



University of Delaware

Winter Showcase of Undergraduate Research, Scholarly, and Creative Works

February 12th, 2025

Welcome to the Undergraduate Research Winter Showcase in partnership with UD's Library, Museums & Press! Please find below a scheduled list of our wonderful presenters.

12:00-12:05pm Introduction

12:05-12:35pm Lightning Talk Session 1

Abigail LaRussa	Wilmington Urban Heat Preparedness
Gabriel Ma	How do similar antibiotics have opposing effects on ClpC1
Isabella Lam	Marriage and Other Unexpected Parties: Queer Joy in Contemporary Shakespeare Adaptation
Yihong Chen	Illuminating AI Risks: Generative AI's Role in Enhancing Corporate Disclosure Introduction
Joseph Romano	Using predictive software to model maize root systems for pathogen related phenotypic analysis
Olivia Edmonds	For Black Girls Who Don't Fit In
Santo Carbo	Novel Oxidizing Agents in the Extraction of Critical Minerals from Acid Mine Drainage Solids
Yifan Ding	Interesting facts: Difference between Chinese and American sustainable fashion

12:40-1:00pm Poster Session 1

1- Aidan Gensure	Engineering Cutaneotrichosporon oleaginosus to Improve Growth from Agricultural Waste
2- Christina Sposato	Maternal attachment in relation to sensitivity at 13 year
3- Connor Kosinski	Effects of Serine and Threonine Phosphorylation on Serine-Proline cis-trans Isomerism
4- Conor Miller	Quantifying endothelial cell microvasculature in hydrogel cultures with varying levels of β -1 integrin expression
5- David Krupiarz	Application of Graph Signal Processing in construction of frames for ranked datasets
6- Emily Grim	Effects of caregiver substance use on sensitivity toward their child
7- Jackson Myers	Navigating Complex Terrain: Bioprinted Pathways Reveal Bacterial Collective Migration in Structured Environments
8- Jefferson Samuel	Enhancing Sodium-Rich Prussian White Cathodes for use in Long Life Batteries
9- Jillian Shelly	Targeted Degradation of Deubiquitinating Enzymes via CRBN-Proteolysis Targeting Chimera (PROTAC)
10- Kaitlin Lupinacci	Automation of the Synthesis of Disaccharide Capped Peptidoglycan Fragments
11- Krista Ristano	The Effects of Diurnal Cortisol Levels on the Development of Psychopathology in Middle Childhood
12- Laura Weinstein	Enhanced Targeting of Megakaryoblastic Leukemia for Inhibition of β -catenin using Cancer-Membrane Wrapped siRNA-PLGA Nanoparticles
13- Levi Bielewicz	Diffusion Studies of Aqueous Solutions of Polyethylene Glycol in Wood
14- Maryanne Porter	The Faces of Chilean Artisans: An Editorial Portrait Series
15- Mateo Torres	Assessing the Importance of Interactivity in Computer Science Education
16- Matthew Schwertfeger	The photovoltaic properties of Copper Iodide
17- Meredith Rhoades	Achilles Tendon Loading Rate and Impulse

18- Rena So	Relative Performance of Antibody Production in RMCE Derived Mini-pools and Clonal Cell Lines
19- Sarah Nolt	Methods of Quilt Construction in 19th and 20th Century Pennsylvania German Traditions
20- Sarah Pienkos	20 days of Blue
21- Vicken Karakashian	Pastel Advertising
22- Luke Coster	Protein Domain Automatic Classification

1:05-1:40pm Lightning Talk Session 2

Arwen Portilla	The C-terminal disordered region of the RNA helicase DeaD is required for cold shock growth in E. coli
Ethni Abiy	Senior Thesis: Exploring Cultural Biases of the Global North on the Global South's Wildlife Practices
Isaura Lopez-Valadez	Tracing Our Roots
Joseph Lenzo	Energy Development Around the World
Kelly Irwin	Investigating the Stigma of Voice Pathologies in Music Degree Programs
Megan MacWade	Effects of Intimate Partner Violence on Maternal Health and Children
Sophie Levine	Differences in Male and Female Prison Sentencing
Timothy Yarnall	Significance of IL-33 modulation and activation following oxygen deprivation
Tyler Rizak	Covariance-Based Radar Algorithms Under Heterogeneity in the Noise

1:45-2:05pm Poster Session 2

1- Angeline Bui	The Effect of Parental Substance Use on Child Cortisol Levels
2- Bailey Blewitt	Between Borders and Barriers: Understanding Immigration and Gender-Based Violence
3- Brea Scarlett	Crying Over Spilled Milk: A Historical Overview and Modern Analysis of EU-African Agricultural Trade
4- Connor McCleery	Optimization of polysulfide shuttling retention in LSBs
5- Danielle Przywara	Lineage Tracing for Maize Brace Roots
6- Emily Borell	Effects of Small-Molecule Inhibitors of FGFR, Integrins, and FAK on Glioblastoma Stem Cell Motility and Proliferation
7- Grace Kearns	Pro-Choice or Pro-Word Choice: An Analysis of Organizational Rhetoric Regarding Reproductive Healthcare
8- Grant Maxa	Exploring Carotid Pulsatility and Resistivity Index in Patients with Duchenne and Becker Muscular Dystrophy
9- Hanna White	Hydrophobins for Improved Plastics Binding and Bio-Deconstruction
10- Jillian Fader	Quantum Scrabble: An Interactive Chemistry Board Game to Strengthen Students' Understanding of Quantum Numbers
11- Lindsey Wang	Towards Low-Contrast Low-Feature 2D Biomedical Image Alignment
12- Logan Blackburn	Scalable Isosurface Extraction for Manifold 3D Mesh Generation
13- Marian Wehner	Changes of stem cell marker expression in glioblastoma cell lines grown in different media
14- Masoud Salim	CK2.1 Effectiveness in Inducing Chondrogenesis in DMM Mice
15- Morgan Oliver	Assessing Molecular Techniques for Plant Diagnostics
16- Olivia Szulc	Parental depressive symptoms related to parental commitment towards 2-year-old infant
17- Paige Ahlskog	Synthesis of Novel Glycopolymer Probes to Study Bacteria and Yeast
18- Ryan Burtson	Developing a Deep Learning Model to Assess and Predict Blueberry Flower Phenology
19- Sammy Alashoush	How To Find a Struggling Student: Analyzing Introductory Computer Science Course Data
20- Trevor Byles	UDP-Xase as a Novel mRNA Decapping Enzyme for 5' UDP Sugars
21- Miranda Protack	To Be A Women: Bodily Autonomy

2:15-2:35pm Poster Session 3

1- Alania Mariano	Hadzabe: Examining the Cultural Presence Through Fashion
2- Alexander Broadhurst	Image-Based Identification of Rodent Knee Tissue Types
3- Ashton Southwick	Brown Dwarf Spectra
4- Braden Rogers	Optimizing Hybrid Bacteria-Yeast Systems to Study MHC-II and Non-Standard Amino Acid Interactions for Vaccine Development
5- Elijah Sandy	Profit Motives and Racial Disparities: The Modern-Day Economic Exploitation of Black Communities in Prisons
6- Ethan Stoecjer	Sex Comparisons of Long Bone Structure-Function Relationships in Mice
7- Jacob Letnaunchyn	Synthesis of Palladium Sources for Organometallic Catalysis
8- James Martin	Modulating CD81 tetraspanin activity to control myotube development
9- Jessica Sitlinger	How does Numeracy Screener Performance Predict Fraction Booklet Performance, and What is the Nature of Their Correlation with Age?
10- Joseph Spagnolo	How Joy Contributes to Classroom Efficacy
11- Julianne Pheris	Investigating the Role of K05F1.1 in C. elegans Fertility
12- Kristine Osinuga	Different Frequency Band Correlation in the Interplay of Self-control, Reward Processing, and Ethical-Decision Making Particularly in the Context of Information Security
13- Margaret Sumerau	Unraveling the Role of Mitochondrial-Encoded Circular RNAs in Tumor Cells: Localization, Expression, and Functional Implications
14- Meghna Raj Annasagaram	MRI Differences in Triceps Surae due to Achilles Rupture and Achilles Tendinopathy
15- Mekhi Williams	Developing a High-Throughput Fluorometric Assay for Detecting Enzyme Activity on LDPE

16- Nya Wynn	Characterizing inhibitors of the metalloproteinase ADAM9
17- Sophia Burrowes	Butterfly Diagrams of Center of Pressure for Adaptive Treadmill Walking
18- Steven Giorgi	Reinforcement Learning Controller Design for a Quadraped Robot
19- Tayyaba Sajjad	Validating Anti-EDC1 Antibodies for ABCA4 Gene
20- Theresa Edery	Validating anti-EDC2 Antibodies of the ABCA4 gene for Western Blot Application
21- Zoe Cronin	Localization of Point-Like Stimuli Based on Activity in Visual Cortex

2:45-3:05pm Poster Session 4

1- Alex Mulrooney	Symmetric Generalized CP Tensor Decomposition
2- Amanda Jose	Epigenetic Effects of Prenatal Opioid Exposure: Assessing the Modified Attachment and Biobehavioral Catch-up Intervention on OXTR Methylation
3- Ansh Desai	A Neural-Enhanced Born Approximation
4- Ashna Patel	The Role of the Chondrocyte Actin Cytoskeleton in Mediating Inflammatory Cytokine Induced Cartilage Degeneration
5- Carmen Wynn-Santana	
6- Colin Horgner	Advances in Embedding-Wise Pooling Methods for Protein Language Models
7- Daniel Strunge	Frederick II and Medieval Foreign Policy
8- David Berson	Using machine learning to predict response of lithium-ion batteries to damage
9- Duy Duc Tran	Investigating Instructional Design for GPT Prompt Training: A Pilot Study on User Learning, Satisfaction, and AI-Assisted Labeling Impact
10- Haiya Patel	Enhancing Student Learning Using THRAL Lab's Research on AI Responses
11- Katherine Duong	Mechanical Phantom Design for Measuring Layered Tissue Effects on Shear Wave Propagation
12- Kayla Wolf	Development of Targeted Epigenetic Modifications to Induce a Biomanufacturing Stress Tolerance in Chinese Hamster Ovary cells
13- Kristin Haroldsdottir	Characterizing the mechanism of action of confidential chelator "compound 6" inhibition of pro-tumor enzyme ADAM9
14- Madison Tyson	Marronage and Environmental Action Today
15- Maryia Hrynashka	Isolation and sequencing of Cytosolic DNA
16- Tanner Mahoney	Flow Characteristics of Titanium Felt in Water Electrolyzers
17- Tom Le	Predicting Protein Function Using Multi-Token Prediction
18- Victoria Nikolaeva	Websense
19- Vincent Zhang	Green Fluorescent Protein Purification

3:10-3:45pm Lightning Talk Session 3

Akshaya Shree Jawaharlal Nehru	Dollarization and monetary policy
Brishna Nazari and Khadija Mohammadi	English Helper AI
Janice Castro	Interwoven Layers of Family, Memory, and the Cells We Share
Malika Iyer	Investigating the applicability of Artificial Intelligence in the Nigerian healthcare landscape
Nina Azato	Transparent p-type semiconductors
Pretina Boateng	Quality of healthcare professionals training and its effect on Alzheimer's care
Riley Gates	A New Translation of the Heart Sutra
Sophia Surdovel	Elementary Students and Early Fraction Learning: A Closer Analysis of the Qualitative Reasoning Displayed by First Graders
Spencer Toth	Exploring Viral Diversity Across Ecosystems: Insights from Soil Bradyrhizobium Phage Genomics
Taran Kermani	Differential Gene Expression Analysis Reveals Candidate Transcription Factors for Maize and Sorghum Brace Root Development
Marissa Fleming	Punks of the Past and the Power of Subculture: Expression Beyond Aesthetics



URP

Follow us on Instagram for up to date information about research programs and opportunities!



McNair
Program