
UNIVERSITY OF DELAWARE
UNDERGRADUATE RESEARCH PROGRAM
SYMPOSIUM FOR UNDERGRADUATE RESEARCH AND CREATIVE ACTIVITY

2024 Symposium for Undergraduate Research and Creative Activity[1]

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

2:00 - 3:15	*Oral Session 4*	
	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	*Oral Session 5*	
	1. Music	ISE 202
	2. Landscape Architecture	ISE 205
3:30 - 5:00	*Poster Session V* 3:30-4:15 (ODD-numbered posters present) 4:15-5:00 (EVEN-numbered posters present)	Commons
3:00-4:45	UD Creamery Ice Cream	Commons

[1]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,

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, Aanya,** 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
Biostimulant Controls Tipburn in Greenhouse Hydroponic Leafy Greens but Can Cause Phytotoxicity in Some Crops

59. **Sweetman, Kallie** (American Heart Association), Psychology, Chris Martens, KAAP
Comparative analysis of cerebrovascular techniques for studying cognitive aging

60. **Swope Eli** (Summer Scholars), Marine Biology, Edward Hale, Marine Studies
Tipping the Scales: Using Biomass of Banded Killifish (Fundulus diaphanus) and Redbreast Sunfish (Lepomis auritus) as a Proxy to estimate production across multiple tributaries of the Delaware River, USA

61. **Szelestei, Logan** (INBRE), Psychology/Human Services, Jaclyn Megan Sions, Physical Therapy
Coping Self-Efficacy Helps Explain Prosthetic Adjustment Following Lower-Limb Amputation

62. **Terrell, Chloe** (McNair Scholars Program), Art Conservation, Elizabeth Singewald, Chemistry & Biochemistry
Plastic Alternatives in the Art Conservation Laboratory: Testing Solution Reactions & Agents of Deterioration on Various Compostable Plastic Alternatives

63. **Thompson, Chase** (UD Envision), Environmental Stewardship, Abby, Reeves, Plant & Soil Sciences
The impacts of organic weed blocking technology on weeds using organic farming practices

64. **Torres, Sofia** (Iowa State Science Bound, NSF), Plant and Soil Sciences, Erin Sparks, Plant and Soil Sciences
From Petri Dish to Pot: Introducing Transgenic Lines in Arabidopsis to Better Understand Cuticle Synthesis

65. **Tran, Percival** (Summer Fellows), Applied Molecular Biology & Biotechnology, Mona Batish, Medical & Molecular Sciences
Comparing Linear and Circular GFP RNA Enrichment in HeLa Cell-derived EV

66. **Tunstall, Jillian** (INBRE), Ecology and Wildlife Conservation, Jennifer Peterson, Entomology & Wildlife Ecology

67. **Visconti, Victoria** (McNair Scholars Program), Human Services, Sara Goldstein, Education and Human Development
Social Development and Social Transitions Among Adolescents and Emerging Adults

68. **Wagner, Stephen** (U.S. Department of Energy Aerospace Engineering), Syracuse University, Munetaka Kubota, Center for Composite Materials

69. **Weinstein, Laura** (Summer Fellows), Biomedical Engineering, Emily Day, Biomedical Engineering
Improving Delivery of RNA to Leukemia Cells Using Polymeric Nanoparticles

70. **Weyl, Jessica** (University of Maine/USDA (NPDN) National Plant Diagnostic Network and Lomax Cooperative Extension Scholars Fund and Jan Seitz Cooperative Extension Scholars), Plant Science, Jill Pollok, Cooperative Extension
The Diagnostic Process: Analyzing Stress Symptoms in Delaware's Loblolly Pines

71. **Whitcomb, Jackson** (UD Envision/Summer Scholars), Landscape Architecture, Zachary Hammaker, Plant & Soil Sciences
CRDS Milton Community Resilience Project

72. **Winzig, Madelyn** (CANR Unique Strengths), Pre-Veterinary Medicine, Benham Abasht, Animal & Food Sciences
Nanopore Technology for Amplicon Sequencing to Investigate DNA Polymorphism of Glutamic-Oxaloacetic Transaminase 1 (GOT1), a Candidate Gene for Wooden Breast Disease in Commercial Broiler Chickens

73. **Wolfe, Makalah** (UD Envision), Agribusiness & Pre-Veterinary Medicine, University of Maryland - Eastern Shore, Alexander Yitbarek, Animal & Food Sciences

POSTER SESSION II 10:15 - 11:45AM

(Biology, Biological Sciences, Chemistry & Biochemistry)

1. **Ahamed, Amira** (INBRE), Biological Sciences Education, Anjana Bhat, Physical Therapy
Exergaming & Physical Activity Participation in Children with ASD

2. **Akella, Meghana Lalitha Sri** (Clemson University), Chemistry, Olivia Sequerth, Center for Composite Materials
Creating Non-Isocyanate Thermoplastic Polyurethane from Waste PET

3. **Allen, Niara** (INBRE), Biochemistry, Delaware State University, Fady Gerges, Molecular Biology

4. **Applegate, Lauren** (Center for Plastics Innovation, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Basic Energy Sciences), Biochemistry, University of Maryland College Park, Mark Blenner and Kevin Solomon, Chemical & Biomolecular Engineering
Engineering Microbial Communities for LDPE Degradation

5. **Araya, Andrea** and **Brown, Alexa** (INBRE), Biological Sciences/Nursing, Kathleen Brewer-Smyth, School of Nursing
Preventing a Trajectory of Violence in Women with a History of Trauma

6. **Arora, Daivik** (INBRE), Biological Science, Austin Keeler, Biological Sciences
Identification of temporomandibular joint innervating somatosensory neurons by

retrograde labeling and multiplexed imaging mass cytometry

7. **Bacchus, Atif** (INBRE), Biological Sciences, Jennifer Sims-Mourtada, Cawley Center for Translational Cancer Research
Characterizing Pan Inflammatory Value as a Prognostic Index for Women Diagnosed with Triple Negative Breast Cancer

8. **Barbone, Victoria** (INBRE), Applied Molecular Biology and Biotechnology, Shawn Polson, Viral Ecology
A variable single amino acid position in bacteriophage DNA polymerase I affects in vitro enzyme biochemistry and in vivo infection dynamics

9. **Bartholomew, Brenna** (INBRE), Biological Sciences, Delaware Technical Community College, Sharon Gould, Radiology, Christiana Care
It's Twisted, Sister: Detecting Ovarian Torsion

10. **Bissoon, Zyairr** (Delaware Space Grant), Biochemistry, Esther Biswas-Fiss, MMSC
The Retina Protein ABCA4 and Cloning of its Extracellular Domains (ECD1 & ECD2)

11. **Bodio, Elizabeth** (Summer Scholars), Chemistry, Joel Rosenthal, Chemistry and Biochemistry
Synthesis of Palladium 10 Isocorrole as a Photosensitizer for Photodynamic Therapy

12. **Boliver, Heather** (INBRE), Biological Sciences, Velia Fowler, Biological Sciences
The Role of Non-muscle myosin IIA (NMIIA) in Mouse Ocular Lens Cataract Formation

13. **Borell, Emily** (INBRE-Biology), Biological Sciences, Deni Galileo, Biological Sciences
Effects of Small-Molecule Inhibitors on Motility and Proliferation of Differentiated and Undifferentiated Glioblastoma Stem Cells

14. **Brenner, Benjamin** (Summer Scholars), Biochemistry, Joseph Fox, Chemistry and Biochemistry
Reductive Amination on Highly Strained Trans-Cyclooctene: Developments in Reaction Optimization and Monitoring

15. **Brown, Marissa** (McNair Scholars Program), Biological Science, Mark Blenner, Chemical & Biomolecular Engineering
Uncovering Phage Diversity and Function in Plastic Fed Mealworm Microbiome

16. **Buddhikot, Anoushka** (NSF), Chemical Engineering, Jodi Hadden-Perilla, Chemistry and Biochemistry
Evaluating the Impact of Conformational Dynamics on Predicted Protein Protonation State: A Case Study on Brome Mosaic Virus

17. **Byles, Trevor** (Summer Scholars), Biochemistry, Tatyana Polenova, Chemistry and Biochemistry
Investigating potential binding differences in CypA interaction with HIV-1 CA capsid protein M66A variant

18. **Chamuel, Asher** (Summer Scholars), Biochemistry, William Chain, Chemistry and Biochemistry
Synthesis of N-Methyl-N-Phenylglycine Derivatives for the Electrochemical Synthesis of N-Aryl Iminium Ions

19. **Chesley, Aeila** (INBRE), Biological Sciences, Delaware Technical Community College, Molly Sutherland, Biological Sciences
How Does Joint Range of Motion Change After Muscle Fatigue in Healthy Young Adults?

20. **Chichowska, Julia C** (Summer Fellows), Applied Molecular Biology and Biotechnology, Terry Papoutsakis, Chemical & Biomolecular Engineering

21. **Coba-Horvath, Sofia** (American Heart Association), Biological Sciences, Melissa Witman, KAAP
Vascular Function and Social Determinants of Health in Young Adult Black Women

22. **Collins, Mahogony** (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 nanoestructures for CO2 reductio

24. **Dafni Frappe, Dekel Mordejai** and **Sanango Chicaiza, Bryan Mauricio** (CBC Latin American Summer Research Program), Jodi Hadden-Perilla, Chemistry & Biochemistry
Computational modeling of full-length HBV capsid protein to test structural mechanisms of NLS exposure

25. **DaSilva, Gabriel** (INBRE), Biological sciences, Andre Pasqua Tavares, Chemistry & Biochemistry
The impact of BOR SIX1 mutations on the development of the bones of the face and skull

26. **Dorez, Talha** (INBRE), Biological Sciences, Austin Keeler, Biological Sciences
Comparisons of Segmentation Methods for Multiplexed Spatial Proteomics

27. **Edery, Theresa** (Summer Scholars), Applied Molecular Biology and Biotechnology, Vijay Parashar, Medical Laboratory Sciences
Atypical transcriptional regulation by a histidine kinase in S. aureus

28. **Field, Andrea** (INBRE), Biology, Tanya Gressley, Animal and Food Sciences
Survival of Lactic Acid Bacteria and Yeasts in Refrigerated and Frozen Silage Samples

29. **Fields, Taryn** (ADaPT Summer Scholar) and **Isabelle Botto** (Peter White Fellowship), Biological Sciences/Kinesiology, Katie Butera, Department of Physical Therapy
Investigating Relationships between Movement-Evoked Pain and Positive Psychological Coping in Adults with Low Back Pain

30. **Flaiz, Xavier** (Delaware Summer Fellows Undergraduate Research Program), Biochemistry, Ariel Alperstein, Chemistry and Biochemistry
Non-Small Lung Cancer Cell Culturing in the Presence of Microplastics

31. **Gonzalez-Vargas, Kristina** (NSF) Chemistry, Universidad de Puerto Rico, Mayagüez, Emil Hernandez-Pagan, Chemistry and Biochemistry
Colloidal Synthesis and Stability of LaS and MnSe Nanoparticles

32. **Harricharan, Nadia** (INBRE), Applied Molecular Biology and Biotechnology, Kevin Solomon, Chemical and Biomolecular Engineering
Enabling Surface Functionalization of Barley Stripe Mosaic Virus-Like Particles via Click Chemistry

33. **Harris, Jaymar** (UD Envision), Biology, Lincoln University, Alex Huddell, Plant & Soil Sciences

34. **Jameel, Hamna** (INBRE), Biological Sciences, Aimee, Jaramillo-Lambert, Biological Sciences
Can mutations in the catalytic site of the TDPT-1 enzyme suppress top-2-induced embryonic lethality?

35. **Jankovic, Dakota** (Summer Scholars), Biological Sciences, Anja Nohe, Biological Sciences

Determining the Regulatory Effects of BMP2 in BMPRIa Knock-Out Myoblast Cells

36. **Janney, Sarah** (Summer Scholars), Biochemistry, Joseph Fox, Chemistry and Biochemistry
Chemically-Induced Bacterial Cell Lysis via Tetrazine-trans-Cyclooctene Crosslinking on Modified Peptidoglycan

37. **Jones, Adia** (Summer Fellows), Chemistry and Biochemistry, Jeffrey Mugridge, Chemistry and Biochemistry
Overexpression and Purification of Fe(II)/α-KG-dependent dioxygenase AlkBH4

38. **Kermani, Taran** (Summer Scholars), Biological Sciences, Erin Sparks, Plant and Soil Sciences *Cross-Species Nodal Transcriptome Comparison Reveals Candidate Transcription Factors for Brace Root Developmental Regulation*

39. **Kim, Justin** (University of Delaware Research Foundation), Biochemistry, Rachel Davidson, Chemistry
Electrochemical Additive Manufacturing of Battery Electrodes and Surfaces with Spatially Controlled Wettability

40. **Kosinski, Connor** (Summer Scholars), Biochemistry, Catherine Grimes, Chemistry and Biochemistry
Effects of Serine and Threonine Phosphorylation on Serine-Proline cis-trans Isomerism

41. **Kraenbring, Isaac** (Center for Plastics Innovation, an Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Basic Energy Sciences), Chemistry, Elizabethtown College, Mary Watson and Joel Rosenthal, Chemistry & Biochemistry
Electrochemical Decarboxylation and Etherification of Polymethyl Acrylic Acid

42. **Lee, Jasmine** (Graduate College), Biology, Boston College, Deb Jaisi, Plant & Soil Sciences
Tracking of Transformations of Phosphorus Pools in Agricultural Soil Using Oxygen-18 Labeled Phosphate

43. **Letnaunchyn, Jacob** (Summer Scholars), Chemistry, Don Watson, Chemistry and Biochemistry
Assessment of Directing Groups in Reductive Coupling Reactions

44. **Lucero-Palacios, Gael** (Summer Fellows), Computer Science, Leila Barmaki, Computer & Information Sciences
Multi-Language Virtual Patient Simulation

45. **Luft, Laila** (INBRE), Biological Sciences, Jia Song, Biological Sciences

46. **MacHenry, Caden** (National Institutes of Health – NIGMS), Biological Sciences, Jessica Tanis, Biological Sciences
Investigating the protective effects of vitamin B12 on amyloid-beta proteotoxicity in a C. elegans model of Alzheimer's Disease

47. **Mandavalli, Shriya** (INBRE), Biology/Computer Science, Duke University, Xuyi Yue, Neuroscience

48. **Matthews, Dexter** (INBRE), Biological Sciences, Chi Keung Lam, Biological Sciences
The Effects of Hsp90 on Mitochondrial Structure

49. **Middleton, Clara** (CRSP), Chemistry, Davidson College, Alexandra Bayles, Chemical & Biomolecular Engineering
Advective Assembly Extrusion and its Bioprinting Applications with Gelatin Methacryloyl and Polyacrylic Acid

50. **Milnor, Brooke** (INBRE), Biology, Jeremy Crenshaw, KAAP
Walking Stability Control in Chronic Stroke: Differences Between the Paretic and Non-Paretic Limb

51. **Misikova, Alexandra**, Summer Scholars, Biological Sciences, Elise Corbin, Biological Sciences
Genotypic Analysis of Tenocyte Transitions to Pathophysiological Elastic Moduli

52. **Monroy Rojas, Diego Alejandro**, Chemistry, Universidad del Valle-Colombia, Marco Messina, Chemistry and Biochemistry
An Activity-Based Biomolecule Labeling and polymerization Platform for the Imaging of Cells and Tissues Under Oxidative Stress

53. **Moquin, Phillip** (Summer Scholars), Biochemistry, Zhihao Zhuang, Chemistry and Biochemistry
In-Situ Generation of an Iodine-Substituted Chemical Linker for Generating Ubiquitin Activity-Based Probes

54. **Napoli, Cecelia** (NSF Supplement), Biochemistry, Laure Kayser, Materials Science/Chemistry
Synthesis & Characterization of Ion-Selective Polyelectrolyte Complexes for Application in Biosensors

55. **Nick, Riley** (National Science Foundation, REU Site: Sustainable Resilient Transportation Systems), Chemistry, University of Alabama at Birmingham, Christopher Kloxin, Materials Science and Engineering
Characterization of Photoinitiated Methacrylate based Covalent Adaptable Networks

56. **Nieto Rincon, Sara Catalina,** Chemistry, Universidad Nacional de Colombia, Tatyana Polenova, Chemistry and Biochemistry
Incorporation of Orthogonal Fluorine Probes for In-Cell Protein NMR

57. **Nordone, Nicole** (Summer Fellows) and **Parks, Jasmine** (Summer Scholars), Biological Sciences/Biochemistry, Clara Chan, Earth Sciences
Purification and Localization of MofA, a metal oxidizing protein from Leptothrix cholodnii SP-6

58. **Pallus, Sarah** (Delaware INBRE Summer Student Research Program), Biochemistry, Ariel Alperstein, Chemistry and Biochemistry
Investigating the Expression and Characterization of the αB-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

65. **Reading, Maya** (Summer Fellows), Applied Molecular Biology and Biotechnology, Mona Batish, Biological Sciences
Validation of a Force-Plate-Only Method to Quantify Walking Stability-Control Mechanisms

66. **Richards, Andrew** (Summer Scholars), Chemistry, Donald Watson, Chemistry and Biochemistry
Synthesis of Nonsymmetric α-selective Tetrasubstituted Vinylsilanes

67. **Rodriguez, Christina** (INBRE), Applied Molecular Biology and Biotechnology, Kevin Solomon, Chemical and Biomolecular Engineering
Protein corona formation and RNA packaging in barley stripe mosaic virus-like particles

68. **Rolle, Nia** (American Heart Association), Chemistry, Delaware State University, Megan Wenner, KAAP
Effects of oral contraceptive pill use on blood pressure reactivity in young premenopausal Women

69. **Ross, Kennith** (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
Enhancing Catalyst Design for Energy Conversion: A Study of Copper-Tungsten Sulfide Systems

72. **Schmidt, Kevin** (INBRE), Biology, Arit Ghosh, Bio-Imaging Center
Flow Cytometry Analysis of CD63+ Exosomes: Addressing the Challenges of Shared Resource Labs

73. **Scholl, Meyer** (CANR Summer Institute), Chemistry & Plant Science, Harsh Bais, Plant & Soil Sciences
Investigating Streptomyces coelicolor as an Agent Against Broad Fungal Phytopathogens

74. **Sekowski, Benjamin** (INBRE), Biology, Amber Krauchuna, Biological Sciences
Importance of Copa-1 in reproduction

75. **Sheikh, Adil** (Summer Scholars), Chemistry, Rachel Davidson, Chemistry and Biochemistry
Understanding Mechanisms of Degradation in CuOx Nanoparticles and Electrocatalysts for CO2 Reduction

76. **Shelly, Jillian** (Summer Scholars), Biochemistry, Zhihao Zhuang, Chemistry and Biochemistry
Construction of Activity Based Probes for Targeted Degradation of Deubiquitinating Enzymes via CRBN-Proteolysis Targeting Chimera (PROTAC)

77. **Singh, Nitya** (INBRE), Biological Sciences, Arit Ghosh, Bio-Imaging Center
Exploring the role of Proteostasis in Erythroid Differentiation

78. **Smull, Lilly** (INBRE), Biological Sciences, Justin Parreno, Biological Sciences
Chondrocyte-Derived Decellularized Matrices Support the Expansion and Redifferentiation of Superficial Zone Chondrocytes

79. **Sprenkel, Kelly** Chemistry, Millersville University, Joseph Fox, Chemistry

Synthesis of new trans-cyclooctenes via reductive amination

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
The Association Between Prenatal Opioid Exposure and Amgydala and Hippocampus Volume

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 Arthrogryposis

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 Bundlemers 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. **Riggi, 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 ˈbɛɾɻʷ weɪ̯ tʰə tʰəɪ̯p aɪ̯ pʰiɪ̯ eɪ̯]

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 Mirotznik, Center for Composite Materials
Early Childhood Performance on Tool Task Predicts Aggression in Middle Childhood

13. **Barry, Alexander** (U.S. Army CCDC Army Research Laboratory), Cornell University, Sagar Doshi, Center for Composite Materials
Out-of-plane Compressive Characterization of Woven Fabric S-2 Glass Epoxy Composites for Input to MAT213 Material Model

14. **Blackburn, Logan** (Summer Scholars) and **Mohammed, Alyssa** (ECE REU), Computer Engineering/Electrical Engineering, Kenneth Barner, Electrical Engineering
3D Mapping of the UD Campus via Aerial LiDAR and Photogrammetry

15. **Boateng, Papa** (SIAM Society for Industrial and Applied Mathematics), Math, Colby College, John R Jungck, BISC/MATH
Modeling Quasicrystal Viral Capsids: Self-Assembly of Hats and Turtles

16. **Breder, Richard** (Summer Scholars), Electrical Engineering, Roxanne Radpour, Electrical Engineering
Developing accessible software to apply MVCam (a commercial InGaAs camera) for faster, safer infrared reflectography of paintings

17. **Bria, Scott** and **Karney, Olivia** (C. Bacuta Grant), Applied Mathematics, Constantin Bacuta, Math
Approximation of Convection-Dominated Problems

18. **Bryant, Jared** (DSU-UD Summer Engineering Research Experience), Information Technology, Delaware State

University, Weisong Shi, Computer Science
3D Localization and Meshing in Autonomous Vehicles

19. **Cartwright Jack,** Computer Engineering, Nektarios Georgios Tsoutsos, Electrical & Computer Engineering
Securing 3D Printer Firmware Updates with The Update Framework

20. **Casagrande, Joseph** and **Murphy, Michael** (Summer Scholars), Computer Science, Andrew Novocin, Electrical & Computer Engineering
Improving Healthcare By Way Of Technology

21. **Cash, Samuel** (Summer Scholars), Mathematical Sciences, Pak-Wing Fok, Mathematical Sciences
Calculating Stress Strain Curves in Nonlinear Arterial Mechanics

22. **Catalan, Marisol** (McNair Scholars Program), Physics , Veronique Petit, Physics and Astronomy
Analysis of Two Magnetic Candidate Be Stars

23. **Charles, Nora and Pennisi, Giana** (Summer Scholars), Electrical Engineering, Vishal Saxena, Electrical Engineering
Automated Photonic Chip Characterization Setup using Edge Coupling of Fibers

24. **Chelius, Larissa** (Summer Scholars), Computer Science, Joshua Cashaback, Biomedical Engineering
A history of reward causes a decrease in error corrections in sensorimotor adaptation

25. **Chen Zhixiang** (Summer Scholars), Finance, Shuxing Li, Mathematical Sciences
Exploring the Planarity of Vectorial Boolean Functions in Cryptography Through Combinatorial Vanishing Flats

26. **Chouhan, Avinash**, Computer Science, Matthew Louis, Mauriello, CIS

27. **Christman, Lucas** (Air Force Research Laboratory), John Tierney, Center for Composite Materials

28. **Cioffi, Giuliana** (Summer Scholars), Materials Science and Engineering, David Martin, Materials Science
The Impact of Polymer Additives on PEDOT-Based Biosensors

29. **Davis, Grace** (Summer Fellows), Applied Molecular Biology, Mona Batish, Medical & Molecular Sciences
Quantifying the Uptake of RNA Cargo from Nanocage-Based Exporters

30. **Deputy, Travis,** Electrical Engineering, Steven Hedegus, Electrical & Computer Engineering
Effects of CuCl2 and EDA Etching on the JV Response of CdTe Solar Cells

31. **Desai, Ansh** (Summer Scholars), Applied Mathematics, Peter Monk, Mathematical Sciences
Regularized Inversion of the Two-Dimensional Born Operator for Potential Field Reconstruction

32. **Doolittle, Jack** (McNair Scholars Program), Philosophy, Hans A. Holter, Department of Economics
Integrating Theories of Justice into Intermediate Economic Models

33. **Dunn, Jarrod** (Summer Scholars), Mathematical Sciences, Dominique Guillot, Mathematical Sciences
Positive Semidefinite Graphs Over Finite Field

34. **Durbin, Noah** (Summer Scholars), Computer Engineering, Nathan Lazarus, Electrical Engineering
Using obfuscation and post-processing for IP protection in 3D printed electronics

35. **Fletcher, Kejae** (Delaware Space Grant), Computer and Information Sciences, Esther Biswas-Fiss, MMSC
Computational Analysis of Benign Variants in the ABCA4 Gene

36. **Friedler, Justyn,** Physics, Williams College, Chelsea Davis, ME
Rebuilding the FastTack: Quantifying Adhesion at Short Contact Times

37. **Galindo, Wilkin** (DSU-UD Summer Engineering Research Experience), Engineering Physics/Electrical Engineering, Delaware State University,Dennis Prather, Electrical and Computer Engineering
*Nanofabrication: Small Tools, Big Im*pacts

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), Chitraleema Chakraborty, Materials Science and Engineering
Scanning Fluorescence Microscopy: The Use of Mode Cleaners and Fiber Couplers in Building a Scanning Fluorescence Microscope

48. **Huynh, Mio**, Electrical & Computer Engineering, Villanova University, Matt Doty, MSE
Degradation of Ga2Se2 grown by Molecular Beam Epitaxy

49. **Jahin, Araf** (INBRE), Computer Science, Shubhika Srivastava, Cardiology

50. **Jaikumar, Nikil** (Summer Scholars Program), Electrical Engineering, Somnath Sengupta, Electrical Engineering

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
MMST-ViT: Climate Change-aware Crop Yield Prediction

58. **McKee, Kyle** (ECE REU), Electrical Engineering, University of Notre Dame , Nathan Lazarus, ECE
Multifunctional Liquid Metal Coils for Sensing and Actuation in a Soft Robot

59. **Memmolo, 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. **Mooree, 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 CS1 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 Univerisity, 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 Badiey, 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 Perfusable Kidney-on-a-Chip Device with an Accessible Hydrogel Compartment

25. **Czapor, Kelly** (Summer Scholars), Biomedical Engineering, Chris Price, Biomedical Engineering
Self-Assembly and Drug Encapsulation of DMOAD-Loaded Elastin Collagen Nanovesicles

26. **Daga, Kirti** (Summer Scholars), Medical Diagnostics, Christopher Martens, Kinesiology and Applied Physiology
Quantifying Biomarkers in Blood: A New Frontier for Early Detection of Alzheimer's Disease

27. **Demetriou, Nikos** (Summer Scholars), Biomedical Engineering, Emily Day, Biomedical Engineering

28. **Dixon, India** (McNair Scholars Program), Medical Diagnostics, Iva Obrusnikova, Health Behavior & Nutrition Science
Paving the Way to Active Living for People with Disabilities: Evaluating Playground and Park Accessibility in Delaware

29. **Downing, London** (Advancing Diversity in Physical Therapy), Kinesiology, Delaware State University, Karin Grävare Silbernagel, Department of Physical Therapy
Patellar Tendon Structure after ACL Reconstruction

30. **Duch, Gracie** (INBRE), Neuroscience, Saint Mary's College, Anjana Bhat, Physical Therapy
Effects of Nintendo Exergaming on Cognitive/Executive Functioning in Children with Autism Spectrum Disorder

31. **Duong, Katherine** (INBRE Summer Scholars), Biomedical Engineering, Stephanie Cone, Biomedical Engineering
Non-invasive Measurement of Knee Joint Biomechanics

32. **Eimont, Arianna** (INBRE), Neuroscience, Jennifer Semrau, Kinesiology & Applied Physiology
Examining Visual Versus Kinesthetic Temporal Accuracy and Variability

33. **Fader, Jillian** (Summer Fellows), Wildlife Ecology & Conservation, Lauren Genova, Chemistry & Biochemistry
Quantum Scrabble: An Interactive Chemistry Board Game to Strengthen Students' Understanding of Quantum Numbers

34. **Fernandez, Gabriel** (Advancing Diversity in Physical Therapy, Health Science, Stockton University, Rebecca Stump, Department of Physical Therapy
Isokinetic Machines as a Form of Rehabilitative Exercise

35. **Fletcher, Sean** (Santoro Summer Undergraduate Research Award), Medical Diagnostics, Subhasis Biswas, Medical and Molecular Sciences
Computational analysis of Human papillomavirus (HPV) E1, E2, E6 & E7 proteins, the LCR regions, and biological consequences

36. **Forbes, Jadah** (INBRE Summer Scholar), Neuroscience, Jaclyn Schwarz, Psychological & Brain Sciences

37. **Free, Peyton** (Lomax Cooperative Extension Scholar Fund and Erik Ervin, Plant and Soil Science), Masters of Public Health in Epidemiology, Amy Shober, Cooperative Extension
Voices from the Field: Feedback on University Plant Diagnostic Clinic and Soil Testing Program

38. **Gallagher, Lindsay** (Summer Scholars), Biomedical Engineering, Brian Kwee, Biomedical Engineering
Delivery of Immunomodulatory Molecules for Muscle and Nerve Regeneration

39. **Gobinathan, Asvika,** Wilmington Charter School, Tania Roth, PBS
The Relationship Between Epigenetics and Autoimmune Diseases

40. **Goblirsch, Kaitlyn** (McNair Scholars Neuroscience and Anthropology), Anna Klintsova, Psychological and Brain Sciences
Long-Term Effects of Early Postnatal Single-Day Alcohol Exposure on Neuron and Astrocyte Populations in Nucleus Reuniens in a Rat Model of FASD

41. **Granetzke, Isabella** (Summer Scholars), Exercise Science, Dan White, Physical Therapy

42. **Grant, Michaela** (USDA/NIFA Expanded Food and Nutrition Education Program), Nutrition and Dietetics , Michelle 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 Bundlemer Hinge Application*s

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), Criminal Justice, Tanya Whittle, Sociology
Media and the Dehumanization of Currently and Formerly Incarcerated Individuals

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 Parcells, 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 HistorySiobhan Carroll, English
An investigation of green infrastructure to enhance resilient stormwater management in Northeastern Wilmington

Levi, Olivia and **Gross, Jadyn** (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: APE1's Association to ALS

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

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

ISSUES IN PUBLIC HEALTH (ROOM 302)

Moderator: Jennifer Graber

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

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

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

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

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

Oral Session Four 2:00pm – 3:15pm

Public Policy in Delaware & Beyond (ROOM 202)

Moderator: Jaime Tomlinson

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

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

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

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

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

STUDIES IN PSYCHOLOGY (ROOM 205)

Moderator: Angela Hattery

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

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

Freeberry, Abby (Summer Scholars), Psychology, Philip Gable, Psychology
Freebery: 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 Shelnutt, 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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