



University of Delaware

# Undergraduate Research Winter Showcase, Scholarly and Creative Works

February 15, 2023

Welcome to the Undergraduate Research Winter Showcase! Please find below a scheduled list of our wonderful presenters. Thank you for attending, and please take a boxed lunch at your own convenience.

## **12:00-12:10: Introduction/Setting Up**

### **12:10-12:35: 1<sup>st</sup> Lightning Talk**

Alexa Scotto	Illustration & Ceramics: Combining Sculpture and Painting into one
Alexandra Schaffer	Transgelin: Regulator of Myofibroblast Differentiation in Fibrosis
Laura Weinstein	Optimization of Fluorescent Cy5 Nanoparticles
Luke Fracek	Testing unique RNA Polymerases for their ability to use NAD <sup>+</sup> , NADH, as non-canonical initiating nucleotides
Qi Zhang	Peptide and hydrogel engineering: From controlled degradation system to on-demand enzymatically and cellularly responsive system
Shannon Rosen	Intervertebral disc segmentations of a spinal deformity model
Adam Bonar	Assessing the Impact of Hyperglycemia on the Endothelial Glycocalyx

### **12:40-1:00: 1<sup>st</sup> Poster Session**

Anoushka Buddhikot	Bioprospecting for a new Threonine Transaldolase (TTA) for the Synthesis of Droxidopa
Jan Ahmed	Synchronizing Expander Graphs
Alyson Molnar	The Interactive Effects of Prenatal Substance Exposure and Maternal Nurturance on Infant Brain Morphology
Caroline Bowers	Examining the Tropic Ecology of Clearnose Skates in Delaware Bay Using Stable Isotope Analysis
Daniel Sweeney	Data Collection for a senior thesis study on <i>The Stigmatizing Effects of Catholicism on the Understanding and Expression of Homosexuality among Emerging Adult Men</i>
Dhvanil Patel	Constructing a Heterostructure from MoS <sub>2</sub> and Fe <sub>5</sub> GeTe <sub>2</sub> Monolayers

Eliana Schulman	Exploring Maternal Nurturance Amongst Mothers with Opioid Dependence
Emma Archer	Associations Between Food Insecurity and Sleep in Preschool Children and their Parents
Emma Hudgins	Assessing Endothelial Cell Metabolism in Hyperglycemia: Expression of CD36
Erica Schoenfeld	The functional consequences of NAD <sup>+</sup> -capping on plasmid origin of replication transcript RNAI
Ishika Govil	Engineering a Microbial Chassis for Non-standard Amino Acid Biosynthesis and Incorporation
Jacob Hewes	Effects of Cell Migration on Polyethyleneimine/DNA Polyplex Transfection Efficacy and Mechanism
Jenna Loquercio	The Impact of Surgical Masks on Emotion Perception and Gender Identification
John Salsina-Tobias	Impact of vitamin B12 on the chemotaxis of <i>C. elegans</i> expressing neuronal amyloid-beta

### **1:05-1:30: 2<sup>nd</sup> Lightning Talk**

Aimes Skweres	Epigenetic Effects of a Spinal Cord Injury in Early Life
Amanda Reed	Willingness to Sacrifice Through Allyship and Commitment (WSAC)
Slade Goldman	ChemisTree: A Novel, Interactive Chemistry Game to Teach Students about Electron Configuration
Leah Colaizzi	A Visual Guide for Your Lungs
Obed Usenbor	The Effects Context has on Intuitive Learning
Catherine Clark	The Role of Extracellular Matrix Stiffness in the Male Pulmonary Endothelial Angiogenesis
Jenna Tomasch	FASH-A-LETES: Understanding High-Performance Sportswear Design and Research from the Inside Out

### **1:35-1:55: 2<sup>nd</sup> Poster Session**

Lindsey Wang	Fly and Stitch: Drone & Panoramic Image Processing
Rory Raymer	Optimizing In-Vitro Cultivation Techniques for Protozoans of the Equine Hind-gut
Sarah Gustafson	Investigation of Cell Type-Specific Loss within the Nucleus Reuniens in a Rodent Model of Fetal Alcohol Spectrum Disorder
Miguel Prysakar	Gene expression and methylation of the BDNF gene target in the MPFC of rodent pups exposed to predator odorants during repeated maternal separation
Shivam Chauhan	Probing the Design Limits of Additive Processing in Additive Manufacturing
Silo Murphy	Limit Theory of Cayley Graphs
Sophie Olson	Determining TRMT1-Protein Interaction Partners Through Proximity Labeling
Srinikhita Bommasamudram	Understanding the Thoiris System
Talia Collier	Pomegranate peel metabolite analysis through liquid chromatography-mass spectrometry
Talia Gillespe	An Investigation About the Interaction Between Exercise Habits and Emotion Regulation
Wendy Sanches-Rodriguez	Predicting Perceived Partner Responsiveness
Zsanaia Queen Badiang	Examining Patterns of DNA Methylation Data Missingness Among Mothers in Treatment for Opioid Use and Their Infants
Denise Becker	Ex vivo Culture of Femoral Heads Results in Osteoarthritis-like Gene Expression
Madeline Downer	Reconstructing North Atlantic Hydrography during a Geologic Warm Interval
Elina Rodriguez and Daria Willis	Lenape Edible Forest Garden
	The effects of maternal immune activation on cytokine expression in fetal brain, maternal hypothalamus, and maternal spleen



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