

UNIVERSITY OF DELAWARE  
UNDERGRADUATE RESEARCH PROGRAM

# SYMPOSIUM FOR UNDERGRADUATE RESEARCH AND CREATIVE ACTIVITY



# 2024 Symposium for Undergraduate Research and Creative Activity<sup>1</sup>

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

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<sup>1</sup>Please 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 black ink, appearing to read "Rosalie Rolón-Dow", with a horizontal line extending to the right.

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 Bromo 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 CO<sub>2</sub> 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 BMP1a 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)/ $\alpha$ -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), Biological Sciences, Jia Song, Biological 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  $\alpha$ 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  $\alpha$ -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 CO<sub>2</sub> 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 CuCl<sub>2</sub> 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 Human papillomavirus (HPV) E1, E2, E6 & E7 proteins, the LCR regions, and biological consequences*
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 Ga<sub>2</sub>Se<sub>2</sub> 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  
*My Life Learning Center*
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
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 Badiey, 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, Delaware
37. **Free, Peyton** (Lomax Cooperative Extension Scholar Fund and Erik Ervin, Plant and Soil Science), Masters of Public Health in Epidemiology, Amy Shoher, 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 Voegele, 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 Bundler 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 Koltanski, 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 Shelnett, 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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