

UNIVERSITY OF DELAWARE
UNDERGRADUATE RESEARCH PROGRAM

SYMPOSIUM FOR UNDERGRADUATE RESEARCH AND CREATIVE ACTIVITY



2024 Symposium for Undergraduate Research and Creative Activity¹

Harker Lab

Thursday, August 8, 2024

8:30 a.m. – 5:00 p.m.

8:00 - 8:25	Poster Session I Set-Up	Commons
8:30 - 10:00	<i>Poster Session I</i> 8:30-9:15 (ODD-numbered posters present) 9:15-10:00 (EVEN-numbered posters present)	Commons
8:30 - 9:45	<i>Oral Session 1</i> 1. Biology Ecology 2. Health, Culture & Community 3. Nutrition & Agriculture 4. Environmental Science & Community Planning	ISE 202 ISE 205 ISE 207 ISE 302
10:00 - 10:15	Switch Posters for Session II	Commons
10:00 - 11:15	<i>Oral Session 2</i> 1. Business & Economics 2. Literature & Writing 3. Material Culture Interdisciplinary Cohort 4. Fine Arts	ISE 202 ISE 205 ISE 207 ISE 302
10:15 – 11:45	<i>Poster Session II</i> 10:15-11:00 (ODD-numbered posters present) 11:00-11:45 (EVEN-numbered posters present)	Commons
11:30 – 12:45	<i>Oral Session 3</i> 1. Issues in Education 2. Art & Music 3. Human Development & Neuroscience 4. Issues in Public Health	ISE 202 ISE 205 ISE 207 ISE 302
11:45 - 12:00	Switch Posters for Session III	Commons
12:00 - 1:30	<i>Poster Session III</i> 12:00-12:45 (ODD-numbered posters present) 12:45-1:30 (EVEN-numbered posters present)	Commons
12:00 - 2:30	BOXED LUNCHESES AVAILABLE Perkins Student Center	
1:30 - 1:45	Switch Posters for Session IV	Commons
1:45 - 3:15	<i>Poster Session IV</i> 1:45-2:30 (ODD-numbered posters present) 2:30-3:15 (EVEN-numbered posters present)	Commons

2:00 - 3:15	<i>Oral Session 4</i>	
	1. Public Policy in Delaware & Beyond	ISE 202
	2. Studies in Psychology	ISE 205
	3. History & Communication	ISE 207
	4. Visual Communication & Design	ISE 302
3:15 - 3:30	Switch Posters for Session V	Commons
3:30 - 4:45	<i>Oral Session 5</i>	
	1. Music	ISE 202
	2. Landscape Architecture	ISE 205
3:30 - 5:00	<i>Poster Session V</i>	Commons
	3:30-4:15 (ODD-numbered posters present)	
	4:15-5:00 (EVEN-numbered posters present)	
3:00-4:45	UD Creamery Ice Cream	Commons

¹Please pardon any misspellings or errors.

August 2024

Dear Friends of Undergraduate Research,

Welcome to the University of Delaware's fifteenth Annual Symposium for Undergraduate Research and Creative Activity. We are very excited to have over 500 undergraduate students sharing their research projects with you.

The Symposium program features a remarkable range of projects that represent innovative work in a variety of disciplines across the university. During the past ten weeks, students have been learning how to use research to address some of the most perplexing problems we face as a society. Under the direction of faculty mentors, and often in collaboration with graduate students, industry, or community partners; students have been learning how to conduct original research and creative projects and how to communicate their process and findings to a variety of audiences. Numerous studies have demonstrated that participation in undergraduate research can powerfully shape students' interest and engagement in learning, and open new career pathways for students.

The summer programs that provide research opportunities for students and today's event would not be possible without the collaboration and support from extraordinary people and offices across campus. I especially want to thank the staff of the Undergraduate Research Program for making this event possible. Special gratitude is also due to faculty, mentors, staff, community partners, and donors who give generously of their expertise, time and resources to broaden our students' learning through research and creative activities.

On behalf of all these members of the UD community, thank you for joining us at today's Symposium. We hope you will learn something new and deepen your appreciation for research as you hear and see our students present the intellectual and creative work they completed over the summer. Our future looks bright!

Sincerely,

A handwritten signature in cursive script, reading "Rosalie Rolón-Dow". The signature is written in black ink and includes a horizontal flourish at the end.

Rosalie Rolón-Dow, Ph.D.
Faculty Director, Undergraduate Research Program

Key:

Student last name, Student first name
(Program), Student major, University if other
than UD, Faculty advisor, Faculty advisor's
department

Project title

POSTER SESSION I

8:30 - 10:00AM

*(Agriculture, Animals, Wildlife,
Environment, Plant Science,
Marine Science, Education,
Public Policy, Psychology)*

1. **Abiy, Ethni** (CANR Unique Strengths), Wildlife Ecology & Conservation, Angela Holland, Entomology & Wildlife Ecology
Exploring Cultural Biases of the Global North on the Global South's Wildlife Practices
2. **Alves, Victoria** (Summer Scholars), Wildlife Ecology Conservation, Kyle McCarthy, Entomology and Wildlife Ecology
Wildlife Dynamics Along Major Roadways in New Jersey
3. **Antoszewski, Trinity** (UD Envision), Insect Ecology and Conservation, Michael Crossley, Entomology & Wildlife Ecology
"Slugs? In my guts?" Slug predators revealed from gut analysis of ground beetles
4. **Austriaco, Franchesca** (CANR Summer Institute), Crop Sciences, University of Illinois at Urbana-Champaign, Angelia Seyfferth, Plant & Soil Sciences
Impacts of biochar on methane and arsenic cycling in rice paddy soil
5. **Bailey, Caitlin** (Summer Scholars), Marine Biology, Jennifer Wyffels, Bioinformatics
Sand Tiger Shark Teeth Morphology Throughout Life Stages Analyzed Via Micro-CT
6. **Ballenger, Sydney and Ristano, Krista** (Community Engagement Summer Scholars), Psychology, Mary Dozier, Psychology
Early Childhood Performance on Tool Task Predicts Aggression in Middle Childhood
7. **Becker, Terri-Ellen** (NASA/UD Envision), Insect Ecology & Conservation, Qingwu Meng, Plant & Soil Sciences
Optimizing Blue, Red, and Far-Red Light to Enhance Growth and Coloration of Indoor Red-Leaf Lettuce Seedlings
8. **Beckford, Kioni and Morrison, Noah** (DSU-UD Summer Engineering Research Experience AND Center for Integrated Asset Management for Multi-Modal Transportation Infrastructure Systems REU), Engineering Physics/Environmental Science, Delaware State University, Haritha Malladi, Civil & Environmental Engineering
An Investigation into Fracturing of Asphalt Pavement Surfaces using Tillage Radishes
9. **Belotte, Audrey** (UD Envision), Pre-Veterinary Medicine, Behnam Abasht, Animal & Food Sciences
Nanopore Sequencing to Analyze the Polymorphisms of Troponin I Type 2 in Wooden Breast Disease of Meat-Type Broiler Chickens
10. **Bendel, Nick** (INBRE), Psychology, Lauren Covington, School of Nursing
Identifying Stressors and Coping Mechanisms in Caregivers-Toddler Dyads Experiencing Socioeconomic Disadvantage
11. **Billups, Martha** (INBRE), Psychology, Mary Dozier, Psychological & Brain Sciences

Is an Increase in Anxiety Related to Discord in Friendships?

12. **Callahan, Andrew** (Summer Scholars), Environmental Science, Daniel Leathers, Geography
Coastal Storm and Severe Weather Emergency Mitigation in Delaware
13. **Cao, Doris** (Alumni Donor, Ron Ferris), Erin Sparks, Plant and Soil Sciences
Designing Form and Function into Research Devices: Integrating Robotics to Study Biomechanics in Maize Research
14. **Chevl Airyan** (Summer Scholars), Public Policy, Casey Taylor, Energy and Environmental Policy
15. **Christensen, Hunter** (Summer Scholars), Marine Biology, Aaron Carlisle, Marine Studies
Diet-dependent effects of digestion on metabolic rate of Clearnose Skates
16. **Clifford, Trinity** (Summer Scholars), Marine Biology, Aaron Carlisle, Marine Studies
*Quantifying Diel Change in Metabolic Rate of the Clearnose Skate (*Rostror eglanteri*)*
17. **Costello, Christopher** (INBRE), Psychology, Mary Dozier, Psychological & Brain Sciences
An Exploration of Ventral Striatum-Prefrontal Cortex (VS-PFC) Structural Connectivity as the Mechanism for the Effect of an Early Parenting Intervention on Adolescent Self-Esteem
18. **Coull, Eliza** (Graduate College), Psychology, Dickinson College, Steve Amendum, School of Education
Profiles of Reading Specialists' Knowledge for Supporting Multilingual Learners: Knowledge of Spanish/English Cross-Linguistic Transfer
19. **D'Aiuto, Alyssa** (UD Envision), Sustainable Food Systems, Nicole Donofrio, Plant & Soil Sciences
*Characterization of Plant Growth Promoting Properties of Biocontrol Bacterium, *Bacillus velezensis* Strain S4, Isolated from Delaware*
20. **Demick, Shayna** (Summer Scholars), Environmental Science, Mi-ling Li, Marine Studies
PFAS bioaccumulation in the Bering Sea food web
21. **Drysdale, Haley** (UD Envision), Animal Science, Hong Li, Animal & Food Sciences
*Evaluation of Litter Treatments on Ammonia Control, Litter Condition, and Production Performances in Broiler Poultry (*Gallus gallus domesticus*)*
22. **Fay, Jacob** (UD Envision), Plant Science, Alex Huddell, Plant & Soil Sciences
Testing a non-destructive method for estimating corn nitrogen uptake
23. **Feinstein, Maya** (Summer Scholars), Environmental Science, Xinfeng Liang, Marine Studies
Vertical Motion in the Southern Ocean
24. **Fogle, Lauren** (INBRE), Psychology, Eric Layland, Human Development & Family Science
Exploring Developmental Milestones of LGBTQIA+ Individuals with Autism Spectrum Disorder (ASD)
25. **Gesino, Isabella** (CANR Summer Institute), Pre-Veterinary Medicine, Aditya Dutta, Animal & Food Sciences
Investigating Master Regulators of Ovarian Follicular Recruitment
26. **Gupta, Anya**, Charter School of Wilmington, Mary Dozier, Psychological & Brain Sciences

The Effects of Parental Supportive Presence at Age 2 on Diurnal Cortisol Levels at Age 9: Preliminary Results

27. **Hemelt, Alexandra** (INBRE), Wildlife Ecology & Conservation, Jennifer Peterson, Entomology & Wildlife Ecology
Beetle Richness and Abundance Across Land Use Types
28. **Hennessy, Mackenzie** (Summer Scholars Program - Unidel UNAR Award), Marine Science, Sunita Shah Walter, Marine Studies
Effects of Tidal Stage on the Concentration of the Elusive Polar Fraction in Estuarine Systems
29. **Hevalow, Eli** (UD Summer Scholars), Wildlife Ecology & Conservation, Jeffrey Buler, Entomology and Wildlife Ecology
*Spatial Distribution and Demographic Patterns of the Northern Saw-whet Owl (*Aegolius acadicus*)*
30. **Kalb, Isabella** (UD Envision), Wildlife Ecology & Conservation, Kyle McCarthy, Entomology & Wildlife Ecology
Analyzing Trends in the Movement of Red Foxes Across Various Underpasses Throughout New Jersey
31. **Kantak, Mukta** (CANR Summer Institute), Environmental Science, University of Texas at Austin, Shreeram Inamdar, Plant & Soil Sciences
The Effect of Road Salt on Wetland Soils
32. **Lawson, Caleb** (Summer Fellows), Chemical Engineering, Mark Blenner, Chemical & Biomolecular Engineering
*Engineering *Y. lipolytica* for the de novo Production of Halogenated Tryptamine*
33. **Lynch-Faulkner, Tiffany** (Summer Scholars), Psychology, Evan Usler, Communication Sciences and Disorders
Exploring Speech-Related Motivation and Neural Correlates of Approach-Avoidance Conflict in Individuals with Social Anxiety and Fluency Disorders
34. **Maurer, Natalie** (INBRE), Human Services, Lisa Jaremka, Psychological & Brain Sciences
Self-Esteem's Correlation with Marital Conflict
35. **McLaughlin, Clare** (Summer Scholars), Marine Biology, Edward Hale, Marine Studies
Tracking connectivity of juvenile fishes around aquaculture gear in a nearshore environment
36. **McNeece, Ella** (Summer Scholars), Marine Science, Matthew Oliver, Marine Studies
The Relationship Dynamics of Lagrangian Coherent Structures and Predator Interactions
37. **Metters, Tara** (NSF Critical Zone Network), Environmental Science, Angelia Seyfferth, Plant and Soil Sciences
Relationship Between Carbon and Amorphous Iron Oxides in Marsh-Forested Transitions
38. **Micek Stanley** (INBRE), Psychology, Xiaopeng Ji, School of Nursing
Sleep Chatbot Intervention Can Improve Mental Health and Sleep Quality in Young Black/African American Adults
39. **Moreno, Luis** (McNair Scholars Program), Animal Science, Tara Gaab, Animal and Food Science
A Calf Conundrum: A Comparison of Behaviors Exhibited Based on Feeding Frequencies

40. **Morrell, Chandler** (McNair Scholars Program), Psychology, Philip Gable, Psychological and Brain Sciences
Neural correlates of impulsivity within individuals recovering from substance use disorder
41. **Newman, Grace** (Summer Scholars), Early Childhood Education, Jennifer Gallo-Fox, Human Development & Family Science
Empowering Early STEM Education Through the Design of Interdisciplinary STEM Lending Library Kits
42. **Oliver, Morgan** (Summer Scholars), Plant Science, Alyssa Koehler, Plant and Soil Sciences
*Mefenoxam Sensitivity Screening for *Phytophthora capsici**
43. **Parada, Juan** (McNair Scholars), Psychology, Will Kenkel, Psychological & Brain Sciences
Influence of Ambient Temperature on Oxytocin and Vasopressin Levels in Rodents: A Comparative Study of Prairie Voles and Mice
44. **Pedrick, Gabriella** (Summer Scholars), Insect Ecology and Conservation, Douglas Tallamy, Entomology and Wildlife Ecology
The impact of soil surface pressure on shallow burrowing moth species in urban landscapes
45. **Perez, Charlie-Ann** (McNair Scholars Program), Wildlife Ecology Conservation, Jake Bowman, Entomology & Wildlife Ecology
Morphometrics of Sika Calves and Hinds
46. **Petersdorf, Katherine** (Graduate College), Psychology, History, Wesleyan University, Teomara Rutherford, School of Education
Predicting elementary academic performance using motivation and self-beliefs with digital math learning
47. **Pezzuto, Angelina** (INBRE), Neuroscience Amanda Hernan, Psychological & Brain Sciences
TSC Haploinsufficiency Influences PS6 and GFAP activity in the PFC and Hippocampus
48. **Phang Sakhi** (Community Engagement Summer Scholars), Landscape Architecture, Anna Wik, Landscape Architecture
Cultivating Community: The Rodney Reservoir Community Garden Design Efforts
49. **Pizzini, Sara** (Graduate College), Psychology, Georgetown University, Mary Dozier, Psychology
The Relationship Between Cortisol Levels and Aggression in Middle Childhood
50. **Pollock, Lauren** (Summer Scholars), Wildlife Ecology Conservation, Greg Shriver, Entomology & Wildlife Ecology
Piping Plover Nest Site Selection at Prime Hook National Wildlife Refuge
51. **Priddy, Piper** (Summer Scholars), Marine Science, Matt Oliver, Marine Studies
Predator Speeds and the Encounter Rates with Lagrangian Coherent Structures in the Atlantic Ocean.
52. **Roberts, Digby** (Summer Scholars), Insect Ecology and Conservation, Douglas Tallamy, Entomology & Wildlife Ecology
Investigating the impact of permethrin ULV spray application for mosquito control on local non-target moth populations
53. **Santos, Gharem** (McNair Scholars Program), Psychology, Lisa Jaremka, Psychological and Brain Science

LGBTQ+ Advocacy: The Influence of Interpersonal Commitment on Willingness to Sacrifice

54. **Seifert, Cole** (Graduate College), Environmental Health Science, University of North Carolina, Li Mi-Ling, School of Marine Science & Policy
Assessing Human Exposure to PFAS through Fish Consumption in the Delaware Bay
55. **Serrano, Shelby** (UD Envision), Animal Biosciences, Tanya Gressley, Animal & Food Sciences
Changes in the alfalfa bacterial population during ensiling as impacted by lactic acid bacteria inoculants
56. **Sorrentino, Lauren** (UD Envision), Environmental Sciences, Deb Jaisi, Plant & Soil Sciences
Synthesis and Analysis of Hydroxyapatite as a slow-release, phosphorus-based fertilizer
57. **Sosnoski, Tyler** (Summer Scholars), Plant Science, Qi Mu, Plant and Soil Sciences
Effect of Flooding on Photosynthetic and Physiological Traits Among Several Maize Genotypes
58. **Suzuki, Yoko** (UD Envision), Agriculture & Natural Resources, Qingwu Meng, Plant & Soil Sciences
Bio-stimulant Controls Tipburn in Greenhouse Hydroponic Leafy Greens but Can Cause Phytotoxicity in Some Crops
59. **Sweetman, Kallie** (American Heart Association), Psychology, Chris Martens, KAAP
Comparative analysis of cerebrovascular techniques for studying cognitive aging
60. **Swope Eli** (Summer Scholars), Marine Biology, Edward Hale, Marine Studies
- Tipping the Scales: Using Biomass of Banded Killifish (*Fundulus diaphanus*) and Redbreast Sunfish (*Lepomis auritus*) as a Proxy to estimate production across multiple tributaries of the Delaware River, USA*
61. **Szelestei, Logan** (INBRE), Psychology/Human Services, Jaclyn Megan Sions, Physical Therapy
Coping Self-Efficacy Helps Explain Prosthetic Adjustment Following Lower-Limb Amputation
62. **Terrell, Chloe** (McNair Scholars Program), Art Conservation, Elizabeth Singewald, Chemistry & Biochemistry
Plastic Alternatives in the Art Conservation Laboratory: Testing Solution Reactions & Agents of Deterioration on Various Compostable Plastic Alternatives
63. **Thompson, Chase** (UD Envision), Environmental Stewardship, Abby, Reeves, Plant & Soil Sciences
The impacts of organic weed blocking technology on weeds using organic farming practices
64. **Torres, Sofia** (Iowa State Science Bound, NSF), Plant and Soil Sciences, Erin Sparks, Plant and Soil Sciences
From Petri Dish to Pot: Introducing Transgenic Lines in Arabidopsis to Better Understand Cuticle Synthesis
65. **Tran, Percival** (Summer Fellows), Applied Molecular Biology & Biotechnology, Mona Batish, Medical & Molecular Sciences
Comparing Linear and Circular GFP RNA Enrichment in HeLa Cell-derived EV
66. **Tunstall, Jillian** (INBRE), Ecology and Wildlife Conservation, Jennifer Peterson, Entomology & Wildlife Ecology

67. **Visconti, Victoria** (McNair Scholars Program), Human Services, Sara Goldstein, Education and Human Development
Social Development and Social Transitions Among Adolescents and Emerging Adults
68. **Wagner, Stephen** (U.S. Department of Energy Aerospace Engineering), Syracuse University, Munetaka Kubota, Center for Composite Materials
69. **Weinstein, Laura** (Summer Fellows), Biomedical Engineering, Emily Day, Biomedical Engineering
Improving Delivery of RNA to Leukemia Cells Using Polymeric Nanoparticles
70. **Weyl, Jessica** (University of Maine/USDA (NPDN) National Plant Diagnostic Network and Lomax Cooperative Extension Scholars Fund and Jan Seitz Cooperative Extension Scholars), Plant Science, Jill Pollok, Cooperative Extension
The Diagnostic Process: Analyzing Stress Symptoms in Delaware's Loblolly Pines
71. **Whitcomb, Jackson** (UD Envision/Summer Scholars), Landscape Architecture, Zachary Hammaker, Plant & Soil Sciences
CRDS Milton Community Resilience Project
72. **Winzig, Madelyn** (CANR Unique Strengths), Pre-Veterinary Medicine, Benham Abasht, Animal & Food Sciences
Nanopore Technology for Amplicon Sequencing to Investigate DNA Polymorphism of Glutamic-Oxaloacetic Transaminase 1 (GOT1), a Candidate Gene for Wooden Breast Disease in Commercial Broiler Chickens
73. **Wolfe, Makalah** (UD Envision), Agribusiness & Pre-Veterinary

Medicine, University of Maryland - Eastern Shore, Alexander Yitbarek, Animal & Food Sciences

POSTER SESSION II 10:15 - 11:45AM (Biology, Biological Sciences, Chemistry & Biochemistry)

1. **Ahamed, Amira** (INBRE), Biological Sciences Education, Anjana Bhat, Physical Therapy
Exergaming & Physical Activity Participation in Children with ASD
2. **Akella, Meghana Lalitha Sri** (Clemson University), Chemistry, Olivia Sequerth, Center for Composite Materials
Creating Non-Isocyanate Thermoplastic Polyurethane from Waste PET
3. **Allen, Niara** (INBRE), Biochemistry, Delaware State University, Fady Gerges, Molecular Biology
4. **Applegate, Lauren** (Center for Plastics Innovation, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Basic Energy Sciences), Biochemistry, University of Maryland College Park, Mark Blenner and Kevin Solomon, Chemical & Biomolecular Engineering
Engineering Microbial Communities for LDPE Degradation
5. **Araya, Andrea and Brown, Alexa** (INBRE), Biological Sciences/Nursing, Kathleen Brewer-Smyth, School of Nursing
Preventing a Trajectory of Violence in Women with a History of Trauma
6. **Arora, Daivik** (INBRE), Biological Science, Austin Keeler, Biological Sciences
Identification of temporomandibular joint innervating somatosensory neurons by

*retrograde labeling and multiplexed
imaging mass cytometry*

7. **Bacchus, Atif** (INBRE), Biological Sciences, Jennifer Sims-Mourtada, Cawley Center for Translational Cancer Research
Characterizing Pan Inflammatory Value as a Prognostic Index for Women Diagnosed with Triple Negative Breast Cancer
8. **Barbone, Victoria** (INBRE), Applied Molecular Biology and Biotechnology, Shawn Polson, Viral Ecology
A variable single amino acid position in bacteriophage DNA polymerase I affects in vitro enzyme biochemistry and in vivo infection dynamics
9. **Bartholomew, Brenna** (INBRE), Biological Sciences, Delaware Technical Community College, Sharon Gould, Radiology, Christiana Care
It's Twisted, Sister: Detecting Ovarian Torsion
10. **Bissoon, Zyairr** (Delaware Space Grant), Biochemistry, Esther Biswas-Fiss, MMSC
The Retina Protein ABCA4 and Cloning of its Extracellular Domains (ECD1 & ECD2)
11. **Bodio, Elizabeth** (Summer Scholars), Chemistry, Joel Rosenthal, Chemistry and Biochemistry
Synthesis of Palladium 10 Isocorrole as a Photosensitizer for Photodynamic Therapy
12. **Boliver, Heather** (INBRE), Biological Sciences, Velia Fowler, Biological Sciences
The Role of Non-muscle myosin IIA (NMIIA) in Mouse Ocular Lens Cataract Formation
13. **Borell, Emily** (INBRE-Biology), Biological Sciences, Deni Galileo, Biological Sciences
Effects of Small-Molecule Inhibitors on Motility and Proliferation of Differentiated and Undifferentiated Glioblastoma Stem Cells
14. **Brenner, Benjamin** (Summer Scholars), Biochemistry, Joseph Fox, Chemistry and Biochemistry
Reductive Amination on Highly Strained Trans-Cyclooctene: Developments in Reaction Optimization and Monitoring
15. **Brown, Marissa** (McNair Scholars Program), Biological Science, Mark Blenner, Chemical & Biomolecular Engineering
Uncovering Phage Diversity and Function in Plastic Fed Mealworm Microbiome
16. **Buddhikot, Anoushka** (NSF), Chemical Engineering, Jodi Hadden-Perilla, Chemistry and Biochemistry
Evaluating the Impact of Conformational Dynamics on Predicted Protein Protonation State: A Case Study on Brome Mosaic Virus
17. **Byles, Trevor** (Summer Scholars), Biochemistry, Tatyana Polenova, Chemistry and Biochemistry
Investigating potential binding differences in CypA interaction with HIV-1 CA capsid protein M66A variant
18. **Chamuel, Asher** (Summer Scholars), Biochemistry, William Chain, Chemistry and Biochemistry
Synthesis of N-Methyl-N-Phenylglycine Derivatives for the Electrochemical Synthesis of N-Aryl Iminium Ions
19. **Chesley, Aeila** (INBRE), Biological Sciences, Delaware Technical Community College, Molly Sutherland, Biological Sciences
How Does Joint Range of Motion Change After Muscle Fatigue in Healthy Young Adults?
20. **Chichowska, Julia C** (Summer Fellows), Applied Molecular Biology and Biotechnology, Terry Papoutsakis, Chemical & Biomolecular Engineering

21. **Coba-Horvath, Sofia** (American Heart Association), Biological Sciences, Melissa Witman, KAAP
Vascular Function and Social Determinants of Health in Young Adult Black Women
22. **Collins, Mahogany** (INBRE), Molecular Biology and Biotechnology, John Jungck, Biological Sciences
Self-Folded Tetrahedra as a Model of Protein Folding
23. **Córdoba Urresti, Luisa Natalia**, Chemistry, Universidad del Valle-Colombia, Rachel Davidson, Chemistry and Biochemistry
Shape-controlled controlled growth of Cu nanostructures for CO₂ reductio
24. **Dafni Frappe, Dekel Mordejai** and **Sanango Chicaiza, Bryan Mauricio** (CBC Latin American Summer Research Program), Jodi Hadden-Perilla, Chemistry & Biochemistry
Computational modeling of full-length HBV capsid protein to test structural mechanisms of NLS exposure
25. **DaSilva, Gabriel** (INBRE), Biological sciences, Andre Pasqua Tavares, Chemistry & Biochemistry
The impact of BOR SIX1 mutations on the development of the bones of the face and skull
26. **Dorez, Talha** (INBRE), Biological Sciences, Austin Keeler, Biological Sciences
Comparisons of Segmentation Methods for Multiplexed Spatial Proteomics
27. **Edery, Theresa** (Summer Scholars), Applied Molecular Biology and Biotechnology, Vijay Parashar, Medical Laboratory Sciences
*Atypical transcriptional regulation by a histidine kinase in *S. aureus**
28. **Field, Andrea** (INBRE), Biology, Tanya Gressley, Animal and Food Sciences
Survival of Lactic Acid Bacteria and Yeasts in Refrigerated and Frozen Silage Samples
29. **Fields, Taryn** (ADaPT Summer Scholar) and **Isabelle Botto** (Peter White Fellowship), Biological Sciences/Kinesiology, Katie Butera, Department of Physical Therapy
Investigating Relationships between Movement-Evoked Pain and Positive Psychological Coping in Adults with Low Back Pain
30. **Flaiz, Xavier** (Delaware Summer Fellows Undergraduate Research Program), Biochemistry, Ariel Alperstein, Chemistry and Biochemistry
Non-Small Lung Cancer Cell Culturing in the Presence of Microplastics
31. **Gonzalez-Vargas, Kristina** (NSF) Chemistry, Universidad de Puerto Rico, Mayagüez, Emil Hernandez-Pagan, Chemistry and Biochemistry
Colloidal Synthesis and Stability of LaS and MnSe Nanoparticles
32. **Harricharan, Nadia** (INBRE), Applied Molecular Biology and Biotechnology, Kevin Solomon, Chemical and Biomolecular Engineering
Enabling Surface Functionalization of Barley Stripe Mosaic Virus-Like Particles via Click Chemistry
33. **Harris, Jaymar** (UD Envision), Biology, Lincoln University, Alex Huddell, Plant & Soil Sciences
34. **Jameel, Hamna** (INBRE), Biological Sciences, Aimee, Jaramillo-Lambert, Biological Sciences
Can mutations in the catalytic site of the TDPT-1 enzyme suppress top-2-induced embryonic lethality?
35. **Jankovic, Dakota** (Summer Scholars), Biological Sciences, Anja Nohe, Biological Sciences

- Determining the Regulatory Effects of BMP2 in BMPRIa Knock-Out Myoblast Cells*
36. **Janney, Sarah** (Summer Scholars), Biochemistry, Joseph Fox, Chemistry and Biochemistry
Chemically-Induced Bacterial Cell Lysis via Tetrazine-trans-Cyclooctene Crosslinking on Modified Peptidoglycan
37. **Jones, Adia** (Summer Fellows), Chemistry and Biochemistry, Jeffrey Mugridge, Chemistry and Biochemistry
Overexpression and Purification of Fe(II)/ α -KG-dependent dioxygenase AlkBH4
38. **Kermani, Taran** (Summer Scholars), Biological Sciences, Erin Sparks, Plant and Soil Sciences
Cross-Species Nodal Transcriptome Comparison Reveals Candidate Transcription Factors for Brace Root Developmental Regulation
39. **Kim, Justin** (University of Delaware Research Foundation), Biochemistry, Rachel Davidson, Chemistry
Electrochemical Additive Manufacturing of Battery Electrodes and Surfaces with Spatially Controlled Wettability
40. **Kosinski, Connor** (Summer Scholars), Biochemistry, Catherine Grimes, Chemistry and Biochemistry
Effects of Serine and Threonine Phosphorylation on Serine-Proline cis-trans Isomerism
41. **Kraenbring, Isaac** (Center for Plastics Innovation, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Basic Energy Sciences), Chemistry, Elizabethtown College, Mary Watson and Joel Rosenthal, Chemistry & Biochemistry
Electrochemical Decarboxylation and Etherification of Polymethyl Acrylic Acid
42. **Lee, Jasmine** (Graduate College), Biology, Boston College, Deb Jaisi, Plant & Soil Sciences
Tracking of Transformations of Phosphorus Pools in Agricultural Soil Using Oxygen-18 Labeled Phosphate
43. **Letnaunchyn, Jacob** (Summer Scholars), Chemistry, Don Watson, Chemistry and Biochemistry
Assessment of Directing Groups in Reductive Coupling Reactions
44. **Lucero-Palacios, Gael** (Summer Fellows), Computer Science, Leila Barmaki, Computer & Information Sciences
Multi-Language Virtual Patient Simulation
45. **Luft, Laila** (INBRE), Biological Sciences, Jia Song, Biological Sciences
46. **MacHenry, Caden** (National Institutes of Health – NIGMS), Biological Sciences, Jessica Tanis, Biological Sciences
Investigating the protective effects of vitamin B12 on amyloid-beta proteotoxicity in a C. elegans model of Alzheimer's Disease
47. **Mandavalli, Shriya** (INBRE), Biology/Computer Science, Duke University, Xuyi Yue, Neuroscience
48. **Matthews, Dexter** (INBRE), Biological Sciences, Chi Keung Lam, Biological Sciences
The Effects of Hsp90 on Mitochondrial Structure
49. **Middleton, Clara** (CRSP), Chemistry, Davidson College, Alexandra Bayles, Chemical & Biomolecular Engineering
Advective Assembly Extrusion and its Bioprinting Applications with Gelatin Methacryloyl and Polyacrylic Acid
50. **Milnor, Brooke** (INBRE), Biology, Jeremy Crenshaw, KAAP
Walking Stability Control in Chronic Stroke: Differences Between the Paretic and Non-Paretic Limb

51. **Misikova, Alexandra**, Summer Scholars, Biological Sciences, Elise Corbin, Biological Sciences
Genotypic Analysis of Tenocyte Transitions to Pathophysiological Elastic Moduli
52. **Monroy Rojas, Diego Alejandro**, Chemistry, Universidad del Valle-Colombia, Marco Messina, Chemistry and Biochemistry
An Activity-Based Biomolecule Labeling and polymerization Platform for the Imaging of Cells and Tissues Under Oxidative Stress
53. **Moquin, Phillip** (Summer Scholars), Biochemistry, Zhihao Zhuang, Chemistry and Biochemistry
In-Situ Generation of an Iodine-Substituted Chemical Linker for Generating Ubiquitin Activity-Based Probes
54. **Napoli, Cecelia** (NSF Supplement), Biochemistry, Laure Kayser, Materials Science/Chemistry
Synthesis & Characterization of Ion-Selective Polyelectrolyte Complexes for Application in Biosensors
55. **Nick, Riley** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems), Chemistry, University of Alabama at Birmingham, Christopher Kloxin, Materials Science and Engineering
Characterization of Photoinitiated Methacrylate based Covalent Adaptable Networks
56. **Nieto Rincon, Sara Catalina**, Chemistry, Universidad Nacional de Colombia, Tatyana Polenova, Chemistry and Biochemistry
Incorporation of Orthogonal Fluorine Probes for In-Cell Protein NMR
57. **Nordone, Nicole** (Summer Fellows) and **Parks, Jasmine** (Summer Scholars), Biological Sciences/Biochemistry, Clara Chan, Earth Sciences
*Purification and Localization of MofA, a metal oxidizing protein from *Leptothrix cholodnii* SP-6*
58. **Pallus, Sarah** (Delaware INBRE Summer Student Research Program), Biochemistry, Ariel Alperstein, Chemistry and Biochemistry
Investigating the Expression and Characterization of the α B-Crystallin Protein
59. **Parab, Arjun** (Summer Scholars), Biological Sciences, Salil Lachke, Biological Sciences
Role of the RNA-binding proteins Msi1 and Msi2 in ocular lens development
60. **Parekh, Krisha** (Summer Scholars - 2024 Jeremie M. Axe Award), Biological Sciences, Jessica Tanis, Biological Sciences
Investigating the Role of the CIL-1 Phosphatase in Extracellular Vesicle Biogenesis
61. **Portilla, Arwen** (Summer Scholars), Biological Sciences, Jeremy Bird, Biological Sciences
*A Comprehensive Study of the Function and Localization of *DeaD* Protein in *E. coli**
62. **Price, Donna** (INBRE/Summer Scholars), Biological Sciences, Molly Sutherland, Biological Sciences
*Cytochrome *c* Biogenesis Heme Acceptance Domain: Analysis of Putative Heme Axial Ligands*
63. **Punter, Zaina** (INBRE), Applied Molecular Biology and Biotechnology, Shawn Polson, Viral Ecology
DNA Polymerase Family B Reveals Novel Viral Diversity and Reflects Infection Strategy
64. **Rahbany, Chanelle** (CANR Summer Institute), Biology and Psychology, University of Florida, Deb Jaisi, Plant & Soil Sciences

Bioavailability of phosphorus in the Florida Everglades

Enhancing Catalyst Design for Energy Conversion: A Study of Copper-Tungsten Sulfide Systems

65. **Reading, Maya** (Summer Fellows), Applied Molecular Biology and Biotechnology, Mona Batish, Biological Sciences
Validation of a Force-Plate-Only Method to Quantify Walking Stability-Control Mechanisms
66. **Richards, Andrew** (Summer Scholars), Chemistry, Donald Watson, Chemistry and Biochemistry
Synthesis of Nonsymmetric α -selective Tetrasubstituted Vinylsilanes
67. **Rodriguez, Christina** (INBRE), Applied Molecular Biology and Biotechnology, Kevin Solomon, Chemical and Biomolecular Engineering
Protein corona formation and RNA packaging in barley stripe mosaic virus-like particles
68. **Rolle, Nia** (American Heart Association), Chemistry, Delaware State University, Megan Wenner, KAAP
Effects of oral contraceptive pill use on blood pressure reactivity in young premenopausal Women
69. **Ross, Kenneth** (Summer Scholars), Chemistry, Mary Watson, Chemistry and Biochemistry
Synthesis of Allylic Pyridinium Salts Derived From Amino Acids
70. **Salim, Masoud** (INBRE), Biological Sciences, Anja Nohe, Biological Sciences
Utilizing SDS PAGE-Western Blots To Identify The Timing And Specific Signal Pathway Used By Mammalian Cells When Treated With CK2.1 Compared to BMP2
71. **Santana-Alicea, Dasairy** (Graduate College), Cellular & Molecular Biology, University of Puerto Rico-Rio Piedras, Rachel Davison, Chemistry & Biochemistry
72. **Schmidt, Kevin** (INBRE), Biology, Arit Ghosh, Bio-Imaging Center
Flow Cytometry Analysis of CD63+ Exosomes: Addressing the Challenges of Shared Resource Labs
73. **Scholl, Meyer** (CANR Summer Institute), Chemistry & Plant Science, Harsh Bais, Plant & Soil Sciences
*Investigating *Streptomyces coelicolor* as an Agent Against Broad Fungal Phytopathogens*
74. **Sekowski, Benjamin** (INBRE), Biology, Amber Krauchuna, Biological Sciences
*Importance of *Copa-1* in reproduction*
75. **Sheikh, Adil** (Summer Scholars), Chemistry, Rachel Davidson, Chemistry and Biochemistry
Understanding Mechanisms of Degradation in CuOx Nanoparticles and Electrocatalysts for CO₂ Reduction
76. **Shelly, Jillian** (Summer Scholars), Biochemistry, Zhihao Zhuang, Chemistry and Biochemistry
Construction of Activity Based Probes for Targeted Degradation of Deubiquitinating Enzymes via CRBN-Proteolysis Targeting Chimera (PROTAC)
77. **Singh, Nitya** (INBRE), Biological Sciences, Arit Ghosh, Bio-Imaging Center
Exploring the role of Proteostasis in Erythroid Differentiation
78. **Smull, Lilly** (INBRE), Biological Sciences, Justin Parreno, Biological Sciences
Chondrocyte-Derived Decellularized Matrices Support the Expansion and Redifferentiation of Superficial Zone Chondrocytes
79. **Sprenkel, Kelly** Chemistry, Millersville University, Joseph Fox, Chemistry

Synthesis of new trans-cyclooctenes via reductive amination

The Association Between Prenatal Opioid Exposure and Amygdala and Hippocampus Volume

80. **Stevens, Abigail** (INBRE), Biological Sciences, Erica Selva, Biological Sciences
Evaluating Wnt Structure and Function
81. **Stokes, Naja** (INBRE), Biological Sciences, Delaware State University, Scott Siegel, Cawley Center for Translational Cancer Research
Identifying screening barriers in an advanced breast cancer hotspot in Wilmington, DE
82. **Sturtevant, Michael** (Delaware INBRE), Biological Sciences, Esther Biswas-Fiss, Medical & Molecular Sciences
Evaluating Potential Subpopulation of ABCA4 Pathogenic Variants Based on Protein Structural Distribution and Patient Phenotypes
83. **Sumerau, Margaret** (INBRE), Applied Molecular Biology and Biotechnology, Mona Batish, Medical & Molecular Sciences
Unraveling the Role of Mitochondrial-Encoded Circular RNAs in Tumor Cells: Localization, Expression, and Functional Implications
84. **Swanson, Narra** (INBRE-Biology), Biological Sciences, Molly Sutherland, Biological Sciences
Optimization of a Bacterial Two-Hybrid Assay to Determine the Optimal Temperature and E. Coli Strain for Cytochrome c Biogenesis System I protein:protein interactions
85. **Sweet, Jackson** (CPI REU Chemistry), University of North Carolina at Chapel Hill, Laure Kayser, Materials Science/Chemistry
Functionalization of Polystyrene For Use in Plastic Upcycling
86. **Szulc, Olivia** (INBRE), Biological Sciences, Mary Dozier, Psychological & Brain Sciences
87. **Taliaferro, Ansolei**, Biological Sciences, Delaware State University, Catherine Fromen and Victoria Muir, Chemical and Biomolecular Engineering
Phage Interactions with Immune Cells in 3D Microgels
88. **Twumasi, Naana** (INBRE), Biological Sciences, Delaware State University, Daniel Meara, Dentistry, and Oral Surgery, ChristianaCare
Gunshot Wound Facial Trauma and its Impact on Patients and the Community
89. **Vanson, Tyler** (INBRE), Biological Sciences, Aimee Jaramillo-Lambert, Biological Sciences
WEE-1.3 is required for proper chromosome segregation during C. elegans spermatogenesis
90. **Veeramachineni, Amrutha** (INBRE), Biological Sciences, Lisha Shao, Biological Sciences
Investigating the cell-type specific functions of Neuropeptide F in female Drosophila
91. **Wang, Nicole** (INBRE), Biochemistry, Chris Church, Orthopedics
The 10-Year Outcome of the Ponseti Method in Children With Idiopathic Clubfoot and Arthrogyposis
92. **Wehner, Marian** (INBRE), Biological Sciences, Deni Galileo, Biological Sciences
Changes of stem cell marker expression in glioblastoma cell lines grown in different media
93. **Wexler, Alicia**, Biochemistry, Brandeis University, Darrin Pochan, Materials Science and Engineering
Controlling Self-Assembly of Alpha Helix Coiled-Coil Bundlers into Liquid Crystal Nanostructures

94. **Wilson, Morgan** (Summer Scholars), Biological Sciences, Jeremy Bird, Biological Sciences
Targeting Early, Middle, and Late T4 Phage Genes Using a Programmable Type-III-A CRISPR-Cas System in E. coli
95. **Witikko, Robbie**, Chemistry & Biochemistry, West Chester University of PA, Thomas Epps, Chemical and Biomolecular Engineering and LaShanda Korley, Materials Science and Engineering
Lignin-derivable non-isocyanate polyurethanes with tunable morphology and metal-organic framework (MOF)-polymer interactions
96. **Wynn, Nya** (INBRE), Biology, Shuo Wei, Biological Sciences
97. **Yin, Glorianna** (Delaware Space Grant), Biological Sciences, Esther Biswas-Fiss, MMSC
A Cost-Effective, Non-Radioactive Alternative to ATPase Assays: Validation of the Transcreener® ADP2 FI Assay
98. **Hrynashka Maryia**, Applied Molecular Biology & Biotechnology, Mona Batish, Medical & Molecular Sciences
Optimizing The Isolation And Characterization Of Cytosolic DNA From Human Cell Lines

POSTER SESSION

III

12:00 - 1:30PM

(Chemical and Biochemical Engineering, Civil and Environmental Engineering, Mechanical Engineering)

1. **Armstrong, Nina** (Summer Scholars), Mechanical Engineering, Catherine Fromen, Chemical & Biomolecular Engineering
2. **Auchenbach, Keira** (Delaware Energy Institute), Chemical Engineering, Dionisios Vlachos, CBE *Additive Extraction Pre-Treatment to Enable Low-Temperature Hydroconversion of Real Plastic Film Waste*
3. **Auerbach, Samuel** (Summer Scholars), Mechanical Engineering, Bingqing Wei, Mechanical Engineering
Lithium Sulfur Battery Conservation Research
4. **Barkow, Milo**, Chemical Engineering, Rowan University, Norman Wagner, Chemical and Biomolecular Engineering
Rheological Characterization of Nafion Dispersions
5. **Bielewicz, Levi** (Summer Fellows), Chemistry, Jocelyn Alcántara-García, Chemistry/Art Conservation
From Coats of Arms to Coding: Forensic Analysis of Cultural Heritage
6. **Blair, Matthew** (U.S. Department of Energy), Mechanical Engineering, Munetaka Kubota, Center for Composite Materials
7. **Bockrath, Joseph** (National Science Foundation), Mechanical Engineering, Norman Wagner, Chemical and Biomolecular Engineering
Exploring Blood Rheology Diagnostics Through Microfluidics
8. **Bregvadze, Alexander** (Delaware Energy Institute), Chemical Engineering, Dionisios Vlachos, CBE
Investigating the Effect of Cerium-Promoted Ni-based Catalysts for Waste Polyolefin Hydrocracking

9. **Brownstein, Gavin** (Summer Scholars), Chemical Engineering, Norman Wagner, Chemical and Biomolecular Engineering
Preservative-Induced Aggregation of Glucagon-Like Peptide-1 Receptor Agonists
10. **Bryant, Jelani** (DSU-UD Summer Engineering Research Experience), Environmental Engineering, Delaware State University, Paul Imhoff, Environmental Engineering
The Construction & Evaluation of Biochar Amendments to Stormwater Dry Retention Ponds
11. **Bustamante, Cecilia Andrade**, Chemistry and Biochemistry and **Sanhueza, Benjamin**, Chemical Engineering, Andrew Teplyakov and Tania Sandoval
Preparation of aniline- and pyridine-functionalized Si(100) surfaces to control the growth of SURMOFs
12. **Castle, Lucas** (U.S. Army CCDC Army Research Laboratory), Mechanical Engineering, Sagar Doshi, Center for Composite Materials
IN-PLANE MECHANICAL PROPERTY AND DAMAGE CHARACTERIZATION OF GLASS EPOXY COMPOSITES FOR MATERIAL MODELLING
13. **Chandler, Isaac** (Summer Scholars), Mechanical Engineering, Tyler Van Buren, Mechanical Engineering
Bio-Inspired Oscillating Propulsion
14. **Chittakone, Samantha** (Summer Scholars), Environmental Engineering, Yu-Ping Chin, Civil and Environmental Engineering
Summer Scholars Samantha 2024: Quantifying Stemflow Lignin Concentrations Among Three Deciduous Tree Species
15. **Cook, Eleanor** (Summer Scholars), Chemical Engineering, Mark Blenner, Chemical Engineering
Epigenetic Regulation to Engineer Stress Tolerance in Antibody-Producing CHO Cells
16. **DeSantis, Lauren** (INBRE), Chemical Engineering, Mark Blenner, Chemical and Biomolecular Engineering
Characterizing a Serine Integrase Mediated Integration System in a Non-Conventional Yeast
17. **Dixon, Zachary** (Summer Scholars), Chemical Engineering, Mark Blenner, Chemical Engineering
Spatial-proteomic approach to identifying targets involved in antibody production
18. **Elbeyli, Defne** (Summer Scholars), Chemical Engineering, Aditya Kunjapur, Chemical Engineering
19. **Fink, Joseph**, Chemical Engineering, University of Virginia, Chitraleema, Chakraborty, MSE
Voltage Controlled Optical Properties of Atomically Thin Semiconductors
20. **Flaherty, Patrick** (Summer Scholars), Mechanical Engineering, Liyun Wang , Mechanical Engineering
21. **Flaherty, Chelsea** (Summer Scholars), Environmental Engineering, Paul Imhoff, Civil and Environmental Engineering
Impact of Biochar Amended Soils on Vegetation of Coastal Meadow and Living Shoreline Ecosystems
22. **Futty, Austin** (NSF REU), Chemical Engineering, Kevin Solomon, CBE
Prokaryotic Argonaute purification and characterization for evaluating utility in novel synthetic biology toolkit creation
23. **Gorani, Mina** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems), Civil & Environmental Engineering, University of Virginia, Shangjia Dong, Civil & Environmental Engineering

*Optimization of Equitable Routes to
Critical Facilities After Flood Events*

24. **Grumbine, Jason**, Chemical Engineering, Norman Wagner, Chemical and Biomolecular Engineering
Morphology of Dilute Nafion Dispersions
25. **Hansen, Helena** (Summer Scholars), Chemical Engineering, Wilfred Chen, Chemical Engineering
Metabolite-Responsive Protein Scaffolds for Conditional Gene Expression
26. **Herman, Henry** and **Roskoph, Devin** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems), Electrical Engineering/Mechanical Engineering, Mark Nejad, Civil and Environmental Engineering
27. **Higgins, Hannah**, Chemical Engineering, Mercer University, Catherine Fromen, Chemical and Biomolecular Engineering
Advancing the TIDAL Model: Integrating Sensors, Geometries, and Aerosol Types for Enhanced Lung Deposition Measurements
28. **Himanshu Het** (Summer Scholars), Mechanical Engineering, Jun Xu, Mechanical Engineering
29. **Jones, Auden** (Delaware Energy Institute), Chemical Engineering, Dionisios Vlachos, CBE
Exploring spent catalyst regeneration strategies under microwave irradiation
30. **Kaewrahan, Panachok** (Delaware Energy), Chemical Engineering, Dionisios Vlachos, CBE
Force Field Benchmarking for Molecular Dynamics Simulations of Polyethylene Melt
31. **Kanithi, Sathvik** (Summer Scholars), Chemical Engineering, Wilfred Chen, Chemical Engineering
Dual-Expressing and Loading Protein Nanoparticles with Model Cargo for Therapeutic Cancer Treatment
32. **Kaplan, Santino** (Graduate College), Chemical Engineering, University of Puerto Rico-Mayaguez, Emil Hernandez-Pagan
Solution-based synthetic pathways for 2D p-type ternary chalcogenide semiconductors
33. **Kelly, Olivia** (Summer Scholars), Chemical Engineering, Thomas Epps, III, Chemical Engineering
34. **Kim, Ryan** (Summer Scholars), Environmental Engineering, Yu-Ping Chin, Civil and Environmental Engineering
Unraveling the Impact of Wildfire Smoke on Canopy-Derived Dissolved Organic Matter and Dissolved Black Carbon Dynamics
35. **Kuhn, Susan** (Summer Scholars) and **Quick, Olivia** (INBRE ART+CBER Summer Program), Chemical Engineering, Mark Blenner, Chemical & Biochemical Engineering
Controlling Rep Gene Expression Through the Use of Oscillating Degron Tags
36. **Lauri, George** (Center for Plastics Innovation, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Basic Energy Sciences), Chemical Engineering/MSEG, Dongxia Liu, Chemical & Biomolecular Engineering
Catalytic Depolymerization of Polyolefins Using Two-Dimensional Zeolites
37. **Lefkowitz Lars** (INBRE), Chemical Engineering, Marco Messina, Chemistry & Biochemistry
Boron Cluster based Star Polymers for Monoclonal Antibody Drug Formulations
38. **MacDonald, Samuel** (INBRE), Chemical Engineering, Mark Blenner, Chemical and Biomolecular Engineering
Development of a Tunable Fuse for Biocontainment

39. **Malherb, Megan** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems), Civil & Environmental Engineering, University of South Carolina, Jovan Tatar, Civil & Environmental Engineering
The Recyclability of a Flax Fiber Reinforced Polymer (FFRP) Composite
40. **McCaine, Ethan** (NSF EPsCOR), Chemical Engineering, Raul Lobo, CBE
Synthesis of 2-Methylene-1,3-dioxolane over Silica Gel
41. **Nicosia, Jacob** (Summer Scholars), Chemical Engineering, Wilfred Chen, Chemical Engineering
*Genome-wide CRISPR activation and repression library screening in *Yarrowia lipolytica**
42. **Patel, Jesal** (NSF REU), Chemical Engineering, Kevin Solomon, CBE
Adapting the Interior and Exterior Cargo of Barley-Stripe Mosaic Virus-Like Particles
43. **Pollock, James** (Air Force Research Laboratory), Mechanical Engineering, Amit Chaudhari, Center for Composite Materials
Different Acoustic Signals in Tensile Testing of Continuous and Short Carbon Fiber Composites
44. **Poshusta, Matthew** (National Science Foundation CAREER Award), Chemical Engineering, Christopher Kloxin/Jovan Tatar, Chemical & Biomolecular Engineering
Thiol-yne & Thiol-epoxy Catechol-containing Dual-latent Cure Polymer Networks
45. **Proca, Andrei** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems), Chemical Engineering, Texas A&M University, Koffi Pierre Yao, Mechanical Engineering
Enhancing the Longevity of Silicon Electrode Lithium-Ion Batteries With Fluoroethylene Carbonate
46. **Raymond, Libby** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems), Mechanical Engineering, Northwestern University, Michael Chajes
Designing a Safe, Efficient, Effective, and Net-Zero UD People Mover
47. **Riggs, Brianna and Thapa, Siddhartha** (Center for Integrated Asset Management for Multi-modal Transportation Infrastructure Systems), Civil Engineering, Jovan Tatar, Civil & Environmental Engineering
Durability of Composite Fiber Anchors used in Externally Bonded CFRP Strengthening System of Reinforced Concrete Structures
48. **Roberts, Craig** (Summer Scholars), Chemical Engineering, Neal Zondlo, Chemistry and Biochemistry
Recombinant Expression and Purification of High Aspect Ratio Proteins with Terminal Bioconjugation Handles
49. **Rodney, Meredith**, Chemical Engineering, Norman Wagner, CBE
Development of composition-property relationships for lunar regolith simulant geopolymers
50. **Sangroula, Kritee** (Summer Scholars), Chemical Engineering, LaShanda Korley, Chemical Engineering
Stimuli-Responsive Poly(Acrylic Acid) Nanofiber Composites
51. **Sanhueza Punocura, Benjamin Ignacio** Chemistry & Biochemistry, Andrew Teplyakov, Chemical & Biochemistry
Computational and Experimental Evaluation of the Functionalization Reaction of Si(100) with Aniline and Pyridine

52. **Schwendinger, Alec**, Chemical Engineering, Chemistry, University of Minnesota - Twin Cities, April Kloxin, MSE, CBE
Tuning viscoelastic properties in photodegradable PEG hydrogels
53. **Somasundaram, Vishal** (Summer Scholars), Chemical Engineering, Aditya Kunjapur, Chemical Engineering
54. **Somma, Joaquina** (Summer Scholars), Chemical Engineering, Catherine Fromen, Chemical Engineering
Effect of tonsil size on aerosol deposition in the upper-airways
55. **Speerli, Ethan** (Delaware Energy Institute; NSF DMREF; NSF EPSCoR), Chemical Engineering, Dionisios Vlachos, CBE
Circularity of Polyethylene Furan-2,5-dicarboxylate (PEF): Chemical Recycling using Microwave-Assisted Heating
56. **Svenson, Ryan** (Summer Scholars), Chemical Engineering, April Kloxin, Chemical Engineering
Engineering Anti-inflammatory Liposomal Nanoparticles for Intracellular Macrophage Deliver
57. **Swing, Justin** (Summer Scholars), Chemical Engineering, Aditya Kunjapur, Chemical Engineering
Multiplexed automated genome engineering of a recoded E. coli strain to enable the production of low-endotoxin recombinant therapeutic proteins with an expanded genetic code
58. **Taneja, Kamya** (Summer Scholars), Mechanical Engineering, Suresh Advani, Mechanical Engineering
Squeeze Flow of Continuous IM7/977-3 Prepreg to Characterize Transverse Viscosity
59. **Tavares, Devin** (NSF GCR), Chemical Engineering, Thomas Epps, CBE
Valorization of Underutilized Lignocellulosic Biomass
60. **Thompson, Maren** (Center for Plastics Innovation, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Basic Energy Sciences), Chemical Engineering, Arizona State University, Emil Hernandez-Pagan and Joel Rosenthal, Chemistry & Biochemistry
Influence of Anode Material on Electrochemical Decarboxylation
61. **Tiso, Gianluca** (Air Force Research Laboratory), Mechanical Engineering, Amit Chaudhari, Center for Composite Materials
Electrophoretic Depositions of Carbon Nanotubes on Long Discontinuous Carbon Fibers
62. **Tolocka, Ashley** (Delaware Energy Institute; NSF DMREF), Chemical Engineering, Dionisios, Vlachos, CBE
Catalytic Deconstruction of Ethylene-Vinyl Acetate Films via Hydroconversion
63. **Walker, Cayden** (Air Force Research Laboratory), Mechanical Engineering, Tekin Ozdemir, Center for Composite Materials
Single Fiber Tensile Testing (SFTT) to Evaluate Strength Degredation Levels of Original and 14-Minute Oxidized T700-FOE Continuous Carbon Fibers
64. **West, Shane** (Summer Scholars), Mechanical Engineering, Chelsea Davis, Mechanical Engineering
Fabrication of Self Cleaning Transparent Wood
65. **Whealton, Charles** (National Aero and Space Administration), Mechanical Engineering, Tom Cender, Center for Composite Materials
Viscoelastic Behavior of Highly Aligned Discontinuous Fiber Thermoplastic Melts
66. **Whoriskey, Vivian** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems),

Environmental Engineering, Yale University, Jennifer McConnell, *Civil & Environmental Engineering*
Sea Level Rise and Delaware's Bridges

67. **Wierzbicki, Jared** (Summer Scholars Program - Unidel UNAR Award), Mechanical Engineering, Arthur Trembanis, Marine Studies
Ghost Pot Detection and Removal Through Low-Cost Sidescan Applications

68. **Williams, Mekhi** (McNair Scholars Program), Chemical Engineering, REU
Metabolic Engineering of an Aniline Production Pathway in E. coli

69. **Yong, Shawn** (Clemson University), Mechanical Engineering, Sai Pradeep, Center for Composite Materials
UNDERSTANDING THE CHARACTERIZATION OF THERMAL DECONSOLIDATION FOR FLAX FIBER REINFORCEMENTS IN THERMOPLASTIC COMPOSITES

70. **Zaman, Prarthona** (Delaware Energy Institute; NSF DMREF), Chemical Engineering Dionisios, Vlachos, CBE
Low Temperature Nylon Depolymerization

71. **Ziereis, James** (Center for Plastics Innovation, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Basic Energy Sciences), Chemical Engineering, Thomas Epps, Chemical & Biomolecular Engineering

72. **Singh, Ankit**, Biochemistry, Pei Chiu, Civil & Environmental Engineering
Biochar as a terminal electron acceptor for microbial respiration

73. **Stare, Dylan** (Chemical & Biomolecular Engineering), Eric Furst, Chemical & Biomolecular Engineering
Electrostatic Interaction of Coiled Coils

74. **Massey, Kendall**, Purdue University, Chemical Engineering, Kevin Solomon, Chemical & Biomolecular Engineering
Bioprospecting prokaryotic Argonautes for in vivo biotechnology applications

75. **Chen, Benjamin**, Mechanical Engineering, Panagiotis Artemiadis, Mechanical Engineering
Real-Time Surface Compliance Detection For Robotic Ankle Prostheses Via Kinematic Data

POSTER SESSION

IV

1:45 - 3:15PM

(Materials Science & Engineering, Electrical & Computer Engineering, CIS, Math and Physics)

1. **Abdelnasser, Khaled-Alameer** (Summer Scholars), Computer Science, Weisong Shi, Computer and Information Sciences
What If We Could Stop Over 1.2 Million Car Accidents From Happening Each Year?
2. **Abu Obaid, Sohaib**, University of Pittsburgh, Sagar Doshi, Center for Composite Materials
3. **Ackerman, Rowan** (Summer Scholars), Computer Science, Matthew Mauriello, Computer and Information Sciences
A Better Way to Type IPA — [ə 'ber.t̩ w eɪ t̩ ə t̩ 'eɪ p aɪ p 'hɪ eɪ]
4. **Adejoro, David** (Summer Scholars), Computer Engineering, Nathan Lazarus, Electrical Engineering

5. **Al Husaini, Zakariya** (Center for Integrated Asset Management for Multi-modal Transportation Infrastructure Systems), Materials Science and Engineering, Jennifer McConnell, Civil & Environmental Engineering
6. **Alashoush, Sammy** (Summer Scholars), Computer Science, John Aromando, Computer and Information Sciences
Increasing Effectiveness and Reducing Costs of Generative AI Feedback
7. **Alismaili, Hashil** (NSF CAREER), Materials Science and Engineering, Laure Kayser, Materials Science/Chemistry
Synthesis and Characterization of Conductive Adhesive Hydrogels
8. **Anokye-Agyei, Roselyn** (DSU-UD Summer Engineering Research Experience), Engineering Physics, Delaware State University, Dennis Prather, Electrical and Computer Engineering
“Into The Chip” A Look at Nanofabrication for the Future
9. **Azevedo, Benjamin** (INBRE) Computer Engineering, Rahmat Beheshti, Computer and Information Sciences
Evaluating Fairness in Clinical Large Language Models through Vignette Generation
10. **Baker, Gianna** (ECE REU), Mathematics, Washington & Jefferson College, David Hong, ECE
Developing Open-Source Software for Generalized Canonical Polyadic Tensor Decomposition
11. **Balamurugan, Saravanakrishnan** (ECE REU), Electronics and Communication Engineering, National Institute of Technology, Tiruchirappalli, India, Chengmo Yang, ECE
EXPLORING FAULT INJECTION ATTACKS ON SEGMENTATION DNN MODELS
12. **Ballenger Luke** (Office of Naval Research) and **Wommack, Myles**, Computer Engineering/Mechanical Engineering, Mark Mirotnik, Center for Composite Materials
Early Childhood Performance on Tool Task Predicts Aggression in Middle Childhood
13. **Barry, Alexander** (U.S. Army CCDC Army Research Laboratory), Cornell University, Sagar Doshi, Center for Composite Materials
Out-of-plane Compressive Characterization of Woven Fabric S-2 Glass Epoxy Composites for Input to MAT213 Material Model
14. **Blackburn, Logan** (Summer Scholars) and **Mohammed, Alyssa** (ECE REU), Computer Engineering/Electrical Engineering, Kenneth Barner, Electrical Engineering
3D Mapping of the UD Campus via Aerial LiDAR and Photogrammetry
15. **Boateng, Papa** (SIAM Society for Industrial and Applied Mathematics), Math, Colby College, John R Jungck, BISC/MATH
Modeling Quasicrystal Viral Capsids: Self-Assembly of Hats and Turtles
16. **Breder, Richard** (Summer Scholars), Electrical Engineering, Roxanne Radpour, Electrical Engineering
Developing accessible software to apply MVCam (a commercial InGaAs camera) for faster, safer infrared reflectography of paintings
17. **Bria, Scott** and **Karney, Olivia** (C. Bacuta Grant), Applied Mathematics, Constantin Bacuta, Math
Approximation of Convection-Dominated Problems
18. **Bryant, Jared** (DSU-UD Summer Engineering Research Experience), Information Technology, Delaware State

- University, Weisong Shi, Computer Science
3D Localization and Meshing in Autonomous Vehicles
19. **Cartwright Jack**, Computer Engineering, Nektarios Georgios Tsoutsos, Electrical & Computer Engineering
Securing 3D Printer Firmware Updates with The Update Framework
 20. **Casagrande, Joseph** and **Murphy, Michael** (Summer Scholars), Computer Science, Andrew Novocin, Electrical & Computer Engineering
Improving Healthcare By Way Of Technology
 21. **Cash, Samuel** (Summer Scholars), Mathematical Sciences, Pak-Wing Fok, Mathematical Sciences
Calculating Stress Strain Curves in Nonlinear Arterial Mechanics
 22. **Catalan, Marisol** (McNair Scholars Program), Physics , Veronique Petit, Physics and Astronomy
Analysis of Two Magnetic Candidate Be Stars
 23. **Charles, Nora** and **Pennisi, Giana** (Summer Scholars), Electrical Engineering, Vishal Saxena, Electrical Engineering
Automated Photonic Chip Characterization Setup using Edge Coupling of Fibers
 24. **Chelius, Larissa** (Summer Scholars), Computer Science, Joshua Cashaback, Biomedical Engineering
A history of reward causes a decrease in error corrections in sensorimotor adaptation
 25. **Chen Zhixiang** (Summer Scholars), Finance, Shuxing Li, Mathematical Sciences
Exploring the Planarity of Vectorial Boolean Functions in Cryptography Through Combinatorial Vanishing Flats
 26. **Chouhan, Avinash**, Computer Science, Matthew Louis, Mauriello, CIS
 27. **Christman, Lucas** (Air Force Research Laboratory), John Tierney, Center for Composite Materials
 28. **Cioffi, Giuliana** (Summer Scholars), Materials Science and Engineering, David Martin, Materials Science
The Impact of Polymer Additives on PEDOT-Based Biosensors
 29. **Davis, Grace** (Summer Fellows), Applied Molecular Biology, Mona Batish, Medical & Molecular Sciences
Quantifying the Uptake of RNA Cargo from Nanocage-Based Exporters
 30. **Deputy, Travis**, Electrical Engineering, Steven Hedegus, Electrical & Computer Engineering
Effects of CuCl₂ and EDA Etching on the JV Response of CdTe Solar Cells
 31. **Desai, Ansh** (Summer Scholars), Applied Mathematics, Peter Monk, Mathematical Sciences
Regularized Inversion of the Two-Dimensional Born Operator for Potential Field Reconstruction
 32. **Doolittle, Jack** (McNair Scholars Program), Philosophy, Hans A. Holter, Department of Economics
Integrating Theories of Justice into Intermediate Economic Models
 33. **Dunn, Jarrod** (Summer Scholars), Mathematical Sciences, Dominique Guillot, Mathematical Sciences
Positive Semidefinite Graphs Over Finite Field
 34. **Durbin, Noah** (Summer Scholars), Computer Engineering, Nathan Lazarus, Electrical Engineering
Using obfuscation and post-processing for IP protection in 3D printed electronics

35. **Fletcher, Kejae** (Delaware Space Grant), Computer and Information Sciences, Esther Biswas-Fiss, MMSC
Computational Analysis of Benign Variants in the ABCA4 Gene
36. **Friedler, Justyn**, Physics, Williams College, Chelsea Davis, ME
Rebuilding the FastTack: Quantifying Adhesion at Short Contact Times
37. **Galindo, Wilkin** (DSU-UD Summer Engineering Research Experience), Engineering Physics/Electrical Engineering, Delaware State University, Dennis Prather, Electrical and Computer Engineering
Nanofabrication: Small Tools, Big Impacts
38. **Garcia, Laura Therese** (Summer Scholars), Computer Engineering, Hui Fang, Computer Engineering
CoachGPT: An AI Tool to Transform the Student Writing Process
39. **Grant, Henry** (Summer Scholars), Computer Science, Satwik Patnaik, Computer Engineering
Enhancing the security Random Logic Locking
40. **Gunderman, Benjamin**, Physics, Stony Brook University, Lars Gundlach, Chemistry and Biochemistry
Fabrication of Plasmonic Au/Ag Alloy Nanoparticles
41. **Gutleber, Emma** (Summer Scholars), Materials Science and Engineering, Charles Dhong, Materials Science
COVID-Touch: A No-Power Lateral Flow Antigen Test with Tactile Output
42. **Harrity, Brian** (Arnold and Mabel Beckman Foundation), Materials Science and Engineering, Laure Kayser, Materials Science/Chemistry
Impact of the Degree of Sulfonation on the Mixed Ionic-Electronic Properties of PEDOT:PSS-co-PS
43. **Hasan, Furdeen** (Summer Scholars) and **Marella, Gregg** (US Army Contracting Command), Computer Engineering/Electrical Engineering, Vishal Saxena, Electrical & Computer Engineering
Compact and Fast-Scanning Passive mmWave Imaging Testbed
44. **Hatkar, Ajay** (INBRE), Mathematical Biology, University of Pennsylvania, Scott Siegel, Cawley Center for Translational Cancer Research
An exploratory evaluation of potential breast cancer risk factors in a Middletown hotspot
45. **Heider, Melanie** (North Star Scientific Corporation), Materials Science/Engineering, Mark Mirotznik, Center for Composite Materials
Additive Manufacturing of Lunar Regolith for Electromagnetic Applications
46. **Holt, Madison** (Summer Fellows), Biology, Jeff Fuhrman, Plant & Soil Science
Genetic Diversity of Temperate Bacteriophages Spontaneously Produced by Soybean-Nodulating Bradyrhizobium
47. **Hutchinson, Alex** (Physics), Chitrleema Chakraborty, Materials Science and Engineering
Scanning Fluorescence Microscopy: The Use of Mode Cleaners and Fiber Couplers in Building a Scanning Fluorescence Microscope
48. **Huynh, Mio**, Electrical & Computer Engineering, Villanova University, Matt Doty, MSE
Degradation of Ga₂Se₂ grown by Molecular Beam Epitaxy
49. **Jahin, Araf** (INBRE), Computer Science, Shubhika Srivastava, Cardiology
50. **Jaikumar, Nikil** (Summer Scholars Program), Electrical Engineering, Somnath Sengupta, Electrical Engineering

51. **Jones, Noah** (Summer Scholars), Materials Science and Engineering, Ujjwal Das, Electrical Engineering
Evaluating the Correlation Between Temperature Induced Hydrogen Loss and Surface Recombination Velocity in Passivation Degradation of c-Si/i.a-Si:H Solar Cells
52. **Le, Benjamin** (INBRE), Computer Science (Cybersecurity), Leila Barmaki, Computer and Information Sciences
Immersive Learning: Teaching American Sign Language in Virtual Reality
53. **Liu, Boning** (UD Envision), Applied Statistics, West Chester University, Juzhong Tan, Animal & Food Sciences
Biochar in Wastewater Treatment: Effective Ammonia Filtration and Environmental Benefits
54. **Luo, Haohui** (Summer Scholars), Electrical Engineering, Tingyi Gu, Electrical Engineering
55. **Ma, Daniel** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems), Mathematics and Computer Science, Northeastern University, Weisong Shi, Computer and Information Sciences
ICanC: Improving Camera-based Object Detection and Energy Consumption in Low-Illumination Environments
56. **Madamopoulos, Christos** (ECE REU), Electrical & Computer Engineering, National Technical University of Athens, Nektarios Tsoutsos, ECE
Side Channel Collection from 3D Printers
57. **Mahmood, Talha** (Summer Scholars), Computer Science, Xu Yuan, Computer and Information Sciences
MMST-ViT: Climate Change-aware Crop Yield Prediction
58. **McKee, Kyle** (ECE REU), Electrical Engineering, University of Notre Dame , Nathan Lazarus, ECE
Multifunctional Liquid Metal Coils for Sensing and Actuation in a Soft Robot
59. **Memmo, Nicolas**, Electrical Engineering, Steven Hegedus, Electrical & Computer Engineering
Enhanced Process Control Through Microcontroller-Based Parameter Monitoring
60. **Meyers, Simone** (Summer Scholars), Materials Science and Engineering, Charles Dhong, Materials Science
Chemical Surface Texturing through Block Copolymer Morphology
61. **Miletti, Nicole** (ECE REU), Electrical Engineering, Jaime Phillips, ECE
Photovoltaics for Self-Powered Wireless Tracking of Monarch Butterflies
62. **Moore, Caroline** (National Science Foundation CAREER Award), Materials Science and Engineering, Christopher Kloxin/Jovan Tatar, Materials Science and Engineering
Influence of Amine Compounds on Epoxy-Amine Reaction Mechanisms and Material Strength in Polymer Networks
63. **Moore, Jada** (DSU-UD Summer Engineering Research Experience), Engineering Physics: Bioengineering, Delaware State University, Ryan Zurakowski, Biomedical Engineering
64. **Mou, Ling** (GEMS), Math, Jingmei Qiu, Math
Efficient Solutions for High-Dimensional PDEs Using Low-Rank Tensor Decompositions and Their Implementation on GPUs
65. **Mukherjee, Iveena** (U.S. Army CCDC Army Research Laboratory), High School-Sr., Nuwan Dewapriya, Center for Composite Materials

*Enhancing Polyethylene Fiber Strength:
Insights from Molecular Dynamics*

66. **Mullenberg, Thomas** (Summer Scholars),
Electrical Engineering, Mohsen Badiey,
Electrical Engineering
*Project MARS (Marine Acoustic Recording
System)*
67. **Mwaria, Joy** (Summer Scholars),
Computer Science, MatthewMauriello,
Computer and Information Sciences
*Human & AI Collaboration: Designing a
Study about AI's affect on Human
Decision-making*
68. **Myers, Brandon** (Summer Scholars),
Applied Mathematics, Guyenne Philippe,
Mathematical Sciences
*Calculation of Interior Velocity Field of
Waves via Values on the Free Surface*
69. **Nadar, Matthew** (Summer Scholars),
Computer Science, John Aromando,
Computer and Information Sciences
*"A real person Will always be better:"
Student Perceptions of GPT-produced
Feedback on a CSI Non-Coding
Assignment*
70. **Nazari, Brishna** (INBRE), Computer
Science, Leila Barmaki, Computer and
Information Sciences
*Eyes and Minds: Unveiling Emotional
Recognition through Gaze and Brain
Activity*
71. **Neuschwender, William**, Applied Physics,
SUNY at Geneseo, Benjamin Jungfleisch,
Physics
*Tuning Magnon-Photon Coupling in a
Planar Resonator*
72. **Pasicolan, Charmaine**, Computer Science,
Matthew Louis Mauriello, CIS
73. **Patel, Aadi** (ECE REU),
Electrical/Computer Eng, Rutgers
University -NB, Satwik Patnaik, ECE
*Hardware Trojan Detection using
Generative AI*
74. **Pelczar, Andrew** (Summer Scholars)
Electrical Engineering, Jamie Phillips,
Electrical Engineering
75. **Pennisi, Giana**, Computer Engineering,
Vishal Saxena, Electrical & Computer
Engineering
*Automated Photonic Chip Characterization
Setup using Edge Coupling of Fibers*
76. **Ramirez Perales, Jesus Lorenzo** (DSU-
UD Summer Engineering Research
Experience), Engineering Physics,
Delaware State University David Hong,
Department of Electrical and Computer
Engineering
*Data Science with Generalized Tensor
Decompositions*
77. **Ramsey, Madison**, Physics, Washington
and Jefferson College, Joshua Zide, MSE
*The Effects of Antenna Geometry on
Photoconductive Antennas: Dark
Resistance Characterization for THz
Applications*
78. **Rathore, Sara**, Computer Engineering
BCPE, Yvonne Ou, Math
79. **Richards, Everett** (National Science
Foundation, REU Site: Sustainable
Resilient Transportation Systems),
Computer Science and Applied
Mathematics, San Diego State University,
Lena Mashayekhy, Computer and
Information Sciences
*Edge-Enabled Collaborative Object
Detection for CAVs*
80. **Rigor, Maya** (Summer Scholars),
Electrical Engineering, Vishal Saxena,
Electrical Engineering
81. **Rodríguez Vázquez, Saúl Tonalli**
(University of Delaware Department of
Chemistry and Biochemistry), Physics,
Autonomous University of San Luis Potosi,
Ariel Alperstein, Chemistry and
Biochemistry

- Developing an Ultrafast Two-Dimensional Infrared (2DIR) Setup*
82. **Rodriguez-Leon, Axel** (Summer Scholars), Computer Science, Matthew Mauriello, Computer and Information Sciences
Co-Creative Artificial Intelligence Integration in a Character Creation Interface for Video Game Development
83. **Roth, Kayla** (Summer Scholars), Computer Science, Matthew Mauriello, Computer and Information Sciences
Electric-Vis: Understanding the relationship between residential energy usage and lifestyle variables
84. **Rustagi, Aditya** (Office of Naval Research), High School-Jr., Charter School of Wilmington, Aidan Ford, Center for Composite Materials
85. **Sarbajna, Sidrisha** (ECE REU), Electrical & Computer Engineering, Carnegie Mellon University, Chengmo Yang, ECE
Fast and Parallel Sorting with Hardware
86. **Shah, Diya** (Summer Scholars), Computer Science, Matthew Mauriello, Computer and Information Sciences
Networked Success: Understanding the Role of Major-based Communities in Academic Achievement in Computer Science
87. **Shaw, John** (Summer Scholars), Computer Engineering, Tingyi Gu, Electrical Engineering
Establishing a Free-Space Raman Spectroscopy Setup for 2D Material Analysis
88. **Steele, Vance** (ECE REU), Computer Engineering, Rose-Hulman Institute of Technology, Austin Brockmeier, ECE
Increasing Spatial Accuracy of EEG with Signal Decomposition and Machine Learning
89. **Stevens, Kirin-Justin** (Summer Scholars), Electrical Engineering, Mohsen Badiay, Electrical Engineering
Project MARS (Marine Acoustic Recording System)
90. **Tabor, Solana** (SIAM Society for Industrial and Applied Mathematics), Math, Loyola University Chicago, John R Jungck, BISC/MATH
Representing Quasicrystals Viral Capsids with Einstein Tiles
91. **Thacker, Jai**, High School-Jr., Charter School of Wilmington, Mark Mirotznik, Center for Composite Materials
92. **Torres, Bijan** (INBRE), Physics, Gilberto Schleiniger, Mathematical Sciences
93. **Tran, Duy Duc** (Summer Scholars), Computer Science, Weisong Shi, Computer and Information Sciences
A Novel Approach to Pedestrian Modeling in Autonomous Vehicle Testbeds
94. **Turner, Paige** (Summer Fellows), Biological Sciences, Mona Batish, Medical and Molecular Sciences
Exploring Extracellular Vesicle Addition on Human Cells
95. **Vazquez, Sofia** (McNair Scholars Program), Finance, Ryan Hanson, Business and Economics
96. **Wang, Chenyi** (ECE REU), Computer Engineering, Zhejiang University/UIUC, Yuping Zeng, ECE
Simulation of tunneling effect on GeSn SWIR photodetector's dark leakage current with fully relaxed GeSn buffers
97. **Wang, Lindsey** (INBRE), Electrical Engineering, Jason Gleghorn, Biomedical Engineering
A Dynamic Time Warping-Based Approach for 2D Affine Image Alignment

98. **Weiss, Ryan** (Summer Scholars),
Electrical & Computer Engineering,
Nathan Lazarus, ECE
*Soft Solenoid Valve Using Liquid Metal
Coil*
99. **Wilson, Rita**, Applied Physics, Michigan
Technological University, Alexandra
Bayles, CBE
*Comparing the Compatibility of 3D Printer
Inks of Contrasting Rheology*
100. **Wilt, Ian** (Summer Scholars),
Electrical Engineering, Mohsen Badiy,
Electrical Engineering
*Project MARS (Marine Acoustic Recording
System)*
101. **Boulden, Morgan and Jackson,
Marissa** (Summer Scholars), Elementary
Teacher Education/Public Policy, Monica
Frichtel, Dance
*Civics in Movement: The Development of
an Arts-Integrated Curriculum*

POSTER SESSION V

3:30 - 5:00PM

*(Health Sciences, Psychological &
Brain Sciences and Biomedical
Engineering)*

1. **Ali, Nuha** (INBRE), Medical
Diagnostics, Hank Chen,
Radiation Oncology,
ChristianaCare
*Quality Assurance Evaluation
of No-Fly Policy in Radiation
Therapy Planning at
ChristianaCare*
2. **Alkaye, Ahmed** (INBRE),
Kinesiology, Jeremy Crenshaw,
KAAP
*Stability on the move:
Investigating the effects of
speed and path width on
stability control mechanisms
during walking*
3. **Allen, Percy** (INBRE),
English, Eric Layland, Human
Development & Family
Science
*An Intrasectional Approach to
Black Queer Research: Girl,
Let's Kiki!*
4. **Annasagaram, Meghna Raj**
(Delaware Center for
Musculoskeletal Research),
Biomedical Engineering,
Stephanie Cone, Biomedical
Engineering
*MRI Differences in the Triceps
Surae due to Achilles Rupture
and Achilles Tendinopathy*
5. **Antala, Lekha** (Summer
Scholars), Biomedical
Engineering, Aditya
Kunjapur, Chemical
Engineering
*MHC-II Epitope Profiling
Using a Bacteria-Yeast
Screening Platform*
6. **Archer-Buckley, Te'Leah**
(American Heart Association),
Medical Diagnostics, Shannon
Lennon, KAAP
*The Role of Sodium and Added
Sugars on Blood Pressure in
Athletes and Non-Athletes in
Young Adulthood and Midlife*
7. **Arranguez, Mark** (INBRE),
Human Physiology, Justin
Parreno, Biological Sciences
*The Role of Mechanical
Loading and Tropomyosin 3.1
in Stabilizing F-actin*
8. **Asres, Naod** (Summer
Scholar), Human Physiology,
X. Lucas Lu, Mechanical
Engineering

- Impact of Lidocaine and Bupivacaine on Chondrocyte Viability and Metabolic Activity on Cartilage Explants*
9. **Averill, Jenna** (Summer Scholars), Biomedical Engineering, Charles Dhong, Biomedical Engineering
Mechanical and Biological Effects of Polystyrene Sulfonate in Osteoarthritic Cartilage
 10. **Bagdi, Shriya** (INBRE), Neuroscience, Jason Gleghorn, Biomedical Engineering
A Simple Gradient Generator for Morphogen Patterning in Microphysiological Systems
 11. **Baltar, Janna** (Santoro Summer Undergraduate Research Award), Medical Lab Science, Sam Biswas, Medical and Molecular Sciences
Expression and Purification of the Full-length E1-E2 Protein Complex from Human Papillomavirus type16
 12. **Benito, Jessica** (Summer Fellows), Biomedical Engineering, John Slater, Biomedical Engineering
Genes encoding proteins involved in cell division may play additional roles in development
 13. **Bilbrough, Cole** (INBRE), English (Pre-Med), Iva Obrusnikova, Health Behavior and Nutrition Science
 14. **Bonelli, Hailey** (INBRE), Biomedical Engineering, Dawn Elliott, Engineering
The Effect of Age on Activity and Tendon Mechanics Following Overload
 15. **Broadhurst, Alexander** (INBRE), Summer Scholars, Biomedical Engineering, Stephanie Cone, Biomedical Engineering
Exploration of Multi-Tissue Interactions in the Rodent Knee Joint
 16. **Brown, Alyssa** (INBRE), Health Behavior Science, Kathleen McCallops, The Center for Community Health and Empowerment
Uncovering Phage Diversity and Function in Plastic Fed Mealworm Microbiome
 17. **Buck, Kathryn** (INBRE), English, Lydia Timmins, Communication
Science Communication: Summarizing Your Research for a Common Audience
 18. **Burrowes, Sophia** (Summer Scholars), Biomedical Engineering, Jill Higginson, Mechanical Engineering
Effect of Increased Propulsion on Step Length on an Adaptive Split-belt Treadmill
 19. **Byers, Kira** (INBRE), Biomedical Engineering, Jason Gleghorn, Biomedical Engineering
Development and finite element modeling of modular organ-on-chip platforms
 20. **Chatfield, Ryann** (Summer Scholars Program - Unidel UNAR Award), Biomedical Engineering, Jason Gleghorn, Biomedical Engineering
Advancing Manufacturing Methods for Drug Delivery Carriers for the Treatment of Lymph Node Resident Diseases

21. **Chesley, Grace** (INBRE), Kinesiology & Medical Diagnostics, Jocelyn Hafer, Kinesiology & Applied Physiology
How Does Joint Range of Motion Change After Muscle Fatigue in Healthy Young Adults?
22. **Chowdhury, Sudipa**, Newark Charter School, Tania Roth, PBS
Behavioral Outcomes of Early-Life Caregiving with Insights from Epigenetics
23. **Cronin, Zoe** (Plasket Summer Research Award - given by the University of Delaware Department of Psychological and Brain Sciences Undergraduate Committee), Neuroscience & Psychology, Timothy Vickery, Psychological and Brain Sciences
Localization of Stimuli Based on Neural Activity in Early Visual Areas
24. **Cybyk, Lydia** (INBRE), Biomedical Engineering, Jason Gleghorn, Biomedical Engineering
Development of a Modular Perfusible Kidney-on-a-Chip Device with an Accessible Hydrogel Compartment
25. **Czapor, Kelly** (Summer Scholars), Biomedical Engineering, Chris Price, Biomedical Engineering
Self-Assembly and Drug Encapsulation of DMOAD-Loaded Elastin Collagen Nanovesicles
26. **Daga, Kirti** (Summer Scholars), Medical Diagnostics, Christopher Martens, Kinesiology and Applied Physiology
Quantifying Biomarkers in Blood: A New Frontier for Early Detection of Alzheimer's Disease
27. **Demetriou, Nikos** (Summer Scholars), Biomedical Engineering, Emily Day, Biomedical Engineering
28. **Dixon, India** (McNair Scholars Program), Medical Diagnostics, Iva Obrusnikova, Health Behavior & Nutrition Science
Paving the Way to Active Living for People with Disabilities: Evaluating Playground and Park Accessibility in Delaware
29. **Downing, London** (Advancing Diversity in Physical Therapy), Kinesiology, Delaware State University, Karin Grävare Silbernagel, Department of Physical Therapy
Patellar Tendon Structure after ACL Reconstruction
30. **Duch, Gracie** (INBRE), Neuroscience, Saint Mary's College, Anjana Bhat, Physical Therapy
Effects of Nintendo Exergaming on Cognitive/Executive Functioning in Children with Autism Spectrum Disorder
31. **Duong, Katherine** (INBRE Summer Scholars), Biomedical Engineering, Stephanie Cone, Biomedical Engineering
Non-invasive Measurement of Knee Joint Biomechanics

32. **Eimont, Arianna** (INBRE), Neuroscience, Jennifer Semrau, Kinesiology & Applied Physiology
Examining Visual Versus Kinesthetic Temporal Accuracy and Variability
33. **Fader, Jillian** (Summer Fellows), Wildlife Ecology & Conservation, Lauren Genova, Chemistry & Biochemistry
Quantum Scrabble: An Interactive Chemistry Board Game to Strengthen Students' Understanding of Quantum Numbers
34. **Fernandez, Gabriel** (Advancing Diversity in Physical Therapy, Health Science, Stockton University, Rebecca Stump, Department of Physical Therapy
Isokinetic Machines as a Form of Rehabilitative Exercise
35. **Fletcher, Sean** (Santoro Summer Undergraduate Research Award), Medical Diagnostics, Subhasis Biswas, Medical and Molecular Sciences
Computational analysis of Human papillomavirus (HPV) E1, E2, E6 & E7 proteins, the LCR regions, and biological consequences
36. **Forbes, Jadah** (INBRE Summer Scholar), Neuroscience, Jaclyn Schwarz, Psychological & Brain Sciences
37. **Free, Peyton** (Lomax Cooperative Extension Scholar Fund and Erik Ervin, Plant and Soil Science), Masters of Public Health in Epidemiology, Amy Shober, Cooperative Extension
Voices from the Field: Feedback on University Plant Diagnostic Clinic and Soil Testing Program
38. **Gallagher, Lindsay** (Summer Scholars), Biomedical Engineering, Brian Kwee, Biomedical Engineering
Delivery of Immunomodulatory Molecules for Muscle and Nerve Regeneration
39. **Gobinathan, Asvika**, Wilmington Charter School, Tania Roth, PBS
The Relationship Between Epigenetics and Autoimmune Diseases
40. **Goblirsch, Kaitlyn** (McNair Scholars Neuroscience and Anthropology), Anna Klintsova, Psychological and Brain Sciences
Long-Term Effects of Early Postnatal Single-Day Alcohol Exposure on Neuron and Astrocyte Populations in Nucleus Reuniens in a Rat Model of FASD
41. **Granetzke, Isabella** (Summer Scholars), Exercise Science, Dan White, Physical Therapy
42. **Grant, Michaela** (USDA/NIFA Expanded Food and Nutrition Education Program), Nutrition and Dietetics, Michelle Voegelé, Cooperative Extension
Teaching Nutrition Lessons at New Castle County Summer Camps
43. **Griffin, Jo** (INBRE), Women and Gender Studies, Eric

- Layland, Human Development & Family Science
Making A Case For Research on Fat/Queer Joy
44. **GuzmanLuzbeth** and **Martinez, Lily** (McNair Scholar), Neuroscience, Jaclyn Schwarz, Psych & Brain Sciences
Exploring Social Behavior and Neurological Alterations in a New Mouse Model of Hypoxic Ischemic Encephalopathy
45. **Hall, Joshua** (Graduate College), Immunology & Medical Microbiology, West Virginia University, Jennifer Horney
Are Delaware Opioid Treatment Programs (OTPs) Ready for Disasters?
46. **Harrison, Alexa** (INBRE), Nutrition and Dietetics, Sheau Ching Chai, Health Behavior and Nutrition Science
Resveratrol and Bone Health in Postmenopausal Women with Osteopenia
47. **Harrison, Aliyah** (McNair Scholars), Program Cognitive Science, Amanda Seidl, Communication Sciences & Disorders
Leveraging Interests & Nurturing Knowledge
48. **Horger, Colin** (INBRE), Biomedical Engineering, Jason Gleghorn, Biomedical Engineering
Optimization of Sequence Generation Schemes for Advancements in Generative Protein Language Modeling
49. **James, Randii** (UD Envision), Biotechnology, University of Maryland, Global Campus, Qi Mu, Plant & Soil Sciences
Genotype vs Phenotype: Investigating Variation & Correlation, A Case Study in Sorghum
50. **Jeudy, Charise** (Delaware IDEa Network for Biomedical Research Excellence (INBRE)), Biomedical Engineering, Nathan Lazarus, Department of Electrical and Computer Engineering
Designing a Smart Sensor for Juvenile Idiopathic Arthritis
51. **Joshi, Tanmayee** (Summer Scholars), Biomedical Engineering, Christopher Price, Biomedical Engineering
52. **Kalish, Lindsay**, Kinesiology, University of Minnesota Twin Cities, Karin, Silbernagel, Physical Therapy
Structural and Functional Implications Associated with Subcutaneous Fat Depth of the Medial Gastrocnemius
53. **Kappen, Chloe**, Biomedical Engineering, X. Lucas Lu, Mechanical Engineering
The Impact of Metformin on Calcium Signaling of Chondrocytes in Bovine Articular Cartilage
54. **Kearns, Grace** (INBRE), Communications, Lydia Timmins, Communication
Complicated to Comprehensible: Evaluating Methods for Communicating Breast Cancer Research
55. **Kelly, Cody** (Summer Scholars Award), Neuroscience, Anna Klintsova, Psychological and Brain Sciences

- Activation of Microglia 96 Hours After a Single-Day Alcohol Exposure in the Nucleus Reuniens of Rodent Brain*
56. **Krams, Abigail** (INBRE), Neuroscience, Dayan Knox, Psychological & Brain Sciences
The Impact of Traumatic Stress on Mu-Opioid Receptor Internalization in Female Models
57. **Le, Tom** (INBRE), Biomedical Engineering, Jason Gleghorn, Biomedical Engineering
Phylogenetically Balanced CDS Datasets for Improved Expression Modeling
58. **Le, Christian** (INBRE), Biomedical Engineering, Justin Parreno, Biological Sciences
Examining the Effects of Passaging on Murine Tenocytes
59. **Librizzi, Matt** (Summer Scholars), Exercise Science, Daniel White, Physical Therapy
Validating the Posture and Physical Activity Index to Detect Sedentary Behavior in Adults with Knee Osteoarthritis
60. **Liu, Vivian** (Graduate College), Psychological Sciences, University of California, Irvine, Teomara Rutherford, School of Education
Career Barriers and Undergraduate Minority Studentss
61. **Lopez, Ailyn** (Summer Scholars), Biomedical Engineering, Elise Corbin, Biomedical Engineering
Phenotypic Analysis of Mouse Tenocytes in Transition to Pathophysiological Elastic Moduli
62. **Lunn, Simone** (INBRE), Neuroscience & Psychology, Dayan Knox, Psychological & Brain Sciences
Do Cities And Suburban Areas Hold Emotional Content?
63. **Lyons, Grace** (Mind, Brain, and Behavior Summer Fellowship Award), Neuroscience, Anna Klintsova, Psychological and Brain Sciences
Decreased Brain Stiffness in a Rat Model of FASD: The Role of the Perineuronal Nets in Ethanol-Induced Damage and in Intervention
64. **Madaha, Haaris** (Summer Scholars), Medical Diagnostics, Chi Keung Lam, Biological Sciences
Modulating HSP90 Interactome As A Potential Therapeutic Target in Cardiac Disease
65. **Maniyatte, Aaron** (Summer Scholars Program - Unidel UNAR Award), Biomedical Engineering, Jason Gleghorn, Biomedical Engineering
Development of a Manufacturing Pipeline For Cell-Mimetic Drug Carriers
66. **Martin, James** (Summer Scholars), Biomedical Engineering, Brian Kwee, Biomedical Engineering
Applying Tissue Engineering to Enhance Muscle Regeneration

67. **Martinez, Lily** (McNair Scholar), Neuroscience, Jaclyn Schwarz, Psych & Brain Sciences
Exploring Social Behavior and Neurological Alterations in a New Mouse Model of Hypoxic Ischemic Encephalopathy
68. **McKeown Victoria** (INBRE), Biomedical Engineering, Jason Gleghorn, Biomedical Engineering
Incorporating a Stromal Compartment Within a Modular Microfluidic 3D Microphysiological Model of the Human Cervix
69. **Mochache, Joy** (INBRE-College of Health Sciences), Nutritional Sciences, Jody Greaney, Health Behavior and Nutrition Science
Nitric Oxide-Dependent Cutaneous Vasodilation in Young Adults: a Comparison of In Vivo Methodological Approaches
70. **Mohseni, Farzana** (INBRE-College of Health Sciences), Nursing, Xiaopeng Ji, School of Nursing
The Usability and Acceptability of Using an AI-Chatbot to Promote Sleep Health Among Young Black/African American Adults
71. **Munoz, Madison** (Advancing Diversity in Physical Therapy), Kinesiology, Susanne Morton, Department of Physical Therapy
Determining the Contribution of Implicit and Explicit Motor Learning in Older Adults with and without Mild Cognitive Impairment
72. **Munyaka, Lindsay** (Summer Scholars), Biomedical Engineering Fabrizio Sergi, Biomedical Engineering
Modulating HSP90 Interactome As A Potential Therapeutic Target in Cardiac Disease
73. **Muscara, Nicholas** (Summer Scholars), Biomedical Engineering, Joshua Cashaback, Biomedical Engineering
Reinforcement Based Learning and Use-Dependent Processes Function Independently
74. **Napierala, Melanie** (University of Delaware Research Foundation), Biomedical Engineering, Fairfield University, Stephanie Cone, Biomedical Engineering
Wearable Sensing of Achilles Tendon Loading during Functional Movements
75. **Okero, Zenas** (American Heart Association), Nutrition and Dietetics, Shannon Robson, HBNS
Vascular Function in Children Who Meet and Don't Meet Recommendations for Physical Activity and Fruit and Vegetable Intake
76. **Patel, Akshay** (McNair Scholar), Biomedical Engineering, April Kloxin, Chemical and Biomolecular Engineering and Wilfred Chen, Chemical and Biomolecular Engineering
Recombinant Synthesis of Light-Responsive Proteins for Bundlemer Hinge Applications

77. **Patel, Darsh** (INBRE),
Biomedical Engineering, Alvin
Su , Orthopedic Surgery
*In-Vivo Evaluation of Meniscal
Displacement Using an MRI-
Compatible Knee Loading
Device*
78. **Patil, Sana** (EXT/CDC
Vaccine Hesitancy
Implementation Project),
Human Physiology, Sarah
Goldring, Cooperative
Extension
*Community Health Educator
Response to Vaccine Hesitancy
Trainings*
79. **Patrick, Douglas** (INBRE),
Medical Diagnostics, Shannon
Lennon, Kinesiology & Appl
Physiology
*The Role of Dietary Sodium
and Potassium on Sleep
Quality and Sleep Duration*
80. **Pennington, Riley** (INBRE-
College of Health Sciences),
Exercise Science, Iva
Obrusnikova, Health Behavior
and Nutrition Science
81. **Perry, Rachel** (Summer
Scholars), Biomedical
Engineering, X. Lucas Lu,
Mechanical Engineering
*Metformin's Effect on Bovine
Articular Cartilage
Chondrocyte Metabolic Activity*
82. **Pham, Makayla** (McNair
Scholars), Computer Science,
Keith Decker, Computer and
Information Sciences
*Enhancing Adaptive
Interventions with Generative
and Neural Networks*
83. **Powell, Nigel** (INBRE),
Human Physiology, David
Chen, Department of Medicine
(Internal Medicine),
ChristianaCare
84. **Prentice, Leah** (INBRE),
Nutrition and Dietetics,
Shannon Robson, Health
Behavior and Nutrition Science
*Exploring the Relationship
between Screen Time and Diet
Quality in Children*
85. **Puleo, Anna**, Newark Charter
School, Tania Roth, PBS
86. **Pullella, Leopold** (INBRE),
Neuroscience, Ramkrishna
Mitra, Pharmacology,
Physiology, and Cancer
Biology
87. **Reading, Megan** (Institute for
Engineering Driven Health),
Kinesiology, Jeremy Crenshaw,
KAAP
*Validation of a Force-Plate-
Only Method to Quantify
Walking Stability-Control
Mechanisms*
88. **Rivera, Natalie** (Summer
Scholar), Neuroscience, Jaclyn
Schwarz, Psych & Brain
Sciences
*IL-33 Gene Expression In
Maternal, Fetal, And Placental
Tissues Following Maternal
Immune Activation*
89. **Sanchez-Rodriguez, Wendy**
(McNair Scholars Program),
Neuroscience, Franssy Zablah,
Psychological and Brain
Science
*Enhancing Access to Mental
Health Services: A Centralized
Database of Licensed
Providers in Delaware*
90. **Schlag, Logan** (INBRE),
Kinesiology, Darcy Reisman,
Physical Therapy

- Accuracy of response to visual feedback during walking in individuals with chronic stroke*
91. **Seth, Brielle** (INBRE Summer Scholars), Neuroscience, Will Kenkel, Psychological & Brain Sciences
Methodological studies assessing context-dependent conditioning in prairie voles
 92. **Song, Daniel** (National Science Foundation), Human Physiology, Karin Silbernagel, Physical Therapy
The Impact of Metabolic Risk Factors on Triceps Surae Structure and Function
 93. **Steinmetz, Makana** (INBRE), Biomedical Engineering, David Blauvelt, Bioengineering
 94. **Tarpley, Jessica** (UD Envision), Biotechnology, University of Maryland, Global Campus, Michael Crossley, Entomology & Wildlife Ecology
*Determining Optimal Rearing Substrates for Growth and Survival of the Lesser Mealworm, *Alphitobius diaperinus**
 95. **Tobin, Mei** (INBRE), Health Behavior Science, Karin Silbernagel, Physical Therapy
The Relationship Between Adolescent Calf Muscle-Tendon Structure and Loading
 96. **VanAuken, Aurora** (Summer Scholars), Biomedical Engineering, Emily Day, Biomedical Engineering
Release Kinetics of SN38 Loaded NPs
 97. **Walsh, Coleman** (Summer Scholars), Cognitive Science, Katherine Verdolini Abbott, Communication Sciences and Disorders
Examining Correlations Between Wildfire Emissions and Black Carbon Deposition
 98. **Whitesell, Lillian** (INBRE), Nursing, Lauren Covington, School of Nursing
Challenges and job satisfaction among Delaware school nurses
 99. **Wohlbowne, Maria** (INBRE), Neuroscience; Biological Sciences, Lisha Shao, Biological Sciences
*Impact of cell-type specific knocking-down of Neuropeptide F neuron on feeding behavior and metabolism in female *Drosophila melanogaster**
 100. **Yarnall, Timothy** (UD Summer Scholar), Neuroscience, Shara Compton, Chemistry & Biochemistry
Developing an undergraduate biochemistry laboratory module on degradation of green fluorescent protein using ClpXP protease
 101. **Zarate, Emma** (Summer Scholars), Neuroscience, Curtis Johnson, Biomedical Engineering
Revealing brain mechanic changes in LPS-Induced neuroinflammation using Magnetic Resonance Elastography
 102. **Zucaro, Katherine** (Summer Scholars Program - Unidel UNAR Award), Biomedical Engineering, Jason Gleghorn, Biomedical Engineering

Characterization of Cell-mimetic Microparticles (MP) for Sustained Delivery of Therapeutics

103. **Stoecker, Ethan** (INBRE Summer Scholars), Biomedical Engineering, Stephanie Cone, Biomedical Engineering
Characterization of orthopaedic structure-function in a mouse model

Oral Session One 8:30 – 9:45am

BIOLOGY & ECOLOGY (ROOM 202)

Moderator: Sharon Rozovsky

Coster, Luke (National Science Foundation), Biochemistry, Sharon Rozovsky, Chemistry and Biochemistry
Lipid nanodisc for membrane proteins

White, Hanna (Center for Plastics Innovation, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Basic Energy Sciences), Chemical and Biomolecular Eng, Mark Blenner and Dion Vlachos, Chemical & Biomolecular Engineering
Plasma Oxidation to Aid LDPE Biodegradation

Freeman, Thoburn (USDA NIFA Communities and Dickerson Cooperative Extension Scholar and Jan Seitz Cooperative Extension Scholars), Insect Ecology and Conservation, Brian Kunkel, Cooperative Extension
Beetles and Scales, Tales from the Summer Trails

Hendrix, Solomon (CANR Unique Strengths), Insect Ecology and Conservation, Charles Bartlett, Entomology & Wildlife Ecology
*Reclassification of the Planthopper Genus *Melanoliarus Fennah*, 1945 (Hemiptera: Fulgoromorpha: Cixiidae), primarily North of Mexico*

Wert, Adam (Summer Undergraduate Biden School Fellows Program), Environmental Science, Jennifer Reitz, Institute for Public Administration
The Importance of Natural Resources in Comprehensive Plans

HEALTH, CULTURE and COMMUNITY (ROOM 205)

Moderator: Jada Lawrence

Tran, Ha (Summer Scholars) Cognitive Science, Jennifer Kubota, Psychology
The Evolution of Aggression on Social Media

MacWade, Megan (Summer Scholars), Women's Studies, Angela Hattery, Women's Studies
Identifying and documenting the long term impact of Brain Injury on the health and well-being of Black and Latina women survivors of intimate partner violence

Porter, Maryanne (Summer Scholars), Art, Katie Leech, Art
The Problem with Disorder: What Mental Illness Feels Like vs How it's Diagnosed (Continued)

O'Neal, Chase (Summer Fellows), Biomedical Engineering, Emily Day, Biomedical Engineering
Media, Dehumanization, and the Criminal Justice System

NUTRITION & AGRICULTURE (ROOM 207)

Moderator: Regina Wright

Greenly, Madeline (Chick Allen Extension Scholar), English/Philosophy, Jackie, Czachorowski, Cooperative Extension

Cooperative Extension: Sharing Knowledge in Delaware

Quinn, Delia (Community Engagement Summer Scholars), Global Studies, Leann Moore, Provost's Office

Lessons From the Farm: How Working on the Farm at the Food Bank of Delaware Changed my Perspective on Fighting Food Insecurity in America

Fox, Olivia (USDA/NIFA Expanded Food and Nutrition Education Program and Dickerson Cooperative Extension Scholar), Food Science, Wanda Taylor, Cooperative Extension
EFNEP Sussex County Nutrition Camps

Register, Iyanna (UD Envision), Media Communications, Mark Parcels, Animal & Food Sciences
The UD Envision Program: Envisioning your future in Agricultural Sciences

Appel, Evyn (Summer Scholars), Other, Allison Karpyn, Human Development and Family Studies
Understanding Food Stigma in Nutrition Assistance Programs

ENVIRONMENTAL SCIENCE & COMMUNITY PLANNING (ROOM 302)

Moderator: Sarah Trembanis

Sandeen, Silvie (Summer Fellows), Art History/Siobhan Carroll, English
An investigation of green infrastructure to enhance resilient stormwater management in Northeastern Wilmington

Levi, Olivia and Gross, Jady (Summer Undergraduate Biden School Fellows Program), Global Enterprise Management/Public Policy, Signe Bell, Roger Hesketh, Center for Community Research and Service

Utilizing the Technology of Participation (TOP) for Community Engagement/Community Participation and Planning

Ramirez-Santos, Ana (Community Engagement Summer Scholars), University Studies, Sarah Trembanis, History
Before the Beach Resorts: South Bethany, Cat Hill, and 19th Century Delaware

Beardsley, Marcus (Summer Fellows), History and Ancient Greek & Roman Studies, Tyson Sukava, Languages, Literatures, and Cultures
Archaeological Methodology at the Santa Susana Villa

Ortiz, Emily (Summer Scholars), Energy and Environmental Policy, Leah Palm-Forster, Applied Economics and Statistics
Consumer Preferences and Attention to Climate-Smart Attributes of Agricultural Products

Oral Session Two 10:00 – 11:15am

BUSINESS & ECONOMICS (ROOM 202)

Moderator: Sheng Lu

Chen, Yihong (Summer Scholars Program - Unidel UNAR Award), Management Information Systems, Harry Wang, Management Information Systems
Leveraging Retrieval-Augmented Generation (RAG) and Supervised Fine-Tuning (SFT) for Business Research Analytics

Osinubi, Catherine (Summer Scholars Program - Unidel UNAR Award), Management Information Systems, Edward Hartono, Management Information Systems
Utilizing MIS to Revitalize Business: Phase 3 - Formulating a Plan

Heindel, Natalie (Summer Scholars Program - Unidel UNAR Award), Fashion

Merchandising, Sheng Lu, Fashion and Apparel Studies
Understand Extended Producer Responsibility (EPR) Legislation on U.S. Fashion Companies' Supply Chain Strategies

Rodriguez Thomas, Katarina (Summer Fellows), Economics, Kathryn Bender, Economics

Analysis of Consumer Behavior in Relation to Food Label Naming Conventions

Wang, Wanning (Summer Scholars Program - Unidel UNAR Award), Statistics, Ju-A Hwang, English

Assessing Public Awareness and Perceptions of Sustainability Practices in the Banking Industry

LITERATURE & WRITING **(ROOM 205)**

Moderator: Miranda Wilson

Armstrong, Margaret (Summer Scholars), English, Siobhan Carroll, English
The History of Creative Writing

Lam, Isabella (Summer Scholars), English, Miranda Wilson, English
Marriage and Other Unexpected Parties: Depicting Queer Joy in Shakespeare

Kabura, Hope (Summer Scholars), International Relations, Wunyabari Maloba, Africana Studies
Anti-Neocolonialism: The Role of Kenya's Afrophone Press

Heil, Amanda (Summer Scholars), International Relations, Michael Frassetto, History
The Manifestation of Folkloric Motifs in the Portrayals of 6th Century Merovingian Queens

MATERIAL CULTURE **INTERDISCIPLINARY** **COHORT (ROOM 207)**

Moderator: Carla Guerrón Montero

Cahill, Orlagh and Gbason-Krah, Saynani and Kapner, Caity and Pilla, Zachary (Fashion and Apparel Studies, Fashion Design and Product Innovation, Belinda Orzada, Fashion and Apparel Studies
Fashion and Apparel Studies Digital Recreation of 1920's Garments from the Fashion and Textile Collection

Degnars, Madelyn (Summer Scholars), English, Laura Helton, English
Remaking the World of Arturo Schomburg

Brady, Julia (Summer Scholars Program - Unidel UNAR Award), Marketing, Kedron Thomas, Anthropology
The Desire for Environmental Change and the Need for Sustainable Practices

Karpyn, Lauren (Material Culture Interdisciplinary Cohort and Industry Connected Research Summer Scholars Program), History, Kedron Thomas, Anthropology
Unskilling Labor: A Historical and Political Analysis of Labor Classification in the Fashion Industry

FINE ARTS (ROOM 302)

Moderator: Katherine Feldkamp

Dao, Chelsea (Summer Scholars), Amy Hicks, Art
Be(lie)ve Me

Hess-Louis, Sheik (Summer Scholars), Fine Arts, Brandan Henry, Art
Denial Smells Like Lavender

Mariano, Alania (Summer Scholars), Fine Arts, Amy Hicks, Art
The Young Consumer: Researching the Effects of Fast Fashion from a Gen Z Perspective

McFall, Angelina (Summer Scholars), Fine Arts, Aaron Terry, Art
Feminism Through the Lens of Flapper Fanny: A Modern Interpretation

Whipple, Riley (Summer Scholars), Fine Arts, Jon Cox, Art
Photographic Processes and Patterns

Oral Session Three

11:30am – 12:45pm

ISSUES IN

EDUCATION (ROOM 202)

Moderator: Hannah Kim

Gates, Riley (Summer Scholars), Linguistics,
Nadya Pincus, Linguistics and Cognitive
Science
Changing Vowel Spaces

Lemos, Marcela (McNair Scholars Program),
History Education, Carlos Asarta, Business and
Economics
*Best teaching practices for bilingual and dual
language learners*

Webber, Alexandra (Summer Undergraduate
Biden School Fellows Program), Sociology,
Kelly Sherretz, Institute for Public
Administration
*Broadening Our Horizons: How to Encourage
College and Career Readiness*

Stephens, Dulcine (McNair Scholars
Program), Sociology, Alicia Fontnette,
Africana Studies
*Le vertitude du foile: to assimilate or to be
associated*

Davila, Alani and Bowen, Libby (AntiRacist
Initiative), Sociology/History, Hannah Kim,
Social Studies Education Program
*Learning the Lived Experience: A Historic
Research Study on Delaware School
Desegregation*

ART & MUSIC (ROOM 205)

Moderator: Katherine Feldkamp

Gao, Rebecca (Summer Scholars), Art, David
Brinley, Art
Music as Art

Dulaney, Juno (Summer Scholars), Art,
Jazmyn Crosby, Art
Earthstronaut

Bloodwell, Julianna (Summer Fellows),
Biomedical Engineering, Karl Schmitz
Biological Sciences
Rediscovery of London's Forgotten Art

Pragman, Ray (Summer Scholars) Music
History and Literature, Maria Anne Purciello,
Music
*The Cello in 18th-Century London:
Performers, Composers, and Luthiers*

HUMAN DEVELOPMENT & NEUROSCIENCE (ROOM 207)

Moderator: Nancy Getchell

Jose, Amanda, Neuroscience, Tania Roth,
Psyc and Brain Sciences
*Epigenetic Effects of Prenatal Opioid
Exposure: Assessing the mABC Intervention on
OXTR Methylation*

Tero, Francesca (Summer Scholars),
Neuroscience, Jennifer Kubota, Psychology,
*Impressions of Human and Artificially
Intelligent Agents Varying in Status*

Umoh, Oviyanna (McNair Scholars Program),
Neuroscience, Amy Whitaker, Fox Chase
*Connecting the Dots: APEI's Association to
ALS*

Oberheim, Kelly (Summer Undergraduate
Biden School Fellows Program), Human
Services with a Pre-Social Work/Counseling
Concentration, Janice Barlow and Erin Nescott,
Center for Community Research and Service
*Leveraging Data to Examine Child Well-Being
in Delaware*

Muirhead, Wren (Summer Fellows),
Philosophy, Daniel Koltonski,
Philosophy
*Beyond Blood: Challenging the Moral
Imperative of Biological Relationships*

ISSUES IN PUBLIC HEALTH

(ROOM 302)

Moderator: Jennifer Graber

Levine, Sophie (Summer Scholars),
Philosophy, Richard Hanley, Philosophy
The Philosophical Vagueness of Abortion

Daley, Kristen (Summer Scholars), Political
Science, Erin Cassese, Political Science and
Intl Relations
*Understanding Attitudes toward Abortion Post-
Dobbs*

Saeedi, Faiza (Summer Scholars), Public
Policy, Patricia Sloane-White, Women's
Studies
*Investigating the Impact of Educational
Restrictions on Maternal Mortality Rates: A
Case Study of Afghanistan Under Taliban Rule*

Torpey, Brynna and **Simon, Emily** (Summer
Undergraduate Biden School Fellows
Program), Political Science, Julia O'Hanlon,
Institute for Public Administration
*Supporting Healthy Aging within Delaware
Senior Center Programs*

Wohlman, Scarlet (Summer Undergraduate
Biden School Fellows Program), Political
Science, Francis O'Malley, Institute for Public
Administration
The Head On Project

Oral Session Four **2:00pm – 3:15pm**

Public Policy in Delaware & Beyond (ROOM 202)

Moderator: Jaime Tomlinson

Kelleher, Rebecca (Summer Undergraduate
Biden School Fellows Program), Political
Science, Lori Spagnolo, Troy Mix, Institute for
Public Administration
*Chesapeake Bay Watershed Communities and
Grants in Delaware*

Cloyd, Lily (Summer Undergraduate Biden
School Fellows Program), Political Science
and Public Policy, Joy Jordan, Institute for
Public Administration
*Strategic Thinking Training for Managers in
Public Service*

Leroux, Mauri (Summer Undergraduate
Biden School Fellows Program), Public Policy,
Collin Willard, Institute for Public
Administration
*GAP: Opportunities to Uplift Delaware's
Local Governments*

McClellan, Alexandria (Summer
Undergraduate Biden School Fellows
Program), Public Policy and Energy and
Environmental Policy, William DeCoursey,
Institute for Public Administration
*Implementing Tools for Complete Communities
and Comprehensive Planning within the First
State*

Wallace, Ayla (McNair Scholars Program),
Public Policy, Alice Ba, Political Science and
International Relations
China's Presence in Latin America

STUDIES IN PSYCHOLOGY (ROOM 205)

Moderator: Angela Hattery

Chrisostam, Nithila (Summer Fellows),
Psychology, Peter Benson, Anthropology
*An Exploration of Tamil Linguistic Identity in
Tamilnadu, India*

Blewitt, Bailey (Summer Scholars),
Psychology, Angela Hattery, Women's
Studies
*Lower Your Expectations: A Quantitative
Analysis of Individual-Level Factors
Influencing Black and Latino IPV Survivors'
Experiences of Institutional Betrayal by the
Criminal Legal System*

Freeberry, Abby (Summer Scholars),
Psychology, Philip Gable, Psychology
*Freeberry: Advanced Electroencephalography
(EEG) Analysis of Human Neural Activity and
Attitudes Towards Emotions*

Grim, Emily and Sposato, Christina (Summer Scholars), Psychology, Mary Dozier, Psychology
The Effects of Marital Conflict on Children's Aggression

Surdovel, Sophia (Summer Scholars), Psychology, Nancy Jordan, Education
Elementary Students and Early Fraction Learning: A Closer Analysis of the Qualitative Reasoning Displayed by First Graders

HISTORY & COMMUNICATION (ROOM 207)

Moderator: Rosalie Rolón-Dow

Brown, Joycelyn (Summer Scholars), Visual Communication, Katie Leech, Art
For Curls, By Curls: Uplifting and Informing Black Women in the Natural Hair Community

Logue, Teagan (Summer Scholars), Visual Communication, William Starke, Art
The Influence of Fascist Propaganda During the Reign of Benito Mussolini in Italy on the Promotion of Consumerism in Modern Day America

Wiederhorn, Ayelet (Summer Scholars), Visual Communication, Katie Leech, Art
Hebrew Typography as a Bridge to Cultural Identity

Castro, Janice (McNair Scholars Program), Fine Arts, Greg Shelnut, Art & Design
How Critical Witnessing Can Heal Latinx Parent-Child Relationships Through Painting

Briggs, Ali (Community Engagement Summer Scholars), Communication, Sachi Menard, Lori's Hands
The Importance of Intergenerational Friendships and Community Service

VISUAL COMMUNICATION & DESIGN (ROOM 302)

Moderator: Katya Roelse

Rubione, Lourdes (Summer Scholars), Visual Communication, Ashley Pigford, Art
Analog & Digital Typographic Experimentation

Wang, Kelly (Summer Scholars), Visual Communication, David Brinley, Art
Breathing Life Through Illustration and Animation

Marckioni, Lucia (Summer Scholars Program - Unidel UNAR Award), Visual Communication, Katie Leech, Art
Branding the Game: Leveraging NHL Graphic Design Strategies for University Athletic Programs

LaStella, Michael (Summer Scholars), Visual Communication, Austin Caske, Art
A Study of Unreal Engine's Environmental Artistry

Tyler, Casey (Fashion and Apparel Studies), Fashion Design and Product Innovation, Katya Roelse, Fashion and Apparel Studies
Interior Design and Textile Art: A Collaborative Art Installation and Mural

Oral Session Five **3:30pm – 4:45pm**

MUSIC (ROOM 202)

Moderator: Maria Anne Purciello

Eichenberg, Justin and Fone, Connor and Ruggiero, Elise (Summer Scholars) Music Composition, Daniel Stevens, Music
Muses in the Making: Composing and Producing Modular Music to Identify Unique Audio-Sensory Preferences in Individuals on the Autism Spectrum

Lobo, Alejandro (Summer Scholars), Music Composition, Maria Anne Purciello, Music
The DuPont's Musical Legacy: Music of the Brandywine, 1890-1920

Messick, Amalia (UD SOM), Music Education, Aimee Pearsall, Music

Collab Choir: A CEI Project

Gonzalez, Alondra (Summer Scholars), Music Education General/Choral, Noel Archambeault, Music
Exploring Mariachi Styles of Music and Vibrato Techniques

LANDSCAPE

ARCHITECTURE (ROOM 205)

Moderator: Anna Wik

Boettger, Cate and Brinker, Talia and Egan, Bri (Community Engagement Summer Scholars), Landscape Architecture, Zach Hammaker, Landscape Architecture
Community Resilience in Milton DE

Khondaker, Farhan (Summer Scholars Program - Unidel UNAR Award), Landscape Architecture, Anna Wik, Plant and Soil Sciences
North Wilmington Natural Corridors in Urban Landscapes

Moen, Faith (Summer Scholars Program - Unidel UNAR Award), Landscape Architecture, Anna Wik, Plant and Soil Sciences
Anna Wik Research Internship

Sabir, Aleena and Williams, Sean (Summer Scholars Program), Landscape Architecture, Eric Bardenhagen, Plant and Soil Sciences
UD Landscape Architecture/New Castle County Parks Collaboration at Talley Day Park

McCarron, Ciara (Summer Scholars Program - Unidel UNAR Award), Landscape Architecture, Anna Wik, Plant and Soil Sciences
Community Park Design: Enhancing Children's Awareness of Nature and Ecosystem Services

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