

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Novel Material And Method For
Ocular Disease Prognosis

Presenter: Kunal Mitra

Principal Investigator: N/A

Author(s):

Angelo Karavolos

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 202

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Close Bipolar Electrode Based
Sensing System for Chloride and Lactate

Presenter: Luke Shehee

Principal Investigator: N/A

Author(s):

Luke Shehee

David Probst

Koji Sode

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 203

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Development of Insulin Sensor for in
vivo Continuous Monitoring System

Presenter: Mika Hatada

Principal Investigator: N/A

Author(s):

Mika Hatada

Mukund Khanwalker

Jeffrey La Belle

Koji Sode

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 204

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Label-free Basophil Activation
Monitoring by Impedance Flow Cytometry

Presenter: Sungu Kim

Principal Investigator: N/A

Author(s):

Sungu Kim

Sindy Kam Yan Tang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 205

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Development of Disposable POCT
Type Electrochemical Sensor for C-reactive Protein
Using Anti-CRP Single Chain Antibody

Presenter: Varun Kochar

Principal Investigator: N/A

Author(s):

Mukund Khanwalker

Koji Sode

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 206

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Continuous Monitoring of Insulin
Release In Vivo with a ZIMIR-Functionalized Optical
Fiber System

Presenter: Wen-hong Li

Principal Investigator: N/A

Author(s):

jian gu

Christian Preihs

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 207

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Biosensors

Abstract Title: Magnetoelastic Sentinels for Real-
Time Tracking of Cell Growth

Presenter: William Skinner

Principal Investigator: N/A

Author(s):

Sunny Zhang

Robert Guldberg

Keat Ghee Ong

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 208

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION (Late Breaking) > -

**Magnetic Resonance Imaging and
Applications (MRI) (Late Breaking)**

Abstract Title: Patterns of Atrophy in Alzheimer's
Disease Subtypes

Presenter: Emily Iannopollo

Principal Investigator: N/A

Author(s):

Shannon Risacher

Kara Garcia

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 209

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

**Implantable Sensors and Devices
 (Summer Undergraduate)**

Abstract Title: Development of an Implantable Soft
 Cardiac Temperature Sensor
Presenter: Avanti Panajkar
Principal Investigator: Lin Zhang
Author(s):
 N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 210

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

**Wearable Sensors and Devices (Summer
 Undergraduate)**

Abstract Title: Development of a Vibrotactile
 Stimulating Device
Presenter: Nathan Green
Principal Investigator: N/A
Author(s):
 Takafumi Asaki

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 211

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Implantable Sensors and Devices

Abstract Title: In Vitro Evaluation of an Insertable
 Hydrogel Multianalyte Sensor
Presenter: Brian Ko
Principal Investigator: N/A
Author(s):
 Michael McShane

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 212

Track: BIOMATERIALS
Other / Non-specified

Abstract Title: Synthesis of Various Size bioactive 2D
 Nanosilicates by Hydrothermal Reaction
Presenter: Anna Keller
Principal Investigator: N/A
Author(s):
 Kanwar Abhay Singh
 John Soukar
 Sarah Hargett

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 213

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: siRNA Delivery from Extracellular
 Vesicles for Vascular Elastic Matrix Regenerative
 Repair
Presenter: Andrine larsen
Principal Investigator: N/A
Author(s):
 SAJEESH THAMPI
 Anand Ramamurthi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 214

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Characterization of dextran-coated magnetic nanoparticles (Fe_3O_4) conjugated with monoclonal antibodies through magnet and centrifugation based buffer separation processes

Presenter: Mahbub Hasan

Principal Investigator: Sang-Suk Lee

Author(s):

Jong-Gu Choi

Hafeza Akter

Sang-Suk Lee

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 215

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Blood-Brain Barrier Opening using Acoustic Droplet Vaporization and Electric Cell-Substrate Impedance Sensing

Presenter: Marie Aimee Kayitesi

Principal Investigator: Joseph L. Bull

Author(s):

Eiichiro Yamaguchi

Jonah Harmon

Natalie Schwartz

Donald Gaver

Joseph Bull

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 216

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Transcutaneous Refill of Solid Therapeutics to Extend Drug Release from Implantable Devices

Presenter: Nicola Di Trani

Principal Investigator: Alessandro Grattoni

Author(s):

Fernanda Pons-Faudoa

Alessandro Grattoni

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 217

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Investigating the Therapeutic Potential of Iron Scavenging Protein Cocktail for Burn Injury Treatment

Presenter: Swathi Vijayakumar Reddy

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 218

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Thermally Induced Ocular Drug Delivery Enhancement: Experiments on a Partially Liquefied Eye Model
Presenter: Stephanie O'Gara
Principal Investigator: N/A
Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 219

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Rapid Release of Voriconazole from Mesoporous Silica Chitosan Composite for Ocular Drug Delivery
Presenter: Xin Fu
Principal Investigator: Albert F. Yee
Author(s):
Kara Metzger
Brian Trewyn
Albert Yee

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 220

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: Developing a Fibrin Based Drug Delivery System for Treatment of Staphylococcus Aureus Biofilms
Presenter: Adrian Aligwekwe
Principal Investigator: Ashley Carson Brown
Author(s):
Adrian Aligwekwe
Grant Scull
Alejandro Valdes
Drew Koch
Lauren Schnabel
Joshua Pierce
Ashley Brown

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 221

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: Delivery Of Lipids Beyond The Blood-Brain-Barrier (Bbb) Via Self-Assembling Pamam-Lipid Nanoaggregates
Presenter: Briana Simms
Principal Investigator: Tatiana Segura
Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 222

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: Testing Lipid Nanoparticle Formulations for Targeted Delivery to Lymphatic Endothelial Cells in vitro.
Presenter: Enrique Rodriguez
Principal Investigator: J Brandon Dixon
Author(s):
Yarelis Gonzalez-Vargas
Brandon Dixon
Eleftheria Michalaki

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 223

Track: DRUG DELIVERY
Other / Non-specified (Summer Undergraduate)

Abstract Title: A Microfluidic Model of Mannitol-Induced Blood-Brain Barrier Disruption
Presenter: Grace Qian
Principal Investigator: N/A
Author(s):
Marie Aimee Kayitesi
Ashley Martier
Elisabet Olsen
Jeannette Nyiramana
Wills Kpeli
Mark Mondrinos
Joseph Bull

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 224

Track: DRUG DELIVERY
Cancer Drug Delivery

Abstract Title: Nanomedicine Drug Combinations for the Treatment of Tumor-Induced Bone Disease
Presenter: Kristopher Castillo
Principal Investigator: N/A
Author(s):
Richard d'Arcy
Craig Duvall

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 225

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Iontophoretic Ocular Delivery of Latanoprost-loaded PLGA Nanoparticles for Glaucoma Treatment
Presenter: Chang Hee Min
Principal Investigator: N/A
Author(s):
Chang Hee Min
Se Na Kim
Han Bi Ji
Cho Rim Kim
Jae Hoon Han
Min Ji Kim
Young Bin Choy

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 226

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Optical Neuropeptide Uncaging From Photosensitive Nanovesicles

Presenter: Davis John

Principal Investigator: N/A

Author(s):

Hejian Xiong

Davis John

Zhenpeng Qin

Paul Slesinger

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 227

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Microchannel-embedded implantable device with fibrosis suppression for controlled drug delivery

Presenter: Han Bi Ji

Principal Investigator: N/A

Author(s):

Han Bi Ji

Cho Rim Kim

Chang Hee Min

Jae Hoon Han

Min Ji Kim

Young Bin Choy

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 228

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Design and Characterization of Automated Pressure Monitoring and Insertion Systems for a multipoint cannula for convection enhanced delivery

Presenter: Jakob Michiels

Principal Investigator: Flavia Vitale

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 229

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Simultaneous Delivery of Multiple Antimicrobial Agents by Janus-type Dressings for Combating Wound Biofilms

Presenter: Jingwei Xie

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 230

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Polymer Nanoparticles for the Delivery of Pro-angiogenic Factors for Vascular Applications

Presenter: Jordyn Wyse

Principal Investigator: N/A

Author(s):

Jordyn Wyse

Marisa Esparza

Dimitrios Miserlis

Panagiotis Koutakis

Marissa Wechsler

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 231

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Zero-order release of PrEP therapeutics from Methacrylated Poly(Glycerol-Sebacate) Microparticles

Presenter: Mei-Li Laracuent

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 232

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Phase Separation Influences Ligand-Receptor Interactions on Lipid Vesicles

Presenter: Lucas Sant'Anna

Principal Investigator: N/A

Author(s):

Timothy Vu

Neha Kamat

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 233

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Understanding the Effect of Nanoparticles Physicochemical Properties on Ocular Uptake and Transport

Presenter: Marjan Azadi

Principal Investigator: N/A

Author(s):

Marjan Azadi

Allan David

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 234

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Uptake and Transport of Layer-by-Layer Assembled Nanoparticles in Blood Brain Barrier Models

Presenter: Nicholas Lamson

Principal Investigator: Paula Hammond

Author(s):

Paula Hammond

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 235

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: The Effect Of Anesthesia On Nanoparticle Fate

Presenter: Oluwatobi Babayemi

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 236

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Supramolecular Heparin-peptide Materials as Injectable Anticoagulant Depots

Presenter: Sopida Pimcharoen

Principal Investigator: N/A

Author(s):

Sopida Pimcharoen

Atip Lawanprasert

Scott Medina

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 237

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Physically Crosslinked Thermoresponsive Polymer Hydrogels for Cooling-Triggered Drug Release

Presenter: Romario Lobban

Principal Investigator: N/A

Author(s):

Leon Bellan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 238

Track: DRUG DELIVERY
Other / Non-specified

Abstract Title: Towards Reversible Acquiescence of Resting and Activating Platelets Using Cargo-loaded Ligand Grafted Liposome for Targeted Nitric Oxide Delivery

Presenter: Kagya Amoako

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 239

Track: DRUG DELIVERY
Cancer Drug Delivery (Summer Undergraduate)

Abstract Title: Lipid nanoparticle-mediated delivery of RAS protease to inhibit cancer cell growth
Presenter: Ella Atsavapranee
Principal Investigator: Michael Mitchell
Author(s):
Rebecca Haley
Margaret Billingsley
Michael Mitchell

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: C, Row: H, Poster
Number: 240

Track: BIOMATERIALS
Natural and Bioinspired Biomaterials (Summer Undergraduate)

Abstract Title: Evaluation of Cell Migration on Plant-Based Scaffolds for Tissue Engineered Skin
Presenter: Andriana Patmanidis
Principal Investigator: N/A
Author(s):
Luke Perreault
Glenn Gaudette

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 242

Track: GLOBAL HEALTH TECHNOLOGIES
International collaborations on infectious Disease

Abstract Title: Altered Expression of HIV Linked Proteins in BCG-Infected Macrophages
Presenter: Cameron Celeste
Principal Investigator: Ivana Parker
Author(s):
Katherine Webb
John Iradukunda
Ivana Parker

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 243

Track: GLOBAL HEALTH TECHNOLOGIES
International collaborations on chronic Disease (Summer Undergraduate)

Abstract Title: Point-of-Care Creatinine, Albumin, and E. coli Detection for Chronic Kidney Disease
Presenter: Maria Lindsey
Principal Investigator: N/A
Author(s):
Maria Lindsey
Juan Boza
David coming with 2 kids Erickson

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 244

Track: GLOBAL HEALTH TECHNOLOGIES
**International collaborations
 on infectious Disease (Summer
 Undergraduate)**

Abstract Title: Optimization of iso-IMRS assays for
 Malaria, Gonorrhea, and Chlamydia Diagnosis in
 Urine

Presenter: Yifei Liu

Principal Investigator: Josh Dupaty

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 245

Track: GLOBAL HEALTH TECHNOLOGIES
**Nanotechnologies for Global Health
 Technologies and Systems**

Abstract Title: Tuberculosis PCR Detection
 by Amplicon Reconstruction of Urinary DNA
 Fragments

Presenter: Emily Kight

Principal Investigator: Frederick Haselton

Author(s):

Frederick Haselton

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 246

Track: NANO AND MICRO TECHNOLOGIES

Abstract Title: Preservation of DNA for information
 storage in biomimetic mineralization of calcium
 phosphate crystals

Presenter: Bennet Devasier

Principal Investigator: N/A

Author(s):

Frederic Zenhausern

Tuan Vo-Dinh

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 247

Track: NANO AND MICRO TECHNOLOGIES
**Molecular Sensors and Nanodevices for
 Diagnostics and Biomedical Imaging**

Abstract Title: Development of a Point-of-Care
 Vertical Flow Immunoassay for Detection of
 Biodosimetry Biomarkers

Presenter: Alex Summers

Principal Investigator: N/A

Author(s):

Alex Summers

Jerome Lacombe

Jasmine Devadhasan

Frederic Zenhausern

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 248

Track: NANO AND MICRO TECHNOLOGIES
**Molecular Sensors and Nanodevices for
 Diagnostics and Biomedical Imaging**

Abstract Title: On Chip Point-of-Care Detection of
 Zika Virus in whole blood using Spatial RT-LAMP

Presenter: Aaron Jankelow

Principal Investigator: Rashid Bashir

Author(s):

Han Keun Lee

Weijing Wang

Trung-Hieu Hoang

Victoria Kindratenko

Katherine Koprowski

Enrique Valera

Minh Do

Brian Cunningham

Rashid Bashir

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 249

Track: NANO AND MICRO TECHNOLOGIES
**Molecular Sensors and Nanodevices for
 Diagnostics and Biomedical Imaging**

Abstract Title: Integrated Electrowetting and
 Dielectrophoretic Approach for Automated Nucleic
 Acid Biomarker Detection at Point-of-care

Presenter: Dharmakeerthi Nawarathna

Principal Investigator: N/A

Author(s):

Kishor Kaphle

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 250

Track: NANO AND MICRO TECHNOLOGIES
**Molecular Sensors and Nanodevices for
 Diagnostics and Biomedical Imaging**

Abstract Title: Autoencoder-enabled quantification
 of extracellular vesicle mixtures using nanoplasmonic
 sensors

Presenter: Colin Hisey

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 251

Track: NANO AND MICRO TECHNOLOGIES
**Molecular Sensors and Nanodevices for
 Diagnostics and Biomedical Imaging**

Abstract Title: Inverse Emulsion Polymerization for
 the Synthesis of Polymer-Coated Gold Nanoshells
 Used as Biosensors

Presenter: J Jesus Rodriguez Cruz

Principal Investigator: N/A

Author(s):

J Jesus Rodriguez Cruz

Andrew Murphy

Nicholas Peppas

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 252

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Enhanced Sensing of Biomagnetic Fields Via Cell-Sized Nanofabricated Inductors

Presenter: Jack Phillips

Principal Investigator: N/A

Author(s):

Jack Phillips

Mitchell Glodowski

Yash Gokhale

Matt Dwyer

Alireza Ashtiani

Aviad Hai

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 253

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Monitoring Eryptosis using Dielectrophoretic Characterization

Presenter: Sydney Joseph

Principal Investigator: N/A

Author(s):

Erin Henslee

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 254

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Real-Time Image Analysis for Isothermal Amplification of Zika and SARS-CoV-2 Viruses in a Point of Care Device

Presenter: Victoria Kindratenko

Principal Investigator: N/A

Author(s):

Enrique Valera

Aaron Jankelow

Jongwon Lim

Rashid Bashir

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 255

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Gold Nanoaggregates Designed via Template-mediated Growth for Longitudinal Photoacoustic Imaging

Presenter: Myeongsoo Kim

Principal Investigator: N/A

Author(s):

Jinhwan Kim

Donald VanderLaan

Kelsey Kubelick

Anamik Jhunjunwala

Ayoung Choe

Stanislav Emelianov

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 256

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Development of point-of-care device via surface-enhanced Raman scattering for preeclampsia

Presenter: KA WAI NG

Principal Investigator: N/A

Author(s):

Nandita Chaturvedi

Samuel Mabbott

mahua choudhury

Gerard Cote

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 257

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Effect of Oxidative Stress on Electrophysiologic Parameters In Human Red Blood Cells

Presenter: Ronald Blum

Principal Investigator: N/A

Author(s):

Erin Henslee

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 258

Track: NANO AND MICRO TECHNOLOGIES
 Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Comprehensive Evaluation of Molecular Specificity of ICGJ-encapsulating Agents for Clinically Translatable Molecular Photoacoustic Imaging

Presenter: Sangheon Han

Principal Investigator: N/A

Author(s):

Konstantin Sokolov

Richard Bouchard

Cayla Wood

Mohammed Kawelah

Jason Cook

Keith Johnston

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 259

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Digestion-And-Turn-On Probes That Change Fluorescence Upon Digestion

Presenter: Soonwoo Hong

Principal Investigator: N/A

Author(s):

Jada Walker

Jonathan Mathews

Yu-An Kuo

Yuan-I Chen

Trung Nguyen

Limin Chen

Jennifer Brodbelt

Tim Yeh

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 260

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Ultrasensitive Sessile Droplet Sensor Array for Profiling of Extracellular Vesicles Immuno-Subtypes

Presenter: Suyeon Shin

Principal Investigator: N/A

Author(s):

Suyeon Shin

Sungyoung Choi

Heesik Shin

JUNSEOK HWANG

Eunjeong Lee

YUN HYOGEUN

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 261

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Technologies in Molecular and Cellular Bioengineering, Medicine and Biology

Abstract Title: Effect of Impaired Ubiquitination in Ovarian Cell Culture upon Magnetic Fluid Hyperthermia

Presenter: Tania Ramos-Santiago

Principal Investigator: N/A

Author(s):

Madeline Torres-Lugo

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 262

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems (Summer Undergraduate)

Abstract Title: Rapid Prototyping and Fabrication of Perfusable Connected Neural Organoid Culture Devices

Presenter: James Eichenbaum

Principal Investigator: N/A

Author(s):

Megan McCain

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 263

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Electric Field Modeling of Simultaneous Anodal and Cathodal Targeted High-Definition Transcranial Direct Current Stimulation for Stroke Rehabilitation

Presenter: Jordan Williamson

Principal Investigator: Yuan Yang

Author(s):

Justin Brixey

Jordan Williamson

Shirley James

Yuan Yang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 264

Track: NEURAL ENGINEERING
Neuroimaging

Abstract Title: Deep Learning Based Segmentation Of Fascicles in MicroCT Images of The Vagus Nerve

Presenter: Andrew Shoffstall

Principal Investigator: Ozge Buyukcelik

Author(s):

Ozge Buyukcelik

Aniruddha Upadhye

Chaitanya Kolluru

Ken Gustafson

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 265

Track: NEURAL ENGINEERING
Neuroimaging

Abstract Title: Imaging Vagus Nerve Micro-Anatomy using MicroCT

Presenter: Aniruddha Upadhye

Principal Investigator: Andrew Shoffstall

Author(s):

Justin Chin

Ozge Buyukcelik

Chaitanya Kolluru

Andrew Crofton

Rebecca Enterline

Ken Gustafson

Kip Ludwig

Warren Grill

Nicole (Nikki) Pelot

Andrew Shoffstall

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 266

Track: NEURAL ENGINEERING
Neuroimaging

Abstract Title: Designing A Neurovascular Coupling Test for Patients with Epilepsy

Presenter: Intouch Limvaree

Principal Investigator: N/A

Author(s):

Han Yuan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 267

Track: NEURAL ENGINEERING
Neuroimaging

Abstract Title: Characterizing Cerebral Blood Transit Times in Moyamoya Disease: A Comparison of 3 Analysis Methods

Presenter: Joshua Dean

Principal Investigator: Molly Bright

Author(s):

Kristina Zvolanek

Rebecca Clements

Molly Bright

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 268

Track: NEURAL ENGINEERING
Neuroimaging (Summer Undergraduate)

Abstract Title: Synapse Formation During Early Brain Development
Presenter: Sarah Schellhase
Principal Investigator: N/A
Author(s):
George Spirou

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 269

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics (Summer Undergraduate)

Abstract Title: Stability Assessment And Validation Of Thalamic Segmentation Using Alternative Numbers Of Clusters
Presenter: Rebecca Stinson
Principal Investigator: N/A
Author(s):
Karlo Malaga

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 270

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics (Summer Undergraduate)

Abstract Title: Tissue Activation Modeling in Deep Brain Stimulation for Parkinson Disease and Essential Tremor
Presenter: Jacqueline Zak
Principal Investigator: Karlo Malaga
Author(s):
Karlo Malaga

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 271

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics (Summer Undergraduate)

Abstract Title: Tissue Composition of Activation Volumes in Thalamic Deep Brain Stimulation for Essential Tremor
Presenter: Keeler Thomas
Principal Investigator: Karlo Malaga
Author(s):
Karlo Malaga

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 272

Track: NEURAL ENGINEERING
**Neural Disease and Injury:
Modeling and Therapeutics (Summer
Undergraduate)**

Abstract Title: Towards the Development of a Self-Organizing Neural Unit to Model an Ischemic Stroke and other Neuropathology
Presenter: Lidadi Agbomi
Principal Investigator: Bruce Gao
Author(s):
Bruce Gao
Adam Baker
Reece Fratus
Thomas Fair
Lidadi Agbomi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 273

Track: NEURAL ENGINEERING
**Neural Disease and Injury:
Modeling and Therapeutics (Summer
Undergraduate)**

Abstract Title: Deep Brain Stimulation of the Subthalamic Nucleus and its Effect on Verbal Fluency
Presenter: Mary Robinson
Principal Investigator: N/A
Author(s):
Karlo Malaga

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 274

Track: NEURAL ENGINEERING
**Neural Disease and Injury:
Modeling and Therapeutics (Summer
Undergraduate)**

Abstract Title: Alteration of GABAA receptor subunit composition is implicated in network changes in organotypic hippocampal slice cultures following blast-induced traumatic brain injury
Presenter: Nicolas Amelinez-Robles
Principal Investigator: Barclay Morrison III
Author(s):
Barclay Morrison III
Nevin Varghese

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 275

Track: NEURAL ENGINEERING
**Neural Disease and Injury:
Modeling and Therapeutics (Summer
Undergraduate)**

Abstract Title: Unsupervised Classification of iEEG Activity as Physiological or Pathological in Epilepsy Patients
Presenter: Soulaïmane Bentaleb
Principal Investigator: Wentai Liu
Author(s):
Xu Han
Wentai Liu

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 276

Track: NEURAL ENGINEERING
**Neural Disease and Injury:
Modeling and Therapeutics (Summer
Undergraduate)**

Abstract Title: Identifying Early Developmental Neurotoxicity Modeled in a Cerebral Organoid System
Presenter: Trey Theobald
Principal Investigator: Ethan Lippmann, Andrew Kjar
Author(s):
Trey Theobald
Andrew Kjar
Ethan Lippmann

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 277

Track: NEURAL ENGINEERING
**Neural Disease and Injury:
Modeling and Therapeutics (Summer
Undergraduate)**

Abstract Title: Effect of Subthalamic Nucleus Deep Brain Stimulation on Levodopa and Dyskinesia in Parkinson Disease
Presenter: Victoria Hall
Principal Investigator: N/A
Author(s):
Karlo Malaga

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 278

Track: NEURAL ENGINEERING
**Neuroimaging (Summer
Undergraduate)**

Abstract Title: Emotional Vocalizations and Speech Modulate the Processing of Facial Attractiveness
Presenter: Isaiah Martinez
Principal Investigator: N/A
Author(s):
Kathrin Rothermich
Marc Pell

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 279

Track: NEURAL ENGINEERING
**Neuroimaging (Summer
Undergraduate)**

Abstract Title: Electroencephalography (EEG) Connectivity Analysis of Exercisers Versus Nonexercisers
Presenter: Lauren Philip
Principal Investigator: J.C. (Chris) Mizelle
Author(s):
J.C. Mizelle
Paige Boone

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: I, Poster
Number: 280

Track: NEURAL ENGINEERING
Neuroimaging (Summer Undergraduate)

Abstract Title: Cortical Hemodynamic Response Based on Varying Oculomotor Stimulus: an fNIRS Study
Presenter: Sandrena Nalls
Principal Investigator: Nicholas P Murray
Author(s):
Maanav Desai
Nicholas Murray

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 241

Track: CELLULAR AND MOLECULAR BIOENGINEERING
Other / Non-specified (Summer Undergraduate)

Abstract Title: F8 Gene Restoration in Hemophilia A Patient Stem Cells Using CRISPR Editing
Presenter: Michael Haugh
Principal Investigator: N/A
Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 281

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Real-Time Detection of Nerve Damage Using Electrophysiological Properties
Presenter: Colin McNabb
Principal Investigator: N/A
Author(s):
John Mize
David Hilgart
David Warren

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 282

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Differential Expression of Transcripts in Spinal Cord Injury for Development of a Biomimetic Testbed
Presenter: Emily Pallack
Principal Investigator: N/A
Author(s):
Eleana Manousiouthakis
Elisa Gonzalez-Rothi
VIJAYENDRAN CHANDRAN
Gordon Mitchell
Christine Schmidt

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 283

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Bioengineered glioblastoma organoids to maintain patient tumor responses and genomic parity
Presenter: Salem Muthu Sugavanam Sivakuma
Principal Investigator: N/A
Author(s):
Aleksander Skardal

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 284

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Assessing Therapeutic Effects of Adipose-derived Stem Cells in Nerve-mimetic Composite Hydrogels
Presenter: Inha Baek
Principal Investigator: N/A
Author(s):
Young Hye Song

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 285

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Portable Smart Pump for Ocular Fluid Dynamics Monitoring and Drug Delivery in Conscious Rats
Presenter: Chris Passaglia
Principal Investigator: N/A
Author(s):
Youssef Mohamed

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 286

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Astrocyte Encapsulation for Cell-Based Immunomodulation in Neurotrauma
Presenter: Samira Aghlara Fotovat
Principal Investigator: N/A
Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 287

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Inhibition Of Intracellular Cholesterol Transport In Brain Endothelial Cells Decreases Barrier Integrity Without Altering ZO-1 Morphology
Presenter: Tristan Pepper
Principal Investigator: N/A
Author(s):
Bilal Moiz
Alisa Clyne
Tristan Pepper

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 288

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Cerebral Vascular Resistance is Dysregulated Following Resuscitation from Cardiac Arrest

Presenter: Yuhang Fu

Principal Investigator: N/A

Author(s):

Yu Guo

Yucheng Shen

Arvind Pathak

Nitish Thakor

Danapala Senarathna

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 289

Track: NEURAL ENGINEERING
Neuroimaging

Abstract Title: Deep Learning Based Estimation of Transcranial Magnetic Stimulation Electric Fields

Presenter: Taylor Berger

Principal Investigator: Alexander Opitz

Author(s):

Alexander Opitz

Nipun Perera

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 290

Track: NEURAL ENGINEERING

Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Surface Seeding of Astrocytes During Manufacturing of Hollow Microstructures

Presenter: Nicole Hashemi

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 291

Track: NEURAL ENGINEERING
Neuromodulation: Peripheral Nerve Stimulation

Abstract Title: A Modular Brace for Measuring Stimulation-Evoked Plantar-Flexion in Swine

Presenter: Anna Lauricella

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 292

Track: NEURAL ENGINEERING
Neuromodulation: Brain and Spinal Cord Stimulation

Abstract Title: Effect of Magnetothermal Stimulation on Microglia-mediated Clearance of Beta-Amyloid Plaques

Presenter: Min-Ho Kim

Principal Investigator: N/A

Author(s):

Eric Dyne

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 293

Track: NEURAL ENGINEERING
Neural Disease and Injury: Modeling and Therapeutics

Abstract Title: Detection of Early-stage Alzheimer's Disease using Kinect v2 Camera and Machine Learning
Presenter: Behnaz Ghoraani
Principal Investigator: N/A
Author(s):
Mahmoud Seifallah
James Galvin
Behnaz Ghoraani

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 294

Track: ORTHOPAEDIC AND REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: Modification of a 3D Plastic Printer to Allow for Syringe Pump Extrusion of Nanofibers
Presenter: Alyssa Salazar
Principal Investigator: Justin Brown
Author(s):
Justin Brown

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 295

Track: ORTHOPAEDIC AND REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: Connexin-43 (CX43) Knockout Decreases Mitochondrial Transfer Between Mesenchymal Stromal Cells and Articular Chondrocytes
Presenter: Rebecca Irwin
Principal Investigator: Michelle L. Delco
Author(s):
Matthew Thomas
Megan Fahey
Michelle Delco

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 296

Track: ORTHOPAEDIC AND REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints (Summer Undergraduate)

Abstract Title: Sex and Osteoarthritis Post-Bilateral ACL Injury in Mice
Presenter: Anna Hazelwood
Principal Investigator: Whasil Lee
Author(s):
Hana Kalco
Whasil Lee

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 297

Track: ORTHOPAEDIC AND
 REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints
(Summer Undergraduate)

Abstract Title: Integrating Elastic Foundation
 Ankle Joint Contact in Musculoskeletal Dynamics
 Simulation
Presenter: Kathryn Strand
Principal Investigator: Donald D. Anderson
Author(s):
 Amir Esrafilian
 Lucinda Williamson
 Don Anderson

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 298

Track: ORTHOPAEDIC AND
 REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints
(Summer Undergraduate)

Abstract Title: PIEZO1 & TRPV4 -mediated
 Mechanical Susceptibility of Chondrocytes in Situ
Presenter: Seif Awad
Principal Investigator: Whasil Lee
Author(s):
 Whasil Lee
 Johann Kintzel
 Emanuelle Chrysilla

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 299

Track: ORTHOPAEDIC AND
 REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints
(Summer Undergraduate)

Abstract Title: Effects of Collagen Crosslinking on
 Articulation-Mediated Cartilage Lubrication
Presenter: Uriel Gonzalez Christopher Price
Principal Investigator: N/A
Author(s):
 Uriel Gonzalez
 Meghan Kupratis
 Atia Rahman
 David Burris
 Elise Corbin
 Christopher Price

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 300

Track: ORTHOPAEDIC AND
 REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints
(Summer Undergraduate)

Abstract Title: Piezo1-dependent Cellular
 Heterogeneity in Articular Cartilage in situ
Presenter: Xiang Tang
Principal Investigator: Whasil Lee
Author(s):
 Whasil Lee
 Johann Kintzel

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 301

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: A Novel Channel-laden
Decellularized Meniscus Scaffold for Meniscus Tissue
Engineering
Presenter: Alexandra Dumas
Principal Investigator: N/A
Author(s):
Alexandra Dumas
Paul Gehret
Riccardo Gottardi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 302

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: Comparing different regions of
the glenoid labrum for their healing potential and
regenerative properties
Presenter: Bhavya Vaish
Principal Investigator: N/A
Author(s):
Cynthia Co
Samira Izuagbe
Le Hoang
Liping Tang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 303

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: Bioengineered Lubricin Lubricates
Articular Cartilage In a Dose Dependent Manner
Presenter: Karan Vishwanath
Principal Investigator: N/A
Author(s):
Marshall Colville
Matthew Paszek
Heidi Reesink
Lawrence Bonassar

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 304

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: The Effect of Tendon Overload In
Rat Synergistic Ablation Model On Activity And
Structural Degeneration
Presenter: Lily Lin
Principal Investigator: N/A
Author(s):
Ellen Bloom
Ryan Locke
Justin Parreno
Karin Gravare Silbernagel
Dawn Elliott

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 305

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: Donor Age-dependent Effects of
Meniscus Extracellular Matrix on Meniscus Cell
Phenotype

Presenter: Se-Hwan Lee

Principal Investigator: N/A

Author(s):

ZizHao Li

Yujia Zhang

Shreya Mondal

Dong Hwa Kim

Su-Jin Heo

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 306

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: Investigating Bio-Nano Interactions
of PEGylated Cationic Polyamidoamine Dendrimers
within Cartilage

Presenter: Simone Douglas-Green

Principal Investigator: Paula Hammond

Author(s):

Brandon Johnston

Juan Aleman

Paula Hammond

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 307

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: Investigating the Mechanical
Properties of Bovine Articular Cartilage Degraded
with Collagenase and Gelatinase via Unconfined
Compression

Presenter: Tanvir Faisal

Principal Investigator: N/A

Author(s):

Isabel Hebert

Tanvir Faisal

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 308

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Other / Non-specified

Abstract Title: Pressure Distribution Under a
Combat Tourniquet During Clinical Application on
the Extremities

Presenter: James Cox

Principal Investigator: N/A

Author(s):

John DesJardins

James Cox

Whitney Schroeder

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 309

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Other / Non-specified

Abstract Title: The Role of Glutamine
Supplementation in Protein Synthesis of Murine
Tendon Explants
Presenter: Felicia Pinto
Principal Investigator: N/A
Author(s):
Felicia Pinto
Anthony Aggouras
Brianne Connizzo

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 310

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Other / Non-specified

Abstract Title: Tissue Strain and Substrate Stiffness
Influence Macrophage Phenotype and Function
Presenter: Maria Isabel Franco Rico
Principal Investigator: N/A
Author(s):
Maria Isabel Franco Rico
Matthew Patrick
Ramkumar T. Annamalai

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 311

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Other / Non-specified

Abstract Title: Predicting Pulmonary Function
from Thoracospinal Deformity Parameters in Pre-
Operative EOS Patients
Presenter: Mattan Orbach
Principal Investigator: N/A
Author(s):
Mattan Orbach
A. Noelle Larson
Oscar Mayer
Ron El-Hawary
Patrick Cahill
Sriram Balasubramanian

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 312

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Articular Cartilage, Meniscus and Joints

Abstract Title: An Indirect Assessment of the
Inflammatory Milieu of Lower Body Joints
Undergoing Acute Off Axis Mechanical Loading
Presenter: Conner Hutcherson
Principal Investigator: N/A
Author(s):
Bhaskar Thakur
Michelle Mao
Yasin Dhaher

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 313

Track: TISSUE ENGINEERING
**Developmental Biology and
 Morphogenesis of Engineered Tissues**

Abstract Title: Directed Vascularization by
 Regulating Ca²⁺ Signaling and Morphogenesis of
 Human Endothelial Colony-Forming Cells

Presenter: Chenguan Zhang

Principal Investigator: N/A

Author(s):

Chenguan Zhang

Eva Hall

Donghyun Jeong

Satyajyoti Senapati

Donny Hanjaya-Putra

Hsueh-Chia Chang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 314

Track: TECHNOLOGIES FOR EMERGING
 INFECTIOUS DISEASES
Sterilization

Abstract Title: Rapid, long-lasting, and light-
 activated surface disinfection by a conjugated
 electrolyte

Presenter: Fahimeh Maghsoodi

Principal Investigator: Eva Y. Chi

Author(s):

Eva Chi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 315

Track: TECHNOLOGIES FOR EMERGING
 INFECTIOUS DISEASES
Sterilization (Summer Undergraduate)

Abstract Title: Heavy Metal-Containing
 Antimicrobial Materials Are Robust to Changes in
 Humidity and Salts

Presenter: John Chen

Principal Investigator: Erica Marie Hartmann

Author(s):

Olivia Barber

Erica Hartmann

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 316

Track: TECHNOLOGIES FOR EMERGING
 INFECTIOUS DISEASES
Systems Biology of Infectious Disease

Abstract Title: Understanding the Link Between
 COVID-19 and Cardiovascular Disease by Text
 Mining Biomedical Literature

Presenter: Janhvi Dubey

Principal Investigator: Cassie Mitchell

Author(s):

Kevin McCoy

Janhvi Dubey

Dongyu Zhang

Cassie Mitchell

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 317

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES
Systems Biology of Infectious Disease

Abstract Title: Predicting Human Vaccine Response
from Preclinical Animal Models

Presenter: Krista Pullen

Principal Investigator: N/A

Author(s):

Douglas Lauffenburger

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 318

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES (Late Breaking) > -
Rapid Detection (Late Breaking)
Rapid Detection

Abstract Title: Passive Sampling for SARS-CoV-2
Detection in Wastewater

Presenter: Alexis Rockward

Principal Investigator: N/A

Author(s):

William Strike

James Keck

Scott Berry

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 319

Track: TISSUE ENGINEERING
Multi-Cellular Engineered Living Systems

Abstract Title: Confirmation of Proposed
Xenohormetic Protection by Phytochemicals in
Human Microphysiological Models of Tissue
Vasculogenesis and Cancer-Induced Angiogenesis

Presenter: Wills Kpeli

Principal Investigator: Mark Mondrinos

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: J, Poster
Number: 320

Track: TISSUE ENGINEERING
**Multi-Cellular Engineered Living
Systems**

Abstract Title: Evaluating Innate Immune Response
and Patency of Engineered Perfusable Tissue
Constructs

Presenter: Archita Sharma

Principal Investigator: Feng ZHao

Author(s):

dhavan sharma

Archita Sharma

Feng ZHao

Alex Walsh

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 321

Track: TISSUE ENGINEERING

3D Bioprinting and Patterning of Tissues

Abstract Title: Engineering an Ultra Low-Cost Open-Source 3D Bioprinter from a Creality Ender 3 FDM 3D Printer

Presenter: Cody Crosby

Principal Investigator: Domenic Cordova

Author(s):

Angel Rodriguez

Cody Crosby

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 322

Track: TISSUE ENGINEERING

3D Bioprinting and Patterning of Tissues

Abstract Title: 3D Printed Vascularizing Hydrogel for Pancreatic Islet Transplantation

Presenter: Martha Fowler

Principal Investigator: N/A

Author(s):

Boram Kim

Omid Veischi

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 323

Track: TISSUE ENGINEERING

3D Bioprinting and Patterning of Tissues

Abstract Title: An Engineered Multi-well Platform to Regulate Oxygen Tension in Micropatterned Co-cultures In Vitro

Presenter: Lesly Villarreal

Principal Investigator: N/A

Author(s):

Regeant Panday

Salman Khetani

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 324

Track: TISSUE ENGINEERING

Gene and Drug Delivery to Engineered Tissues (Summer Undergraduate)

Abstract Title: Interactions of Fibroblasts and Macrophages in an in Vitro Model of Scar Formation and Wound Healing

Presenter: Savana Huskins

Principal Investigator: Kellen Chen

Author(s):

Savana Huskins

Sydney Steele

Melissa Leolou

Kellen Chen

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster**Number:** 325**Track:** TISSUE ENGINEERING**Multi-Cellular Engineered Living Systems
(Summer Undergraduate)****Abstract Title:** LPS as a Surrogate Model to Study Host-Pathogen Interactions in an in vitro Gingival Tissue Model**Presenter:** Grace Callen**Principal Investigator:** Chiara Ghezzi**Author(s):**

Chiara Ghezzi

Miryam Adelfio

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster**Number:** 326**Track:** TISSUE ENGINEERING**Multi-Cellular Engineered Living Systems
(Summer Undergraduate)****Abstract Title:** Developing a miniature joint model to study the biochemical correlations between osteoarthritis and obesity**Presenter:** Katelyn Lipa**Principal Investigator:** Hang Lin**Author(s):**

Hang Lin

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster**Number:** 327**Track:** TISSUE ENGINEERING**D Bioprinting and Patterning of Tissues
(Summer Undergraduate)****Abstract Title:** Quantification and Minimization of Error of Biofabrication of Human Lamina Cribrosa**Presenter:** Brock Pemberton**Principal Investigator:** Jonathan Vande Geest**Author(s):**

Remi Shittu

Jonathan Vande Geest

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster**Number:** 328**Track:** TISSUE ENGINEERING**3D Bioprinting and Patterning of Tissues
(Summer Undergraduate)****Abstract Title:** Development of A Low-cost Alginate 3-D Bioprinter**Presenter:** Eric Brown**Principal Investigator:** Derek Lura**Author(s):**

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster**Number:** 329**Track:** TISSUE ENGINEERING**3D Bioprinting and Patterning of Tissues
(Summer Undergraduate)****Abstract Title:** Engineering Morphogenesis in Complex Glandular Structures with 3D Bioprinting**Presenter:** Alessandra Martinez**Principal Investigator:** N/A**Author(s):**

Vignesh Subramaniam

Thomas Angelini

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 330

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues
(Summer Undergraduate)

Abstract Title: Development of Stratified Epidermis in a Bioprinted Full Thickness Skin Model In Vitro

Presenter: Grayson Wagner

Principal Investigator: Anthony Atala

Author(s):

Anastasiya Gorkun

Naresh Mahajan

Kelsey Willson

Varun Kasula

Anthony Atala

Shay Soker

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 331

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues
(Summer Undergraduate)

Abstract Title: Characterization of the Uniformity of Material Properties of Bioprinted Scaffolds

Presenter: Hovig Margosian

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 332

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: Real-Time Measurement of Cell Concentration in Seeded Bioinks Using Dielectric Impedance Spectroscopy via a Smart Syringe

Presenter: Alicia Matavosian

Principal Investigator: N/A

Author(s):

Lawrence Bonassar

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 333

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: Enhanced Printability and Lymphatic Morphogenesis Within Granular Gels Derived from Supramolecular Hyaluronic Acid Hydrogels

Presenter: Daniel Montes Pinzon

Principal Investigator: N/A

Author(s):

Daniel Montes Pinzon

Matthew Webber

Donny Hanjaya-Putra

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 334

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: Optimization of In Vivo Bioprinting Using a Portable Robotic Arm for Recreating Tissue Defects

Presenter: Evelyn Mollocana Lara

Principal Investigator: N/A

Author(s):

Evelyn Mollocana Lara

Jacob Quint

Ali Tamayol

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 335

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: Multicompartmental Bioprinting for Fabrication of Multiscale Hierarchical Tissue Constructs

Presenter: Farnoosh Saeedinejad

Principal Investigator: N/A

Author(s):

Ali Tamayol

Mohamadmahdi Samandari

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 336

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: FRESH 3D Bioprinting Organoids with Perfusable Vasculature Resilient to Cell-driven Compaction

Presenter: Katelyn Dockery

Principal Investigator: N/A

Author(s):

Sogu Sohn

Janet Zoldan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 337

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: Fabrication of Human Liver Tissues for Regenerative Medicine Using Droplet Microfluidics and 3D Bioprinting

Presenter: Kerry Rogy

Principal Investigator: N/A

Author(s):

Regeant Panday

Xin Li

Ramille Shah

Salman Khetani

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 338

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: Whipped Cream Inspired Colloidal Foam to Improve Chronic Wound Healing

Presenter: Pejman Ghelich

Principal Investigator: Ali Tamayol

Author(s):

Mohamadmahdi Samandari

Alireza Hassani Najafabadi

Jacob Quint

Adam Tanguay

Paige Woods

Delaram Ghanbariamin

Nikhil Menon

Steven Toro

Tannin Schmidt

Ali Tamayol

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 339

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: User-controlled 4D biomaterial degradation with substrate-selective sortases for single-cell biology

Presenter: Ross Bretherton

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 340

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: Engineering Spheroid Compaction Using Multimaterial FRESH 3D Bioprinting

Presenter: Samuel Moss

Principal Investigator: N/A

Author(s):

Brian Coffin

Adam Feinberg

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 341

Track: TISSUE ENGINEERING
3D Bioprinting and Patterning of Tissues

Abstract Title: Modulation of Neurogenic Growth and Differentiation of Neural Stem Cells on 3D Electrospin-printed (3D ESP) serum methacrylate (SerMA) -based fibrous scaffolds

Presenter: Timothy Esworthy

Principal Investigator: N/A

Author(s):

Sung Yun Hann

Haitao Cui

Lijie Grace Zhang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 342

Track: TISSUE ENGINEERING

3D Bioprinting and Patterning of Tissues

Abstract Title: Biofabrication of a Perfusable 3D Construct of the Blood Brain Barrier to Study Traumatic Brain Injury (TBI) and Neuroinflammation.

Presenter: Dona Galpayage

Principal Investigator: N/A

Author(s):

Allison Andrews

Kalpani Nisansala Udeni Galpayage Dona

Servio Ramirez

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 343

Track: TISSUE ENGINEERING

3D Bioprinting and Patterning of Tissues

Abstract Title: Fabricating Cerebral Organoids in Shapes Using Magnetic Assembly

Presenter: Yu Huang

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 344

Track: TISSUE ENGINEERING

Gene and Drug Delivery to Engineered Tissues

Abstract Title: Ultrasound-Responsive Biomaterial Platform for Gene Delivery to Tissue-Engineered Tumor Models

Presenter: Katherine Huynh

Principal Investigator: N/A

Author(s):

Katherine Huynh

Mary Lowrey

Sara Evans-Dutson

Kevin Schilling

Danielle Brasino

Mithila Handu

Sean Speese

Carolyn Schutt Ibsen

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 345

Track: TISSUE ENGINEERING

Gene and Drug Delivery to Engineered Tissues

Abstract Title: Extracellular Vesicle Filtering by an In Vitro Blood-Brain Barrier Model's Basement Membrane

Presenter: Louis Widom

Principal Investigator: N/A

Author(s):

Thomas Gaborski

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 346

Track: TISSUE ENGINEERING

Multi-Cellular Engineered Living Systems

Abstract Title: Microfluidic 3D patterning of extracellular matrix zones and stromal cell populations along a single perfusable epithelial tube

Presenter: Bryan Ferrick

Principal Investigator: N/A

Author(s):

Bryan Ferrick

Jason Gleghorn

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 347

Track: TISSUE ENGINEERING

Multi-Cellular Engineered Living Systems

Abstract Title: Fibroblast-Adipocyte Lineage Cell Interactions Result in Differential Production of Extracellular Matrix Proteins in an In Vitro Wound Mimic

Presenter: Edward Sander

Principal Investigator: Edward Sander

Author(s):

Mariam El-Hattab

Kathryn Jacobson

Aloysius Klingelhutz

James Ankrum

Sarah Calve

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 348

Track: TISSUE ENGINEERING

Multi-Cellular Engineered Living Systems

Abstract Title: Directing Multicellular Organization by Varying the Aspect Ratio of Soft Hydrogel Microwells

Presenter: Gayatri Pahapale

Principal Investigator: N/A

Author(s):

Gayatri Pahapale

Jiaxiang Tao

Milos Nikolic

Sammy Gao

Giuliano Scarcelli

Sean Sun

Lewis Romer

David Gracias

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 349

Track: TISSUE ENGINEERING

Multi-Cellular Engineered Living Systems

Abstract Title: Development and Characterization of a Subcutaneous Porcine Ex-Vivo Tissue Culture Model

Presenter: Jordanna Payne

Principal Investigator: Luis Solorio

Author(s):

Jordanna Payne

Eden Schipper

Kevin Buno

Luis Solorio

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 350

Track: TISSUE ENGINEERING

Multi-Cellular Engineered Living Systems

Abstract Title: Engineered Platform to Decouple the Effects of Oxygen Tensions on Zonation in Human Hepatocytes

Presenter: Regeant Panday

Principal Investigator: N/A

Author(s):

Regeant Panday

Salman Khetani

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 351

Track: TISSUE ENGINEERING

Multi-Cellular Engineered Living Systems

Abstract Title: Breast Cancer Microfluidic Model Reveals Effects Of Fibroblast- ECM Interplay In Tumor Progression

Presenter: Maria Virumbrales-Muñoz

Principal Investigator: N/A

Author(s):

Jack Loken

Karina Lugo-Cintrón

Brian Burkel

Jose Ayuso

David Beebe

Suzanne Ponik

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 352

Track: TISSUE ENGINEERING

Organ-on-Chip for Regenerative Medicine

Abstract Title: 3D Microfluidic Skin-On-A-Chip with an Open Air-Liquid Interface for Drug and Skin Cosmetics Testing

Presenter: Stephen Rhee

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 353

Track: TISSUE ENGINEERING

Organ-on-Chip for Regenerative Medicine

Abstract Title: Human Choroid Plexus-on-a-chip with In Vivo-like Cerebrospinal Fluid Dynamics

Presenter: JUNGUN LIM

Principal Investigator: N/A

Author(s):

N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 354

Track: TISSUE ENGINEERING

Musculoskeletal Tissue Engineering

Abstract Title: Albumin-coated PCL-dECM Scaffold for Bone Regeneration

Presenter: Xiaojun Yu

Principal Investigator: N/A

Author(s):

Radoslaw Junka

Weiwei Wang

Xiaojun yu

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster

Number: 355

Track: TISSUE ENGINEERING

3D Bioprinting and Patterning of Tissues

Abstract Title: Functional Medial Layer of Smooth Muscle Cells within Engineered Microvasculature

Presenter: Victoria Vest

Principal Investigator: N/A

Author(s):

Leon Bellan

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 355

Track: TISSUE ENGINEERING

Abstract Title: Forming a Functional Medial Layer of Smooth Muscle Cells within Engineered Microvasculature entered as Functional Medial Layer of Smooth Muscle Cells within Engineered Microvasculature

Presenter: Victoria Vest

Principal Investigator: N/A

Author(s):
N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 356

Track: WOMEN'S HEALTH
Mechanics of Pregnancy and Birth

Abstract Title: Tensile Evaluation of the Vaginal Canal in Swine for Vaginoplasty

Presenter: Angel Collins

Principal Investigator: Raffaella De Vita

Author(s):
Morgan Atkinson
Cecile Ferrando
Raffaella De Vita

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 357

Track: WOMEN'S HEALTH
Mechanics of Pregnancy and Birth

Abstract Title: Stenosis Location Impacts Renal Weight in Murine Pregnancy

Presenter: Jennifer Anderson

Principal Investigator: Craig J. Goergen

Author(s):
Paula Torres Loza
Riley Holloway
David Undergradateter
Craig Goergen

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 358

Track: WOMEN'S HEALTH
Mechanics of Pregnancy and Birth
(Summer Undergraduate)

Abstract Title: Machine Learning for Vaginal Tissue Trauma Estimation

Presenter: Alex Santiago-Anaya

Principal Investigator: Raffaella De Vita

Author(s):
William Snyder
Justin Krometis
Traian Iliescu
Raffaella De Vita

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 359

Track: WOMEN'S HEALTH

Mechanics of Pregnancy and Birth (Summer Undergraduate)

Abstract Title: Development of a Biomimetic Decidua for Investigation of Blastocyst Implantation in the Uterus

Presenter: Kayla Brown

Principal Investigator: Michelle Oyen

Author(s):
Michelle Oyen

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: K, Poster
Number: 360

Track: WOMEN'S HEALTH

Mechanics of Pregnancy and Birth

Abstract Title: Assessment of Mechanical Properties of Human Fetal Membranes with Optical Coherence Tomography

Presenter: Kayvan Samimi

Principal Investigator: Melissa C. Skala

Author(s):
Emmanuel Contreras Guzman
May WU
Lindsey Carlson
Helen Feltovich
Timothy Hall
Kristin Myers
Melissa Skala

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 362

Track: WOMEN'S HEALTH

Mechanics of Pregnancy and Birth

Abstract Title: A Computational Model of the Fetal Membrane Bilayer

Presenter: Kristin Myers

Principal Investigator: N/A

Author(s):
Daniel Fidalgo
Kayvan Samimi
Emmanuel Contreras Guzman
Michelle Oyen
Helen Feltovich
Timothy Hall
Melissa Skala
Dulce Oliveira
Kristin Myers

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 363

Track: WOMEN'S HEALTH

Mechanics of Pregnancy and Birth

Abstract Title: Novel Uterine Compression Suture Technique for the Treatment of Postpartum Hemorrhage

Presenter: Neha Muvvala

Principal Investigator: N/A

Author(s):
Neha Muvvala
Varu Vummidi
Ida Pirzadeh
Wendy Pham
Christopher Tran

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 364

Track: WOMEN'S HEALTH

Mechanics of Pregnancy and Birth

Abstract Title: Controlled Weakening of Fetal Membranes by Enzymatic Degradation

Presenter: Michelle Oyen

Principal Investigator: N/A

Author(s):
 Mackenzie Wheeler

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 365

Track: BIOINFORMATICS,

Novel Methods for Systems Biology (Summer Undergraduate)

Abstract Title: Muscular Regeneration Analysis of Volumetric Muscle Loss Injuries Using Hydrogel Therapy

Presenter: Ells Mine Saint Paul

Principal Investigator: N/A

Author(s):
 N/A

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 366

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems

Abstract Title: A Patient-Specific Multi-Scale, Multi-Physics Simulation of Human Uterine Peristalsis During Menstrual Cycle

Presenter: Yiqi Lin

Principal Investigator: N/A

Author(s):
 Jazmin Sierra
 Sicheng Wang
 Constantine Butakoff
 Zhexian Sun
 Wenjie Wu
 XINYU ZHANG
 Mariano Vazquez
 Yong Wang

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 367

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Imaging Tissue, Organs, and Physiological Systems

Abstract Title: Three-Dimensional Visualization and Analysis of Mouse and Human Liver Bud Morphogenesis

Presenter: NATESH PARASHURAMA

Principal Investigator: N/A

Author(s):
 Daniel Guiggey
 Ogechi Ogoke
 TALA MON
 Natesh Parashurama

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 368

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Omics Data: Methods, Modeling and Analysis

Abstract Title: Bioinformatic Analysis of the Mouse Liver Diverticulum

Presenter: Natesh Parashurama

Principal Investigator: N/A

Author(s):

Daniel Guiggey

Ogechi Ogoke

Natesh Parashurama

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 369

Track: CARDIOVASCULAR ENGINEERING

Cardiovascular Devices (Summer Undergraduate)

Abstract Title: Non-invasive Surgical Approach to Tricuspid Annular Dilatation and Regurgitation

Presenter: Patricia Valdes De la Garza,

Principal Investigator: N/A

Author(s):

Manuel Rausch

Saturday, October 15

9:30 AM - 10:30 AM

Poster Session: E, Section: D, Row: L, Poster
Number: 370

Track: CELLULAR AND MOLECULAR BIOENGINEERING (Late Breaking) > - Single-

Cell Measurements and Models (Late Breaking)

Single-Cell Measurements and Models

Abstract Title: Personalized Ovarian Cancer Tumors for Studying Clinical Outcomes

Presenter: Kathleen Burkhard

Principal Investigator: N/A

Author(s):

Michael Bregenzer

Geeta Mehta

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 21

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Long Read Analysis Pipeline Predicts RBPs with Isoform-specific Functions

Presenter: Stella Park

Principal Investigator: David Knowles

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 23

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Spatial Proteomic Investigation on Normal/ALL Human Bone Marrow Niche

Presenter: Xiaoyu Qin

Principal Investigator: Rong Fan

Author(s):

Rong Fan

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 24

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis (Summer Undergraduate)

Abstract Title: In silico cytometry of Crohn's disease transcriptomics reveals novel cell-type-specific disease biology

Presenter: Alexander Bergendorf

Principal Investigator: Douglas K. Brubaker

Author(s):

Javier Munoz

Mahmoud Rahal

Matthew Bohm

Douglas Brubaker

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 25

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis (Summer Undergraduate)

Abstract Title: FOXA2 as a Potential Master Transcriptional Regulator of Neuroendocrine Prostate Cancer

Presenter: Irina Cheng

Principal Investigator: Jindan Yu

Author(s):

xiaodong lu

Viriya Keo

changsheng zHao

Jindan Yu

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 26

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis (Summer Undergraduate)

Abstract Title: Genetic and Geospatial Shared Environment Associations with Individual-Level Exposures Expand Understanding of Cardiometabolic Health Etiology

Presenter: Nuno Ramos Grangeia Carvalho

Principal Investigator: Chirag J Patel

Author(s):

Chirag Patel

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 27

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis (Summer Undergraduate)

Abstract Title: Identifying Treatment Candidates for Lung Adenocarcinoma with Drug Repositioning

Presenter: Occam Kelly Graves

Principal Investigator: Adil Mardinoglu

Author(s):

Woonghee Kim

Xiangyu Li

Meng Yuan

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster**Number:** 28**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Omics Data: Methods, Modeling and Analysis (Summer Undergraduate)****Abstract Title:** Radial Separation of Master Regulators of Blood Cell Differentiation**Presenter:** Claire LeBlanc Magda Bienko**Principal Investigator:** N/A**Author(s):**

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster**Number:** 29**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Omics Data: Methods, Modeling and Analysis (Summer Undergraduate)****Abstract Title:** Comparative Proteomics of Skeletal Muscle Reveals Preventative Medicine Capabilities of Endurance Exercise**Presenter:** Sean Perez**Principal Investigator:** Carl Johan Sundberg**Author(s):**

Muhammad Arif

Eric Emanuelsson

Mark Chapman

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster**Number:** 30**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Omics Data: Methods, Modeling and Analysis (Summer Undergraduate)****Abstract Title:** Comparative Genomic Profiling Identifies Targetable Brain Metastasis Drivers in Non-Small Cell Lung Cancer**Presenter:** Trenton Wesley**Principal Investigator:** Nicola Crosetto**Author(s):**

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster**Number:** 31**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Omics Data: Methods, Modeling and Analysis (Summer Undergraduate)****Abstract Title:** Bioinformatic data integration for mining and translational drug discovery**Presenter:** Lance Novak**Principal Investigator:** N/A**Author(s):**

Christopher Bristow

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: C, Poster
Number: 32**Track:** BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY**Single-Cell Measurements and Models
(Summer Undergraduate)****Abstract Title:** Integrating Chromatin Loop
Extrusion-Mediated Transcription into a
Chromosome Copolymer Model**Presenter:** Lucas Sant'Anna**Principal Investigator:** Vivek Shenoy**Author(s):**

Vinayak Vinayak

Aayush Kant

Vivek Shenoy

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: C, Poster
Number: 33**Track:** BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY**Novel Methods for Systems Biology****Abstract Title:** Identifying Key Pathway Genes for
Improving Network-Based Side-Effect Prediction**Presenter:** Mohammadali Alidoost**Principal Investigator:** Jennifer L Wilson**Author(s):**

Jennifer Wilson

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: C, Poster
Number: 34**Track:** BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY**Novel Methods for Systems Biology****Abstract Title:** Association Between Frailty and
Dynamic Interconnection of Cardiac Autonomic and
Motor Systems**Presenter:** Patricio Arrué**Principal Investigator:** Patricio Arrué Cornejo**Author(s):**

Kaveh Laksari

Nima Toosizadeh

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: C, Poster
Number: 35**Track:** BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY**Novel Methods for Systems Biology****Abstract Title:** Sjogren's Syndrome is associated with
a unique humoral fingerprint that links Fc Receptor-
mediated phagocytosis to disease severity**Presenter:** Suzanne Shoffner**Principal Investigator:** N/A**Author(s):**

Suzanne Shoffner

Martin KILLIAN

Stéphane Paul

Amy Chung

Kelly Arnold

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 36

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Novel Methods for Systems Biology

Abstract Title: Spatially resolved transcriptomes in
 human hippocampus

Presenter: yang xiao

Principal Investigator: N/A

Author(s):

Zhiliang Bai

Rong Fan

Kam Leong

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 37

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Hutchinson-Gilford Progeria
 Syndrome Impairs the Endothelium's Genetic
 Response to Flow

Presenter: Crystal Kennedy

Principal Investigator: N/A

Author(s):

George Truskey

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 38

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Single Cell Analysis of Peripheral
 Immune Environments of Autoimmune Diseases

Presenter: Julianne Jorgensen

Principal Investigator: N/A

Author(s):

Julianne Jorgensen

Kai Huang

Catherine Wang

Patricia Finn

David Perkins

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 39

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Sparse Representation Learning
 Derives Biological Features with Explicit Gene
 Weights from the Allen Mouse Brain Atlas

Presenter: Mohammad Abbasi

Principal Investigator: Benjamin Bartelle

Author(s):

Connor Sanderford

Narendiran Raghu

Mirjeta Pasha

Benjamin Bartelle

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: C, Poster
Number: 40

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Graph-based Spatially Variant Immune Infiltration Scores in Lung Cancer Tissues

Presenter: Mayar Allam

Principal Investigator: N/A

Author(s):

Mayar Allam

Thomas Hu

Shuangyi Cai

Ahmet Coskun

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster
Number: 61

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Bringing Therapeutic Context into Preclinical Development of Engineered Microbial Therapeutics: Engineered Bacteria Secreting IL-22 Protects Against Intestinal Inflammation in a Germ-Free Gut Model

Presenter: Javier Munoz

Principal Investigator: N/A

Author(s):

Smrutiti Jena

Liana Merk

Leopold Green

Douglas Brubaker

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster
Number: 62

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Proteomic and In Silico Modeling of Mouse Endothelial Cell Dysfunction during Inflammation

Presenter: Jordan Langston

Principal Investigator: N/A

Author(s):

Mohammad Kiani

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster
Number: 63

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Omics Data: Methods, Modeling and Analysis

Abstract Title: Subcellular Gene Spatial Regulatory Network of Mesenchymal Stem Cells

Presenter: Zhou Fang

Principal Investigator: N/A

Author(s):

Zhou Fang

Thomas Hu

Mayar Allam

Nicholas Zhang

Ahmet Coskun

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster

Number: 64

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Single-Cell Measurements and Models

Abstract Title: Predicting cancer cell migration in various environments with a Cell Migration Simulator

Presenter: Jay Hou

Principal Investigator: N/A

Author(s):

David Odde

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster

Number: 65

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Precision and Predictive Medicine

Abstract Title: Correlational Study between Modality of Treatment and Cytokine Levels

Presenter: Andrew Finkel

Principal Investigator: Walter O'Dell

Author(s):

Shruti Siva Kumar

Walter O'Dell

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster

Number: 66

Track: BIOMANUFACTURING

Other / Non-specified

Abstract Title: Facile and Cleanroom-Free Fabrication of Hollow Microneedles Supporting Multimodal Drug Delivery

Presenter: Delaram Ghanbariamin

Principal Investigator: N/A

Author(s):

Mohamadmahdi Samandari

Ali Tamayol

Yupeng Chen

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster

Number: 67

Track: BIOMANUFACTURING

Other / Non-specified

Abstract Title: Predicting Cell Yield in Vertical Wheel Bioreactors Using Machine Learning

Presenter: Nicolas Cabrera

Principal Investigator: N/A

Author(s):

Nicolas Cabrera

Berkley White

José Mora

Roland Kaunas

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster

Number: 68

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Biocompatibility of Large 3D Cellulose Nano-Fibril Constructs

Presenter: Arihant Tallapureddy

Principal Investigator: Karissa Tilbury

Author(s):

Jordan Miner

Karissa Tilbury

Michael Mason

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: C, Row: D, Poster
Number: 69

Track: BIOMATERIALS
Biomaterials Scaffolds

Abstract Title: Tunable Gelatin Methacrylate Polyethylene Glycol Diacrylate Hydrogels for Cell Mechanosensing Applications
Presenter: Eya Ferchichi
Principal Investigator: Silviya Petrova Zustiak
Author(s):
N/A

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: C, Row: D, Poster
Number: 70

Track: BIOMATERIALS
Biomaterials Scaffolds

Abstract Title: Modulation and Characterization of 3D-Printed Scaffold Geometry for Islet Transplantation
Presenter: Justin Walsh
Principal Investigator: Cherie Stabler
Author(s):
Taylor Lansberry
Cherie Stabler
Robert Accolla
Jiapu Liang

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: C, Row: D, Poster
Number: 71

Track: BIOMATERIALS
Biomaterials Scaffolds

Abstract Title: Investigating the Relationship Between Glycosaminoglycan Immobilization Approach and Bioactivity
Presenter: Nicholas Cornell
Principal Investigator: Donald Griffin
Author(s):
Lauren Pruett
Donald Griffin

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: C, Row: D, Poster
Number: 72

Track: BIOMATERIALS
Biomaterials Scaffolds (Summer Undergraduate)

Abstract Title: Modulating the Differentiation of Human Neural Stem Cells in 3D Contexts by Varying Hyaluronic Acid Chain Length
Presenter: Anna Gonzalez
Principal Investigator: Dany Munoz-Pinto
Author(s):
Dany Munoz Pinto
Andrea Jimenez-Vergara

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: C, Row: D, Poster
Number: 73

Track: BIOMATERIALS
Biomaterials Scaffolds (Summer Undergraduate)

Abstract Title: Engineering Hierarchical Structure into Artificial Extracellular Matrices
Presenter: Adrienne Rosales
Principal Investigator: Adrienne Rosales
Author(s):
Aarav Kumar
David Castilla Casadiego

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: D, Poster**Number:** 74**Track:** BIOMATERIALS**Biomaterials Scaffolds (Summer Undergraduate)****Abstract Title:** A Bone Marrow Mimetic Culture Platform for Evaluating Stiffness Effects on Breast Cancer Metastasis**Presenter:** Alyssa Questell**Principal Investigator:** Marjan Rafat**Author(s):**

Logan Northcutt

Marjan Rafat

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: D, Poster**Number:** 75**Track:** BIOMATERIALS**Biomaterials Scaffolds (Summer Undergraduate)****Abstract Title:** Bio Fabrication and Characterization of Controlled Anisotropy**Presenter:** Grace Melloy**Principal Investigator:** Jonathan Vande Geest**Author(s):**

Jonathan Vande Geest

Katarina Martinet

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: D, Poster**Number:** 76**Track:** BIOMATERIALS**Biomaterials Scaffolds (Summer Undergraduate)****Abstract Title:** Investigating Variables in Solution Blow Spinning for Nanofiber Scaffolds**Presenter:** Justin Piedra**Principal Investigator:** Jiehong Liao**Author(s):**

James Bell

Jiehong Liao

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: D, Poster**Number:** 77**Track:** BIOMATERIALS**Biomaterials Scaffolds (Summer Undergraduate)****Abstract Title:** PCL/Alginate/Bioglass Composite Scaffold Promotes Calcium and GAGs Synthesis and Deposition**Presenter:** Kevin Smith**Principal Investigator:** Derrick Dean**Author(s):**

Joseph Ayariga

Derrick Dean

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: D, Poster**Number:** 78**Track:** BIOMATERIALS**Biomaterials Scaffolds (Summer Undergraduate)****Abstract Title:** Characterization of Human Lung Cryogels**Presenter:** Karah Moore**Principal Investigator:** Rebecca Heise**Author(s):**

Leigh-Ann Antczak

Rebecca Heise

Taylor Hendrick

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster
Number: 79

Track: BIOMATERIALS

Biomaterials Scaffolds (Summer Undergraduate)

Abstract Title: Quantifying the Temporal Degradation of the Structural Properties of TissueMend

Presenter: Mark Nemcek

Principal Investigator: Colleen Witzenburg

Author(s):

Daniel Pearce

Catherine Eberman

Colleen Witzenburg

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: D, Poster
Number: 80

Track: BIOMATERIALS

Biomaterials Scaffolds (Summer Undergraduate)

Abstract Title: Calculating Gel Stoichiometry Via Flory Branching Ratio Improves Hydrogel Stiffness Reproducibility

Presenter: Christina Kim

Principal Investigator: Linda G. Griffith

Author(s):

Christina Kim

Sofia Mrowka

Samantha Holt

Linda Griffith

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 101

Track: BIOMATERIALS

Advances in Biomaterials Integration with Chips and Devices

Abstract Title: Biomimetic polypyrrole/hyaluronic acid electrodes integrated with hyaluronidase inhibitors offer persistent electroactivity and resistance to cell binding

Presenter: Jongdarm Yi

Principal Investigator: N/A

Author(s):

Sanghun Lee

Jae Young Lee

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 102

Track: BIOMATERIALS

Advances in Biomaterials Integration with Chips and Devices

Abstract Title: Preventing PDMS Drug Absorption through PDMS-PEG Additive and Drug Pretreatment

Presenter: Jeffrey Chen

Principal Investigator: N/A

Author(s):

Devin Mair

Marcus Williams

Nathan Sniadecki

Deok-Ho Kim

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 103

Track: BIOMATERIALS

Advances in Biomaterials Integration with Chips and Devices

Abstract Title: Wearable Non-enzymatic Microneedle Sensor for Glucose Monitoring

Presenter: Jae Hoon Han

Principal Investigator: N/A

Author(s):

Jae Hoon Han

Cho Rim Kim

Han Bi Ji

Chang Hee Min

Min Ji Kim

Young Bin Choy

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 104

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: Hydrogel-Based Diffractive Optical Elements using advanced light processing methods

Presenter: Arun Poudel

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 105

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: Flexible 96-Well Plate Using Hydrostatic Pressure and 3D Printed Devices for Cell Culture Applications

Presenter: Rana Abbed

Principal Investigator: N/A

Author(s):

Adam Szmelter

David Eddington

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 106

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: In vitro and in vivo effects of degradation on multimodal 3D printed shape memory elastomer for soft tissue repair

Presenter: Ryan Akman

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 107

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: 3D Printed Photocurable and Nanocomposite scaffold in Biomedical Applications

Presenter: Subha Parvathi Madamuthu

Principal Investigator: N/A

Author(s):

Roshan Bhatt

Prabir Patra

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 108

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Analysis of Model Features Required to Capture Cell-Fiber Interactions on Biological Scaffolds

Presenter: Bethany Luke

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 109

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Structural Design and Mechanical Properties of a Radial Bone Scaffold

Presenter: Maggie Gottschall

Principal Investigator: N/A

Author(s):

Marlee Kopetsky

Maggie Gottschall

Cara McMahon

Sally Shady

Christian Buckley

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 110

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Influencing Biological Responses to Stretched-and-Folded, Cell-scale fibers: Effects of Chemical Treatments

Presenter: Mahsa Karimi

Principal Investigator: Li-Hsin Han

Author(s):

Fereshteh Ahadi

Li-Hsin Han

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 111

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Modeling Prostate Cancer Metastasis using Bioorthogonally Integrated Hydrogel Platform

Presenter: Mugdha Pol

Principal Investigator: N/A

Author(s):

Hanyuan Gao

He Zhang

Olivia George

Joseph Fox

Xinqiao Jia

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 112

Track: BIOMATERIALS
Biomaterials Scaffolds

Abstract Title: Dry Macroporous Alginate (Drydux) Scaffolds for Viral Transduction of T Cells

Presenter: Madelyn VanBlunk

Principal Investigator: Yevgeny Brudno

Author(s):

Madelyn VanBlunk

Pritha Agarwalla

Sharda Pandit

Yevgeny Brudno

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 113

Track: BIOMATERIALS
Biomaterials Scaffolds

Abstract Title: Oxidized Hyaluronic Acid Based Cryogels with Controlled Degradation for Tissue Engineering

Presenter: Alexandra Nukovic

Principal Investigator: N/A

Author(s):

Alexandra Nukovic

Thibault Colombani

Sidi Bencherif

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 114

Track: BIOMATERIALS
Biomaterials Scaffolds

Abstract Title: Nanotexturing of PEEK to Improve Bone Osseointegration Properties

Presenter: Rupak Dua

Principal Investigator: N/A

Author(s):

Joi Terry

Vadivel Jagasivamani

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: E, Poster
Number: 115

Track: BIOMATERIALS
Biomaterials Scaffolds

Abstract Title: Mechanical and Shape Memory Properties of Electrospun Polyurethane with Thiol-ene Crosslinking

Presenter: Rachel Gruenbaum

Principal Investigator: N/A

Author(s):

Rachel Gruenbaum

Samuel Briggs

Grace Fletcher Hicks

Duncan Maitland

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: E, Poster**Number:** 116**Track:** BIOMATERIALS**Biomaterials Scaffolds****Abstract Title:** Effects of Leukocyte-Platelet Rich Fibrin and Nanoporous Scaffolds in Cell Proliferation and Cell Migration**Presenter:** Andres Alcivar**Principal Investigator:** N/A**Author(s):**

Andres Alcivar

Ballaz santiago

Ziyad Haidar

Prabir Patra

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: E, Poster**Number:** 117**Track:** BIOMATERIALS**Biomaterials Scaffolds****Abstract Title:** Viability of INS-1E Cells in Synthetic PEG Hydrogels Suitable to Injection Molding Biofabrication**Presenter:** Simone Gohsman**Principal Investigator:** Jessica Weaver**Author(s):**

Jessica Weaver

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: E, Poster**Number:** 118**Track:** BIOMATERIALS**Biomaterials Scaffolds****Abstract Title:** Synthetic Coating Materials to Preserve the Phenotypes of Lymphatic Endothelial Cells**Presenter:** Sanjoy Saha**Principal Investigator:** Donny Hanjaya- Putra**Author(s):**

Fei Fan

Donny Hanjaya-Putra

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: E, Poster**Number:** 119**Track:** BIOMATERIALS**Biomaterials Scaffolds****Abstract Title:** Investigating The Effects of Hyaluronic Acid on 3D Migration and Function of Natural Killer Cells**Presenter:** Suzanne Lightsey**Principal Investigator:** Blanka Sharma**Author(s):**

Blanka Sharma

Madison Temples

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: C, Row: E, Poster**Number:** 120**Track:** BIOMATERIALS**Biomaterials Scaffolds****Abstract Title:** Visualization of Microstructures in Decellularized Livers Using Fluorescent Markers of Different Sizes**Presenter:** Naoya Takahashi**Principal Investigator:** N/A**Author(s):**

Ryo Sudo

Tadahiro Yamashita

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster

Number: 141

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Touch –Spun nanofibers Applications in biomedical and food industries

Presenter: VIJAY MOHAKAR

Principal Investigator: Vladimir Reukov

Author(s):

Vladimir Undergraduatekov

Anton Sorkin

VIJAY MOHAKAR

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster

Number: 142

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Xeno-Free Biomimetic Brain ECM Model for Investigation of Matrix Stiffness on Astrocyte Cell Response

Presenter: Vipul Kishore

Principal Investigator: N/A

Author(s):

Bayan Saleh

Ayda pourmostafa

Nashaita Patrawalla

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster

Number: 143

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Electrospun Poly(ε-caprolactone)-Silk Fibroin Scaffold for Vascular Tissue Engineering

Presenter: Zhongkui Hong

Principal Investigator: N/A

Author(s):

Alex Rickel

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster

Number: 144

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: A Structural Bio-Chemo-Mechanical Model for Microbiaxial Stretching of Vascular Smooth Muscle Cells

Presenter: Shannon Flanary

Principal Investigator: Victor H. Barocas

Author(s):

Victor Barocas

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster

Number: 145

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Sexually dimorphic response of vascular endothelial cells to complex environmental stimuli

Presenter: Josephine Allen

Principal Investigator: Josephine Allen

Author(s):

Bryan James

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 146

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Multiscale Mapping of Elasticity in Biological Tissues in 3-D at Optical Resolution

Presenter: Kathryn Regan

Principal Investigator: Hadi T. Nia

Author(s):

Robert LeBourdais

Sue Zhang

Siyi Zheng

Hadi Nia

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 147

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Correlation Between Wearable Strain Gauges and Physical Function in Chronic Lower Back Pain Subjects

Presenter: Anton Bowden

Principal Investigator: N/A

Author(s):

Kelsey Clark

Tyler Hutchinson

Spencer Baker

Andrew Gibbons

Ulrike Mitchell

David Fullwood

Anton Bowden

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 148

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: A Novel Simulation-Based Approach for the Development of Vehicle Blast Protection Countermeasures

Presenter: Anindya Deb

Principal Investigator: Sanketh Ramachandra

Author(s):

Sanketh Ramachandra

Ananya Barui

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 149

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Evaluation of Skull Surface Pressures in a Surrogate Human Head Model during Blast Exposure

Presenter: Allison Nelson

Principal Investigator: Pamela VandeVord

Author(s):

Pamela VandeVord

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 150

Track: BIOMECHANICS
Other / Non-specified

Abstract Title: Quasi-Static Biomechanical Evaluation of Cutting Efficiency in Canine Cementless Total Hip Replacement Broaches
Presenter: Zachary Lawson
Principal Investigator: N/A
Author(s):
Zachary Lawson
Andrew Robbins
Michael Moreno

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 151

Track: BIOMECHANICS
Biomechanics of Rehabilitation/Injury

Abstract Title: Football Game Players Experience More HIE in Practices Leading Up to Games than Bench Players
Presenter: Brian Stemper
Principal Investigator: Brian Stemper
Author(s):
Rachel Cutlan
Alok Shah
Steven Rowson
Stefan Duma
Brian Stemper

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 152

Track: BIOMECHANICS
Biomechanics of Rehabilitation/Injury

Abstract Title: Initial investigation into the effect of element elimination techniques in pedestrian impact simulations
Presenter: Costin Untaroiu
Principal Investigator: N/A
Author(s):
Daniel Grindle

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 153

Track: BIOMECHANICS
Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Mapping Internal and External Stresses of Multicellular Spheroids in 3D Matrix
Presenter: Alejandro Marzoratti
Principal Investigator: N/A
Author(s):
Alejandro Marzoratti
Alex Hruska
Ryan Dubay
Eric Darling
Ian Wong

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 154

Track: BIOMECHANICS
**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: 3D Computational Model of Aortic Valve Interstitial Cell Stress Fiber Contractile Behavior
Presenter: Alex Khang
Principal Investigator: N/A
Author(s):
Alex Khang
Robin Tuscher
Xinzeng Feng
Michael Sacks

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 155

Track: BIOMECHANICS
**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: Reduced Cell Spreading and Force on Talin with Arp2/3 Inhibition Does Not Prevent YAP Activation
Presenter: Amirmasoud Sadeghifar
Principal Investigator: N/A
Author(s):
Tristan Driscoll

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 156

Track: BIOMECHANICS
**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: Tuning Polypeptide Linker Stiffness for Enhanced Molecular Tension Sensing
Presenter: Aaron Blanchard
Principal Investigator: N/A
Author(s):
Meghan Reynolds
Brenton Hoffman

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster
Number: 157

Track: BIOMECHANICS
**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: Short-term and Long-term Effects of Hypoxic Conditions on the Urothelium
Presenter: Britney Hudson
Principal Investigator: Jiro Nagatomi
Author(s):
Jiro Nagatomi

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster

Number: 158

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: The Effect of Substrate Topography on Cell Mechanical State

Presenter: Elizabeth Byers

Principal Investigator: N/A

Author(s):

Justin Brown

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster

Number: 159

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Oxidative Stress Differentially Modulates Cell Injury During Airway Reopening by Altering Cytoskeletal and Tight Junction Structure

Presenter: Basia Gabela-Zuniga

Principal Investigator: N/A

Author(s):

Basia Gabela-Zuniga

Vasudha Shukla

Joshua Englert

Samir Ghadiali

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: F, Poster

Number: 160

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Morphogenetic Adaptation of Gut-Forming Endoderm in Response to Tissue-Scale Mechanical Forces

Presenter: Helena Cirne

Principal Investigator: N/A

Author(s):

Panagiotis Oikonomou

Nandan Nerurkar

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 181

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Small Fat Droplets Are Sufficiently Rigid To Indent A Nucleus, Dilute The Lamina, And Cause Rupture

Presenter: Irena Ivanovska

Principal Investigator: Irena Ivanovska-Surtcheva

Author(s):

Michael Tobin

Lawrence Dooling

Dennis Discher

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 182

Track: BIOMECHANICS

**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: A Hyper Spectral Data Analysis
Method For Non-invasive Measurement Prediction of
Cell Matrix Stiffness

Presenter: Jeanette Hariharan

Principal Investigator: N/A

Author(s):
QUYNH HOANG
James Bell

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 183

Track: BIOMECHANICS

**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: tRNA Epitranscriptomic
Modifications in Vascular Endothelial Cells Exposed
to Different Flows

Presenter: Julia Pietromicca

Principal Investigator: N/A

Author(s):
Thomas Begley
J. Andres Melendez
B. Rita Alevriadou

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 184

Track: BIOMECHANICS

**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: Tissue stiffness scaling with fibrillar
collagen results from strain-suppressed fibril
proteolysis

Presenter: Karanvir Saini

Principal Investigator: Dennis E. Discher

Author(s):
N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 185

Track: BIOMECHANICS

**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: An Improved Method for Pattern
Generation for Micropattern Traction Microscopy

Presenter: Katie Bunde

Principal Investigator: N/A

Author(s):
Katie Bunde
Dimitrije Stamenovic
Michael Smith

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 187

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: The Mitochondrial Ca²⁺ Uniporter Channel Synergizes with Shear Stress to Induce [Ca²⁺]_m Oscillations

Presenter: Akshar Patel

Principal Investigator: B. Rita Alevriadou

Author(s):

Akshar Patel

Matthew Simkulet

Anastasios Matzavinos

Madesh Muniswamy

B. Rita Alevriadou

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 188

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: In vitro model to study confined osteocyte networks exposed to flow-induced mechanical stimuli

Presenter: Pranav Soman

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 189

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Induction of Murine Lens Stretching through Hydrogel Compression

Presenter: Wade Rich

Principal Investigator: Matthew A Reilly

Author(s):

Matthew Reilly

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 190

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Human Valve Interstitial Cell 3D Contractile Behaviors in the Normal and Diseased States

Presenter: Robin Tuscher

Principal Investigator: N/A

Author(s):

Robin Tuscher

Alex Khang

Toni West

Michael Sacks

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 191

Track: BIOMECHANICS
**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: Stimulation Via Cone-and-Plate Flow Device Activates DC2.4 Cells
Presenter: Schyler Rowland
Principal Investigator: Michael King
Author(s):
Schyler Rowland
Jenna Dombroski
Jacob Hope
Michael King

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 192

Track: BIOMECHANICS
**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: Shear-induced Detachment Behaviors of Endothelial Cells in Controlled Biophysical Microenvironment
Presenter: Ham Seok Hoon
Principal Investigator: N/A
Author(s):
Tae Yoon Kwon
Eunyoung Park
Minwoo Kang
Jennifer Shin

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 193

Track: BIOMECHANICS
**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: Isolation and Culture of Astrocytes without Activation by Modifying Wettability of Culture Plate Surface
Presenter: Uk Jegal
Principal Investigator: N/A
Author(s):
Uk Jegal
Eunyoung Park
Eunmin Ko
Wongi Choi
Jennifer Shin

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 194

Track: BIOMECHANICS
**Cellular and Molecular Biomechanics:
Mechanobiology**

Abstract Title: Membrane bending activated sulfatide dependent hypoxic adhesion of sickle mature erythrocytes
Presenter: Utku Goreke
Principal Investigator: N/A
Author(s):
Umut Gurkan
Jane Little
Ran An

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 195

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Vinculin is Required for High Force Transmission at Cell-ECM and Cell-Cell Contacts

Presenter: Venkat Maruthamuthu

Principal Investigator: N/A

Author(s):

Mazen Mezher

Daniel Conway

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 196

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Force Imaging Shows That Podosome Formation Requires No Integrin Tensions

Presenter: Xuefeng Wang

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 197

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology

Abstract Title: Time-Dependent Responses of hiPSC-Derived Cardiomyocytes to a Dynamic Topographic Surface

Presenter: Zhen Ma

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 198

Track: BIOMECHANICS

Matrix Effects in Mechanobiology

Abstract Title: In Vitro Hydrogel Modeling For Studying Environmental Factors On Human Pulmonary Fibroblasts

Presenter: Darren Loh

Principal Investigator: N/A

Author(s):

Adrianne Rosales

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster

Number: 199

Track: BIOMECHANICS

Matrix Effects in Mechanobiology

Abstract Title: Mechanical Regulation of Histone Modifications During TGF β 1-Induced Epithelial-to-Mesenchymal Transition

Presenter: Jessica Sacco

Principal Investigator: Esther Gomez

Author(s):

Jessica Sacco

Elix Sumner

Ava Self

Zachary Vaneman

Chinmay Sankhe

Esther Gomez

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: G, Poster
Number: 200

Track: BIOMECHANICS

Matrix Effects in Mechanobiology

Abstract Title: Harnessing Microenvironment Regulation of Human Mesenchymal Stem Cells (hMSCs) Differentiation in Simulated Microgravity

Presenter: Kiarra Richardson

Principal Investigator: N/A

Author(s):

Yuwen ZHao

Shue Wang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 221

Track: BIOMECHANICS

Matrix Effects in Mechanobiology

Abstract Title: Modeling Mechano-biological and Bio-mechanical Pathways in Cutaneous Wound Healing

Presenter: Marco Pensalfini

Principal Investigator: Adrian Buganza Tepole

Author(s):

Adrian Buganza Tepole

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 222

Track: BIOMECHANICS

Matrix Effects in Mechanobiology

Abstract Title: Regulation of Cartilage Remodeling and Chondrocyte Mechanotransduction by Decorin during Aging

Presenter: Mingyue Fan

Principal Investigator: N/A

Author(s):

Biao Han

Bryan Kwok

Thomas Li

CHao Wang

Elizabeth Kahle

Robert Mauck

Lin Han

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 223

Track: BIOMECHANICS

Matrix Effects in Mechanobiology

Abstract Title: Correlating the Regional Microstructure of Decellularized Porcine Myocardium to Shear Mechanics

Presenter: Stacey Cahoon

Principal Investigator: N/A

Author(s):

Stacey Cahoon

Colin Harris

Tyler Washington

Nicolas Gallo

Marcella Vaicik

John Georgiadis

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 224

Track: BIOMECHANICS
Neuromuscular and Brain Biomechanics

Abstract Title: Evaluating Potential Axonal Tract Injury from Head Impacts using Finite Element Models of the Brain

Presenter: Luke Patterson

Principal Investigator: N/A

Author(s):

Luke Patterson

Emilie Potts

Yanir Levy

Haojie Mao

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 225

Track: BIOMECHANICS
Neuromuscular and Brain Biomechanics

Abstract Title: The Effect Of Minocycline On Blast-Induced Microglial Activation In The Cerebellum

Presenter: Pranav Rajaram

Principal Investigator: N/A

Author(s):

Pranav Rajaram

Jay Venkatraman

Pamela VandeVord

Cynthia Bir

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 226

Track: BIOMECHANICS
Neuromuscular and Brain Biomechanics

Abstract Title: Exploring the Effects of Microgravity on the Thoracolumbar Spine Musculature with Long-Duration International Space Station Missions

Presenter: Luis Poveda

Principal Investigator: N/A

Author(s):

Diana Madrid

Ashley Weaver

Siddharth Dash

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 227

Track: BIOMECHANICS
Neuromuscular and Brain Biomechanics

Abstract Title: Alternatives to Br-FPL Tendon Transfer Surgeries following Tetraplegia: A Simulation Study

Presenter: Joseph Towles

Principal Investigator: N/A

Author(s):

Joseph Towles

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 228

Track: BIOMECHANICS
Neuromuscular and Brain Biomechanics
(Summer Undergraduate)

Abstract Title: Investigating the Effect of Cerebral Atrophy on Brain Deformation Using Subject-Specific Models

Presenter: Allen Hong

Principal Investigator: N/A

Author(s):

Aaron Carass

Ahmed Alshareef

Jerry Prince

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 229

Track: BIOMECHANICS
Biomechanics In Cell and Tissue
Engineering

Abstract Title: Magnetically actuated fibrin platform that enables investigating the role mechanically-mediated biochemical signaling plays in the assembly, maturation, and repair of skeletal muscle

Presenter: Angel Bu

Principal Investigator: Ritu Raman

Author(s):

Ritu Raman

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 230

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)
Design and Curriculum

Abstract Title: Developing an Open-source Bioinstrumentation for Graduate-Level Microfluidic Education to Enhance Students' Creativity and Learning motivation

Presenter: Hsu-chan KUO

Principal Investigator: Hsu-Chan KUO

Author(s):

Hsu-chan KUO

Ting-Yuan Tu

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 231

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)
Design and Curriculum

Abstract Title: The Polycarbonate Lung: An Engineering Design Exercise in Negative Pressure Ventilation

Presenter: Andrew Darling

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 232

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Design and Curriculum

Abstract Title: A Novel Course for Mentored Research Project with Remote Facilitation: Independent Study at Johns Hopkins University's Applied Biomedical Engineering (JHU-ABE)

Presenter: Anil Maybhate

Principal Investigator: N/A

Author(s):

Brock Wester

Eileen Haase

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 233

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Design and Curriculum

Abstract Title: Guiding A Curriculum Redesign Using A Teleological Approach: Application of Kotter's Change Model

Presenter: Charles Patrick

Principal Investigator: N/A

Author(s):

Daniel Alge

Isaac Adjei

Hatice Ceylan Koydemir

Mary McDougall

Michael McShane

Alex Walsh

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 234

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Other/Non-Specified

Abstract Title: Lessons and Future Directions in Open Access, Twitch-Based Science Communication

Presenter: Michael Blatchley

Principal Investigator: N/A

Author(s):

Bria Macklin

Franklyn Hall

Quinton Smith

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 235

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Design and Curriculum

Abstract Title: A Case-Based Approach in Bioinstrumentation for the Master of Engineering Program

Presenter: Olivia Coiado

Principal Investigator: N/A

Author(s):

Olivia Coiado

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 236

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Design and Curriculum

Abstract Title: Developing Design Thinking in
Senior Capstone Bioengineering Student

Presenter: Ruth Ochia

Principal Investigator: N/A

Author(s):

MICHAEL PHELAN

Aratrik Guha

Brandon Harrison

Vahid Alizadeh

Yah-el Har-el

Ruth Ochia

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 237

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

K-12 Outreach

Abstract Title: Teaching the Engineering Design
Process using LEGO Prosthetic Limbs and Robotic
Dogs

Presenter: Anne-Marie Ginn-Hedman

Principal Investigator: N/A

Author(s):

Abbie Clevenger

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 238

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

K-12 Outreach

Abstract Title: Lessons Learned: Exposing High
School Students to Biomedical Engineering Through
Interactive Workshops

Presenter: Anna Lei

Principal Investigator: N/A

Author(s):

Anna Lei

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 239

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Abstract Title: Imaging of Protein Trafficking/
Phagocytosis with Chemical Protein

Presenter: Victor Nguyen

Principal Investigator: Kazuya Kikuchi

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: C, Row: H, Poster
Number: 240

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Recovery of Markers through Insonation : An Alternative to Monitoring Gene Expression in Deep Tissues
Presenter: Joon Pyung Seo
Principal Investigator: Jerzy Szablowski
Author(s):
James Trippett
Jerzy Szablowski

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 261

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Pupil As An Indication For Neuropathic Pain
Presenter: Venkat Kalyan Reddy Yasa
Principal Investigator: Nathalia Peixoto
Author(s):
Nathalia Peixoto
Justin Matthews

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 262

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Design of a Lightweight Mobile Stroke Unit CT Scanner
Presenter: Kate Fox
Principal Investigator: Kate Fox
Author(s):
Kern Cowell
Toh Yen Pang
Jun Sheng Kwok

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 263

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Construction of an Optical CT Scanner for Differentiation Between Susceptibility Effects in MRI
Presenter: Madison White
Principal Investigator: N/A
Author(s):
Edith Valle
Jacob Degitz
Mary McDougall

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 264

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)
Imaging Cells, Molecules, and Genome (Summer Undergraduate)

Abstract Title: Embedded Microstructures Arrays for Single-Cell Sorting and Collecting of Lymphocytes Following HIV Latency Reactivation
Presenter: Belen Cortes Llanos Nancy Allbritton
Principal Investigator: N/A
Author(s):
 Vaibhav Jain
 Edward Browne
 David Murdoch
 Nancy Allbritton

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 265

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)
Imaging Cells, Molecules, and Genome (Summer Undergraduate)

Abstract Title: Under Oil Culture System Simulates Hypoxic Microenvironment and Alters Optical Redox Ratio
Presenter: Jaleisha Joan Vélez Velázquez
Principal Investigator: N/A
Author(s):
 Melissa Skala
 Amani Gillette

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 266

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)
Imaging Cells, Molecules, and Genome (Summer Undergraduate)

Abstract Title: Investigating the Preparation Methods for Super-Resolution Imaging of Tunneling Nanotubes
Presenter: Joseph Porter
Principal Investigator: Melike Lakadamyali
Author(s):
 N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 267

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)
Imaging Cells, Molecules, and Genome (Summer Undergraduate)

Abstract Title: Quantitative Analysis of Rapamycin on Optical Redox Ratios of NIH 3T3 Cells
Presenter: Kyle Quinn
Principal Investigator: Benjamin Michael Butter
Author(s):
 Benjamin Butter
 Olivia Kolenc
 Mamello Mohale
 Kyle Quinn

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster

Number: 268

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)

Other / Non-specified (Undergraduate)

Abstract Title: Effect of Frequency of Phonation on Laryngeal Ultrasound Vocal Fold Visualization

Presenter: Alexandra Chertok

Principal Investigator: Todd Freeborn

Author(s):

Todd Freeborn

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster

Number: 269

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)

Other / Non-specified (Undergraduate)

Abstract Title: Cortical Mechanisms of Pain in the Adult Somatosensory Cortex: A Pilot EEG Study

Presenter: William Andrew Sikora

Principal Investigator: William Andrew Sikora

Author(s):

Desiree Azizoddin

Louis Lepak

Faiz Safdar

Ashton Baltazar

Yuan Yang

Carolyn Cheema

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster

Number: 270

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)

Other / Non-specified (Undergraduate)

Abstract Title: Simulated Performance Analysis of a Low-Cost Circuit for Electroglossography Measurements

Presenter: Elijah Trutt

Principal Investigator: N/A

Author(s):

Todd Freeborn

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster

Number: 271

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)

Other / Non-specified (Undergraduate)

Abstract Title: Thyroid Cartilage Effects on The Simulated Bioimpedance of Localized Neck Tissues

Presenter: Emma Milianta

Principal Investigator: N/A

Author(s):

Todd Freeborn

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster

Number: 272

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION (Summer REU)

Other / Non-specified (Undergraduate)

Abstract Title: Comparison of Metrics for Activity Differentiation Within Oral-Facial sEMG Datasets

Presenter: Megan Summitt

Principal Investigator: N/A

Author(s):

Todd Freeborn

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 273

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION (Summer REU)

Other / Non-specified (Undergraduate)

Abstract Title: Testing the Reliability of an E4 Watch
 for In-The-Field Experiments

Presenter: Susan Pham

Principal Investigator: Nathalia Peixoto

Author(s):

Pamela Benitez

Nathalia Peixoto

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 274

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION (Summer REU)

**X-ray and Computed Tomographic
 Imaging (CT) (Summer Undergraduate)**

Abstract Title: Deep Learning Image Generation for
 Pulmonary Artifact Correction in 4DCT

Presenter: Dallin Fairbourn

Principal Investigator: Joseph M. Reinhardt

Author(s):

Joshua Carrizales

Joseph Reinhardt

Gary Christensen

Mattison Flakus

John Bayouth

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 275

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION (Summer REU)

**X-ray and Computed Tomographic
 Imaging (CT) (Summer Undergraduate)**

Abstract Title: Contrast-Enhancing Method to
 Visualize Tendon in 3D Using Micro-CT

Presenter: Destinee Ditton

Principal Investigator: Nathan R Schiele

Author(s):

Nathan Schiele

Colin Marchus

Michele Brumley

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 276

**Track: BIOMEDICAL IMAGING
 AND INSTRUMENTATION (Summer REU)**

**X-ray and Computed Tomographic Imaging (CT)
 (Summer Undergraduate)**

Abstract Title: An Antioxidant Countermeasure
 Protects Joint Health during Spaceflight

Presenter: Sabrina Vander Wiele

Principal Investigator: Jeffery Willey

Author(s):

Chirayu Patel

Jeffrey Willey

Xiao W Mao

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 277

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

Imaging Cells, Molecules, and Genome

Abstract Title: Activatable Nanoprobes that Measure
 Macrophage Phenotypic States Associated with
 Disease Progression

Presenter: Anujan Ramesh

Principal Investigator: N/A

Author(s):

Nilesh Deshpande

Anh Nguyen

Anthony Brouillard

Vaishali Malik

Ashish Kulkarni

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 278

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

Imaging Cells, Molecules, and Genome

Abstract Title: In vivo and ex vivo imaging of
 NAD(P)H changes in lung fibrosis

Presenter: Patrick Link

Principal Investigator: Daniel Tschumperlin

Author(s):

Jeffrey Meridew

Kyoung Choi

Daniel Tschumperlin

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 279

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

Imaging Cells, Molecules, and Genome

Abstract Title: Engineering a Live Cell 3D Imaging
 Assay to Assess Mitochondrial Changes in Estrogen
 Receptive Cells

Presenter: Meredith Adams

Principal Investigator: Brian Johnson

Author(s):

Brian Johnson

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: I, Poster
Number: 280

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

Imaging Cells, Molecules, and Genome

Abstract Title: Quantifying Macrophage Phagocytic
 Activity Using A Fluorescence Microscopy-Based
 Screening Assay

Presenter: Matthew Igoe

Principal Investigator: N/A

Author(s):

Shelby Bess

Timothy Muldoon

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 301

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION
Imaging Cells, Molecules, and Genome

Abstract Title: 3D Holotomographic Imaging of
 Live Cells to Characterize Endothelialization

Presenter: Patrick Jurney

Principal Investigator: N/A

Author(s):

Christian Leycam

Gabriela Acevedo Munares

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 302

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION
Imaging Cells, Molecules, and Genome

Abstract Title: Imaging Flow Cytometry to
 Characterize the Mitochondrial Content of
 Extracellular Microparticles

Presenter: Zahid Manzar

Principal Investigator: Barbara Alevriadou

Author(s):

Hazel Szeto

hans minderman

B. Rita Alevriadou

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 303

Track: BIOMEDICAL ENGINEERING
 EDUCATION (BME) > Diversity, Equity, and
 Inclusion
Diversity, Equity, and Inclusion

Abstract Title: Virtual Programming for
 Dissemination of Stem Cell and Tissue Engineering
 Research

Presenter: Daniel Tavakol

Principal Investigator: N/A

Author(s):

Gordana Vunjak-Novakovic

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 304

Track: BIOMEDICAL ENGINEERING
 EDUCATION (BME) > Diversity, Equity, and
 Inclusion
Diversity, Equity, and Inclusion

Abstract Title: Offering Multiple Media Options for
 BME Students to Express What They Know About
 Biostatistics

Presenter: Mia Markey

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 305

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME) > Diversity, Equity, and
Inclusion

Diversity, Equity, and Inclusion

Abstract Title: Exploring Classroom Use of ASL
Aspire: A STEM Vocabulary Platform for Deaf
Students

Presenter: Amy Lee

Principal Investigator: Luisa Rosu

Author(s):

Amy Lee

Aminah Hussain

Mona Jawad

Ethan Gaughan

Ryan Martin

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 306

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME) > Diversity, Equity, and
Inclusion

Diversity, Equity, and Inclusion

Abstract Title: Introducing Healthcare Disparities
into Graduate Biomedical Engineering Education

Presenter: Mykel Green

Principal Investigator: N/A

Author(s):

Olivia Lanier

Elizabeth Cosgriff-Hernandez

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 307

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION > X-ray and Computed
Tomographic Imaging (CT)

X-ray and Computed Tomographic Imaging (CT)

Abstract Title: Impact of CT Resolution on
Accuracy of Patient-Specific Models for Cranio-Facial
Reconstruction

Presenter: Maari Ahmed

Principal Investigator: Kyle K VanKoevinger,
Edward Herderick

Author(s):

Natalia von Windheim

Kyle VanKoevinger

Ed Herderick

Luigi Melaragno

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 308

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION > X-ray and Computed
Tomographic Imaging (CT)

X-ray and Computed Tomographic Imaging (CT)

Abstract Title: Deep Learning 2D U-net CNN for
Pulmonary Artifact Detection in Four-Dimensional
Computed Tomography

Presenter: Joshua Carrizales

Principal Investigator: N/A

Author(s):

Joshua Carrizales

Wei SHao

Mattison Flakus

John Bayouth

Gary Christensen

Joseph Reinhardt

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 309

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION > X-ray and Computed Tomographic Imaging (CT)
X-ray and Computed Tomographic Imaging (CT)

Abstract Title: Effects of Low-Dose X-Ray Radiation at Varying Dose Rates on Aortic Smooth Muscle Cells In Vitro

Presenter: Charles Winchester

Principal Investigator: N/A

Author(s):

Charles Winchester

Arianna Csiszer

Almog Gur

Regan Frye

Andrew Rifkin

Zion Lesesne

Natalie Anderson

Endre Takacs

Delphine Dean

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 310

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION > X-ray and Computed Tomographic Imaging (CT)
X-ray and Computed Tomographic Imaging (CT)

Abstract Title: The UF-MSK Library of Pediatric Computational Phantoms for Radiation Dosimetry

Presenter: Laura Dinwiddie

Principal Investigator: Wesley Bolch

Author(s):

Laura Dinwiddie

Robert Dawson
Jared Baggett
Yitian Wang
Wyatt Smither
Cameron Kofler
Lukas Carter
Adam Kesner
Wesley Bolch

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 311

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION > X-ray and Computed Tomographic Imaging (CT)
X-ray and Computed Tomographic Imaging (CT)

Abstract Title: Three-Dimensional Morphology of the Diaphragm In Normative Pediatric Subjects

Presenter: Marc Mounzer

Principal Investigator: N/A

Author(s):

Sriram Balasubramanian

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 312

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: A Microengineered Model of Vascularized Solid Tumors for The Study of CAR T Immunotherapy

Presenter: Haijiao Liu

Principal Investigator: Dan Donggeun Huh

Author(s):

Haijiao Liu

Ju Young Park

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 313

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Modeling breast cancer metastatic colonization within an engineered bone marrow model

Presenter: Ilaria Baldassarri

Principal Investigator: Gordana Vunjak-Novakovic

Author(s):

Daniel Tavakol

Gordana Vunjak-Novakovic

Pamela Graney

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 314

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Toward Engineering Models of Dormancy and Aggressive Recurrence Associated with Drug Resistance Following Platinum-based Cytotoxic Therapies

Presenter: Omar Ahmad

Principal Investigator: Mark Mondrinos

Author(s):

Elisabet Olsen

Mark Mondrinos

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 315

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies (Summer Undergraduate)

Abstract Title: 3D Bioprinting Of Pancreatic Tumor Spheroids

Presenter: Ailene Edwards

Principal Investigator: Matthew Lazzara

Author(s):

Matthew Lazzara

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 316

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies (Summer Undergraduate)

Abstract Title: Investigating Ovarian Cancer Spheroids as Improved in vitro Models of Inherent Chemoresistance

Presenter: Amanda Murray

Principal Investigator: Angela Alexander-Bryant

Author(s):

Kharimat Alatise

Angela Alexander-Bryant

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 317

Track: CANCER TECHNOLOGIES
Cancer Cell Motility and Migration

Abstract Title: Evaluation of Breast Tumor K14 Leader Cells Polarization in 3D Aligned Collagen Fibers

Presenter: Jessanne Lichtenberg

Principal Investigator: N/A

Author(s):

Priscilla Hwang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: J, Poster
Number: 318

Track: CANCER TECHNOLOGIES
Cancer Cell Motility and Migration

Abstract Title: Under Pressure: How Confinement Drives Mechanical Memory in Migratory Breast Cancer Cells

Presenter: Jenna Mosier

Principal Investigator: N/A

Author(s):

Catherine Ludolph

Addison White

Matthew Zanotelli

Cynthia Reinhart-King

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 342

Track: CANCER TECHNOLOGIES
Computational Modeling of Cancer (Summer Undergraduate)

Abstract Title: Image-Based Biophysical Modeling and Radiomics to Predict Breast Cancer NAT Response

Presenter: Amy Prendergast

Principal Investigator: Jared A. Weis

Author(s):

Haley Johnson Bowers

Jared Weis

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 342

Track: CANCER TECHNOLOGIES
Cancer Cell Motility and Migration

Abstract Title: Mechanical Memory Acquisition of Oral Squamous Cell Carcinoma (OSCC) and Biological Pathways Involved in the Process

Presenter: So Youn Moon

Principal Investigator: N/A

Author(s):

Jesse Placone

Marcelo Lamers

Adam Engler

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 343

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Integrating Microribbon-based 3D Osteosarcoma Model with Patient-derived Xenograft Cell Lines and High-dimensional Sequencing for Drug Discovery

Presenter: Callan Monette

Principal Investigator: N/A

Author(s):

Eva Gonzalez Diaz

Fan Yang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 344

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Impact of Culture Proximity in Paracrine Hedgehog Signaling in Triple Negative Breast Cancer

Presenter: Heizel Rosado

Principal Investigator: N/A

Author(s):

Ana Reyes Ramos

Natalia Ramos

Wandaliz Torres-Garcia

Maribella Domenech

Michelle Martinez

Miosotis Acevedo

Gabriela Ortiz-Soto

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 345

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Regulation of Ovarian Cancer Invasiveness by Mechanical Memory

Presenter: Jiwon Kim

Principal Investigator: N/A

Author(s):

Hyuntae Jeong

Chanhong Min

Jennifer Shin

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 346

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: MCF-7 Breast Cancer Cells and MC3T3-E1 Preosteoblasts Communicate Through Extra-Long "Intercellular Highways": A Pilot Study

Presenter: Karen Burg

Principal Investigator: Karen J.L. Burg

Author(s):

Weitong Chen

Didier Dréau

Timothy Burg

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 347

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: A Three-Dimensional Neuroblastoma-Immune Co-culture Model Using Lyophilized Silk Fibroin Scaffolds

Presenter: Katelyn Mistretta

Principal Investigator: Jeannine M. Coburn

Author(s):

Katelyn Mistretta

Jeannine Coburn

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 348

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Macrophages Cooperatively Phagocytose Tumor Cell Targets in Engineered Immuno-Tumoroids

Presenter: Lawrence Dooling

Principal Investigator: N/A

Author(s):

Lawrence Dooling

Jason Andrechak

Brandon Hayes

Dennis Discher

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 349

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Vectorized Photodynamic Therapy In Increasing Complexity Bladder Cancer Models

Presenter: Maxime LABROY

Principal Investigator: Maxime LABROY

Author(s):

Laure Gibot

Stephane Chabaud

Francois Bordeleau

Sara Gouarderes

Stephane Bolduc

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 350

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Production of a Tunable CTC Cluster in vitro Model via a Superhydrophobic Microwell Array Device

Presenter: Olivia Wright

Principal Investigator: N/A

Author(s):

Maria Lopez Cavestany

Kalana Jayawardana

Noah Reckhorn

Deyu Li

Michael King

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 351

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Engineering Physiologically Relevant Hypoxia-induced ECM remodeling in Ovarian Cancer

Presenter: Pilar de la Puente

Principal Investigator: N/A

Author(s):

Kristin Calar

Simona Plesselova

Pilar de la Puente

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 352

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: A Gravity-Driven Organs-on-Chip Device to Study Tissue Responses to Cancer Therapeutics
Presenter: Pouria Rafsanjani Nejad
Principal Investigator: N/A
Author(s):
Hossein Tavana

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 353

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Microfluidic Harvesting of Spheroid-Derived Extracellular Vesicles from Immobilized Microgels
Presenter: Xilal Rima
Principal Investigator: N/A
Author(s):
Eduardo Reategui

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 354

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Electrical stimulation of head and neck cancer cells using a piezoelectric nanofiber interface
Presenter: Maulee Sheth
Principal Investigator: Leyla Esfandiari
Author(s):
Maulee Sheth
Maksym Krutko
Maria Lehn
Andrew Bryan
Greg Harris
Trisha Wise-Draper
Leyla Esfandiari

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 355

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Glioblastoma Spheroid Growth and Chemotherapeutic Responses in Single and Dual-Stiffness Hydrogels
Presenter: Silviya Zustiak
Principal Investigator: N/A
Author(s):
Joseph Bruns

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 356

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Cancer-Associated Fibroblasts Produce a Pro-Angiogenic Environment in Microvasculature-on-a-Chip
Presenter: Sarah Shelton
Principal Investigator: N/A
Author(s):
Sarah Shelton
David Barbie
Roger Kamm

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 357

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: A 3D Microfluidic Platform to Quantify Neutrophil-Tumor Spheroid Interactions
Presenter: Shuai SHao
Principal Investigator: N/A
Author(s):
Shuai SHao
Caroline Jones

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 358

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: An Engineered 3D Microfluidic Model To Assess How Adipocyte Hypertrophy Alters Breast Cancer Escape
Presenter: Yoseph Dance
Principal Investigator: N/A
Author(s):
N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster
Number: 359

Track: CANCER TECHNOLOGIES
Engineered Cancer Models for In Vitro Studies

Abstract Title: Production of Breast Cancer Hydrogel Microspheres for Drug Screening
Presenter: Yuan Tian
Principal Investigator: Elizabeth Lipke
Author(s):
Yuan Tian
Wen Seeto
Shantanu Pradhan
Dmitriy Minond
Elizabeth Lipke

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: K, Poster

Number: 360

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease

Abstract Title: Ventricular Hemodynamic Energetics as Novel Indicator to Assess Prosthetic Heart Valve Performance

Presenter: Brandon Eberl

Principal Investigator: Olga Pierrakos

Author(s):

Olga Pierrakos

Brandon Eberl

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster

Number: 381

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease

Abstract Title: MODELING AORTIC VALVE HEMODYNAMICS USING A NOVEL IMMERSED BOUNDARY METHOD

Presenter: Hamid Sadat

Principal Investigator: Hamid Sadat

Author(s):

Mishal Raza

Kamau Kingora

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster

Number: 382

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease

Abstract Title: A Case Study on Decreased Coronary Flow after Transcatheter Aortic Valve Replacement

Presenter: Brennan Vogl

Principal Investigator: N/A

Author(s):

Brennan Vogl

Hoda Hatoum

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster

Number: 383

Track: CARDIOVASCULAR ENGINEERING
Heart Valve Structure, Function, and Disease

Abstract Title: Association Of Aortic Valve Calcium Score And Chronic Kidney Disease In Patients With Aortic Stenosis

Presenter: Muhammad Uqaily

Principal Investigator: N/A

Author(s):

Muhammad Uqaily

Irfan Zeb

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 384

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: Characterizing Macrophage Behavior Under Pathological Shear Stress in Discrete Subaortic Stenosis

Presenter: Elysa Jui

Principal Investigator: N/A

Author(s):

Griffin Kingsley

Jennifer Connell

Jane Grande-Allen

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 385

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: Simulating the Acute Hemodynamic Changes during Partial vs. Full Aortic Occlusion during Hemorrhage

Presenter: Fahim Mobin

Principal Investigator: N/A

Author(s):

Fahim Mobin

Antonio Renaldo

Christopher Tossas-Betancourt

Timothy Williams

Lucas Neff

Jim Jordan

C. Alberto Figueroa

Elaheh Rahbar

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 386

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: Biomechanical and Microstructural Characterizations of Human Healthy and Hypertrophic Septal Tissues

Presenter: Jun Liao

Principal Investigator: N/A

Author(s):

Katherine Copeland

Uday Chintapula

Alan Taylor

Yi Hong

Kytai Nguyen

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 387

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: 3D Effect of Biophysical Cues on Cardiac Fibroblast Contractility and Extracellular Matrix Secretion

Presenter: Kathleen Halwachs

Principal Investigator: N/A

Author(s):

Kathleen Halwachs

Alex Hillsley

Alex Khang

Logan Morton

Michael Sacks

Adrienne Rosales

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 388

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: Spatiotemporal statistical shape analysis of aortic growth in uncomplicated type B aortic dissection

Presenter: Minliang Liu

Principal Investigator: N/A

Author(s):

Minliang Liu

Hai Dong

Bradley Leshnower

Rudolph Gleason

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 389

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: Association of RV hemodynamics with RVFW stiffening in pulmonary hypertension

Presenter: Sunder Neelakantan

Principal Investigator: N/A

Author(s):

Sunder Neelakantan

Preston Nicely

Gaurav Choudhary

Reza Avaz

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 390

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: Effects of Passive Remodeling on Relaxation in Left Ventricular Diastolic Dysfunction

Presenter: Tanmay Mukherjee

Principal Investigator: Reza Avazmohammadi

Author(s):

Tanmay Mukherjee

Sunder Neelakantan

Sakthivel Sadayappan

Reza Avaz

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 391

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: Comparing In Vivo Green Strains of Normal Human Myocardium with Porcine Myocardium via DENSE

Presenter: Tawfik Hussein

Principal Investigator: N/A

Author(s):

John Oshinski

Muralidhar Padala

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 392

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Biomechanics

Abstract Title: SARS-CoV-2 Impact on Endothelial Activation and Barrier Function

Presenter: Xaymara Rivera Gonzalez

Principal Investigator: N/A

Author(s):

Sajedehalsadat Yazdanparast

Xaymara Rivera Gonzalez

Xiaohui (Frank) Zhang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 393

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Devices

Abstract Title: Material Thickness Impacted by the Incorporation of Serum Proteins: Implication for Valve Implants

Presenter: Mar Martinez Mas

Principal Investigator: N/A

Author(s):

Yingfei Xue

Alexey Abramov

Giovanni Ferrari

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 394

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING
**Gene Delivery and Genome
 Bioengineering**

Abstract Title: Multiplex CRISPR/Cas9

Knockout Utilizing Serial Delivery via Microfluidics Transfection System

Presenter: Melis Keceli

Principal Investigator: Ian Sicher

Author(s):

Ailin Goff

Jocelyn Loo

Ockchul Kim

Alla Zamarayeva

Sewoon Han

Ian Sicher

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 395

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING
**Gene Delivery and Genome
 Bioengineering**

Abstract Title: In Vivo Enhancement of AAV Vector Transduction of Murine Hepatocytes Via Electric Pulse Exposure

Presenter: Yizhou Yao

Principal Investigator: John Booske and Susan Hagness

Author(s):

John Booske

Susan Hagness

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 396

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular and Cellular Immunoengineering

Abstract Title: Characterization of PD-L1
Conjugated Liposomes for Modulation of Effector T
Cells in Type 1 Diabetes

Presenter: Maryum Salim

Principal Investigator: Edward A. Phelps

Author(s):

Edward Phelps

Matthew Becker

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 397

Track: CELLULAR AND MOLECULAR
BIOENGINEERING (Late Breaking) > - Molecular
and Cellular Immunoengineering (Late Breaking)

Molecular and Cellular Immunoengineering

Abstract Title: Tolerogenic Dendritic Cells are
Recruited to Trauma Sites Through the CD103-
XCR1 Axis

Presenter: Minhaj Bhuiyan

Principal Investigator: Bhuiyan

Author(s):

Kaitlyn Sadtler

Parinaz Fathi

Tran Ngo

Sabrina DeStefano

Mondreake Faust

Kenneth Adusei

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 398

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Gene Delivery and Genome Bioengineering (Summer Undergraduate)

Abstract Title: immortalization of Bovine Satellite
Cells through Ectopic TERT and CDK4 Expression

Presenter: Miles Arnett David Kaplan

Principal Investigator: N/A

Author(s):

Addison Mirliani

Tina Guo

Andrew Stout

David Kaplan

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 399

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Gene Delivery and Genome Bioengineering (Summer Undergraduate)

Abstract Title: Optimizing Carriers for Non-Invasive
CRISPR-Based Gene Editing

Presenter: Hannah Yamagata

Principal Investigator: Kam Leong

Author(s):

Huiyi Liang

Kam Leong

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: L, Poster
Number: 400

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Gene Delivery and Genome
 Bioengineering (Summer
 Undergraduate)**

Abstract Title: Gsx1 Reduces Glial Scar Formation at
 Chronic Stage of Spinal Cord Injury

Presenter: Juan Gutierrez

Principal Investigator: N/A

Author(s):

Li Cai

Zachary Finkel

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 421

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 Immunoengineering (Summer
 Undergraduate)**

Abstract Title: Roles of M-CSF and Focal Adhesion
 Kinase in Macrophage Response to Stiffness

Presenter: Andrea Sedano

Principal Investigator: René Olivares-Navarrete

Author(s):

Rene Olivares-Navarrete

lais carvalho

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 422

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 Immunoengineering (Summer
 Undergraduate)**

Abstract Title: Comparison of a Surgically Induced
 and Chemically Induced Dry Eye Model in Rabbits

Presenter: Cambell France

Principal Investigator: Bryan N. Brown

Author(s):

Bryan Brown

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 423

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 Immunoengineering (Summer
 Undergraduate)**

Abstract Title: Using Artificial Antigen-Presenting
 Cells to Generate Cytotoxic CD4+ T Cells In Vitro

Presenter: Gohta Aihara

Principal Investigator: Jonathan Schneck

Author(s):

Ariel Isser

Joseph Choy

Mara Lanis

Jonathan Schneck

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 424

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular and Cellular
Immunoengineering (Summer
Undergraduate)**

Abstract Title: Developing an Aptamer-mediated
CRISPR interference System in Primary Human T
cells

Presenter: Jeffrey Perera

Principal Investigator: Alexander Marson

Author(s):

Jeffrey Perera

Zachary Steinhart

Cody Mowery

Alexander Marson

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 425

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular and Cellular
Immunoengineering (Summer
Undergraduate)**

Abstract Title: Inflammatory Cytokine Modulation
of Amyloid-B Aggregation

Presenter: Shannon DePratter

Principal Investigator: N/A

Author(s):

Brittany Watson

Mihyun Waugh

Melissa Moss

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 426

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular and Cellular
Immunoengineering (Summer
Undergraduate)**

Abstract Title: Generating PD-L1 Expressing
Stem Cells for Immunoprotection in Regenerative
Medicine

Presenter: Shea Kreinbrink

Principal Investigator: Joseph W. Freeman

Author(s):

Shea Kreinbrink

Rick Cohen

Joseph Freeman

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 427

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular and Cellular
Immunoengineering (Summer
Undergraduate)**

Abstract Title: Macrophage/Colorectal Cancer
Cell Ratio in Engineered 3D Models Demonstrates
Immune Editing

Presenter: Vibha Sheshadri

Principal Investigator: Shreya Raghavan

Author(s):

Anirudh Madyastha

Abbie Clevenger

Shreya Raghavan

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: D, Row: M, Poster
Number: 428**Track:** CELLULAR AND MOLECULAR
BIOENGINEERING**Gene Delivery and Genome
Bioengineering****Abstract Title:** Cell Models and a High-Throughput
Assay for Discovering Novel Therapeutics to Cure
Cystic Fibrosis**Presenter:** Aidi Liu**Principal Investigator:** Gang Bao**Author(s):**

Aidi Liu

Mithil Chokshi

Gang Bao

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: D, Row: M, Poster
Number: 429**Track:** CELLULAR AND MOLECULAR
BIOENGINEERING**Gene Delivery and Genome
Bioengineering****Abstract Title:** Methionine adenosyltransferase2A
inhibition restores the strength of aged skeletal muscle**Presenter:** Izuagie Ikhapoh**Principal Investigator:** N/A**Author(s):**

Izuagie Ikhapoh

Nika Rajabian

Debanik Choudhury

Shahryar Shahini

Ramkumar Thiyagarajan

Kenneth Seldeen

Bruce Troen

Mohamed Mohamed

Kirkwood Personius

Stelios Andreadis

Aref Shahini

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: D, Row: M, Poster
Number: 430**Track:** CELLULAR AND MOLECULAR
BIOENGINEERING**Gene Delivery and Genome
Bioengineering****Abstract Title:** Development of Model Cell Lines for
Myotonia Congenita Using Gene-Editing**Presenter:** Daniel Prasca-Chamorro**Principal Investigator:** N/A**Author(s):**

Daniel Prasca-Chamorro

Mithil Chokshi

Gang Bao

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: D, Row: M, Poster
Number: 431**Track:** CELLULAR AND MOLECULAR
BIOENGINEERING**Gene Delivery and Genome
Bioengineering****Abstract Title:** Programmable Exon Skipping by
Simultaneous Base Editing of Splice Donors and
Acceptors**Presenter:** Gianna Elias**Principal Investigator:** Pablo Perez-Pinera**Author(s):**

Gianna Elias

Angelo Miskalis

Shraddha Shirguppe

Pablo Perez-Pinera

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 432

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Gene Delivery and Genome
Bioengineering**

Abstract Title: Targeting Lung Stem Cells for In
Vivo Gene Editing to Cure Cystic Fibrosis

Presenter: Ishika KhonDaker

Principal Investigator: Gang Bao

Author(s):

Ishika KhonDaker

Mithil Chokshi

Gang Bao

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 433

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Gene Delivery and Genome
Bioengineering**

Abstract Title: DNA-Inspired Nanopieces for
mRNA Delivery and Gene Editing

Presenter: Jinhyung Lee

Principal Investigator: Yupeng Chen

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 434

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Gene Delivery and Genome
Bioengineering**

Abstract Title: Gene Circuits Delivered by a
Baculovirus Vector Enable Complex Regulation of
Cas9 Gene Editing in vivo

Presenter: Lucas Brown

Principal Investigator: Gang Bao

Author(s):

Lucas Brown

Caleb Bashor

Gang Bao

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 435

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Gene Delivery and Genome
Bioengineering**

Abstract Title: Developing CRISPR-mediated Prime
Editors for Exon Skipping in Duchenne Muscular
Dystrophy

Presenter: Mary Jia

Principal Investigator: Christopher Nelson

Author(s):

Christopher Nelson

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 436

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Gene Delivery and Genome
Bioengineering**

Abstract Title: Cfr Mutation Induced Macrophage
Dysfunction in Cystic Fibrosis

Presenter: Mithil Chokshi

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 437

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Gene Delivery and Genome
Bioengineering**

Abstract Title: Optimizing Adeno-Associated Viral
Vectors to Up- and Downregulate Multiple Genes

Presenter: Pichayathida Luanpaisanon

Principal Investigator: N/A

Author(s):

Brent French

Nyota Patel

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 438

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Gene Delivery and Genome
Bioengineering**

Abstract Title: Genetic correction of Huntington's
disease by in vivo base editing

Presenter: Shraddha Shirguppe

Principal Investigator: Pablo Perez Pinera

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 439

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Gene Delivery and Genome
Bioengineering**

Abstract Title: Programming Off-the-Shelf Human
iPSCs using 100+ kilobase Genome Writing

Presenter: David Truong

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: M, Poster
Number: 440

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 ImmunoEngineering**

Abstract Title: Human pluripotent stem cells as
 a potent source for engineered macrophage cancer
 immunotherapies

Presenter: Andrew Khalil

Principal Investigator: N/A

Author(s):

Kipp Weiskopf

Tenzin Lungjangwa

Kyle Vaccaro

Juliet Allen

Rudolf Jaenisch

David Mooney

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 461

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 ImmunoEngineering**

Abstract Title: Alveolar Macrophages Drive Lung
 Fibroblast Contraction and Changes in Gene
 Expression

Presenter: Caymen Novak

Principal Investigator: Megan Ballinger

Author(s):

Samir Ghadiali

Megan Ballinger

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 462

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

**Molecular and Cellular
 ImmunoEngineering**

Abstract Title: mRNA Based CAR T cell
 Engineering and Study the Cytotoxicity Against
 Acute Lymphoblastic Leukemia

Presenter: Dharmakeerthi Nawarathna

Principal Investigator: Nawarathna Dharmakeerthi

Author(s):

Sena Dere

Alison Greteman

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 463

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Abstract Title: BCG-Mediated Histone Post-
 Translational Modifications in Macrophages

Presenter: Zoe Schaefer

Principal Investigator: N/A

Author(s):

Zoe Schaefer

Ivana Parker

Evelyn Ngwa

Lumngwena

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 464

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: Mechanosensitive Piezo1 Stimulation Increases Red Blood Cell and Endothelial Cell Nitric Oxide Through Different Pathways

Presenter: Gurneet Sangha

Principal Investigator: Alisa Morss Clyne

Author(s):

Ryan Sapp

Alisa Clyne

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 465

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: Stochastic Pluripotent Gene Expression Control through Cell Cycle Arrest

Presenter: Jason Wang

Principal Investigator: N/A

Author(s):

jason wang

Shreyaa Khanna

Blashko Milenkovski

Roy Dar

Hyunjoon Kong

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 466

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: Cell-Free Recombinase Genetic Circuit for Biological Memory Storage

Presenter: Jingyao Chen

Principal Investigator: N/A

Author(s):

Wilson Wong

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 467

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: PCSK9 Inhibitors Decrease Inflammatory Response and Foam Cell Formation in iPSC-derived Vascular SMCs

Presenter: Kevin Shores

Principal Investigator: George Truskey

Author(s):

Benjamin Evison

Charles Gersbach

George Truskey

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 468

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified

Abstract Title: Transport Mechanisms of Therapeutic
Poloxamer P188

Presenter: Michael Cho

Principal Investigator: N/A

Author(s):

Rafiul Shihab

Anne Alsup

Jacob Lubber

Michael Cho

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 469

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular and Cellular
ImmunoEngineering**

Abstract Title: Fractionation and Characterization
of Immune Cell Organelles for Synthetic Cellular
Biology

Presenter: Joshua Devier

Principal Investigator: Joshua Doloff

Author(s):

Jody Mou

Sixiang Wang

Joshua Doloff

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 470

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular and Cellular
ImmunoEngineering**

Abstract Title: Human SUMOylation Pathway Is
Critical for Influenza B Virus

Presenter: Jiayu Liao

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 471

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: High Glucose Concentration
Contributes to Fluid Shear-Induced Breast Cancer
Cell Migration

Presenter: Jung Yul Lim

Principal Investigator: N/A

Author(s):

Eunju Kim

Jung Yul Lim

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 472

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: Investigation of Chemotaxis in Neutrophil-Like HL-60 Cells in a 3D Collagen Matrix

Presenter: Pouye Sedighian

Principal Investigator: N/A

Author(s):

Pouye Sedighian

Daniel Bursch

Perla Ayala

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 473

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Cell Migration

Abstract Title: Examining the Role of P-cadherin in Epithelial Collective Cell Migration

Presenter: Sydnie Tran

Principal Investigator: Priscilla Hwang

Author(s):

Santiago Lopez

Sydnie Tran

Daniel Conway

Priscilla Hwang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 474

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: Computational predictions & Xenopus screening identifies drugs that slow metabolism in porcine limbs

Presenter: Megan Sperry

Principal Investigator: Donald Ingber

Author(s):

Megan Sperry

Berenice Charrez

Haleh Fotowat

Erica Gardner

Zohreh Izadifar

Shruti Kaushal

Abigail Kuelker

Michael Lewandowski

Tiffany Lin

Manuel Martinez

Kanoelani Pilobello

Takako Takeda

Rafael Veraza

Erik Weitzel

LEONID BUNEGIN

Adama Sesay

Michael Levin

Michael Super

Richard Novak

Donald Ingber

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 475

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Food System Monitoring: Towards
a Field-Deployable Swine 3-plex PCR Assay for
Differentiation of Foot and Mouth Disease Virus
from Senecavirus A

Presenter: Emma Wheat

Principal Investigator: N/A

Author(s):

Emma Wheat

Frederick Haselton

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 476

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Pressure Sore Detection in Lower
Limb Casts for Children with Cerebral Palsy

Presenter: Ashutosh Khandha

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 477

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Wearable Device for Simultaneous
Pulse Pressure Waveform Analysis at Carotid Arteries

Presenter: Alessio Tamborini

Principal Investigator: Mory Gharib

Author(s):

Alessio tamborini

Morteza Gharib

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 478

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Wearable System for Estimating
Energy Expenditure in Individuals with a Lower-Limb
Amputation

Presenter: James Baker

Principal Investigator: N/A

Author(s):

Madelyn Person

Hamid Charkhkar

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 479

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Smart Prosthesis Liner for
Monitoring Residual Limb Health and Wound
Prevention

Presenter: Madelyn Person

Principal Investigator: Hamid Charkhkar

Author(s):
Hamid Charkhkar

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: D, Row: N, Poster
Number: 480

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: A Comparison of
Photoplethysmography and Near Infrared
Spectroscopy Measurements on Four Body Sites

Presenter: Mahsa Khalili

Principal Investigator: Calvin Kuo

Author(s):
Mahsa Khalili
Saud Lingawi
Brian Grunau
Calvin Kuo

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 501

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: A Point-of-Use Device for Lithium
Screening Bipolar Disorder Management

Presenter: Ruitong Chen

Principal Investigator: Maral Mousavi

Author(s):
Farbod Amirghasemi
Maral Mousavi

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 502

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Development of a Wearable Device to
Treat Upper Extremity Lymphedema

Presenter: Seth Jarvis

Principal Investigator: N/A

Author(s):
Seth Jarvis
Leah Thomas
Andre Muelenaer
Christopher Arena
Tara Newberry

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 503

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: A Wireless Surveillance System of
Blood Flow for a Textile Based Vascular Graft

Presenter: Xiaoqi Tang

Principal Investigator: N/A

Author(s):

Martin King

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 504

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: 3D Printing-based Microfluidic
Devices in Fabric

Presenter: Ander Switalla

Principal Investigator: N/A

Author(s):

Lael Wentland

Elain Fu

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 505

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices (Summer Undergraduate)

Abstract Title: Optimization of Circuitry and
Electrode Arrangement for a Biostimulation Device
with EMG Monitoring

Presenter: Catherine Lacey

Principal Investigator: Michael Cullinan

Author(s):

Barbara Groh

Michael Cullinan

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 506

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices (Summer Undergraduate)

Abstract Title: Soft Robotic Wearable Technologies
for Use in Pressure Measurement and Relief for
Wheelchair Users

Presenter: Jason Robinson

Principal Investigator: N/A

Author(s):

Isaiah Rigo

Holly Golecki

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 507

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices (Summer Undergraduate)

Abstract Title: Effects of Sensor-to-Skin Contact Pressures on Photoplethysmography and Near-Infrared Spectroscopy

Presenter: Saud Lingawi

Principal Investigator: N/A

Author(s):

Mahsa Khalili

Brian Grunau

Calvin Kuo

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 508

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices (Summer Undergraduate)

Abstract Title: Developing a Wearable Early-Warning System for Vaso-occlusive Pain Crisis in Sickle Cell Disease

Presenter: Sabrina Sy

Principal Investigator: N/A

Author(s):

Saranya Veluswamy

Payal Shah

Mingjing Chen

Thomas Coates

Michael Khoo

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 509

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Real-Time Sweat Monitoring of Lactate and Nicotine Using a Low-Cost Wearable Electrochemical Device

Presenter: Abdurrahman Addokhi

Principal Investigator: N/A

Author(s):

Abdurrahman Addokhi

Uros Kuzmanovic

Mark Grinstaff

James Galagan

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 511

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Ex-vivo, Aptamer Sensors for Continuous Monitoring of Interstitial Fluid via a Microneedle Coupling

Presenter: Mark Friedel

Principal Investigator: N/A

Author(s):

Kevin Plaxco

Jason Heikenfeld

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 512

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Other / Non-specified

Abstract Title: Superficial Temporal Artery
Tonometry Based Non-invasive Continuous Blood
Pressure Monitoring

Presenter: Ge Zhu

Principal Investigator: N/A

Author(s):

Yihao Zheng

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 513

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Using Electromyography (EMG)
Signal to Detect Muscle Tremors

Presenter: Isabela Zimmermann Rollin

Principal Investigator: N/A

Author(s):

Isabela Zimmermann Rollin

Divya Sheth

Natalia Chavez

Farah Al-Takrouri

Daniel Mackoon

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 514

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: The Validation of Postures in JACK
Simulation via Analyzing the Lifting Effort

Presenter: Xiaoxu Ji

Principal Investigator: N/A

Author(s):

Maria Arenas

Ranuki Hettiarachchige

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 515

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: A Dual-Bioimpedance Wearable
For Pulse Transit Time Estimation of Cuffless Blood
Pressure

Presenter: Lauren Yamthe

Principal Investigator: N/A

Author(s):

Lauren Yamthe

Gerard Cote

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 516

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Wearable Sensors and Devices

Abstract Title: Accessible, Game-based, Touch-
sensing Devices for Rotator Cuff and Fine Motor
Assessment and Therapy

Presenter: Nicole Urban

Principal Investigator: N/A

Author(s):

Nicole Urban

Adam Hartman

Jeffrey Tagen

Koryn Russell

Abigail Medeiros

Jacob Martin

Mike Dattolo

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 517

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Wearable Sensors and Devices

Abstract Title: Measurement of Human-PPE
Interaction of the Face in Healthcare Workers

Presenter: Niraliben Patel

Principal Investigator: Stephanie Carey

Author(s):

Stephanie Carey

Valeria Carrasquillo

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 518

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Wearable Sensors and Devices

Abstract Title: Comparing Eccentric Rotating Mass
Vibration Motors' Response Profiles Used for Sensory
Augmentation

Presenter: Rachel Mazorow

Principal Investigator: N/A

Author(s):

Rachel Mazorow

Robert Scheidt

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: O, Poster
Number: 519

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Wearable Sensors and Devices

Abstract Title: Polymeric Membranes for Enhanced
Analyte Detection in Wearables

Presenter: Roberto Delgado Rivera

Principal Investigator: N/A

Author(s):

Maribella Domenech

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: E, Row: O, Poster
Number: 520

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Real-Time Continuous Reporting of
 IBD Biomarkers in Sweat

Presenter: Sarah Shahub

Principal Investigator: N/A

Author(s):

Shalini Prasad

Badrinath Jagannath

Kai-Chun Lin

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: E, Row: P, Poster
Number: 541

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Thermally reliable NFC based patch-
 type tissue oximeter with radiative coolers

Presenter: Young Min Song

Principal Investigator: Young Min Song

Author(s):

N/A

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: E, Row: P, Poster
Number: 542

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Wearable Sensors and Devices

Abstract Title: Development of a Skin-Wearable
 Wireless Sweat Monitoring System for pH and
 Sodium

Presenter: Yongkuk Lee

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: E, Row: P, Poster
Number: 543

Track: DRUG DELIVERY

**Drug Delivery for Immunomodulation
and Immunotherapy**

Abstract Title: Targeting CD44 Receptors in the
 Lungs by Liposomes Enhances Host Immunity
 Against Tuberculosis

Presenter: Eric Chau

Principal Investigator: Biana Godin

Author(s):

Abhishek Mishra

Karem Pinto

Biana Godin

Chinnaswamy Jagannath

Alexandro DeAnda

Thursday, October 13**2:30 PM - 3:30 PM**

Poster Session: B, Section: E, Row: P, Poster
Number: 544

Track: DRUG DELIVERY

**Drug Delivery for Immunomodulation
and Immunotherapy**

Abstract Title: Evaluation of Synthetic Nanogels for
 Myeloid Cell-Targeted Immunotherapy

Presenter: Rana Ajeeb

Principal Investigator: John R. Clegg

Author(s):

John Clegg

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 545

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Lymphatic endothelial cell-targeting nanocarriers for modulating vaccine-induced immunity

Presenter: Trevor Ung

Principal Investigator: Melody Swartz

Author(s):

Jorge Gomez Medellin

Aaron Esser-Kahn

Melody Swartz

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 546

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy (Summer Undergraduate)

Abstract Title: Viral and Virus-like Particle Vaccine Candidates Exhibit Long-term Immunogenicity Against SARS CoV-2

Presenter: Adam Engler

Principal Investigator: Kathleen E. Villasenor, Nicole Steinmetz

Author(s):

Nicole Steinmetz

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 547

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy (Summer Undergraduate)

Abstract Title: Intracellular Localization of Self-Assembling Peptidic Nanofibers

Presenter: Kadin Kristjansson

Principal Investigator: Jai S Rudra

Author(s):

Jai Rudra

Paresh Shrimali

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 548

Track: DRUG DELIVERY Drug Delivery for Immunomodulation and Immunotherapy (Summer Undergraduate)

Abstract Title: Allergen-Encapsulating Nanoparticles Reduce Human Mast Cell Survival and Degranulation in Food Allergy

Presenter: Amogh Angadi

Principal Investigator: N/A

Author(s):

Michael Saunders

Lonnie Shea

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 549

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Clinically Translatable Cytokine Factories for Eradication of Peritoneal Tumors in Mice

Presenter: Amanda Nash

Principal Investigator: Omid Veischi

Author(s):

Amanda Nash

Omid Veischi

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 550

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Nanoparticle-pretreatment to regulate pulmonary macrophage transplant survival and in situ phenotype

Presenter: Catherine Fromen

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 551

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Ionizable Lipid Nanoparticles for mRNA Delivery to Trophoblasts for Local Immunomodulation

Presenter: Samuel Hofbauer

Principal Investigator: Rachel Riley

Author(s):

Rachel Young

Rachel Riley

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 552

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: E-Selectin Antibody-Conjugated Rapamycin-Loaded NPs (E-RNPs) for the Treatment of Age-Related Cardiovascular Diseases.

Presenter: Ingrid Guerrero Rodriguez

Principal Investigator: N/A

Author(s):

Uday Chintapula

Amie Kieu

Kytai Nguyen

Daniel Trott

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 553

Track: DRUG DELIVERY
Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Tumor Nano-Lysate Breast Cancer Vaccine Evokes Preventative Dendritic Cell-Based Response
Presenter: Jenna Dombroski
Principal Investigator: N/A
Author(s):
Jenna Dombroski
Nidhi Jyotsana
Zhenjiang Zhang
Michael King

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 554

Track: DRUG DELIVERY
Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Peptoids as Potential Modulators to Reduce S100B-Induced RAGE Activation in Alzheimer's Disease
Presenter: Mihyun Waugh
Principal Investigator: N/A
Author(s):
Shannon Servoss
Melissa Moss

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 555

Track: DRUG DELIVERY
Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Dual Functional Nanoparticle STING Agonist for Cancer Immunotherapy
Presenter: Maggie Wang
Principal Investigator: N/A
Author(s):
Maggie Wang
Jinming Gao

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 556

Track: DRUG DELIVERY
Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Engineered Vaccine Booster for Long-term Immunity in Elderly and Immunocompromised Population
Presenter: Mohammad Mahdi Hasani-Sadrabadi
Principal Investigator: N/A
Author(s):
Mohammad Mahdi Hasani-Sadrabadi
Song Li

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 557

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Submicron Ultrasound Contrast Agents as Therapeutic Delivery Vehicles in Type 1 Diabetes

Presenter: Mark Ciccaglione

Principal Investigator: N/A

Author(s):

Richard Benninger

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 558

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Tissue-Adhesive Hydrogel for Transdermal Immune Cell Activation

Presenter: Nicole Day

Principal Investigator: N/A

Author(s):

N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 559

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Heat-Confined Tumor-Docking Reversible Thermogel Potentiates Systemic Antitumor Immune Response During Near-Infrared Photothermal Ablation in Triple-Negative Breast Cancer

Presenter: In-Kyu Park

Principal Investigator: N/A

Author(s):

Yong Kyu Lee

Jae Young Lee

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: P, Poster
Number: 560

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Injectable Polymer-Nanoparticle Hydrogels Enable Small Molecule Drug Delivery For Local Immunotherapy

Presenter: Shreya Soni

Principal Investigator: N/A

Author(s):

Arielle D'Elia

Sylvia Cho

Christopher Rodell

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 581

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Using “Clickable” Commensals to Improve the Gut Specificity and Retention of Oral Corticosteroids

Presenter: Tsvetelina Baryakova

Principal Investigator: N/A

Author(s):

Tsvetelina Baryakova

Laura Segatori

Kevin McHugh

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 582

Track: DRUG DELIVERY

Drug Delivery for Immunomodulation and Immunotherapy

Abstract Title: Diversity-Directed STING Agonism for Cancer Immunotherapy

Presenter: Zachary Bennett

Principal Investigator: Jinming Gao

Author(s):

Jinming Gao

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 583

Track: GLOBAL HEALTH TECHNOLOGIES

Automated Technologies for use In developing countries

Abstract Title: A Comprehensive Point-of-Care Platform for Blood Testing in Global Health Disparity Populations

Presenter: Arwa Fraiwan

Principal Investigator: N/A

Author(s):

Ran An

Zoe Sekyonda

Umut Gurkan

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 584

Track: GLOBAL HEALTH TECHNOLOGIES

Automated Technologies for use In developing countries (Summer Undergraduate)

Abstract Title: Comparison of Pipe Configurations for Ideal Flow Rates in a Hydroponic Growing System

Presenter: Corbin Myers

Principal Investigator: N/A

Author(s):

Corbin Myers

Derek Lura

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 585

Track: GLOBAL HEALTH TECHNOLOGIES
**Automated Technologies for use
In developing countries (Summer
Undergraduate)**

Abstract Title: Optimization of Non-Enzymatic
Dumbbell DNA-based Assay Decreases Processing
Time for Schistosomiasis Diagnosis

Presenter: Hannah Stepp

Principal Investigator: Frederick R. Haselton

Author(s):

Frederick Haselton

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 586

Track: GLOBAL HEALTH TECHNOLOGIES
**Automated technologies for use in
developing countries**

Abstract Title: Towards Sample-to-Answer hrHPV
mRNA Detection for Early Cervical Cancer
Prevention

Presenter: Emilie Novak

Principal Investigator: N/A

Author(s):

Megan Chang

Kathryn Kundrod

Kathleen Schmeler

Rebecca Richards-Kortum

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 587

Track: GLOBAL HEALTH TECHNOLOGIES
**Automated technologies for use in
developing countries**

Abstract Title: The Development of a Quick
Response (QR) Code System to Expedite the Check-
in Process at an Outpatient Clinic in Nigeria

Presenter: Padraic Casserly

Principal Investigator: N/A

Author(s):

Akinwale Coker

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 588

Track: NANO AND MICRO TECHNOLOGIES
**Bioinspired/Biomimetic Micro/
Nano Devices and Systems (Summer
Undergraduate)**

Abstract Title: PEGylation of SWNT Sensors
for Enhanced Quantification of Extracellular NO
Concentration

Presenter: Aiden Atkins

Principal Investigator: Nicole Iverson

Author(s):

Omer Sadak

Nicole Iverson

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 589

Track: NANO AND MICRO TECHNOLOGIES
**Bioinspired/Biomimetic Micro/
 Nano Devices and Systems (Summer
 Undergraduate)**

Abstract Title: Engineering Enhanced Liposomal
 Sensing with Bacterial Two-Component Systems

Presenter: Nina Galvez

Principal Investigator: Neha Kamat

Author(s):

Nina Galvez

Justin Peruzzi

Neha Kamat

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 590

Track: NANO AND MICRO TECHNOLOGIES
**Biomaterials Integration with Micro/
 Nano Chips and Devices (Summer
 Undergraduate)**

Abstract Title: Optimizing nanomagnetic force field
 patterns for cellular growth and signaling assays

Presenter: Hannah Kempfert

Principal Investigator: N/A

Author(s):

Hannah Kempfert

Mackenna Landis

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 591

Track: NANO AND MICRO TECHNOLOGIES
**Biomaterials Integration with Micro/
 Nano Chips and Devices (Summer
 Undergraduate)**

Abstract Title: Engineering DNA Monolayers for
 Controlled Chemotherapeutic Release from Gold
 Nanocarriers

Presenter: Ashleigh Jankowski

Principal Investigator: Mark E. Byrne

Author(s):

Ashleigh Jankowski

Mark Byrne

Robert Mosley

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 592

Track: NANO AND MICRO TECHNOLOGIES
**Bioinspired/Biomimetic Micro/Nano
 Devices and Systems**

Abstract Title: Prospecting Intratumoral Gold
 Nanoparticle Biomineralization for Cancer Therapy

Presenter: Aaron Schwartz-Duval

Principal Investigator: N/A

Author(s):

Aaron Schwartz-Duval

Yuri Mackeyev

Sunil Krishnan

Konstantin Sokolov

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: Q, Poster**Number:** 593**Track:** NANO AND MICRO TECHNOLOGIES**Bioinspired/Biomimetic Micro/Nano Devices and Systems****Abstract Title:** Fibrous Substrates for Soft Bioelectronics**Presenter:** Maya McDonald**Principal Investigator:** N/A**Author(s):**

Matthew Brown

Ahyeon Koh

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: Q, Poster**Number:** 594**Track:** NANO AND MICRO TECHNOLOGIES**Bioinspired/Biomimetic Micro/Nano Devices and Systems****Abstract Title:** Choline carboxylic ionic liquid-based gold nanoparticles for biomedical applications**Presenter:** Priyavrat Vashisth**Principal Investigator:** N/A**Author(s):**

Eden Tanner

Gagandeep Singh

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: Q, Poster**Number:** 595**Track:** NANO AND MICRO TECHNOLOGIES**Bioinspired/Biomimetic Micro/Nano Devices and Systems****Abstract Title:** Evaluating the effectiveness of the interactions of Ionic liquids with polymer-based nanoparticles**Presenter:** Sara Edgecomb**Principal Investigator:** N/A**Author(s):**

Ember Suh

Angela Roberts

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: Q, Poster**Number:** 596**Track:** NANO AND MICRO TECHNOLOGIES**Bioinspired/Biomimetic Micro/Nano Devices and Systems****Abstract Title:** RV-like Poly(β -amino Ester) Nanoparticles for the Delivery of ASCL1-gRNA Across the Blood Brain Barrier**Presenter:** Tina Rodgers**Principal Investigator:** N/A**Author(s):**

N/A

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: Q, Poster**Number:** 597**Track:** NANO AND MICRO TECHNOLOGIES**Biomaterials Integration with Micro/Nano Chips and Devices****Abstract Title:** Microfluidic Flow Chamber for Independent Control of Substratum Stiffness and Fluid Shear Stress**Presenter:** Bryan Ferrick**Principal Investigator:** N/A**Author(s):**

Jason Gleghorn

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 598

Track: NANO AND MICRO TECHNOLOGIES
**Biomaterials Integration with Micro/
Nano Chips and Devices**

Abstract Title: Accelerated Testing of Thin-film
Dielectric Encapsulation for Bioelectrical Interfaces

Presenter: Christopher Nguyen

Principal Investigator: N/A

Author(s):

Negar Geramifard

Yupeng Wu

Stuart Cogan

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: Q, Poster
Number: 600

Track: NANO AND MICRO TECHNOLOGIES
**Biomaterials Integration with Micro/
Nano Chips and Devices**

Abstract Title: Stability of a pH Sensing Iridium
Oxide Film based on Porous Polypropylene Fiber
Substrates

Presenter: J.C. Chiao

Principal Investigator: N/A

Author(s):

Khengdauliu Chawang

Shih-Cheng Chou

Sen Bing

Pu-Wei Wu

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 621

Track: NANO AND MICRO TECHNOLOGIES
**Biomaterials Integration with Micro/
Nano Chips and Devices**

Abstract Title: Endothelial Barrier Function
Enhanced and Sustained by Defined Nanofibrous
Membrane

Presenter: Jiafeng Liu

Principal Investigator: N/A

Author(s):

Yong Yang

kun man

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 622

Track: NANO AND MICRO TECHNOLOGIES
**Biomaterials Integration with Micro/
Nano Chips and Devices**

Abstract Title: Control of Ultra-Thick SU8
Photolithography Structures for Production of Tumor
Spheroids

Presenter: Noah Reckhorn

Principal Investigator: N/A

Author(s):

Maria Lopez Cavestany

Olivia Wright

Kalana Jayawardana

Deyu Li

Michael King

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 623

Track: NANO AND MICRO TECHNOLOGIES
**Biomaterials Integration with Micro/
Nano Chips and Devices**

Abstract Title: Rapid and Frugal Prototyping of
Millifluidic Droplet Generators
Presenter: siavash ahrar
Principal Investigator: N/A
Author(s):
Chung Thai
Perla Ayala
siavash ahrar

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 624

Track: NANO AND MICRO TECHNOLOGIES
**Biomaterials Integration with Micro/
Nano Chips and Devices**

Abstract Title: A Carbon Nanotube Platform for
Rapid Virus Sample Enrichment
Presenter: Yin-Ting Yeh
Principal Investigator: N/A
Author(s):
N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 625

Track: NEURAL ENGINEERING
**Glial Cell Engineering (Summer
Undergraduate)**

Abstract Title: Regulating Myofibroblast-Like
Phenotypes in Neural Progenitor Cells under High
Serum Exposure
Presenter: Gabriela Berniac
Principal Investigator: Timothy O'Shea
Author(s):
Honour Adewumi
Timothy O'Shea

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 626

Track: NEURAL ENGINEERING
**Neural Decoding and Control (Summer
Undergraduate)**

Abstract Title: Neural Correlates of Stabilization
During Brain-Computer Interface Control of a
Robotic Arm
Presenter: Sophia Shan
Principal Investigator: Jennifer Collinger
Author(s):
Brian Dekleva
Jen Collinger

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 627

Track: NEURAL ENGINEERING
Neurorehabilitation (Summer Undergraduate)

Abstract Title: Characterization of Natural Void Events Features for Bladder Control Via Spinal Cord Stimulation

Presenter: Andres Leon-Vargas

Principal Investigator: Robert A. Gaunt

Author(s):

Maria Jantz

Alaina McCumber

Chaitanya Gopinath

Robert Gaunt

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 628

Track: NEURAL ENGINEERING
Glial Cell Engineering

Abstract Title: Fluid shear stress stimulates an inflammatory astrocyte phenotype involving sphingosine-1-phosphate

Presenter: Robert Cornelison

Principal Investigator: Chase Cornelison

Author(s):

Brycen Burke

Robert Cornelison

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 629

Track: NEURAL ENGINEERING
Glial Cell Engineering

Abstract Title: Deriving Immature Astroglia by Hysteretic Conditioning of Neural Progenitor Cells for CNS Injuries

Presenter: Timothy O'Shea

Principal Investigator: Timothy Mark O'Shea

Author(s):

Honour Adewumi

Gabriela Berniac

Timothy O'Shea

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 630

Track: NEURAL ENGINEERING
Neural Decoding and Control

Abstract Title: Detection of Imagined Speech from Intracranial Recordings

Presenter: Dean Krusienski

Principal Investigator: Dean J. Krusienski

Author(s):

pedram zanganeh soroush

Christian Herff

Stephanie Ries

Jerry Shih

Tanja Schultz

Dean Krusienski

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 631

Track: NEURAL ENGINEERING
Neural Decoding and Control

Abstract Title: Within and across day estimates of human spinal motoneuron excitability

Presenter: Edmee Brown-Egue

Principal Investigator: N/A

Author(s):

Chris Thompson

Martin Zaback

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 632

Track: NEURAL ENGINEERING
Neurorehabilitation

Abstract Title: Comparing Effects of Body Weight Supported Treadmill Training on Bone Restoration Following Incomplete Spinal Cord Injury

Presenter: Anita Singh

Principal Investigator: N/A

Author(s):

Lindsay Stoy

Sriram Balasubramanian

Anita Singh

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 633

Track: NEURAL ENGINEERING
Neurorehabilitation

Abstract Title: A Body-machine Interface and Non-invasive Spinal Cord Stimulation for People with Spinal Cord Injury

Presenter: Jie Fei

Principal Investigator: N/A

Author(s):

Andrew Whitaker

John Peiffer

Noah Bryson

Rachel Hawthorn

Ismael Seáñez

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 634

Track: ORTHOPAEDIC AND REHABILITATION ENGINEERING
Orthopedic: Mechanobiology and Mechanotransduction

Abstract Title: Cx43 Deficiency Differentially Modulates OCY454 Osteocyte Behavior in 2D and 3D Culture.

Presenter: Joseph Denisco

Principal Investigator: Henry Donahue

Author(s):

Evan Buettmann

Gabriel Hoppock

Yue Zhang

Henry Donahue

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 635

Track: ORTHOPAEDIC AND
 REHABILITATION ENGINEERING
**Orthopedic: Mechanobiology and
 Mechanotransduction (Summer
 Undergraduate)**

Abstract Title: Spatial Expression of Putative YAP
 Target Genes in the Early Stages of Fracture Repair
Presenter: Gabrielle Tanner
Principal Investigator: Joel D Boerckel
Author(s):
 Madhura Nijsure
 Annemarie Lang
 Joel Boerckel

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 636

Track: ORTHOPAEDIC AND
 REHABILITATION ENGINEERING
**Orthopedic: Mechanobiology and
 Mechanotransduction (Summer
 Undergraduate)**

Abstract Title: Exploring Crosstalk Between RhoA
 Signaling and YAP in Multiple Cell Types
Presenter: Milan Patel
Principal Investigator: Joel D. Boerckel
Author(s):
 Joel Boerckel
 Annapurna Pranatharthi Haran

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 637

Track: ORTHOPAEDIC AND
 REHABILITATION ENGINEERING
**Orthopedic: Mechanobiology and
 Mechanotransduction**

Abstract Title: Slow Growth Elongation Drive
 Collagen Fiber Formation in a Dose and Organization
 Dependent Fashion
Presenter: Kelly Ott
Principal Investigator: N/A
Author(s):
 Kelly Ott
 Jennifer Puetzer

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 638

Track: ORTHOPAEDIC AND
 REHABILITATION ENGINEERING
**Orthopedic: Mechanobiology and
 Mechanotransduction**

Abstract Title: Meniscus Zone-Dependent
 Epigenetic Mechanisms of Meniscus Cell Migration
Presenter: Yize Zhang
Principal Investigator: Su-Jin Heo
Author(s):
 Su-Jin Heo
 Yujia Zhang
 Se-Hwan Lee
 ZizHao Li

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: R, Poster
Number: 639

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
**Orthopedic: Mechanobiology and
Mechanotransduction**

Abstract Title: Effects of Ex Vivo Focused
Ultrasound Treatment on Murine Achilles Tendons
Presenter: Chitra Meduri
Principal Investigator: N/A
Author(s):
Eli Vlaisavljevich
Vincent Wang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 662

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES
**Rapid Detection (Summer
Undergraduate)**

Abstract Title: Triplex Sample Preparation and RNA
Amplification Handheld Device for Simultaneous
Detection of Respiratory Viruses at the Point-of-Care
Presenter: Elizabeth Lee
Principal Investigator: Hugh Fan
Author(s):
N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 663

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES
**Rapid Detection (Summer
Undergraduate)**

Abstract Title: Swellable Microneedles for Capture
and Detection of Lyme Disease Spirochete from Tick
Bites
Presenter: Rosana Alfaro
Principal Investigator: Frederick Haselton
Author(s):
Emily Kight
Frederick Haselton

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 664

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES
Rapid Detection

Abstract Title: Identifying SARS-CoV-2 Variants
of Concern through Saliva-Based RT-qPCR by
Targeting Recurrent Mutation Sites
Presenter: Austin Smothers
Principal Investigator: N/A
Author(s):
Austin Smothers
Rachel Ham
Keegan Sell
Congyue Peng
Delphine Dean

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 665

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES

Rapid Detection

Abstract Title: Ligation-based Assay for SARS-CoV-2 Variant Screening

Presenter: Dalton Nelson

Principal Investigator: N/A

Author(s):

Frederick Haselton

Nicole Malofsky

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 666

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES

Rapid Detection

Abstract Title: Convenient, rapid, and frequent COVID-19 screening with low-cost, flexible electrodes

Presenter: Farbod Amirghasemi

Principal Investigator: N/A

Author(s):

Victor Ong

Maral Mousavi

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 667

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES

Rapid Detection

Abstract Title: VeriFAST Multiplex Biothreat Agent Diagnostics for Mobile Applications

Presenter: Jasmine Devadhasan

Principal Investigator: Frederic Zenhausern

Author(s):

Jian Gu

Frederic Zenhausern

Alex Summers

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 668

Track: TECHNOLOGIES FOR EMERGING
INFECTIOUS DISEASES

Rapid Detection

Abstract Title: Ultrasensitive Magnetic Biosensor for Rapid Detection and Real-time Monitoring of COVID-19

Presenter: Kevin Nguyen

Principal Investigator: N/A

Author(s):

Manh-Huong Phan

Kee Young Hwang

Yasif Rahman

Vinh Bui

Chau Nguyen

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: S, Poster**Number:** 669**Track:** TECHNOLOGIES FOR EMERGING INFECTIOUS DISEASES**Rapid Detection****Abstract Title:** SARS-CoV-2 Detection from Saline Gargle Samples via Flow Profile Analysis on Paper Microfluidic Chip**Presenter:** Kattika Kaarj**Principal Investigator:** N/A**Author(s):**

Patarajarin Akarapipad

Kattika Kaarj

Lane Breshears

Katelyn Sosnowski

Brandon Nguyen

Ciara Eades

Grace Quirk

Michael Worobey

Jeong-Yeol Yoon

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: S, Poster**Number:** 670**Track:** TECHNOLOGIES FOR EMERGING INFECTIOUS DISEASES**Rapid Detection****Abstract Title:** SHEAR Saliva Collection Device for a Simple, Point-of-Care Mechanical Sample Homogenization.**Presenter:** Shang Wei Song**Principal Investigator:** N/A**Author(s):**

Shang Wei Song

Rashi Gupta

Jothilingam Niharika

xinlei qian

Yue Gu

V Vien Lee

Yoann Sapanel

David Allen

Dean Ho

Agata Blasiak

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: S, Poster**Number:** 671**Track:** TECHNOLOGIES FOR EMERGING INFECTIOUS DISEASES**Rapid Detection****Abstract Title:** Beyond RT-PCR: Advanced Endpoints for SARS-CoV-2 Analysis in Environmental Samples**Presenter:** William Strike**Principal Investigator:** N/A**Author(s):**

Ann Noble

Soroosh Torabi

Jennifer Moylan

James Keck

Scott Berry

Thursday, October 13**2:30 PM - 3:30 PM****Poster Session:** B, Section: E, Row: S, Poster**Number:** 672**Track:** TECHNOLOGIES FOR EMERGING INFECTIOUS DISEASES**Rapid Detection****Abstract Title:** Metabolic Labeling of Infected Host Cells in vivo for Detection and Intracellular Bacteria Clearance**Presenter:** Yang Bo**Principal Investigator:** Hua Wang & Jianjun Cheng**Author(s):**

Hua Wang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 673

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Self-assembled Neotendons for Evaluating Cell-Cell Junctions Involved in Initial Tissue Formation

Presenter: Colin Marchus

Principal Investigator: Nathan R. Schiele

Author(s):

Nathan Schiele

Destinee Ditton

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 674

Track: TISSUE ENGINEERING
**Musculoskeletal Tissue Engineering
 (Summer Undergraduate)**

Abstract Title: TGF β inhibition engenders pro-regenerative immune and stem cell localization after volumetric muscle loss

Presenter: Emily Wallace

Principal Investigator: Carlos Aguilar

Author(s):

Bonnie Spence

Jacqueline Larouche

Carlos Aguilar

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 675

Track: TISSUE ENGINEERING
**Musculoskeletal Tissue Engineering
 (Summer Undergraduate)**

Abstract Title: Immunomodulation of Macrophage Response by Oxygen-Delivering Scaffolds for Bone Regeneration

Presenter: Emma Whitehead

Principal Investigator: Warren L. Grayson

Author(s):

SRUJAN SINGH

Warren Grayson

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 676

Track: TISSUE ENGINEERING
**Musculoskeletal Tissue Engineering
 (Summer Undergraduate)**

Abstract Title: Exploring TGF β s as Regulators of Collagen Crosslinking Enzymes for Tendon Tissue Engineering

Presenter: Hailey Faith

Principal Investigator: Nathan Schiele

Author(s):

Nathan Schiele

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 677

Track: TISSUE ENGINEERING
**Musculoskeletal Tissue Engineering
(Summer Undergraduate)**

Abstract Title: Snail Regulates N-cadherin, but Other Mechanisms May be Involved During Tenogenesis
Presenter: Alyssa Hansten
Principal Investigator: Nathan R. Schiele
Author(s):
Nicholas Pancheri
Nathan Schiele
Allison Ellingson

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 678

Track: TISSUE ENGINEERING
**Musculoskeletal Tissue Engineering
(Summer Undergraduate)**

Abstract Title: Engineered Muscle Contracts to Elucidate the Effects of Inflammation on Muscle Atrophy
Presenter: Katherine Reardon
Principal Investigator: Ramkumar T. Annamalai
Author(s):
Harshini Sureshkumar
Mark McHargue
Ramkumar T. Annamalai

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 679

Track: TISSUE ENGINEERING
**Musculoskeletal Tissue Engineering
(Summer Undergraduate)**

Abstract Title: Bioprinting of Piezoelectric Composite Scaffolds for Treatment of Skeletal Muscle Defects
Presenter: Maya Evohr
Principal Investigator: Prahaba Sikder
Author(s):
Prabaha Sikder

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: S, Poster
Number: 680

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Novel Mouse Tibia Model of Composite Bone-Muscle Injury
Presenter: Cynthia Alcazar
Principal Investigator: N/A
Author(s):
Cynthia Alcazar
Krista Habing
Karina Nakayama
Anthony Tahayeri
Zachary Working
LUIZ BERTASSONI

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 701

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Methodology to Quantify Collagen Subtypes and Crosslinks: Application in Minipig Cartilages

Presenter: Benjamin Bielajew

Principal Investigator: N/A

Author(s):

Jerry Hu

Kyriacos Athanasiou

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 702

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Developing a combinational stem cell-based tissue engineering approach to treat spina bifida before birth

Presenter: Dake Hao

Principal Investigator: N/A

Author(s):

Su Yeon Lee

Christopner Pivetti

Adb-elrhaman Hassan

Priyadarsini Kumar

Edwin Kulubya

Kent Leach

Diana Farmer

Aijun Wang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 703

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Determining the Role of Fibrinolysis and Contraction on Marrow-Mediated Cartilage Repair

Presenter: Jay Patel

Principal Investigator: Jay M Patel

Author(s):

Lorenzo Fernandes

Hanna Solomon

David Myers

Jay Patel

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 704

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Age-associated Senescent-T Cell Signaling Promotes Type 3 Immunity that Inhibits Regenerative Response

Presenter: Jin Han

Principal Investigator: N/A

Author(s):

Christopher Cherry

Joscelyn Mejias

Anna Ruta

David Maestas

Alexis Peña

Helen Nguyen

Franck Housseau

Sudipto Ganguly

Erika Moore

Jennifer Elisseeff

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 705

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: MRL/MpJ Tendon Provisional Extracellular Matrix- and Secretome-Derived Recombinant Protein Therapeutic Promotes Regenerative Cell Behavior Across Species
Presenter: Jason Marvin
Principal Investigator: N/A
Author(s):
Ethan Liu
Nelly Andarawis-Puri

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 707

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Engineering 3D Skeletal Muscle Constructs To Model Age-related Regenerative Defects And Responses To Intervention
Presenter: Kai Wang
Principal Investigator: N/A
Author(s):
Stephen Smith
Sanjeev Shroff
Fabrisia Ambrosio

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 706

Track: TISSUE ENGINEERING

Abstract Title: Building Organ-on-a-Chip Technology to Study the Gut Microbiome and Distal Tumors
Presenter: Danielle Brasino
Principal Investigator: N/A
Author(s):
Sean Speece
Kevin Schiling
Katherine Huynh
Carolyn Lbsen
Beverly Emerson
Michelle Barton

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 708

Track: TISSUE ENGINEERING
Musculoskeletal Tissue Engineering

Abstract Title: Mechanobioreactor Producing Tensile Elongation Enhances Growth and Maturation of Pre-Innervated Tissue Engineered Muscle
Presenter: Melanie Hilman
Principal Investigator: N/A
Author(s):
Suradip Das
D. Kacy Cullen

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster

Number: 709

Track: TISSUE ENGINEERING

Musculoskeletal Tissue Engineering

Abstract Title: Assessing the Effects of Chronic Passive Heat Therapy on Vascular Growth

Presenter: Samuel Lester

Principal Investigator: N/A

Author(s):

Genevieve Romanowicz

Angela Lin

Robert Guldberg

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster

Number: 710

Track: TISSUE ENGINEERING

Musculoskeletal Tissue Engineering

Abstract Title: In Vivo Evaluation of a Spheroid-based Approach for Osteochondral Tissue Engineering

Presenter: Syam Nukavarapu

Principal Investigator: Syam Nukavarapu

Author(s):

Hyun Sung Kim

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster

Number: 711

Track: TISSUE ENGINEERING

Musculoskeletal Tissue Engineering

Abstract Title: Topography and Stiffness of Collagen

Scaffolds Guide Myogenesis and Inflammation

Presenter: Yong How Tan

Principal Investigator: Karina Nakayama

Author(s):

Karina Nakayama

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster

Number: 712

Track: TISSUE ENGINEERING

Musculoskeletal Tissue Engineering

Abstract Title: Co-delivery of engineered cell membrane protein and mesenchymal stem cells to promote vascularization and muscle repair in the ischemic hindlimb of diabetic mice

Presenter: Ting Zhong

Principal Investigator: Jianjun Guan

Author(s):

Ting Zhong

Xiaolei Nie

Ning Gao

Zhongting Liu

Jingyao Li

Fuzhong Zhang

Jianjun Guan

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster

Number: 713

Track: TISSUE ENGINEERING

Neural and Neurovascular Tissue Engineering

Abstract Title: Engineering Extracellular Matrix-bound Nanovesicles Secreted by Human Stem Cells

Presenter: Chang Liu

Principal Investigator: N/A

Author(s):

Yan Li

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 714

Track: TISSUE ENGINEERING
Neural and Neurovascular Tissue Engineering

Abstract Title: Temporal Modulation of Brain Glycan Signature Post-Stroke to Identify Key Glycan Players in Brain Repair
Presenter: Juhi Samal
Principal Investigator: Tatiana Segura
Author(s):
Juhi Samal
Tatiana Segura

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 715

Track: TISSUE ENGINEERING
Neural and Neurovascular Tissue Engineering

Abstract Title: Nanotransfection-Driven Neurogenic Reprogramming in Skeletal Muscle Plays a Protective Role Following Denervation
Presenter: Jordan Moore
Principal Investigator: Daniel Gallego Perez
Author(s):
Daniel Gallego-Perez

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 716

Track: TISSUE ENGINEERING
Neural and Neurovascular Tissue Engineering (Summer Undergraduate)

Abstract Title: Diffusion of Nanoparticles through an Ultrathin Porous Membrane
Presenter: Jessica Ritz
Principal Investigator: N/A
Author(s):
Louis Widom
Thomas Gaborski

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 716

Track: TISSUE ENGINEERING

Abstract Title: The Diffusion of Nanoparticles through an Ultrathin Porous Membrane
Presenter: Jessica Ritz
Principal Investigator: N/A
Author(s):
N/A

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 717

Track: WOMEN'S HEALTH
Reproductive Health Technologies (Summer Undergraduate)

Abstract Title: Pediatric Instructional Pelvic Exam Resource to Improve Training for Sexual Assault Nurse Examiners
Presenter: Ashley Taylor
Principal Investigator: Shannon McGill
Author(s):
Shivani Kulkarni
Shannon McGill
Elise Erickson
Alex Natelson
Grant Belton
Nancy Harris

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 718

Track: WOMEN'S HEALTH
Reproductive Health Technologies

Abstract Title: Maternal aRMOR: Early detection of postpartum hemorrhage with a wearable optical device

Presenter: Christine O'Brien

Principal Investigator: N/A

Author(s):

Francesca Bonetta-Misteli

Toi Collins

Todd Pavek

Antonina Frolova

Leonid Shmuylovich

Christine O'Brien

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 719

Track: WOMEN'S HEALTH
Reproductive Health Technologies

Abstract Title: Development of Uterine Peristalsis Imaging (UPI) in Normal Menstrual Cycle

Presenter: Sicheng Wang

Principal Investigator: Yong Wang

Author(s):

Haonan Xu

ZicHao Wen

Yiqi Lin

Zhexian Sun

Nga Yue Josephine Lau

Yuan Nan

Yong Wang

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: T, Poster
Number: 720

Track: WOMEN'S HEALTH
Reproductive Health Technologies

Abstract Title: Engineering Lipid Nanoparticles for mRNA Delivery to the Placenta

Presenter: Rachel Young

Principal Investigator: N/A

Author(s):

Katherine Nelson

Samuel Hofbauer

Jason Gleghorn

Rachel Riley

Thursday, October 13

2:30 PM - 3:30 PM

Poster Session: B, Section: E, Row: U, Poster
Number: 741

Track: CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis

Abstract Title: Thrombosis Modeling In Bifurcated Capillaries

Presenter: Kunal Mitra

Principal Investigator: N/A

Author(s):

Arindam Bit

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster

Number: 21

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Other / Non-specified

Abstract Title: Hybrid Power Spectral and Wavelet Image Roughness Analysis

Presenter: Basel White

Principal Investigator: Andre Khalil

Author(s):

Andre Khalil

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster

Number: 22

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Models of Metabolism (Summer Undergraduate)

Abstract Title: Computational Optimization of System-Wide Metabolic Activity to Improve iPSC-CM Differentiation

Presenter: Riya Sen

Principal Investigator: Melissa Kemp

Author(s):

Dennis Norfleet

Melissa Kemp

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster

Number: 23

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Other / Non-specified (Summer Undergraduate)

Abstract Title: Exploring White Matter Differences in Bipolar Disorder Utilizing Diffusion Tensor Imaging

Presenter: Allie Smith

Principal Investigator: Vincent Magnotta

Author(s):

Allie Smith

Gail Harmata

Lucas Casten

Merry Mani

Gary Christensen

Ercole Barsotti

Jenny Gringer Richards

Jake Michaelson

Jess Fiedorowicz

Joseph Shaffer

John Wemmie

Vincent Magnotta

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster

Number: 24

Track: BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY

Other / Non-specified (Summer Undergraduate)

Abstract Title: The Role of Hyperglycemia in Smooth Muscle Cell Phenotypic Plasticity

Presenter: Aili Fisher

Principal Investigator: Mete Civelek

Author(s):

Robert Perry

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 25

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Structurally and Functionally Similar
p53 Homologs in Chlamydomonas reinhardtii

Presenter: Arnav Goel

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 26

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Analysis of Occlusion on Six-Channel
Light Sensor in Southwest Florida

Presenter: Steven Edwards

Principal Investigator: Steven Edwards

Author(s):

Derek Lura

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 27

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Analysis of Multi-Cellular Systems

Abstract Title: Computational Modeling To
Characterizing The Role Of The Astrocytic Calcium
Activity In The Neurovascular Coupling

Presenter: Alejandro Suarez

Principal Investigator: N/A

Author(s):

Lazaro Fernandez

Jorge Riera

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 28

Track: BIOINFORMATICS, COMPUTATIONAL
AND SYSTEMS BIOLOGY

Analysis of Multi-Cellular Systems

Abstract Title: Confocal Microscopy Pipeline for
Discretizing and Quantifying Pattern Formation in
Cell Culture

Presenter: Jack Toppen

Principal Investigator: N/A

Author(s):

Iryna Hartsock

Melissa Kemp

Daniel Cruz

Elena Dimitrova

Eunbi Park

Peter Bubenik

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 29

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Analysis of Multi-Cellular Systems

Abstract Title: The Entropy of Cancer Cell
 Migration: Bioenergetics and Cell Proliferation
 Support 3D Invasive Migration

Presenter: Jian Zhang

Principal Investigator: Jian Zhang

Author(s):

Jian Zhang

Jenna Mosier

Yusheng Wu

Paul Taufalele

Wenjun Wang

Heng Sun

Cynthia Reinhart-King

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 30

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Analysis of Multi-Cellular Systems

Abstract Title: Development of an agent-based
 model to investigate cellular mechanisms of
 vasculogenesis

Presenter: Lance Munn

Principal Investigator: N/A

Author(s):

Mohammadreza Nikmaneshi

Hamed Mohammadi

Lance Munn

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 31

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Analysis of Multi-Cellular Systems

Abstract Title: Computational Study on the
 Modifying CAR T Cell Granzyme A Secretion Rate
 to Improve Follicular Lymphoma Outcomes

Presenter: Tanvi Gorre

Principal Investigator: Tanvi Reddy Gorre

Author(s):

Bhushan Dharmadhikari

Prabir Patra

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 32

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Analysis of Multi-Cellular Systems

Abstract Title: Functional Physiomics of Engineered
 Cardiac Organoids Enabled by Exploratory Data
 Analytics

Presenter: Zhen Ma

Principal Investigator: Zhen Ma

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 33

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

**Analysis of Multi-Cellular Systems
 (Summer Undergraduate)**

Abstract Title: Understanding the Cellular
 Landscape of Preclinical Models of Colorectal Cancer

Presenter: Carli Newman Shikhar Uttam

Principal Investigator: N/A

Author(s):

Shikhar Uttam

Bogdan Kochetov

Lin Zhang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 34

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Models of Metabolism

Abstract Title: Cellular Metabolism Modeling Using
 Fluorescence Lifetime Imaging Microscopy

Presenter: Jing Li

Principal Investigator: N/A

Author(s):

Kurt Zhang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 35

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Models of Metabolism

Abstract Title: Optimizing Cellular Metabolism to
 Improve Chronic Skin Wound Healing

Presenter: Luis Ramirez

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: C, Poster
Number: 36

Track: BIOINFORMATICS, COMPUTATIONAL
 AND SYSTEMS BIOLOGY

Models of Metabolism

Abstract Title: Characterizing Substrate-
 Dependent Differential Regulation of Mitochondrial
 Bioenergetics in the Heart and Kidney Cortex and
 Outer Medulla Using a Novel Computational Model

Presenter: Shima Sadri

Principal Investigator: N/A

Author(s):

shima sadri

Devanshi Dave

Ranjan Dash

Said Audi

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: C, Row: C, Poster**Number:** 37**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Theory and Practice of Synthetic Biology****Abstract Title:** Mitigating Optogenetic Crosstalk via Light-Controlled Protein Degradation**Presenter:** Cristian Coriano**Principal Investigator:** N/A**Author(s):**

Nathan Tague

Mary Dunlop

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: C, Row: C, Poster**Number:** 38**Track:** BIOINFORMATICS, COMPUTATIONAL AND SYSTEMS BIOLOGY**Theory and Practice of Synthetic Biology****Abstract Title:** MicroRNA-Based Long-Term Cell State Sensing Mediated by Endoribonucleases**Presenter:** Lei Wang**Principal Investigator:** N/A**Author(s):**

N/A

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: C, Row: C, Poster**Number:** 39**Track:** BIOMATERIALS**Drug Delivering Biomaterials****Abstract Title:** The Effect of Primary Sequence and Formation Method on Self-Assembling Peptide Structures**Presenter:** Megan Pitz**Principal Investigator:** Angela Alexander-Bryant**Author(s):**

N/A

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: C, Row: C, Poster**Number:** 40**Track:** BIOMATERIALS**3D Printing and Advanced Biomaterial Manufacturing****Abstract Title:** Modeling Microfluidic Mixers for Extrusion-based Bioprinting**Presenter:** Clayson Briggs**Principal Investigator:** Steven Santana**Author(s):**

Clayson Briggs

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: C, Row: D, Poster**Number:** 61**Track:** BIOMATERIALS**3D Printing and Advanced Biomaterial Manufacturing****Abstract Title:** Digital Light Processing 3D Printing of PEGNB via Thiol-Norbornene Click Chemistry**Presenter:** Min Hee Kim**Principal Investigator:** N/A**Author(s):**

Chien-Chi Lin

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 62

Track: BIOMATERIALS

Drug Delivering Biomaterials (Summer Undergraduate)

Abstract Title: Electrospun Chitosan Membranes Loaded with Raspberry Ketone and Simvastatin to Stimulate Osteogenic Differentiation for Guided Bone Regeneration

Presenter: Haley Pruitt

Principal Investigator: Joel D. Bumgardner

Author(s):

Matthew Atwill

Joel Bumgardner

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 63

Track: BIOMATERIALS

Drug Delivering Biomaterials (Summer Undergraduate)

Abstract Title: Solution Polycondensation Synthesis of Polyanhydrides Using Tosyl Chloride for Controlled Drug Delivery

Presenter: Patricia Poley

Principal Investigator: Brandon Vogel

Author(s):

Brandon Vogel

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 64

Track: BIOMATERIALS

Drug Delivering Biomaterials (Summer Undergraduate)

Abstract Title: Light-Activated Crystal Violet for Enhanced Antimicrobial Efficacy of Nitric Oxide-Releasing Polymer

Presenter: Shruti Bhagat

Principal Investigator: Elizabeth Brisbois

Author(s):

Lauren Griffin

Ekrem Ozkan

Lori Estes

Shruti Bhagat

Sarah Wilson

Elizabeth Brisbois

Hitesh Handa

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 65

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing (Summer Undergraduate)

Abstract Title: Cyanobacterial Strain Development in Alginate Hydrogel Matrices

Presenter: Azeh Ndifor

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster**Number:** 66**Track:** BIOMATERIALS**3D Printing and Advanced Biomaterial Manufacturing****Abstract Title:** Development of a Flexible and Resorbable Support Material for Tissue Engineered Intervertebral Discs**Presenter:** Alikhan Fidai**Principal Investigator:** Lawrence Bonassar**Author(s):**

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster**Number:** 67**Track:** BIOMATERIALS**3D Printing and Advanced Biomaterial Manufacturing****Abstract Title:** Machine Learning on X-ray Scattering Data to Aid High-Throughput Protein-Polymer Hybrid Synthesis**Presenter:** Cesar Ramirez**Principal Investigator:** N/A**Author(s):**

N. Sanjeeva Murthy

Adam Gormley

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster**Number:** 68**Track:** BIOMATERIALS**3D Printing and Advanced Biomaterial Manufacturing****Abstract Title:** Improved Electrospun Fiber Patterning for Microneedle Fabrication**Presenter:** Carmen Ioana Tobos**Principal Investigator:** Kim Woodrow**Author(s):**

Kim Woodrow

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster**Number:** 69**Track:** BIOMATERIALS**3D Printing and Advanced Biomaterial Manufacturing****Abstract Title:** The Modification of a Filament Printer to Create 3D Printed, Ionic Crosslinked Hydrogels**Presenter:** Danielle McTigue**Principal Investigator:** N/A**Author(s):**

Danielle McTigue

Natalie Roush

Eileen Robertson

Scott Sell

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 70

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: Conductive Hyaluronic Acid Biomaterial for Extrusion 3D Bioprinting

Presenter: Eleana Manousiouthakis

Principal Investigator: N/A

Author(s):

Sarah Danis

Ashley Evering

Emily Pallack

Lauren Repmann

Natalie Ordonez

Christine Schmidt

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 71

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: Wrinkling Patterns on 4D Printed Substrates and their Effect on Contact Guidance

Presenter: Johnson Agyapong

Principal Investigator: N/A

Author(s):

Johnson Agyapong

James Henderson

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 72

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: Bioprinting using Chondrogenic Janus Base Nano-Matrix for Improved Cartilage

Tissue Engineering

Presenter: Leah Faber

Principal Investigator: Yupeng Chen

Author(s):

Anne Yau

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 73

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: Bioprinted Pericytes Respond to VEGF Gradient

Presenter: Maria Mendoza

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster

Number: 74

Track: BIOMATERIALS

3D Printing and Advanced Biomaterial Manufacturing

Abstract Title: Hybrid laser platform (HLP) for Printing 3D Multiscale Multi-material Hydrogel Structures

Presenter: Arun Poudel

Principal Investigator: Pranav Soman

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster

Number: 75

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Computational Study of Parameter Variability in Biological Scaffolding

Presenter: Bethany Luke

Principal Investigator: N/A

Author(s):

Rio Parsons

Lauren Kadlec

Bethany Luke

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster

Number: 76

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Pediatric Midshaft Clavicle Tissue Repair

Presenter: Dianna Persaud

Principal Investigator: N/A

Author(s):

Dianna Persaud

Zachary Marvin

DANIELLE CORNETTA

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster

Number: 77

Track: BIOMATERIALS

Biomaterials

Abstract Title: Conductive Polymer-Collagen Composites Influence Cellular Processes Depending on PEDOT Form

Presenter: Rebecca Keate

Principal Investigator: N/A

Author(s):

Rebecca Keate

Joshua Tropp

Guillermo Ameer

Jonathan Rivnay

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster

Number: 78

Track: BIOMATERIALS

Biomaterials Scaffolds

Abstract Title: Impact of Sterilization on Thiol-ene Based Polymer Scaffolds

Presenter: Madeleine Horelica

Principal Investigator: N/A

Author(s):

Rachel Gruenbaum

Tyler Touchet

Duncan Maitland

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 79

Track: BIOMATERIALS
Biomaterials Scaffolds

Abstract Title: Iron-Chelated Silk Microfibers as a Novel Magneto-Responsive Scaffold Architecture

Presenter: Melissa Wojnowski

Principal Investigator: Jeannine M Coburn

Author(s):

Melissa Wojnowski

Jeannine Coburn

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: D, Poster
Number: 80

Track: BIOMATERIALS
Drug Delivering Biomaterials

Abstract Title: Comparing the Effectiveness of DSPC-, DBPC-, and DPPC-Lipid Shell Oxygen Microbubbles to Improve Survival in an LPS-Induced ARDS Rat Model

Presenter: Anna Levorson

Principal Investigator: Benjamin Terry

Author(s):

Riaz Ur Rehman Mohammed

Ben Terry

Alexander Fan

Awaneesh Upadhyay

Mark Borden

Kang-Ho Song

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 101

Track: BIOMATERIALS
Drug Delivering Biomaterials

Abstract Title: Treatment of Peripheral Artery Disease via IGF-mimicking Peptide Hydrogel

Presenter: Abhishek Roy

Principal Investigator: N/A

Author(s):

Abhishek Roy

Zain Siddiqui

Joseph Dodd-o

Paolo Elguera

Vivek Kumar

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 102

Track: BIOMATERIALS
Drug Delivering Biomaterials

Abstract Title: Studying Interactions Between Polyplexes and Surface Coatings for Localized Nucleic Acid Delivery

Presenter: Christina Holmes

Principal Investigator: N/A

Author(s):

Sydney Hall

Sailesti Joshi

Christina Holmes

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 103

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Diatoms decorated with gold nanoparticles by In-situ and Ex-situ methods for in vitro gentamicin release

Presenter: Eva Chavez

Principal Investigator: N/A

Author(s):

Eva Chavez

Sarah Briceno

Gema Gonzalez

Prabir Patra

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 104

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Nanoformulation & Bio-Functionalization of Linear-Dendritic Block Copolymers with Ionic Liquids

Presenter: Christine Hamadani

Principal Investigator: N/A

Author(s):

Gaya Dasanayake

Eden Tanner

Timothy Lodge

Lucy Liberman

Thomas Werfel

Mehjabeen Hossain

Davita Watkins

Mahesh Loku Yaddehige

Iyanuoluwani Owolabi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 105

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Gellan Gum And Trilysine Hydrogels With Tunable Mechanical Properties For Drug Delivery

Presenter: Carolina Villarreal

Principal Investigator: N/A

Author(s):

Jeannine Coburn

Carolina Villarreal

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 106

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: A Clickable, Free Radical-Initiated Delivery System for Capture-and-Release of Payloads

Presenter: Emily DiMartini

Principal Investigator: N/A

Author(s):

David Shreiber

Kelly Kyker-Snowman

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 107

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: A Multi-targeting Bionanomatrix Coating to Reduce Capsular Contracture Development on Silicone Implants

Presenter: Jennifer Sherwood

Principal Investigator: N/A

Author(s):

Krishna Josyula

Benjamin Estep

Patrick Hwang

Brigitta Brott

Dong Woon Kim

Ho-Wook Jun

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 108

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Hydrogel Dressing with Catalase-like Activity for Chronic Wound Healing

Presenter: Min Ji Kim

Principal Investigator: N/A

Author(s):

Min Ji Kim

Han Bi Ji

Cho Rim Kim

Chang Hee Min

Jae Hoon Han

Young Bin Choy

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 109

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Biomatrix coated flow diverter to improve healing and endothelialization for brain aneurysm occlusion

Presenter: Patrick Hwang

Principal Investigator: N/A

Author(s):

Jennifer Sherwood

Benjamin Estep

Brigitta Brott

Ram Kadirvel

David Kallmes

Ho-Wook Jun

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 110

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Therapeutic Delivery from Tunable Hydrogels for Ocular Injuries

Presenter: Katelyn Swindle-Reilly

Principal Investigator: N/A

Author(s):

Courtney Maxwell

Elle Hellwarth

Andrew Soltisz

Wade Rich

heather chandler

Matthew Reilly

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster

Number: 111

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Synthesis of Stimuli Responsive Drug Conjugated Poly(2-vinyl-4,4-dimethyl azlactone) Scaffolds for Therapeutic Applications

Presenter: Arif Mohammad

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster

Number: 112

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Mucin Hydrogels for Antimicrobial Peptide Delivery

Presenter: Sydney Yang

Principal Investigator: N/A

Author(s):

Gregg Duncan

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster

Number: 113

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Engineered Mucin Hydrogel for Local Delivery of Monoclonal Antibodies in

Inflammatory Bowel Disease

Presenter: Taj Yeruva

Principal Investigator: Gregg Duncan

Author(s):

Gregg Duncan

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster

Number: 114

Track: BIOMATERIALS

Drug Delivering Biomaterials

Abstract Title: Controlled Release of Antibodies Using Hydrolytically Degradable Microgels

Presenter: Zakir Ahmedin

Principal Investigator: N/A

Author(s):

Zakir Ahmedin

Andres Garcia

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster

Number: 115

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Effect of Exoskeleton Control for Individual Assistance on Biological Hip Torque Generated by Subjects

Presenter: Ben Perrin

Principal Investigator: He Huang

Author(s):

Qiang Zhang

He Huang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 116

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Effect of a Polyester-Based Tendon on Muscle Architecture

Presenter: Fisher Adkisson

Principal Investigator: N/A

Author(s):

Dustin Crouch

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 117

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Validation of a Novel Tool to Quantify Spasticity After Stroke

Presenter: Maria Gamez

Principal Investigator: William Zev Rymer

Author(s):

Maria Gamez

william rymer

Leah Oshea

Max Farley

Alexander Barry

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 118

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Assessing Proprioception as a Direct Metric of Athletic Performance

Presenter: Steven Evangelos

Principal Investigator: Yanfen Li

Author(s):

Yanfen Li

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster
Number: 119

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Development and Assessment of Engineered Wood Fiber (EWF) Playground Surfacing Maintenance Guidelines from Impact Attenuation Testing

Presenter: Brooke Ewer

Principal Investigator: N/A

Author(s):

Caitlin Colicchio

Eric Kennedy

Heather Olsen

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: E, Poster

Number: 120

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Evaluation of Alternative Methodologies for Assessing Playground Surfacing Impact Attenuation Performance

Presenter: Caitlin Colicchio

Principal Investigator: Eric Kennedy

Author(s):

Brooke Ewer

Eric Kennedy

Heather Olsen

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 141

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Is an Artificial Tendon Better than No Tendon? Vertical Ground Contact Forces in a Rabbit Model of Tibialis Cranialis Tendon Resection

Presenter: Carter Hatch

Principal Investigator: Dustin L. Crouch

Author(s):

Carter Hatch

Katrina Easton

Ivy Milligan

Caroline Billings

Kristin Bowers

Dustin Crouch

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 142

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Method to Study the Influence of Passive Upper-Extremity Exoskeleton Systems and Posture on Human Exposure to Tool-Induced Vibrations

Presenter: Parisa Torkinejad Ziarati Parisa Torkinejad Ziarati

Principal Investigator: Donald R. Peterson

Author(s):

PARISA TORKINEJAD ZIARATI

Simon Kudernatsch

Ting Xia

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 143

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Braking Effectiveness from Post-Surgical Femur Fracture Patients Using Brake Force Simulator

Presenter: Eric Kennedy

Principal Investigator: Joseph Carey

Author(s):

Joseph Carey

Zane Patterson

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 144

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Assessing Vertebral Cortical Thickness from L3-Spinal Imaging in Older Adults with Obesity

Presenter: Gnaneswar Chundi

Principal Investigator: Ashley A. Weaver

Author(s):

Joshua Stapleton

Delanie Lynch

Denise Houston

Ashley Weaver

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 145

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Development and Preliminary Testing of a Walk-Assist Device With Dynamic Support

Presenter: Gita Regmi Hanz Richter

Principal Investigator: N/A

Author(s):

Simon Detmer

Hanz Richter

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 146

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Phantomless Computed Tomography Measurement of Pelvic Bone Mineral Density and Correlation to Pelvic Fracture in Motor Vehicle Collisions

Presenter: Isaac Ronning

Principal Investigator: Ashley Weaver

Author(s):

Ashley Weaver

William Armstrong - 1

Joel Stitzel

Anna Miller

Robert Martin

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 147

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Finite Element Analysis of Femoral Bone Strain at Mid-stance Using Model Morphing

Presenter: Jack Felipe

Principal Investigator: Ashley Weaver

Author(s):

Karan Devane

Delanie Lynch

Kristen Beavers

Katherine Hsieh

Ashley Weaver

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 148

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Influence of Collision Speed and Distance on Head Kinematics in Youth Football Athletes

Presenter: Jarel Marcelin

Principal Investigator: Jillian Urban

Author(s):

Jillian Urban

Joel Stitzel

Logan Miller

Madison Marks

Ty Holcomb

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 149

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: The Effects of Various Powered Prosthesis Knee Kinematics on Neurocognitive Performance and Temporal Gait Behavior

Presenter: Kaitlynn Whimpenny Abbas Alili, Helen Huang

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 150

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Analyzing the Effectiveness of Updated Roof Crush Resistance Standard in FMVSS 216a

Presenter: Lauren Douglas

Principal Investigator: Haojie Mao

Author(s):

Kalish Gunasekaran

Haojie Mao

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 151

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Workflow to Estimate Metatarsal Stress during Running in Females at Risk for Bone Stress Injury

Presenter: Landon Begin

Principal Investigator: Chris Venters

Author(s):

John Willson

Stacey Meardon

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 152

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Change in Thumb CMC Joint Space
During Pinching via Ultrasonography

Presenter: Zong-Ming Li

Principal Investigator: Sohail Daulat

Author(s):

Sohail Daulat

David Jordan

Kent Kwoh

Zong-Ming Li

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 153

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Shearing Tenocytes on Direct-write
Near-field Electrospun Gelatin Fibers: Towards a
Tendon-on-chip

Presenter: Muskan Aslam

Principal Investigator: Matthew B. Fisher

Author(s):

Muskan Aslam

Zachary Davis

Halston Deal

Drew Koch

Lauren Schnabel

Michael Daniele

Ashley Brown

Matthew Fisher

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 154

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Modeling the Effects of Femoral
Anteversion and Miserable Malalignment on Hip
Joint Loads

Presenter: Marianne J. Voigt Benjamin B. Wheatley

Principal Investigator: N/A

Author(s):

nathan chaclas

Mark Seeley

Benjamin Wheatley

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 155

Track: BIOMECHANICS

**Biomechanics of Rehabilitation/Injury
(Summer Undergraduate)**

Abstract Title: Variance of 50th Percentile Female
Ribs and Corresponding Responses Under Lateral
Loading

Presenter: Rick Nott

Principal Investigator: F. Scott Gayzik

Author(s):

Andrea Robinson

Francis Gayzik

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 156

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Linking Biomechanical Changes to Grip Strength Deficits Following Surgical Wrist Redesign

Presenter: Orion Jusuf

Principal Investigator: Wendy Murray

Author(s):

Orion Jusuf

Daniel McFarland

Wendy Murray

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 157

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Differential Effects of Immobilization by Casting and Hindlimb Suspension on Muscle Loss from Unloading in C57BL/6J Mice

Presenter: Brooks Pollard

Principal Investigator: Micheal A. Friedman

Author(s):

Michael Friedman

Yue Zhang

Henry Donahue

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 158

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Gender and Age Specific Mathematical Model for Predicting Trunk Flexion Strength

Presenter: Sean Shimada

Principal Investigator: Kai Frudden

Author(s):

Rachel Tanczos

Kai Frudden

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster

Number: 159

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Crash Test Exoskeleton For Assessing Potential Fall Injury

Presenter: Sydney Mountcastle

Principal Investigator: Sandra Hnat

Author(s):

Ronald Triolo

Sandra Hnat

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: F, Poster
Number: 160

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Follistatin is Required for Mass Maintenance but Not Partial Force Recovery Following Muscle Injury
Presenter: Siena Smith
Principal Investigator: Gretchen A. Meyer
Author(s):
Jacob Parson
Gretchen Meyer

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster
Number: 181

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Stability Fluctuations during Locomotion with Perturbations
Presenter: Kumarakuru Visvanathan
Principal Investigator: Ryan Wedge
Author(s):
Ryan Wedge

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster
Number: 182

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury (Summer Undergraduate)

Abstract Title: Creating Kinetic and Kinematic Models to Predict Inclines Using a Modified Kalman Filter for Robotic Prostheses
Presenter: Isaias Trevino
Principal Investigator: N/A
Author(s):
Thomas Best
Robert Gregg

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster
Number: 183

Track: BIOMECHANICS

Matrix Effects In Mechanobiology

Abstract Title: Matrix stiffness mediates DNA methylation in endothelial cells.
Presenter: Paul Taufalele
Principal Investigator: Cynthia A. Reinhart-King
Author(s):
Cynthia Reinhart-King
Hannah Kirkham

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster
Number: 184

Track: BIOMECHANICS

Cellular and Molecular Biomechanics: Mechanobiology (Summer Undergraduate)

Abstract Title: DOPA-Based Polymers Are Non-toxic and Can Improve Severe Wound Healing
Presenter: Erica Taylor
Principal Investigator: James Wang
Author(s):
Michael Copeland
Jianying Zhang
James Wang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster
Number: 185

Track: BIOMECHANICS
Human Performance/Sports Biomechanics

Abstract Title: A Flexible Sensor System for Lower Body Locomotion Estimation

Presenter: Wenwen Zhang

Principal Investigator: Wenwen Zhang

Author(s):

Arvin Tashakori

Zenan Jiang

Amir Servati

Calvin Kuo

Peyman Servati

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster
Number: 186

Track: BIOMECHANICS
Cellular and Molecular Biomechanics: Mechanobiology (Summer Undergraduate)

Abstract Title: Determining the Viscous and Elastic Components of E-cadherin Adhesion Force Response

Presenter: Venkat Maruthamuthu

Principal Investigator: Declan Butler

Author(s):

Declan Butler

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster
Number: 187

Track: BIOMECHANICS
Matrix Effects In Mechanobiology (Summer Undergraduate)

Abstract Title: Mechanically Tunable Methacrylated Gelatin Hydrogels for Glycocalyx-Expressing Endothelium

Presenter: Ke Wen

Principal Investigator: Sidi Bencherif, Eno Ebong

Author(s):

Mohammad Hamrangsekachae

Eno Ebong

Sidi Bencherif

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster
Number: 188

Track: BIOMECHANICS
Matrix Effects In Mechanobiology (Summer Undergraduate)

Abstract Title: Substrate-Stiffness Affects Protein Expression of Brain Endothelial Cells and Astrocytes in an In-Vitro Model

Presenter: Adam Engler

Principal Investigator: Itzel L. Hernandez, Ester Kwon

Author(s):

Ester Kwon

Marianne Madias

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 189

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: A Comparative Study of Pediatric Human and Pig Nerve Biomechanical Properties

Presenter: Anita Singh

Principal Investigator: N/A

Author(s):

Anita Singh

scott kozin

Adarsh Abbagani

Sriram Balasubramanian

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 190

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Influence of Pre-Crash Vehicle Maneuvers on Occupant Safety Performance Response

Presenter: Akshay Dahiya

Principal Investigator: N/A

Author(s):

Costin Untaroiu

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 191

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Development of Mathematical Model for Vibration Accelerated Wound Healing

Presenter: Devin Needs

Principal Investigator: N/A

Author(s):

Devin Needs

Jonathan Blotter

John Dallon

J Feland

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 192

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Depth-Dependent Shear Modulus of TMJ Cartilage relate to Microscale Structure and Composition

Presenter: Dong Hwan Yoon

Principal Investigator: N/A

Author(s):

Lawrence Bonassar

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 193

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Longitudinal Assessment of Patella Knee Injury using Ultrasonography

Presenter: Erica King

Principal Investigator: Parag V. Chitnis

Author(s):

Brian Guthrie

Shriniwas Patwardhan

Siddhartha Sikdar

Margaret Jones

Qi Wei

Parag Chitnis

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 194

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Functional Resistance Training with Viscous and Elastic Devices: Do Resistance Types Alter Training?

Presenter: Edward Washabaugh

Principal Investigator: N/A

Author(s):

Thomas Augenstein

Mary Kojc

Chandramouli Krishnan

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 195

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Biomechanics of Tool Use to Aid in Worker Training and Injury Prevention

Presenter: Sandra Faragalla

Principal Investigator: Stephanie Carey

Author(s):

Stephanie Carey

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 196

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Short-Term Changes in Interleukin-6 Expression Following Repetitive Mild TBI

Presenter: Jasmine Smith

Principal Investigator: N/A

Author(s):

Lakiesha Williams

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 197

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Mathematical Dynamic Modeling (MADYMO) of the Maternal Pelvis and Neonate for Simulating Shoulder Dystocia and Delivery Maneuvers

Presenter: Joy Iaconianni

Principal Investigator: N/A

Author(s):

Joy Iaconianni

Bernard Gonik

Michele Grimm

Sriram Balasubramanian

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 198

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Design and Development of Multi-axial Hand-Arm Force Measurement Handle

Presenter: Joseph Stevenson

Principal Investigator: N/A

Author(s):

Mary Arico

Takafumi Asaki

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 199

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Characterization of Mid-Shaft Femoral Fractures Utilizing Three-Point Bending in Porcine Bone

Presenter: Kha Minh Nguyen

Principal Investigator: N/A

Author(s):

Dennis Pham

Ha Vo

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: G, Poster

Number: 200

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Relative Motion of Body Segments in Pre and Post Training in Older Survivors of Stroke

Presenter: Roni Romero Melendez

Principal Investigator: N/A

Author(s):

Ji Chen

Lara Thompson

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster

Number: 221

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: DEVELOPMENT OF MODELS RELATING IMUS TO GROUND REACTION FORCE

Presenter: Mirel Ajdaroski

Principal Investigator: N/A

Author(s):

Amanda Esquivel

So Young Baek

James Ashton-Miller

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster

Number: 222

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Ultrasound Shear Wave Metric for Assessing Flexor Tendon Healing: A Preliminary Cadaver Study

Presenter: Michael Richards

Principal Investigator: N/A

Author(s):

Michael Schrader

Gilbert Smolyak

Alayna Loiselle

Constantinos Ketonis

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster

Number: 223

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Rank Ordered Activation of the Abductor Hallucis Muscle For Commonly Utilized Rehabilitation and Strengthening Exercises

Presenter: Michael Torry

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster

Number: 224

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Human Head Friction Coefficients by Biological Sex

Presenter: Nicole Stark

Principal Investigator: Steve Rowson

Author(s):

Nicole Stark

Steven Rowson

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster

Number: 225

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Laboratory Reconstruction of Head Injury Scenarios From Long-term Care Residents

Presenter: Ryan Exell

Principal Investigator: N/A

Author(s):

Zoie Mink

Amanda Esquivel

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster

Number: 226

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Validation of a Fiber Optic-based

Curvature Sensor in Upper Limb Joint Motion Monitoring

Presenter: Sara Elnahhas

Principal Investigator: Robin Queen

Author(s):

Sara Elnahhas

Guannan Shi

Jacob Black

Yizheng Zhu

Sara Arena

Robin Queen

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster

Number: 227

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Effect of Obstacle Avoidance with Different Heights on Friction Demand

Presenter: Seong Hyun Moon

Principal Investigator: Thurmon Lockhart

Author(s):

Christopher Frames

Thurmon Lockhart

Raagi Panchal

William Sweeten

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster

Number: 228

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Analysis of Femoral Shaft Fracture Angle at Various Loading Rates

Presenter: Jania Williams

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 229

Track: BIOMECHANICS

Biomechanics of Rehabilitation/Injury

Abstract Title: Biomechanical Evaluation of a Novel Collagen Based Ligament Repair Technique in an Ovine Model

Presenter: Kaitlyn White

Principal Investigator: Zachary Lawson

Author(s):

Kaitlyn White

Zachary Lawson

Michael Moreno

Andrew Robbins

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 230

Track: BIOMEDICAL ENGINEERING
 EDUCATION (BME)

Industry and Biomedical Engineering

Abstract Title: The Influence of Aging on the Inflammatory Response of Mice In Experimental Lung Injury

Presenter: Shane Albin

Principal Investigator: Rebecca Heise

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 231

Track: BIOMEDICAL ENGINEERING
 EDUCATION (BME)

Industry and Biomedical Engineering

Abstract Title: Comprehensive Antibody Profiling Predicts Graft Rejection in Kidney Transplant Recipients

Presenter: Anushka Saha

Principal Investigator: Aniruddh Sarkar

Author(s):

Aniruddh Sarkar

Jishnu Das

Trirupa Chakraborty

Anushka Saha

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 232

Track: BIOMEDICAL ENGINEERING
 EDUCATION (BME)
 Industry and Biomedical Engineering

Abstract Title: A Stakeholder-informed Curriculum in Medical Product Development for Biomedical Engineers

Presenter: Jan Stegemann

Principal Investigator: N/A

Author(s):

Cameron Louttit

Elizabeth Mays

Rachael Schmedlen

Melissa Wrobel

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 233

Track: BIOMEDICAL ENGINEERING
EDUCATION (BME)

Industry and Biomedical Engineering

Abstract Title: Validating a Biomechanical
Preclinical Animal Model for the Human Wrist

Presenter: Madison Altieri

Principal Investigator: Joseph Crisco

Author(s):

Joseph Crisco

Rohit Badida

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 234

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Abstract Title: Cavitation Characterization of Size-
Isolated Microbubbles in a Vessel Phantom using
Focused Ultrasound

Presenter: Payton Martinez

Principal Investigator: Mark Borden

Author(s):

Mark Broden

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 235

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Abstract Title: Bedside monitoring of spatially
distributed cerebral oxygenation saturation with high-
density diffused optical tomography

Presenter: Caroline Carter

Principal Investigator: Adam Eggebrecht

Author(s):

Adam Eggebrecht

Tessa George

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 236

Track: BIOMEDICAL IMAGING AND
INSTRUMENTATION

Abstract Title: DO-SRS and 2PEF Imaging of
Metabolic Dynamics under Excess L-Methionine
Regulation in Amyotrophic Lateral Sclerosis

Presenter: Khang Hoang

Principal Investigator: Lingyan Shi

Author(s):

Khang Hoang

Chan-yu Kuo

Hongje Jang

Sirasit Prayotamornkul

Hetvi Trivedi

Pegah Bagheri

Lingyan Shi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 237

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Improved Photoacoustic Signal Stability in Melanin Phantom with NIR-II Wavelengths

Presenter: Swathi Katakam

Principal Investigator: Carolyn Bayer

Author(s):

Swathi katakam

Vinoi Vincely

Carolyn Bayer

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 238

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Contrast-Enhanced Ultrasound and Therapeutic Ultrasound (US) (Summer Undergraduate)

Abstract Title: Ultrasound Neuromodulation in an Earthworm

Presenter: Nicole Turpin

Principal Investigator: Takashi Buma

Author(s):

Takashi Buma

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 239

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics) (Summer Undergraduate)

Abstract Title: Effect of Concurrent Visual and Auditory Attention Tasks on Brain Activity During Postural Control

Presenter: Ava Taylor

Principal Investigator: Chia-Cheng Lin

Author(s):

Ava Taylor

Peter Ogrinc

Brian Sylcott

Rui Wu

Shanyue Guan

Chia-Cheng Lin

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: C, Row: H, Poster
Number: 240

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics) (Summer Undergraduate)

Abstract Title: Novel Tool for Quantitative Morphometry of Extracellular Matrix in Pulmonary Fibrosis

Presenter: Brendan Cox

Principal Investigator: Jeffrey Sturek

Author(s):

Riley Hannan

Jeffrey Sturek

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 261

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics) (Summer Undergraduate)

Abstract Title: Characterization of Drosophila Heartbeat Parameters Using a High-Speed Microscopic Imaging System

Presenter: Danielle Flores

Principal Investigator: Yang Liu

Author(s):

Yang Liu

Alexander Murashov

Elena Pak

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 262

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics) (Summer Undergraduate)

Abstract Title: Small separation speckle contrast optical spectroscopy for intraoperative assessment of parathyroid glands viability

Presenter: Connor Berger

Principal Investigator: N/A

Author(s):

Jacob Womack

Seung Yup Lee

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 263

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics) (Summer Undergraduate)

Abstract Title: Hand-held wireless optical device for intraoperative assessment of parathyroid gland perfusion

Presenter: Jacob Womack

Principal Investigator: N/A

Author(s):

Connor Berger

Seung Yup Lee

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 264

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Non-Invasive Analysis of Bone Sample Using Terahertz Waves

Presenter: Nicole Allen

Principal Investigator: N/A

Author(s):

Khang Hoang

Chan-yu kuo

Hongje Jang

Sirasit Prayotamornkul

Hetvi Trivedi

Pegah Bagheri

Lingyan Shi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 265

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics) (Summer Undergraduate)

Abstract Title: Exploring Light Scattering Spectroscopy for In-Vivo Biopsy of Cardiac Tissues

Presenter: Sarthak Tiwari

Principal Investigator: Sarthak Tiwari

Author(s):

Brian Cottle

Eugene Kwan

Derek Dosdall

Robert Hitchcock

Frank Sachse

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 266

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics) (Summer Undergraduate)

Abstract Title: Fluorophore Quantification in 3D Engineered Brain Tissues Using Spectral/FLIM Analysis

Presenter: Varshini Ramanathan

Principal Investigator: Irene Georgakoudi

Author(s):

Yang Zhang

Maria Savvidou

Irene Georgakoudi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 267

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics) (Summer Undergraduate)

Abstract Title: Development of a Polarization Control Module in a Second Harmonic Generation Microscope

Presenter: Zoe Vittum

Principal Investigator: Karissa Tilbury

Author(s):

Karissa Tilbury

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 268

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: Fast Label-free Image Acquisition to Evaluate Changes in Neural Metabolic Activity

Presenter: Anna Theodossiou

Principal Investigator: N/A

Author(s):

Anna Theodossiou

Alex Walsh

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 269

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: Development of a Mechano-Chemical Flow Cytometer to Resolve Cancer Cell Biophysical Heterogeneity

Presenter: Christian Jennings

Principal Investigator: N/A

Author(s):

Christian Jennings

Sapun Parekh

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 270

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: A Low-Cost Non-Invasive Optical Technique to Assess Presence or Absence of Vascular Calcification Via Peripheral Tail Imaging in Mice

Presenter: Daniela Leizaola

Principal Investigator: N/A

Author(s):

Valentina Dargam

Kevin Leiva

Faiza Nazir

Joshua Hutcheson

Anuradha Godavarty

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 271

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: Coaxial Laser Speckle Contrast Imaging of Cerebral Blood Flow with Picosecond Pulsed Laser Illumination

Presenter: Faraneh Fathi

Principal Investigator: N/A

Author(s):

Faraneh Fathi

Siavash Mazdeyasna

Mehrana Mohtasebi

Dara Singh

Xuhui Liu

Samaneh Rabiencia Haratbar

Chong Huang

Lei Chen

Guoqiang Yu

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 272

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: Near-infrared Fluorescence Guided Protoporphyrin IX Imaging and Photodynamic Therapy for the Treatment of Glioblastoma

Presenter: George Zhang

Principal Investigator: N/A

Author(s):

Christine O'Brien

Xiao Xu

Suman Mondal

Matt Mixdorf

Dorota Grabowska

Gail Sudlow

Brad Manion

kexian liang

Rui Tang

Samuel Achilefu

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 273

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: Real-time Multiscale Optical Imaging and Risk Map Projection for Oral Cancer Biopsy Guidance

Presenter: Jackson Coole

Principal Investigator: N/A

Author(s):

Jackson Coole

David Brenes

Ruchika Mitbander

Imran Vohra

Huayu Hou

Alex Kortum

Yubo Tang

Yajur Maker

Richard Schwarz

Jennifer Carns

Nadarajah Vigneswaran

Rebecca Richards-Kortum

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 274

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: Vision Transformers And Differentiable Rendering For Non-Contact Keratography and Tonometry

Presenter: Jonathan Lin

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 275

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Optical and Spectroscopic Imaging,
 Microscopy, and Spectroscopy (Optics)**

Abstract Title: Visualization of a Limonene Synthesis
 Metabolon inside Living Bacteria by Hyperspectral
 SRS Microscopy

Presenter: Jing Zhang

Principal Investigator: N/A

Author(s):

jonghyeon shin

Nathan Tague

Haonan Lin

MENG ZHANG

Xiaowei Ge

Wilson Wong

Mary Dunlop

Ji-Xin Cheng

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 276

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Optical and Spectroscopic Imaging,
 Microscopy, and Spectroscopy (Optics)**

Abstract Title: Investigation of NADH Lifetime
 Changes During Tetanus via Time-Related Single
 Photon Counting

Presenter: Katy Priest

Principal Investigator: Timothy J Muldoon

Author(s):

Katy Priest

Jacob Schluns

Jeff Wolchok

Timothy Muldoon

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 277

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and
 Spectroscopy (Optics)

Abstract Title: Light Sheet Light to Reveal the
 Structure of Embryonic and Neonatal Mouse Heart

Presenter: Milad Almasian

Principal Investigator: N/A

Author(s):

Yichen Ding

Xinyuan Zhang

Milad Almasian

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 278

Track: BIOMEDICAL IMAGING AND
 INSTRUMENTATION

**Optical and Spectroscopic Imaging,
 Microscopy, and Spectroscopy (Optics)**

Abstract Title: 2D Mapping of Blood Flow
 Distributions with Speckle Contrast Diffuse
 Correlation Tomography

Presenter: Mehrana Mohtasebi

Principal Investigator: N/A

Author(s):

Mehrana Mohtasebi

Xuhui Liu

Faraneh Fathi

Dara Singh

Chong Huang

Samaneh Rabiencia Haratbar

Lei Chen

Guoqiang Yu

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 279

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: Fast 4D Light-Sheet Imaging of Cardiac Activities using Parallel Computing

Presenter: Xinyuan Zhang

Principal Investigator: N/A

Author(s):

Xinyuan Zhang

Milad Almasian

Yichen Ding

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: I, Poster
Number: 280

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: A Wearable Fiber-Free Optical Sensor for Noninvasive and Simultaneous Measurements of Cerebral Blood Flow and Oxygenation in Preterm Infants

Presenter: Xuhui Liu

Principal Investigator: N/A

Author(s):

Xuhui Liu

Mehrana Mohtasebi

Samaneh Rabiencia Haratbar

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 301

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Optical and Spectroscopic Imaging, Microscopy, and Spectroscopy (Optics)

Abstract Title: Effortless Imaging and Quantification of Bioparticles Harnessing Gires-Tournois Immunoassay Platform

Presenter: Young Min Song

Principal Investigator: Young Min Song

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 302

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Abstract Title: Determining Metabolism Shift of Mitochondria Transfer using Phasor Approach Fluorescence Lifetime Imaging Microscopy

Presenter: Yukai Huang

Principal Investigator: N/A

Author(s):

Michelle Digman

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 303

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Endoscopy and Optical Coherence Tomography (OCT)

Abstract Title: Optical Coherence Tomography Probe for Percutaneous Nephrostomy Guidance

Presenter: Chen Wang

Principal Investigator: N/A

Author(s):

Paul Calle

Feng Yan

Nathan Bradley

Kar-Ming Fung

Chongle Pan

Qinggong Tang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 304

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Endoscopy and Optical Coherence Tomography (OCT)

Abstract Title: Optical Coherence Elastography with Phase-Changing Perfluorocarbon Nanodroplets

Presenter: Dmitry Nevozhay

Principal Investigator: N/A

Author(s):

Dmitry Nevozhay

Paul Boerner

Maryam Hatamimoslehabadi

Harshdeep Singh Chawla

Fernando Zvietcovich

Salavat Aglyamov

Kirill Larin

Konstantin Sokolov

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 305

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Endoscopy and Optical Coherence Tomography (OCT)

Abstract Title: Optical Coherence Tomography Characterizes Inhibitory Performances of Different Drugs to Multicellular Ovarian Tumor Spheroid

Presenter: Feng Yan

Principal Investigator: N/A

Author(s):

Ji Hee Ha

Yuyang Yan

Chen Wang

Danny Dhanasekaran

Qinggong Tang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 306

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION

Endoscopy and Optical Coherence Tomography (OCT)

Abstract Title: Next-generation Endoscopic Tattoo Inks for Multimodal Imaging

Presenter: Jordan Yaron

Principal Investigator: Kaushal Rege

Author(s):

Subhadeep Dutta

MALLIKARJUN GOSANGI

Rahul Pannala

Kaushal Rege

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 307

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION
Endoscopy and Optical Coherence Tomography (OCT)

Abstract Title: Supercontinuum-Based Near-Infrared Optical Coherence Tomography for Ovarian Follicle Detection

Presenter: Koichiro Ito

Principal Investigator: N/A

Author(s):

Masaki Hosoda

SEIDO TAKAE

Nao Suzuki

Kosuke Tsukada

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 308

Track: BIOMEDICAL IMAGING AND INSTRUMENTATION
Endoscopy and Optical Coherence Tomography (OCT)

Abstract Title: Automated Instrument-Tracking For Oct Imaging Of Surgical Dynamics

Presenter: Yuankai Tao

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 309

Track: CANCER TECHNOLOGIES
Circulating Biomarkers: CTCs, Extracellular Vesicles and DNA

Abstract Title: Greatly Enhanced CTC Culture Enabled by Capturing CTC Heterogeneity Using a PEGylated PDMS-Titanium-Gold Electromicrofluidic Device with Glutathione-Controlled Gentle Cell Release

Presenter: Elyahb Kwizera

Principal Investigator: Xiaoming He

Author(s):

Xiaoming He

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 310

Track: CANCER TECHNOLOGIES
Circulating Biomarkers: CTCs, Extracellular Vesicles and DNA

Abstract Title: Determining the Impact of Pancreatic Tumor-Derived Extracellular Vesicles on Schwann Cell Activation

Presenter: Isabel Powers

Principal Investigator: Young Hye Song

Author(s):

Isabel Powers

Emory Gregory

Young Hye Song

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 311

Track: CANCER TECHNOLOGIES
**Circulating Biomarkers: CTCs,
Extracellular Vesicles and DNA**

Abstract Title: Detection of DNA Methylation on
Cancer Genes Using Digital Droplets PCR
Presenter: Hanran Lei
Principal Investigator: Tza-Huei Wang
Author(s):
Tza-Huei Wang
Chrissy O'Keefe

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 312

Track: CANCER TECHNOLOGIES
Other / Non-specified

Abstract Title: Defective Homologous
Recombination in Aged Mice
Presenter: Vindhya Kilaru
Principal Investigator: Francesca Cole Bergemann
Author(s):
Lakshmi Paniker
Francesca Cole

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 313

Track: CANCER TECHNOLOGIES
**Engineered Cancer Models for In Vitro
Studies**

Abstract Title: Platelet extravasation & angiogenic
activity modeled in a vascularized tumor
microenvironment-chip
Presenter: Lopamudra Das Ghosh
Principal Investigator: N/A
Author(s):
Lopamudra Das Ghosh

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 314

Track: CANCER TECHNOLOGIES
**Circulating Biomarkers: CTCs,
Extracellular Vesicles and DNA**

Abstract Title: Developing a Novel Genetically
Encoded Platform for Extracellular Vesicle Production
Presenter: Erik Chow
Principal Investigator: N/A
Author(s):
Erik Chow
LaDeidra Roberts
MATTHEW PASZEK

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: J, Poster
Number: 315

Track: CANCER TECHNOLOGIES
**Circulating Biomarkers: CTCs,
Extracellular Vesicles and DNA**

Abstract Title: A Liquid Biopsy Contrast Agent
Presenter: Maria Carmen
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: J, Poster
Number: 316

Track: CANCER TECHNOLOGIES
**Circulating Biomarkers: CTCs,
Extracellular Vesicles and DNA**

Abstract Title: Isolation and Identification of Subpopulations of Circulating Tumor Cells Using a Microchip with Bio-Inspired Patterns
Presenter: Wei Li
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: J, Poster
Number: 317

Track: CANCER TECHNOLOGIES
**Circulating Biomarkers: CTCs,
Extracellular Vesicles and DNA**

Abstract Title: Heterogeneity of Breast Cancer Exosomes and the Expression of E-selectin Ligand Activity
Presenter: Yinan Huang
Principal Investigator: N/A
Author(s):
Monica Burdick

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: J, Poster
Number: 318

Track: CANCER TECHNOLOGIES
**Circulating Biomarkers: CTCs,
Extracellular Vesicles and DNA**

Abstract Title: Simultaneous Detection of Tumor Derived Exosomal Protein-MicroRNA Pairs with an Exo-PROS Assay for Cancer Diagnosis
Presenter: Yun Wu
Principal Investigator: N/A
Author(s):
CHANGCHIEH HSU

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: J, Poster
Number: 319

Track: CANCER TECHNOLOGIES
Tumor Microenvironment (Summer Undergraduate)

Abstract Title: Expression of CD44 and SRC through Hyaluronan and Mechanical Stimuli
Presenter: Mary Kathryn Sewell-Loftin
Principal Investigator: Allyson Criswell
Author(s):
Allyson Criswell
Sophie Sitafalwalla
Maranda Tidwell

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: J, Poster
Number: 320

Track: CANCER TECHNOLOGIES
Molecular Profiling in Cancer

Abstract Title: Metabolomic Analysis of Plasma from Metastatic Castration-Resistant Prostate Cancer Patients
Presenter: Ege Onal
Principal Investigator: N/A
Author(s):
Ege Onal
Muhammad Fayyaz
Siva Nalla
Manish Kohli

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 341

Track: CANCER TECHNOLOGIES
Molecular Profiling in Cancer

Abstract Title: A Molecular Nanobiosensor for Sensing Long Noncoding RNA Dynamics During Collective Cancer Invasion
Presenter: NingHao Zhu
Principal Investigator: N/A
Author(s):
Pak Kin Wong

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 342

Track: CANCER TECHNOLOGIES
Other / Non-specified

Abstract Title: Sensitization of Glioblastoma Cells to Temozolomide by Cancer Cell Membrane Camouflaged Nanoceria
Presenter: Jun Ma
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 343

Track: CANCER TECHNOLOGIES
Other / Non-specified

Abstract Title: Association of Hypertension and Organ-Specific Cancer: A Meta-Analysis
Presenter: Morgan Connaughton
Principal Investigator: N/A
Author(s):
Mahsa Dabagh

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 344

Track: CANCER TECHNOLOGIES
Other / Non-specified

Abstract Title: Effects of Contact Exposure to Soil-Arsenic
Presenter: Madeline English
Principal Investigator: Smitha Rao Hatti
Author(s):
Smitha Rao
Rupali Datta
Manas Warke

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 345

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: The Effect of Beta Blocker Therapy on The Hemodynamics of Coronary Artery Aneurysms
Presenter: Hoda Hatoum
Principal Investigator: Hoda Hatoum
Author(s):
Alireza Asadbeygi
Hoda Hatoum

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 346

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: Mechanical Characterization of Aortic Tissue from a Clinically-Representative Range of Coarctation

Presenter: Jamasp Azarnoosh

Principal Investigator: N/A

Author(s):

John LaDisa

Arash Ghorbannia

Sarah Gorzek

Aloma BLANCH GRANADA

Witor Eng

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 347

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: Development of an Ex Vivo Bioreactor System to Model Arteriovenous Fistula Hemodynamics

Presenter: Linda Liu

Principal Investigator: N/A

Author(s):

Saami Yazdani

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 348

Track: CARDIOVASCULAR ENGINEERING
Hemodynamics and Vascular Mechanics

Abstract Title: Computational Characterization of Blood Rheology and Carotid Hemodynamic Alterations in Microgravity

Presenter: Philippe Sucosky

Principal Investigator: N/A

Author(s):

Graham Quasebarth

Varun Vinayak Kalaiarasan

Jason Shar

Philippe Sucosky

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 349

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering (Summer Undergraduate)

Abstract Title: Pore Size and Mechanical Strength of Silk Fibroin-Based Tissue Engineered Vascular Grafts

Presenter: Connor LaMarca David Vorp

Principal Investigator: N/A

Author(s):

Isabelle Chickanosky

Justin Weinbaum

David Vorp

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 350

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering (Summer Undergraduate)

Abstract Title: Engineering Living Anisotropic Heart Valve Tissue Sheets for Preclinical Testing in a Porcine Model
Presenter: Neda Latifi Craig A. Simmons
Principal Investigator: N/A
Author(s):
Monica Lecce
Bahram Mirani
Tina Sokhanvar
Zahra Mirzaei
Yizhou Chen
Nataly Siqueira
Maris Bartkevics
Jason Maynes
J. Santerre
Craig Simmons

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 351

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering (Summer Undergraduate)

Abstract Title: Designing Three-Dimensional Cardiovascular Tissue Models
Presenter: Renita Horton
Principal Investigator: Ximena Medina Romero
Author(s):
Ximena Medina Romero
Jing Ming Lim
omar harb

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 352

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering (Summer Undergraduate)

Abstract Title: Decellularization of Porcine Vascular Tissue
Presenter: Taylor Seawell
Principal Investigator: N/A
Author(s):
Taylor Seawell
Thomas Fair
Reece Fratus
Adam Baker
Bruce Gao

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 353

Track: CARDIOVASCULAR ENGINEERING
Cardiac Electrophysiology (Summer Undergraduate)

Abstract Title: Automated Electrophysiology to Determine the Differential Dose Response of Mexiletine Based on Genetic Background of Arrhythmic Patients
Presenter: Katie Barcak
Principal Investigator: Jonathan Silva
Author(s):
Martina Marras
Druv Bhagavan
Jonathan Silva

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 354

Track: CARDIOVASCULAR ENGINEERING
Cardiac Electrophysiology

Abstract Title: Initial evidence of TREK-1 functional transition during pressure overload-induced heart failure

Presenter: Cemantha Lane

Principal Investigator: N/A

Author(s):
N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 355

Track: CARDIOVASCULAR ENGINEERING
Cardiac Electrophysiology

Abstract Title: Cardiotoxic Effects of Acute Methamphetamine Exposure Associated with Electrophysiological and Cardiac Index in Larval Zebrafish

Presenter: Ramses Trigo Torres

Principal Investigator: N/A

Author(s):
Jimmy Zhang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 356

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering

Abstract Title: Age and Sex-Dependencies in Cardiac Matrix-Bound Exosomes Modulate Fibrosis through Synergistic miRNA Effects

Presenter: George Ronan

Principal Investigator: N/A

Author(s):
Gokhan Bahcecioglu
Pinar Zorlutuna

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster
Number: 357

Track: CARDIOVASCULAR ENGINEERING
Cardiovascular Tissue Engineering

Abstract Title: Engineering Microfluidic Devices from 3-D Printed Templates to Elucidate Oxygen-Dependent Phenotypes in Human Cardiac Fibroblasts

Presenter: Natalie Khalil

Principal Investigator: N/A

Author(s):
Natalie Khalil
Megan Rexius-Hall
Kaelyn Takamoto
Austin Kellogg
Megan McCain

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster

Number: 358

Track: CARDIOVASCULAR ENGINEERING

Cardiovascular Tissue Engineering

Abstract Title: An Approach to Treat Post Angioplasty-Induced Restenosis Using Targeted Cell Delivery

Presenter: Luis Soto-Garcia

Principal Investigator: Kytai Nguyen

Author(s):

Tam Nguyen

Cynthia Co

Vy Tran

Enrique Villafuerte

Kytai Nguyen

Liping Tang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster

Number: 359

Track: CARDIOVASCULAR ENGINEERING

Cardiovascular Tissue Engineering

Abstract Title: T-tubule Formation and Calcium Transient Maturation on Human iPSC-derived Cardiac Microfibers

Presenter: Nicholas Rogozinski

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: K, Poster

Number: 360

Track: CARDIOVASCULAR ENGINEERING

Cardiovascular Tissue Engineering

Abstract Title: Enhancement of Cardiomyocyte Maturation by Through-Thickness Electrical Stimulation and The Effect of Substrates

Presenter: Roya Bagheri

Principal Investigator: N/A

Author(s):

Anthony Guiseppi-Elie

Parisa Pour Shahid Saeed Abadi

Sara Abasi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster

Number: 381

Track: CARDIOVASCULAR ENGINEERING

Cardiovascular Tissue Engineering

Abstract Title: EGFR Pathway Inhibition for Augmented Elastic Matrix Regenerative Repair in Aortic Aneurysms

Presenter: Simran Dayal

Principal Investigator: N/A

Author(s):

Simran Dayal

Anand Ramamurthi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster

Number: 382

Track: CARDIOVASCULAR ENGINEERING

Cardiovascular Tissue Engineering

Abstract Title: Cardiac-Specific ECM Scaffold for Tissue-Engineered Cardiac Patch using Human Pluripotent Stem Cell Derived Cardiac Fibroblasts

Presenter: Te-An Chen

Principal Investigator: N/A

Author(s):

Te-An Chen

Feng ZHao

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 383**Track:** CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis**Abstract Title:** Hyperfibrinolysis Drives Instabilities in Trauma Induced Coagulopathy**Presenter:** Andrew Gosselin**Principal Investigator:** Valerie Tutwiler**Author(s):**

Andrew Gosselin

Valerie Tutwiler

Nathan White

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 384**Track:** CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis**Abstract Title:** Hematocrit is a Potent Driver of Platelet Adhesion at Supraphysiological Shear Rates**Presenter:** Connor Watson**Principal Investigator:** N/A**Author(s):**

Keefe Manning

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 385**Track:** CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis**Abstract Title:** Arduino-Based

Photoplethysmography Device To Detect Deep Vein Thrombosis

Presenter: Luke Hsing**Principal Investigator:** N/A**Author(s):**

Jenna Huseby

Luke Hsing

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 386**Track:** CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis**Abstract Title:** Ex Vivo Cultured Blood Clots Develop a Polymorphonuclear-Myeloid Derived Suppressor Cell (PMN-MDSC) Signature and Release Soluble Lectin-like Oxidized Low-Density Lipoprotein Receptor-1 (sLox-1)**Presenter:** Julia Leonard**Principal Investigator:** N/A**Author(s):**

David Kepplinger

Virginia Espina

Patrick Gillevet

Caroline Hoemann

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 387**Track:** CARDIOVASCULAR ENGINEERING
Thrombosis and Hemostasis**Abstract Title:** Enzymatic activity of bound thrombin within fibrin fibers**Presenter:** Jennifer Crossen**Principal Investigator:** Scott L. Diamond**Author(s):**

Scott Diamond

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster

Number: 388

Track: CARDIOVASCULAR ENGINEERING **Thrombosis and Hemostasis**

Abstract Title: Antiplatelet effects of inhibiting coagulation factor XI in a non-human primate model of atherosclerosis

Presenter: Tia Kohs

Principal Investigator: N/A

Author(s):

Ivan Parra Izquierdo

Helen Vu

Monica Hinds

Owen McCarty

Joseph Shatzel

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster

Number: 389

Track: CARDIOVASCULAR ENGINEERING **Cardiovascular Biomechanics (Summer Undergraduate)**

Abstract Title: Preservation of Cardiomyocyte Lamin Reduces Age Dependent Decline of Cardiac Function

Presenter: Adam Engler

Principal Investigator: Scott Skalak

Author(s):

Natalie Kirkland

Adam Engler

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster

Number: 390

Track: CARDIOVASCULAR ENGINEERING **Thrombosis and Hemostasis**

Abstract Title: Characterization of B-knob Platelet-like Particles in Adult and Neonatal Plasma

Presenter: Manasi Krishnakumar

Principal Investigator: Ashley Brown

Author(s):

Ashley Brown

Kimberly Nellenbach

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster

Number: 391

Track: CARDIOVASCULAR ENGINEERING **Thrombosis and Hemostasis**

Abstract Title: Differential Regulation of Blood Clot Structure on Internal vs External Lysis

Presenter: Rebecca Risman

Principal Investigator: N/A

Author(s):

John Weisel

Brittany Bannish

Valerie Tutwiler

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 392**Track:** CARDIOVASCULAR ENGINEERING**Thrombosis and Hemostasis****Abstract Title:** Mechanical and Hemostatic Assessment of Shape-Memory Hemostat Fabrication Ratios**Presenter:** Sarah Hargett**Principal Investigator:** N/A**Author(s):**

Sarah Hargett

Giriraj Lokhande

Duncan Maitland

Akhilesh Gaharwar

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 393**Track:** CARDIOVASCULAR ENGINEERING**Thrombosis and Hemostasis (Summer Undergraduate)****Abstract Title:** The Effect of PAI-1 on Clot Structure and Fibrinolysis**Presenter:** Hajer Ali**Principal Investigator:** Hajer Ali**Author(s):**

Hajer Ali

Rebecca Risman

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 394**Track:** CELLULAR AND MOLECULAR BIOENGINEERING**Molecular Bioengineering****Abstract Title:** Combining Organ-On-Chip Platform With Cell Culture Assays To Understand The Metabolic Response Of A “Biostasis” Repurposed Drug**Presenter:** Berenice Charrez**Principal Investigator:** Donald Ingber**Author(s):**

N/A

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 395**Track:** CELLULAR AND MOLECULAR BIOENGINEERING**Molecular Bioengineering****Abstract Title:** How The NlpE Protein Transmits Signals in The Cell Envelope of E. coli**Presenter:** Christina Bae**Principal Investigator:** Marcin Grabowicz**Author(s):**

Julianna Marotta

Marcin Grabowicz

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: D, Row: L, Poster**Number:** 396**Track:** CELLULAR AND MOLECULAR BIOENGINEERING**Molecular Bioengineering****Abstract Title:** Engineering of a Novel in vitro Bistable Switch via Protein Signaling Network Design**Presenter:** Catherine Majors**Principal Investigator:** Keith Tyo**Author(s):**

Keith Tyo

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster
Number: 397

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering

Abstract Title: Cell-Free Expressed SapABCDF
 Transporter Folding and Function in Unsaturated
 Lipid Bilayers

Presenter: Citlayi Villasenor

Principal Investigator: Neha Kamat

Author(s):

Valentina Dimitrova

Alexandra Karagiari

Kristen Rivera

Heather Pinkett

Neha Kamat

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster
Number: 398

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering

Abstract Title: Phenotypic Selection and Organ-
 Specific Responses of Primary Human Lung and
 Dermal Fibroblasts in Quiescence-Inducing Cultures

Presenter: Elisabet Olsen

Principal Investigator: Mark Mondrinos

Author(s):

Bradley Sweeney

Ashley Martier

Mark Mondrinos

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster
Number: 399

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering

Abstract Title: Protease circuits for intercellular
 signalling

Presenter: Alexander Elias Vlahos

Principal Investigator: Xiaojing J. Gao

Author(s):

Xiaojing Gao

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: L, Poster
Number: 400

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering (Summer Undergraduate)

Abstract Title: Engineering of Light Based
 Promoters with PACE and eVOLVER Continuous
 Culture Hardware

Presenter: Ashley Tse

Principal Investigator: Benjamin Bartelle

Author(s):

Gabriella Cerna

Jennifer Brodsky

Benjamin Bartelle

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 421

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Molecular Bioengineering (Summer
Undergraduate)**

Abstract Title: Engineering a Rapamycin-Inducible
ERK2 Variant to Study MAPK-Dependent Signaling
Pathways

Presenter: Madison Briggs

Principal Investigator: N/A

Author(s):

Robert Newman

Hayden Patterson

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 422

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Evaluating the Anti-inflammatory
Effects of Fish Oil Supplements and Bone Marrow
Mononuclear Stem Cells on Pediatric Traumatic
Brain Injury.

Presenter: Dev Patel

Principal Investigator: Elaheh Rahbar

Author(s):

Lindsey Kirk

Hannah LaMond

Elaheh Rahbar

Susan Sergeant

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 423

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: U6 Promoter Driven DNA
for Delivery of CRISPR Machinery in Lipid
Nanoparticles

Presenter: Elizabeth Schmitzer

Principal Investigator: Niren Murthy

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 424

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

**Other / Non-specified (Summer
Undergraduate)**

Abstract Title: Metabolic activity and YAP
localization in Spiny mouse (*Acomys*) fibroblasts
under serum-starved conditions

Presenter: Eva Gbur

Principal Investigator: Chelsey Simmons

Author(s):

Michele Dill

Janny Pineiro

Chelsey Simmons

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 425

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Other / Non-specified (Summer Undergraduate)

Abstract Title: The Effect of Varying Glucose Levels on Fibroblasts, Macrophages, and Adipose Stem Cells

Presenter: Delphine Dean

Principal Investigator: Lily Zarrouf

Author(s):

Lily Zarrouf

Jacob Carpenter

Jeremiah Carpenter

Delphine Dean

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 426

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering (Summer Undergraduate)

Abstract Title: Specific Modified mRNA Translational System (SMRTs) for Exclusive Protein Expression in Cardiomyocytes of Small and Large Animals

Presenter: Rachel Matthews

Principal Investigator: Jianyi Zhang

Author(s):

Jiacheng Sun

Lu Wang

Jianyi Zhang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 427

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering (Summer Undergraduate)

Abstract Title: In Vitro Analysis of Oxidative Stress-Mediated Blood-Brain Barrier Permeability

Presenter: Paige Schiebel

Principal Investigator: Forrest Kievit

Author(s):

Paige Schiebel

Brittany Schweiger

Forrest Kievit

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 428

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering (Summer Undergraduate)

Abstract Title: Protein Engineering of Non-Heme Iron(II)-Containing Enzymes for Non-Natural Reactions

Presenter: Rani Kumar

Principal Investigator: Takashi Hayashi

Author(s):

Shunsuke Kato

Takashi Hayashi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 429

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering (Summer Undergraduate)

Abstract Title: Ligand-Induced Nuclear Localization of Synthetic Transcription Factors in *Saccharomyces cerevisiae*

Presenter: Sandra Temgoua

Principal Investigator: Farren Isaacs

Author(s):

Peter Ciaccia

Farren Isaacs

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 430

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering (Summer Undergraduate)

Abstract Title: Comparison of Fibroblast Versus Macrophage Specific Mechanotransduction Knockout in a Wound Healing Model

Presenter: Sydney Steele

Principal Investigator: Geoffery Gurtner, Kellen Chen

Author(s):

Savana Huskins

Melissa Leeolou

Dharshan Sivaraj

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 431

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Cell Migration (Summer Undergraduate)

Abstract Title: Imprinting Gradients into Alginate Gels to Control Directed Cell Migration

Presenter: Lily Mesyk

Principal Investigator: Ian Schneider

Author(s):

Ian Schneider

Azarnoosh Foroozandehfar

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 432

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering

Abstract Title: Design of a Plasmid for Expression of Stable Coiled-Coil Fragments

Presenter: Alla Kostyukova

Principal Investigator: N/A

Author(s):

Dmitri Tolkatchev

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 433

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: SUN1-dependent Alteration of Nuclear Tension Regulates Progerin-induced Nuclear Deformation

Presenter: Dong-Hwee Kim

Principal Investigator: N/A

Author(s):

Juhyeon Jo

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 434

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: Positive Feedback Drives a Secondary Nonlinear Product Burst During Biphasic DNA Amplification

Presenter: Esther Stopps

Principal Investigator: Stephanie E McCalla

Author(s):

Burcu Ozay

Shannon Murphy

Tomas Gedeon

Stephanie McCalla

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 435

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: High-Fidelity Tracking of Dynamic Microtubule Filaments in Time-Lapse Imaging Data

Presenter: Wonmuk Hwang

Principal Investigator: N/A

Author(s):

Saptarshi Chatterjee

Marija Zanic

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: M, Poster
Number: 436

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: Developing Aptamers Against Fibrillar Extracellular Matrix Proteins for Targeting and Sensing

Presenter: Abigail Koep

Principal Investigator: Ian Schneider

Author(s):

Abigail Koep

Azarnoosh Foroozandehfar

Ian Schneider

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: M, Poster
Number: 437

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: A Light-Inducible EGFR Kinase for
Network Signaling

Presenter: Joshua Reynolds

Principal Investigator: N/A

Author(s):

Justin Pritchard

Scott Leighow

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: M, Poster
Number: 438

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: Dissecting Human and Influenza
Virus Interaction with qFRET Technology

Presenter: Jiayu Liao

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: M, Poster
Number: 439

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: Mechanical Stretch Loading
Regulates Adipocyte Insulin Signaling

Presenter: Jung Yul Lim

Principal Investigator: N/A

Author(s):

Eunju Kim

Jung Yul Lim

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: M, Poster
Number: 440

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: Point-of-care Multiplex Diagnostic
Platform for the Detection of Various Viruses and
Differentiation of Early Strains and B.1.1.7 Variants
of SARS-CoV-2

Presenter: Jongwon Lim

Principal Investigator: N/A

Author(s):

Rashid Bashir

Enrique Valera

Victoria Kindratenko

Janice Baek

Friday, October 14**2:30 PM - 3:30 PM**

Poster Session: D, Section: D, Row: N, Poster
Number: 461

Track: CELLULAR AND MOLECULAR
BIOENGINEERING

Molecular Bioengineering

Abstract Title: Supercoiling-mediated feedback
rapidly couples and tunes transcription

Presenter: Kate Galloway

Principal Investigator: N/A

Author(s):

Christopher Johnstone

Kate Galloway

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 462

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering

Abstract Title: FRET-Seq: Integration of FRET and Sequencing to Engineer Biosensors from Mammalian Cell Libraries

Presenter: Longwei Liu

Principal Investigator: N/A

Author(s):

Longwei Liu

Yingxiao Wang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 463

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering

Abstract Title: Engineered Commensal Bacteria As Diagnostic Probes For The Lungs

Presenter: Michael Brasino

Principal Investigator: Michael David Konetski
 Brasino

Author(s):

Michael Brasino

Eli Wagnell

Elise Manalo-Hall

Justin Merritt

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 464

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering

Abstract Title: CSF1R Agonists Elicit Distinct ERK Activation and Heterogeneity Profiles in Homeostatic and Diseased Microglia

Presenter: Sara Bitarafan

Principal Investigator: Levi B. Wood

Author(s):

Sara Bitarafan

Benjamin Ahn

Brandon Sherrard

Srikant Rangaraju

Levi Wood

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 465

Track: CELLULAR AND MOLECULAR
 BIOENGINEERING

Molecular Bioengineering

Abstract Title: Connexin 43 in Osteocytes Regulates Gene Expression Via WNT Signaling

Presenter: Yue Zhang

Principal Investigator: Henry J Donahue

Author(s):

Michael Friedman

Henry Donahue

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 466

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: A Lab-on-Chip Technology for
 Real-Time Detection of Tumour Acidification by the
 Warburg Effect

Presenter: Melina Beykou

Principal Investigator: Pantelis Georgiou, Chris
 Bakal, Nicolas Moser

Author(s):
 Nicolas Moser
 Chris Bakal
 Pantelis Georgiou

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 467

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices (Summer Undergraduate)

Abstract Title: Field-Use Electrochemical Sensor for
 Detection of Carbamazepine in Water

Presenter: Jade Minzlaff

Principal Investigator: N/A

Author(s):
 Lael Wentland
 Elain Fu

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 468

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Musculoskeletal Robotics and Biomechatronics In Rehabilitation (Summer Undergraduate)

Abstract Title: Development and Validation of the
 MR-StretchFingers Device

Presenter: Manju Sivasankar

Principal Investigator: Fabrizio Sergi

Author(s):
 Rebecca Nikonowicz
 Fabrizio Sergi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 469

Track: DEVICE TECHNOLOGIES AND
 BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices (Summer Undergraduate)

Abstract Title: Time Management Device For People
 With Independent Living Disabilities

Presenter: Giuditta Monti

Principal Investigator: David O'Neill

Author(s):
 Ryan Abbott
 Aurora Lee Jean Greane
 Keri Han
 Giuditta Monti
 David O'Neill

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 470

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices (Summer Undergraduate)

Abstract Title: Gold Leaf Electrochemical Biosensors for Detection of Infectious Diseases

Presenter: Joshua Chaj Ulloa

Principal Investigator: Ariel Furst

Author(s):

Xingcheng Zhou

Ariel Furst

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 471

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Surgical Robotics (Summer Undergraduate)

Abstract Title: Adaptation of Robotic Minimally Invasive Surgery for In Situ 3D Printing

Presenter: Gisella B Guerrero Sanchez

Principal Investigator: Philip Brown

Author(s):

Mulham Soudan

Philip Brown

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 472

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Battlefield Ready Innovative Suction Kit (BRISK) for Pre-Hospital Emergency Situations

Presenter: Alejandro Medina

Principal Investigator: N/A

Author(s):

Saketh Ram Peri

Robert De Lorenzo

Lyle Hood

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 473

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: An Innovative Organ Preservation System for Extending Kidney Transplantation Timeframes

Presenter: Anis Khalil

Principal Investigator: N/A

Author(s):

Sophia Salazar

Mariana Garcia

Jose Gonzalez

Daniel Portillo

Jessica Oseghale

David Di Rocco

Lyle Hood

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 474

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Portable Low-Cost Electronic
Devices For High-Throughput Electrical Recovery of
Single Cells From Tissues

Presenter: Cel Welch

Principal Investigator: N/A

Author(s):
Anubhav Tripathi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 475

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: A Handheld Acoustofluidic Pipette
for Simple, Rapid, and Sensitive Biosensing

Presenter: Cooper Thome

Principal Investigator: N/A

Author(s):
Cooper Thome

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 476

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Frequency Optimization of a Novel
Skin Blood Flow Transducer

Presenter: Georgia Robles

Principal Investigator: N/A

Author(s):
David Nelson
Georgia Robles
Saeed Latif
Michael Francis

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 477

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Smartphone Enabled Nanoliter Flow
Measurement in Microfluidic Channels

Presenter: Hatice Ceylan Koydemir

Principal Investigator: N/A

Author(s):
Weiming Xu
Hatice Ceylan Koydemir

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 478

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Detection of Cobalt Ions in Urine for
Improving Outcomes of Implant Patients

Presenter: Jeremiah Carpenter

Principal Investigator: Delphine Dean

Author(s):
Jeremiah Carpenter
Diego Nigoa
Delphine Dean

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 479

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Cyclic Olefin Polymer as a Vessel for
Fluorescence-based Point-of-Care Diagnostics

Presenter: Julio Rivera-De Jesus

Principal Investigator: N/A

Author(s):

Melinda Lake

Jacqueline Linnes

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: D, Row: N, Poster
Number: 480

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Minimally Invasive Detection of
Alzheimer's Disease Biomarker at the Point-of-care

Presenter: Sina Khazaei Nejad

Principal Investigator: N/A

Author(s):

Farbod Amirghasemi

Shahd Bawarith

Maral Mousavi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 501

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Smartphone-Read Phage Lateral Flow
Assay for Point-of-Care Detection of SARS-CoV-2
Infection

Presenter: Maede Chabi

Principal Investigator: N/A

Author(s):

Maede Chabi

Binh Vu

Kristen Brosamer

Dimple Chavan

Jacinta Conrad

Richard Willson

Katerina Kourentzi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 502

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS

Point of Care / Mobile Devices

Abstract Title: Influence Of Air Flowrate Standards
On Portable Suction Devices

Presenter: Saketh Ram Peri

Principal Investigator: Lyle Hood

Author(s):

Lyle Hood

Robert De Lorenzo

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 503

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Point of Care / Mobile Devices

Abstract Title: Label-free Nanoplasmonic Biosensors
for Multiplexed COVID-19 Antibody Profiling
Presenter: Wihan Adi
Principal Investigator: N/A
Author(s):
Dhruv Biswas
Miriam Shelef
Filiz Yesilkoy

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 504

Track: DEVICE TECHNOLOGIES AND
BIOMEDICAL ROBOTICS
Surgical Robotics

Abstract Title: A Mixed Reality System Combining
Augmented Reality, 3D Bio Printed Physical
Environments and Inertial Measurement Unit Sensors
for Task Planning
Presenter: Ernest Kabuye
Principal Investigator: N/A
Author(s):
Philip LEDUC
Jonathan Cagan
Ernest Kabuye

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 505

Track: DRUG DELIVERY
**Delivery Systems for Proteins and
Vaccines**

Abstract Title: Enzyme-responsive Polymersomes
for Protein Delivery to Enhance Autophagy in GM1
Gangliosidosis
Presenter: Bipin Chakravarthy
Principal Investigator: Jessica Larsen
Author(s):
Jessica Larsen

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 507

Track: DRUG DELIVERY
**Delivery Systems for Proteins and
Vaccines (Summer Undergraduate)**

Abstract Title: Positively Charged PLL-PLA
Micelles for Cas9 Ribonucleoprotein Delivery
Presenter: Brian Barbery
Principal Investigator: George Barbery, Jessica
Larsen
Author(s):
Brian Barbery
Jessica Larsen

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 507

Track: DRUG DELIVERY

Delivery Systems for Proteins and Vaccines

Abstract Title: Cellulose Nanomaterial Hydrogel for Applications in Vaccine and Drug Delivery

Presenter: Brian Barbary

Principal Investigator: George Barbary, Jessica Larsen

Author(s):
 Michael Mason

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 508

Track: DRUG DELIVERY

Delivery Systems for Proteins and Vaccines

Abstract Title: Actuatable Hollow DNA Origami Drug Delivery Constructs

Presenter: Abigail Koep

Principal Investigator: N/A

Author(s):
 Abigail Koep
 Anwesha Sarkar
 Sardar Alam
 Tanya Prozorov
 Ian Schneider

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 509

Track: DRUG DELIVERY

Delivery Systems for Proteins and Vaccines

Abstract Title: Host-modified hydrogels enable sustained release through engineered biomolecule affinity

Presenter: Arielle D'Elia

Principal Investigator: N/A

Author(s):
 Christopher Rodell

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 510

Track: DRUG DELIVERY

Delivery Systems for Proteins and Vaccines

Abstract Title: Inhalable SARS-CoV-2 Mimetic Particles Induce Pleiotropic Antigen Presentation

Presenter: Atip Lawanprasert

Principal Investigator: N/A

Author(s):
 Atip Lawanprasert
 Andrew Simonson
 Sopida Pimcharoen
 Scott Medina

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 511

Track: DRUG DELIVERY
Delivery Systems for Proteins and Vaccines

Abstract Title: Multivalent Presentation of Bone Morphogenic Protein-2 from Glass Surface
Presenter: Chee Meng Eugene Cheong
Principal Investigator: N/A
Author(s):
 David Radford
 Rahul Upadhyaya
 Shashank Kosuri
 Adam Gormley

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 512

Track: DRUG DELIVERY
Delivery Systems for Proteins and Vaccines

Abstract Title: Spontaneous Formation of Antigen-Loaded Depots inside Lymph Nodes to Improve Vaccine Efficacy
Presenter: Erin Euliano
Principal Investigator: Kevin J McHugh
Author(s):
 ERIN EULIANO
 Anushka Agrawal
 Kevin McHugh

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 513

Track: DRUG DELIVERY
Delivery Systems for Proteins and Vaccines

Abstract Title: Co-assembled Peptide-Protein Granules for Intracellular Protein Delivery
Presenter: Renjie Liu
Principal Investigator: N/A
Author(s):
 Gregory Hudalla

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 514

Track: DRUG DELIVERY
Delivery Systems for Proteins and Vaccines

Abstract Title: Chemical Activation of Piezo1 to Enhance TRAIL-induced Apoptosis in Glioblastoma Cells
Presenter: Samantha Knoblauch
Principal Investigator: N/A
Author(s):
 Samantha Knoblauch
 Jenna Dombroski
 Jacob Hope
 Michael King

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 515

Track: DRUG DELIVERY

Delivery Systems for Proteins and Vaccines

Abstract Title: Rapid Generation of Protein-Conjugated Liposomes using Cell-Free Protein Synthesis

Presenter: Timothy Vu

Principal Investigator: N/A

Author(s):

Justin Peruzzi

Neha Kamat

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 516

Track: DRUG DELIVERY

Delivery Systems for Proteins and Vaccines

Abstract Title: Autonomous Untethered Microinjectors for Gastrointestinal Delivery of Insulin

Presenter: Wangqu Liu

Principal Investigator: N/A

Author(s):

Arijit Ghosh

Ling Li

Gayatri Pahapale

Si Young Choi

Liyi Xu

qi huang

Florin Selaru

David Gracias

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 517

Track: DRUG DELIVERY

Delivery Systems for Proteins and Vaccines

Abstract Title: 3D-Printed Microfluidic Production of Monodisperse Lipid Nanoparticles

Presenter: William Bostic

Principal Investigator: N/A

Author(s):

Wan-Zhen Lin

Noah Malmstadt

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 518

Track: NANO AND MICRO TECHNOLOGIES

Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: A 3D-Printed MicroTesla-Enable Microfluidic Platform for 3T3L1 Culturing and Differentiation

Presenter: Kai Duan

Principal Investigator: N/A

Author(s):

Joe Lo

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 519

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Volatile Response of Lung Cells Following Pathway Perturbation

Presenter: Abhinav Bhushan

Principal Investigator: Abhinav Bhushan

Author(s):

Micah Oxner

Jhalak Mehta

Allyson Trang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: O, Poster
Number: 520

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Modeling neuroepithelial connections in the gut using a novel microfluidic device

Presenter: Jose de Hoyos Vega

Principal Investigator: Alexander Revzin

Author(s):

Jose de Hoyos Vega

Xi Yu

Alan Gonzalez-Suarez

Arnaldo Mercado-Perez

Brooke Druliner

David Linden

Arthur Beyder

Alexander Revzin

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 541

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Dielectrophoresis Reveals Dynamic Changes in Red Blood Cells (RBC's) Due to Experimental Handling

Presenter: Timothy Swimmer

Principal Investigator: Erin Henslee

Author(s):

Sydney Joseph

Erin Henslee

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 542

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: Synthesis And Characterization Of Polyester-Polyamide Thin Film Composites For Water Purification

Presenter: Mariah Turner

Principal Investigator: Natalie Y. Arnett

Author(s):

Natalie Arnett

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster

Number: 543

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: Toward Early Diagnosis of Sepsis via Filtration-Based Separation of Bacteria from Blood and Digital Melt-Based Detection

Presenter: Matthew Park

Principal Investigator: N/A

Author(s):

Tza-Huei Wang

Kuangwen Hsieh

Liben Chen

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster

Number: 544

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems (Summer Undergraduate)

Abstract Title: Assessing CAR T-Cell Potency Using a Glioblastoma-on-Chip Platform

Presenter: Lilly Speier

Principal Investigator: Lohitash Karumbaiah

Author(s):

Amin Davarzani

Leidong Mao

Krishanu Saha

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster

Number: 545

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems (Summer Undergraduate)

Abstract Title: Versatile Fabrication of Perfusable Human Microvessels with a Commercially Available 3D Printer

Presenter: Sara Meehan

Principal Investigator: William Polacheck

Author(s):

Stephanie Huang

Sarah Kubik

William Polacheck

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster

Number: 546

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems (Summer Undergraduate)

Abstract Title: Effect of PEDOT:PSS on Electrode Impedance within a Multielectrode Array Brain-on-a-Chip Model

Presenter: Kaleigh Smith

Principal Investigator: Jeffrey Zahn

Author(s):

Denise Robles

Jeffrey Zahn

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 547

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems (Summer Undergraduate)

Abstract Title: Clogging-Free Intracellular Microfluidic Delivery Platform
Presenter: Soohyun Jeon
Principal Investigator: Aram Chung
Author(s):
 Aram Chung
 Gi-Beom Kim

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 548

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Mechanophenotyping of Cells by a Microfluidic Constriction Device Shows Similar Patterns to CD44-Associated Elastic Moduli Distributions
Presenter: Graylen Chickering
Principal Investigator: Eric Darling
Author(s):
 Eric Darling
 Ryan Dubay
 vera fonseca

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 549

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Machine learning nanosensor array to detect a disease fingerprint from serum
Presenter: Mijin Kim
Principal Investigator: N/A
Author(s):
 N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 550

Track: NANO AND MICRO TECHNOLOGIES
Molecular Sensors and Nanodevices for Diagnostics and Biomedical Imaging

Abstract Title: Perfluorocarbon-modified Dyes to Enhance Activatable Strategies in Cancer Imaging and Therapy
Presenter: Pavel Tsitovich
Principal Investigator: Konstantin Sokolov
Author(s):
 Maryam Hatamimoslehabadi
 Dmitry Nevozhay
 Sangheon Han
 Alexander Schill
 Kirill Larin
 Konstantin Sokolov

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 551

Track: NANO AND MICRO TECHNOLOGIES
**Molecular Sensors and Nanodevices
 for Diagnostics and Biomedical Imaging
 (Summer Undergraduate)**

Abstract Title: Stimuli-Responsive Surface Coatings
 for Molecular Imaging with T2 MRI Contrast Agents
Presenter: Dylan Ines
Principal Investigator: Vicki Colvin
Author(s):
 Vicki Colvin

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 552

Track: NANO AND MICRO TECHNOLOGIES
**Molecular Sensors and Nanodevices
 for Diagnostics and Biomedical Imaging
 (Summer Undergraduate)**

Abstract Title: Tuning Pore Size of Porous Silicon
 to Detect IgG Concentrations in Serum for Machine
 Learning Applications in Diagnostics
Presenter: Gianna Paier
Principal Investigator: Sharon Weiss
Author(s):
 Simon Ward
 Sharon Weiss

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 553

Track: NANO AND MICRO TECHNOLOGIES
**Molecular Sensors and Nanodevices
 for Diagnostics and Biomedical Imaging
 (Summer Undergraduate)**

Abstract Title: Comparison of Passive and Active
 Microrheological Techniques in the Characterization
 of Semi-Synthetic Mucus
Presenter: Kellan Moore
Principal Investigator: Jamel Ali
Author(s):
 Yating Mao
 David Quashie
 Jamel Ali

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 554

Track: NANO AND MICRO TECHNOLOGIES
**Micro/Nano Fluidic Engineering, Lab-
 on-Chip and Organ-on-Chip Systems**

Abstract Title: A Microfluidic Platform With
 Integrated ECIS Electrodes For Biological Barrier
 Modeling
Presenter: Alisa Ugodnikov
Principal Investigator: N/A
Author(s):
 Alisa Ugodnikov
 Joy Lu
 Craig Simmons

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 555

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Quantifying Breast Cancer Intravasation, Extravasation and Angiogenesis Using High Throughput Assays
Presenter: Awurama Ofori - Kwafo
Principal Investigator: N/A
Author(s):
Indira Sigdel
Robert Heizelman
Yuan Tang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 556

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Nanostructured microfluidics for high-throughput gene delivery and rapid plasmid DNA expression
Presenter: Apresio Kefin Fajrial
Principal Investigator: N/A
Author(s):
Ian Elliott
Xiaoyun Ding

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 557

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Microphysiological Systems To Study Memory-Like NK Cell Immunotherapy For Patients with HIV+ Cancer
Presenter: Catherine McBain
Principal Investigator: N/A
Author(s):
Catherine McBain
Maria Virumbrales-Muñoz
Rebecca Schmitz
Cristina Sanchez de Diego
Melissa Skala
David Beebe
Jose Ayuso

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster
Number: 558

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Standard 96-Well Based High Throughput Microfluidic Perfusion Biofilm Reactor
Presenter: David McLeod
Principal Investigator: N/A
Author(s):
David McLeod
Lai Wei
Zhenyu Li

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster**Number:** 559**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems****Abstract Title:** Development of μ Machined Parylene Electroactive Membranes with Microfluidics for LOC Applications**Presenter:** Fernando Antonio**Principal Investigator:** Rebolledo Uscanga**Author(s):**

Jeffrey Zahn

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: P, Poster**Number:** 560**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems****Abstract Title:** Automated Microfluidics Co-culture Platform (AMCP) for Studying Neuroinflammation**Presenter:** Heritier Adam**Principal Investigator:** N/A**Author(s):**

Caroline Jones

Michael Burton

Ritika Nayak

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster**Number:** 581**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems****Abstract Title:** Development of an ultrasound-transparent organ-on-chip platform towards modeling bubble-assisted focused ultrasound (BAFUS) cellular barrier disruption**Presenter:** Jian Gu**Principal Investigator:** N/A**Author(s):**

Frederic Zenhausern

Adam Akkad

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster**Number:** 582**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems****Abstract Title:** Native Plasma Membrane on a Chip for in vitro Single-Molecule Investigations**Presenter:** Jonathan Weerakkody**Principal Investigator:** Sathish Ramakrishnan**Author(s):**

Sathish Ramakrishnan

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster**Number:** 583**Track:** NANO AND MICRO TECHNOLOGIES**Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems****Abstract Title:** All-Plastic Integrated Modular Fluidic System: Selection and Enumeration of Biological Nanoparticles**Presenter:** Kathryn Childers**Principal Investigator:** N/A**Author(s):**

Kathryn Childers

Steven Soper

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 584

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Design of a Novel In Vitro Platform for Mechanistic Probing of Bone-Vascular Interactions

Presenter: Kathryn Benedict

Principal Investigator: N/A

Author(s):

Kathryn Benedict

Sandra Stangeland-Molo

Michael Daniele

Jacqueline Cole

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 585

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Thermo-Fluidic Coupling Induced Cell Adhesion On Substrate In The Presence Of Micro Fins

Presenter: Kunal Mitra

Principal Investigator: N/A

Author(s):

Saurabh Gupta

Arindam Bit

ARUPJYOTI KAKATI

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 586

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Industrial-Scale Fabrication of Low-Cost Microfluidic Devices

Presenter: Liza White

Principal Investigator: N/A

Author(s):

Caitlin Howell

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 587

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Impedance-based CAR T Cell Identification after T-Cell Transduction: Towards the Development of a Label-free Tool in Cell Manufacturing Technologies

Presenter: Marco Becerra-Arias

Principal Investigator: N/A

Author(s):

Valerie Perez Medina

Ruben Diaz Rivera

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster

Number: 588

Track: NANO AND MICRO TECHNOLOGIES

Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: A Continuous Flow Cell Culture System for Precision Cell Stimulation and Time-Resolved Profiling of Cell Secretion

Presenter: Patrick Erickson

Principal Investigator: N/A

Author(s):

Gunjan Jetley

Param Amin

Aamena Mejevdiwala

Ashna Patel

Raphaella Imbriani Bento

Yadiel Varela-Soler

Himani Chavda

Charles Roth

Biju Parekkadan

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster

Number: 589

Track: NANO AND MICRO TECHNOLOGIES

Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Microvascular on chip revealed red blood cell adhesion on red cell extracellular vesicle activated endothelium mediated by von willebrand factor

Presenter: An Ran

Principal Investigator: N/A

Author(s):

utku goreke

Jane Little

Umut Gurkan

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster

Number: 590

Track: NANO AND MICRO TECHNOLOGIES

Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Exploring the Size Dependence of Patient-Derived Organoids Enabled by a Novel Silicon μ Dicer

Presenter: Seth Cordts

Principal Investigator: N/A

Author(s):

Seth Cordts

Vinh Dao

DALIN ZHANG

Saisneha Koppaka

James Brooks

Donna Peehl

Sindy Kam Yan Tang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster

Number: 591

Track: NANO AND MICRO TECHNOLOGIES

Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Structured hydrogel microcapsules for understanding cell physiology in a chronic wound biofilm community

Presenter: Shawna Pratt

Principal Investigator: Connie B. Chang

Author(s):

Connie Chang

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 592

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Immunomagnetic Separation Chip, Target Cells Separation for Medical Diagnosis

Presenter: Heesik Shin

Principal Investigator: N/A

Author(s):

Heesik Shin

Suyeon Shin

Hyogeun Yun

JUNSEOK HWANG

Sungyoung Choi

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 593

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Millifluidic Platforms for Cultivation and Biomechanical Studies of Dendroaer Excentricus

Presenter: Siavash Ahrar

Principal Investigator: N/A

Author(s):

Moses Villeda

Akue Adjovi Brenda Beni Ametepe

Douglas Pace

siavash ahrar

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 594

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: A Microfluidic Viscometer based on Micropillar Deflection and Machine Learning

Presenter: Melikhan Tanyeri

Principal Investigator: Melikhan Tanyeri

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 595

Track: NANO AND MICRO TECHNOLOGIES
Micro/Nano Fluidic Engineering, Lab-on-Chip and Organ-on-Chip Systems

Abstract Title: Using Design of Experiments Methodology for Optimizing Microfluidic Designs for Delivery in HSPCs

Presenter: Tiffany Dunn

Principal Investigator: N/A

Author(s):

Tiffany Dunn

Jocelyn Loo

Ian Sicher

Ockchul Kim

Alla Zamarayeva

Sewoon Han

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster

Number: 596

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: Improving the Limit of Detection of a Low-cost Optical Cavity-based Biosensor

Presenter: Aidan Hagemann

Principal Investigator: N/A

Author(s):

Savanah Smith

Marzhan Sypabekova

Seung Kim

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster

Number: 597

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: 3D Printed Microfluidic Assay for Cortisol Detection via a Noninvasive Wearable Device

Presenter: Alexis Warchock

Principal Investigator: N/A

Author(s):

Joe Lo

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster

Number: 598

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: Microneedle-based Sampling of Dermal Interstitial Fluid for Diagnostic Testing

Presenter: Elizabeth Wilkerson

Principal Investigator: N/A

Author(s):

Elizabeth Wilkerson

Xue Jiang

Peter Lillehoj

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster

Number: 599

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: Mini Hydrocyclone: Continuous Flow Cell Centrifugation

Presenter: Josiah Rhome

Principal Investigator: N/A

Author(s):

Batoul Dabajeh

Josiah Rhome

Benson Hang

Reem Omer

Joe Lo

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: Q, Poster
Number: 600

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: Ultrasound-based Implantable Pressure Sensor to Diagnose Shunt Failure

Presenter: Cecilia Luna

Principal Investigator: N/A

Author(s):

Cecilia Luna

Saeyoung Kim

Bowen Jing

Priscilla Delgado

Brooks Lindsey

David Myers

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 621

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: Amphiphilic Silicones for the Dispersion of Carbon Nanotubes

Presenter: Lucas Lott

Principal Investigator: N/A

Author(s):

Alec Marmo

Jackson Pickett

Melissa Grunlan

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 622

Track: NANO AND MICRO TECHNOLOGIES
Other / Non-specified (Implantable systems, flexible/wearable systems, 3D printing/bioprinting, tools to study and manipulate the microbiome, courses and training approaches, etc.)

Abstract Title: Master Mold Multiplication into Polycarbonate Sheets for Biomedical Microfabrication

Presenter: Utku Sonmez

Principal Investigator: N/A

Author(s):

Stephen Coyle

Rebecca Taylor

Utku Sonmez

Philip LEDUC

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 623

Track: NEURAL ENGINEERING
Other / Non-specified

Abstract Title: Platelet-Inspired Drug Delivery Vehicle Targets Brain Implanted Microelectrodes

Presenter: Dhariyat Menendez

Principal Investigator: N/A

Author(s):

Dhariyat Menendez

Longshun Li

Danny Lam

Anna Pogharian

Brett Zaorski

Anirban Sen Gupta

Jeffrey Capadona

Andrew Shoffstall

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 624

Track: NEURAL ENGINEERING
Other / Non-specified (Summer Undergraduate)

Abstract Title: Evaluating the Route of Systemic Administration for Platelet-Inspired Nanoparticles for Targeting Brain-Implanted Microelectrodes
Presenter: Elizabeth Jitendran
Principal Investigator: Andrew Shoffstall
Author(s):
Dharyat Menendez
Longshun Li
Anna Pogharian
Brett Zaorski
Anirban Sen Gupta
Jeffrey Capadona
Andrew Shoffstall

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 625

Track: NEURAL ENGINEERING
Other / Non-specified (Summer Undergraduate)

Abstract Title: Eye Tracking to Measure Parkinsonism in a Nonhuman Primate Model of Parkinson's Disease
Presenter: Mark Connolly
Principal Investigator: Oluwatobi Arogundade, Annaelle Devergnas
Author(s):
Oluwatobi Arogundade
Mark Connolly
Anne-Caroline Martel
Adriana Galvan
Thomas Wichmann
Annaelle Devergnas

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 626

Track: NEURAL ENGINEERING
Neural Device Interfaces

Abstract Title: NeuroString: a tissue-like neurochemical sensor for brain and gut
Presenter: Jinxing Li
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 627

Track: NEURAL ENGINEERING
Neural Device Interfaces

Abstract Title: Machine Learning Evaluation of Multichannel Battery-Free Wireless Neuropotential Recorder
Presenter: Melany Gutierrez Hernandez
Principal Investigator: N/A
Author(s):
Melany Gutierrez Hernandez
Carolina Moncion
Satheesh Bojja Venkatakrishnan
Jorge Riera
John Volakis

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 628

Track: NEURAL ENGINEERING
Neural Device Interfaces

Abstract Title: Microelectrode arrays for simultaneous electrophysiology and advanced brain imaging

Presenter: Sagnik Middy

Principal Investigator: N/A

Author(s):
 N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 629

Track: NEURAL ENGINEERING
Neural Device Interfaces

Abstract Title: Shape-morphing Materials for Deployable Intracortical Probes

Presenter: Mahjabeen Javed

Principal Investigator: Taylor Ware

Author(s):
 Joseph Pancrazio
 Taylor Ware

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 630

Track: NEURAL ENGINEERING
Neural Device Interfaces

Abstract Title: Multivariate Analyses Show Topography Dependent Relationships Amongst Neurite Morphological Features

Presenter: Derek Nelson

Principal Investigator: Ryan J. Gilbert

Author(s):
 Derek Nelson
 Devan Puhl
 Jessica Funnell
 Uwe Kruger
 Ryan Gilbert

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 631

Track: NEURAL ENGINEERING
Neural Device Interfaces

Abstract Title: Shell Microelectrode Arrays (MEAs) for brain organoids

Presenter: Qi Huang

Principal Investigator: N/A

Author(s):
 Gayatri Pahapale
 David Gracias
 Lena Smirnova
 Fang Han
 ZHao Qin
 Mallory Solazzo
 CAROLINA ROMERO
 Itzy Morales Pantoja

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster

Number: 632

Track: NEURAL ENGINEERING

Neural Device Interfaces

Abstract Title: EEG Noise Removal using Tripolar Concentric Ring Electrodes and Canonical Correlation Analysis

Presenter: Scott Phillips

Principal Investigator: N/A

Author(s):

Andrew Nordin

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster

Number: 633

Track: NEURAL ENGINEERING

Other / Non-specified

Abstract Title: Morphological Interictal Spike Analysis for Seizure Onset Zone Localization

Presenter: Carlos Aguila

Principal Investigator: N/A

Author(s):

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster

Number: 634

Track: NEURAL ENGINEERING

Other / Non-specified

Abstract Title: The Development of Chronic Pain Symptoms Following Blast Neurotrauma

Presenter: Amirah Wright

Principal Investigator: N/A

Author(s):

Pamela VandeVord

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster

Number: 635

Track: NEURAL ENGINEERING

Other / Non-specified

Abstract Title: Progress Towards Remote Neurostimulation of SH-SY5Y In Vitro

Presenter: David Hall

Principal Investigator: Jon Dobson

Author(s):

Kevin Otto

Jon Dobson

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster

Number: 636

Track: NEURAL ENGINEERING

Other / Non-specified

Abstract Title: Liberal vs. Conservative Artifact Reduction in Quantitative EEG: Impact on ICU Delirium Detection

Presenter: Narenkumar Thirimiya

Principal Investigator: N/A

Author(s):

Shawniqua Williams Roberson

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 637

Track: NEURAL ENGINEERING
Other / Non-specified

Abstract Title: Non-invasive Monitoring of Gene Expression in the Brain with Synthetic Serum Markers

Presenter: Sangsin Lee

Principal Investigator: N/A

Author(s):

Sangsin Lee

Shirin Nouraein

James Kwon

Zhimin Hunag

Jerzy Szablowski

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 638

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Musculoskeletal Stem Cell Engineering

Abstract Title: Selective Mineralization of Nanofibers for Enthesis Repair

Presenter: Gabrielle Hamner

Principal Investigator: Justin Brown

Author(s):

Justin Brown

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 639

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Musculoskeletal Stem Cell Engineering

Abstract Title: Leptin Drives the Regulation of Muscle Mass and Strength by Adipose Tissue

Presenter: Gretchen Meyer

Principal Investigator: N/A

Author(s):

Kelsey Collins

Chang Gui

Erica Ely

Kristin Lenz

Charles Harris

Farshid Guilak

Gretchen Meyer

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: R, Poster
Number: 640

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Musculoskeletal Stem Cell Engineering

Abstract Title: Transcriptional Evidence for Paracrine Signaling between Brown Adipose Tissue and Regenerating Muscle

Presenter: Chang Gui

Principal Investigator: N/A

Author(s):

Gretchen Meyer

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 661

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Musculoskeletal Stem Cell Engineering

Abstract Title: MiRNA Induced 3D Bioprinted-Heterotypic Osteochondral Interface
Presenter: Nazmiye Celik
Principal Investigator: Daniel J Hayes, Ibrahim T Ozbolat
Author(s):
Daniel Hayes
Myoung Hwan Kim
Ibrahim Ozbolat

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 662

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: MicroCT Comparison of Human and Bovine Bony Vertebral Endplates
Presenter: Anton Bowden
Principal Investigator: N/A
Author(s):
Anton Bowden
Megan Stickley
Danni Porter

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 663

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: Patient-Specific Finite Element Modeling of Scoliotic Curve Progression using Region-Specific Stress-Modulated Vertebral Growth
Presenter: Christian D'Andrea
Principal Investigator: Sriram Balasubramanian
Author(s):
Amer Samdani
Sriram Balasubramanian

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 664

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: The Effects One-Level and Two-Level Lumbar Fusion Surgery on Adjacent Segment Compensation
Presenter: Denis DiAngelo
Principal Investigator: N/A
Author(s):
Perri Johnson
Lyndsey Bouve
Chase Mareno

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 665

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: Automated Vertebral Segmentation
using a Convolutional Neural Network

Presenter: Girish Viraraghavan

Principal Investigator: N/A

Author(s):

Ausilah Alfraihat

Amer Samdani

Sriram Balasubramanian

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 666

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: Simulated Ligament Response of the
Cervical Spine in Human Volunteers During Frontal
Impact

Presenter: Jesse Gerringe

Principal Investigator: N/A

Author(s):

Jesse Gerringe

Karthik Somasundaram

Frank Pintar

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 667

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: Local Delivery of FK506 Induces
Osteogenesis in in-vivo Rat and Rabbit Models

Presenter: Julia Harrer

Principal Investigator: N/A

Author(s):

Julia Harrer

Travis Fulton

Sreedhara Sangadala

Jarred Kaiser

Emily Foerster

Scott Boden

Nick Willett

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 668

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: A Comparison of Standard Methods
to Measure Static Axial Torque of Spinal Fixation
Subassemblies.

Presenter: Kennedy Coplen

Principal Investigator: N/A

Author(s):

Zac Dooley

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 669

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: Improving Bone Screw Pullout
Testing: Investigating the Impact of Bone Foam Size
Presenter: Zac Dooley
Principal Investigator: N/A
Author(s):
Sarah Pickering

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 670

Track: ORTHOPAEDIC AND
REHABILITATION ENGINEERING
Spine and Intervertebral Disc

Abstract Title: Effect of Anterior Vertebral Body
Tether Breakage on Curve Correction in Adolescent
Idiopathic Scoliosis Patients
Presenter:
Ausilah
Alfraihat
Principal Investigator: N/A
Author(s):
Amer Samdani
Sriram Balasubramanian

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 671

Track: TISSUE ENGINEERING
Other / Non-specified

Abstract Title: Novel Bioreactor for Enhanced
Fluid Flow and Electrical Stimulation of Engineered
Excitable Tissues
Presenter: Joseph Licata
Principal Investigator: Peter Lelkes
Author(s):
Peter Lelkes
Yah-el Har-el

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 672

Track: TISSUE ENGINEERING
Other / Non-specified

Abstract Title: Development of 3D Fibrosis Models-
Effect of Critical ECM Components on Fibroblast
Function
Presenter: Khanh Tran
Principal Investigator: Perla Ayala
Author(s):
Perla Ayala
Kim Hor Keu
Jane Zavala
Julie Le

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 673

Track: TISSUE ENGINEERING
**Engineering Replacement Tissues
(Summer Undergraduate)**

Abstract Title: Bioabsorbable Interlocked Nail System for 3D Printed Segmental Bone Defect
Presenter: Amarachukwu Oti
Principal Investigator: N/A
Author(s):
N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 674

Track: TISSUE ENGINEERING
**Engineering Replacement Tissues
(Summer Undergraduate)**

Abstract Title: Physiochemical Characterization of Live and Dead Bovine Chondrocytes
Presenter: Nehal Abu-Lail
Principal Investigator: Abraham Rodriguez
Author(s):
Lindsey Attebery
robert stannert
Abraham Rodriguez

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 675

Track: TISSUE ENGINEERING
Other / Non-specified (Summer Undergraduate)

Abstract Title: In Vitro Human Lung Fibroblast-to-Myofibroblast Transition Stimulated by Profibrotic Growth Factors
Presenter: Catherine Sano
Principal Investigator: Shayn Peirce-Cottler
Author(s):
N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 676

Track: TISSUE ENGINEERING
Other / Non-specified (Summer Undergraduate)

Abstract Title: Engineering 3D Fibrosis Models- Effect of Physical and Biochemical Factors
Presenter: Gabriela Pena Carmona
Principal Investigator: Perla Ayala
Author(s):
Simon Galleta
Daniel Ramos
Alyssa Alfaro
Madison Rivero
Hector Toro Estrella
Perla Ayala

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 677

Track: TISSUE ENGINEERING
Stem Cells In Tissue Engineering and Disease Modeling (Summer Undergraduate)

Abstract Title: Mechanobiology of the Aortic Heart Valve and the Influence of X-Chromosome Dosage on Aortic Endothelium in Pathophysiological Shear
Presenter: Akhil Adusumilli
Principal Investigator: K. Jane Grande-Allen
Author(s):
Jane Grande-Allen

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 678

Track: TISSUE ENGINEERING
Engineering Replacement Tissues

Abstract Title: Engineered Lymphatic Flap as Replacement for Lymph Vessel Transfer
Presenter: Alvis Chiu
Principal Investigator: Feng ZHao
Author(s):
Feng ZHao

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 679

Track: TISSUE ENGINEERING
Engineering Replacement Tissues

Abstract Title: Matrix Degradability Promotes the Development of Salivary Progenitor Cells with Secretory Functions
Presenter: Apoorva Metkari
Principal Investigator: N/A
Author(s):
Eric Fowler
Xinqiao Jia
Apoorva Metkari

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: S, Poster
Number: 680

Track: TISSUE ENGINEERING
Engineering Replacement Tissues

Abstract Title: Stem Cell-Laden Microspheres as Building Blocks for Large Cardiac Tissue Production
Presenter: Justin Harvell
Principal Investigator: N/A
Author(s):
Mohammadjafar Hashemi
Elizabeth Lipke

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 701

Track: TISSUE ENGINEERING
Engineering Replacement Tissues

Abstract Title: Methods to Improve Islet Transplantation Outcomes with Pre-Induced HIF-1 α Upregulation on Min6 Cells
Presenter: Cynthia Perez
Principal Investigator: N/A
Author(s):
Tejal Desai
Phillip Messersmith

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 702**Track:** TISSUE ENGINEERING**Engineering Replacement Tissues****Abstract Title:** Neutrophil Survival on Bioengineered Human Acellular Vessels Supports Infection Resistance**Presenter:** Juan Wang**Principal Investigator:** N/A**Author(s):**

Shelby Blalock

Heather Prichard

Laura Niklason

Robert Kirkton

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 703**Track:** TISSUE ENGINEERING**Engineering Replacement Tissues****Abstract Title:** The influence of substrate stiffness and biochemistry on retinal cell fate**Presenter:** Kristan Worthington**Principal Investigator:** N/A**Author(s):**

Rion Wendland

Brittany Allen

Budd Tucker

Kristan Worthington

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 704**Track:** TISSUE ENGINEERING**Engineering Replacement Tissues****Abstract Title:** Silk-Extracellular Matrix Patches for Repair of Congenital Heart Defects**Presenter:** Lauren Black**Principal Investigator:** N/A**Author(s):**

Elizabeth Porter

Whitney Stoppel

David Kaplan

Raymond Kudej

Lauren Black

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 705**Track:** TISSUE ENGINEERING**Engineering Replacement Tissues****Abstract Title:** Bio-inspired Modification of Collagen Hydrogels to Achieve High Extensibility for Auricular Tissue Engineering**Presenter:** Leigh Slyker**Principal Investigator:** N/A**Author(s):**

N/A

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 706**Track:** TISSUE ENGINEERING**Engineering Replacement Tissues****Abstract Title:** The In Vitro Assembly of Tissue Specific ECM via Cellular Deposition**Presenter:** Lisa Salmeron**Principal Investigator:** N/A**Author(s):**

Joshua Morgan

Esther Chin

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 707

Track: TISSUE ENGINEERING
Engineering Replacement Tissues

Abstract Title: Fibrin Hydrogel Promotes Regeneration of Collecting Lymphatic Vessels Following Injury

Presenter: Mohammad Razavi

Principal Investigator: N/A

Author(s):

Mohammad Razavi

Timothy Padera

Lance Munn

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 708

Track: TISSUE ENGINEERING
Other / Non-specified

Abstract Title: Engineered Liver Platforms to Investigate Species Differences in the Metabolism of Toxicants

Presenter: Ashlin Michell

Principal Investigator: N/A

Author(s):

Grace Brown

Alan Valdiviezo

Ivan Rusyn

Ashlin Michell

Salman Khetani

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 709

Track: TISSUE ENGINEERING
Other / Non-specified

Abstract Title: Exploration Of Decellularized Plant-Based Scaffolds Demonstrates Potential for Tissue Engineering Applications

Presenter: Ashlee Harris

Principal Investigator: N/A

Author(s):

Jerome Lacombe

Frederic Zenhausern

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 710

Track: TISSUE ENGINEERING
Other / Non-specified

Abstract Title: Investigation of Manuka Honey Inspired Therapeutics for Prevention of Neutrophil-Induced Fibrosis

Presenter: Evan Main

Principal Investigator: Gary Bowlin

Author(s):

Gary Bowlin

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 711

Track: TISSUE ENGINEERING
Other / Non-specified

Abstract Title: Morphometric Analysis of Elastic Matrix Structural Changes in Abdominal Aortic Aneurysm (AAA) Patients with Large Aneurysms

Presenter: Francesca Morrell

Principal Investigator: N/A

Author(s):

Shataakshi Dahal

Anand Ramamurthi

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 712**Track:** TISSUE ENGINEERING**Other / Non-specified****Abstract Title:** The Impact of FAK Phosphorylation and EPA on Hepatic Functionality and Fibrosis in 3D Cultures**Presenter:** Lindsey Kirk**Principal Investigator:** N/A**Author(s):**

Nathaniel Hauser

Hannah LaMond

Chia Chi Key

Aleksander Skardal

Elaheh Rahbar

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 713**Track:** TISSUE ENGINEERING**Other / Non-specified****Abstract Title:** Expanding the Cell-Adhesion Peptide Library for Tissue Engineering Applications**Presenter:** Marina Yu**Principal Investigator:** N/A**Author(s):**

Marina Yu

Brett Pogostin

Kevin McHugh

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 714**Track:** TISSUE ENGINEERING**Other / Non-specified****Abstract Title:** Effect of Ellagic acid and retinoic acid on Elastin Deposition by Human Dermal Fibroblasts**Presenter:** Nasim Nosoudi**Principal Investigator:** N/A**Author(s):**

Jada Stutts

Chloe Duckworth

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 715**Track:** TISSUE ENGINEERING**Other / Non-specified****Abstract Title:** Multi-model Therapeutic Nanoparticles for Spinal Cord Injury Repair**Presenter:** Suneel Kumar**Principal Investigator:** N/A**Author(s):**

Thomas Theis

Rick Cohen

Francois Berthiaume

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: T, Poster**Number:** 716**Track:** TISSUE ENGINEERING**3D Bioprinting and Patterning of Tissues****Abstract Title:** Initial Improvements in Cochlear Stria Vascularis Cell Lines with 3D Cell Culturing**Presenter:** Tobias Florida Campos de Souza**Principal Investigator:** Robert Frisina**Author(s):**

N/A

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 717

Track: TISSUE ENGINEERING
Engineering Replacement Tissues

Abstract Title: Bioengineered Scaffold Encourages Human Skeletal Myotube Formation In-Vitro

Presenter: Megan Lauder
Principal Investigator: Lauder
Author(s):
Megan Lauder
Sanaa Waliuddin
Shannon Chaffin
Perla Ayala

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 718

Track: WOMEN'S HEALTH
Cancers of female Organs

Abstract Title: Multi-Compartment Fallopian Tube Organoids

Presenter: Ashleigh Crawford
Principal Investigator: Denis Wirtz
Author(s):
Denis Wirtz

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 719

Track: WOMEN'S HEALTH
Cancers of female Organs

Abstract Title: Isothermal Human Papillomavirus (HPV16) DNA Amplification Assay for Cervical Cancer Screening

Presenter: Ana Claire
Principal Investigator: Jacqueline C. Linnes
Author(s):
Luke Brennan
Jacqueline Linnes

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: T, Poster
Number: 720

Track: WOMEN'S HEALTH
Cancers of female Organs (Summer Undergraduate)

Abstract Title: Ethyl Cellulose Injector for Cervical Pre-Cancer Ablation in Low- and Middle-Income Countries

Presenter: David Garvey
Principal Investigator: Martha Wang
Author(s):
Kevin Aroom
Jenna Mueller
Martha Wang
Venkata Polavarapu Sarojasamhita

Friday, October 14

2:30 PM - 3:30 PM

Poster Session: D, Section: E, Row: U, Poster
Number: 727

Track: WOMEN'S HEALTH
Cancers of female organs

Abstract Title: HPV Rapid Test Design Informed by Clinician Preferences for Cervical Cancer Screening

Presenter: Luke Brennan
Principal Investigator: Natalia Rodriguez
Author(s):
Natalia Rodriguez
Jacqueline Linnes

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: U, Poster
Number: 728**Track:** WOMEN'S HEALTH**Sex-related Differences in Chronic Diseases****Abstract Title:** Lupus in a Dish: Investigating Ancestral Contribution to Monocyte Function**Presenter:** Holly Ryan**Principal Investigator:** N/A**Author(s):**

Mark Segal

Erika Moore

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: U, Poster
Number: 729**Track:** WOMEN'S HEALTH**Cancers of female organs****Abstract Title:** Quantitative Imaging to Assess the Impact of Autologous Breast Reconstruction on Bra Fit**Presenter:** Mia Markey**Principal Investigator:** Mia K. Markey**Author(s):**

Yen-Tung Liu

Nova Khan

Mary Catherine Bordes

Greg Reece

Ashleigh Francis

Fatima Merchant

Mia Markey

Friday, October 14**2:30 PM - 3:30 PM****Poster Session:** D, Section: E, Row: U, Poster
Number: 730**Track:** WOMEN'S HEALTH**Endometriosis****Abstract Title:** A Biomimetic Model of the Fallopian tube to Study on Relationship between Endometriosis and Fallopian tube Epithelial Cells**Presenter:****Principal Investigator:** N/A**Author(s):**

Young Yang

Jungbok Lee

Woo Yeol Baek

Young Min Shin

Friday, October 14**12:00 AM - 12:00 AM****Poster Session:** C, Section: C, Row: H, Poster
Number: 208**Track:** BIOMECHANICS**Abstract Title:** Genotoxic Stress- and Oxidative Stress-Induced DNA Damage and Senescence in Vascular Endothelial Cells**Presenter:** Erick Munoz**Principal Investigator:** N/A**Author(s):**

N/A

Friday, October 14**12:00 AM - 12:00 AM****Poster Session:** C, Section: E, Row: U, Poster
Number: 723**Track:** WOMEN'S HEALTH**Other / Non-specified****Abstract Title:** Sex Difference in Average Brainscase Size Can Increase the Average Translational Coup Contrecoup Brain Injury Threshold for Women**Presenter:** Anne Staples**Principal Investigator:** N/A**Author(s):**

Mrigank Dhingra