2023 Symposium for Undergraduate Research and Creative Activity
Harker Lab
Thursday, August 10, 2023
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  Commons
8:30-9:15 (ODD-numbered posters present)
9:15-10:00 (EVEN numbered posters present)

8:30 – 9:45  Oral Session 1
1. Fashion and Design  ISE 202
2. Work and Society  ISE 205
3. Musical Education and History  ISE 207
4. Art & History  ISE 302

10:00-10:15  Switch Posters for Session II  Commons

10:00 – 11:15  Oral Session 2
1. The World of Science  ISE 202
2. The Brain and Body  ISE 205
3. Health and Wellbeing  ISE 207
4. Studies in Healthcare  ISE 302

10:15 – 11:45  Poster Session II  Commons
10:15-11:00 (ODD-numbered posters present)
11:00-11:45 (EVEN numbered posters present)

11:30 – 12:45  Oral Session 3
1. Education and Human Development  ISE 202
2. Issues of Higher Education  ISE 205
3. Exploring Economics  ISE 207
4. Studies of Power  ISE 302

11:45-12:00  Switch Posters for Session III  Commons

12:00 – 1:30  Poster Session III  Commons
12:00-12:45 (ODD-numbered posters present)
12:45-1:30 (EVEN numbered posters present)

12:00 – 2:30  LUNCH  Perkins Student Center

1:30-1:45  Switch Posters for Session IV  Commons

1:45-3:15  Poster Session IV  Commons
1:45-2:30 (ODD-numbered posters present)
2:30-3:15 (EVEN numbered posters present)
2:00-3:15  *Oral Session 4*
1. Violence and Injustice in Our Society  ISE 202
2. Studies in Psychology  ISE 205
3. Earth and Environment  ISE 207
4. Culture, Society and Policy  ISE 302

3:15-3:30  Switch Posters for Session V  Commons

3:30-4:45  *Oral Session 5*
1. Public Policy in Delaware and Beyond  ISE 202
2. Visual Communication  ISE 205
3. Artistic Expression  ISE 207
4. Interdisciplinary Research Topics  ISE 302

3:30-5:00  *Poster Session V*  Commons
3:30-4:15 (ODD-numbered posters present)
4:15-5:00 (EVEN numbered posters present)

3:00-4:30  UD Creamery Ice Cream  Commons
August 2023

Dear Friends of Undergraduate Research:

Welcome to the University of Delaware’s fourteenth Annual Symposium for Undergraduate Research and Creative Activity. We are very excited to have over 500 undergraduate students sharing their research projects with you. This year we are finally able to host a fully in-person event in the Patrick T. Harker ISE Lab, allowing for the excitement and energy that comes from engaging in face-to-face intellectual conversations.

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 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 your hear and see our students present the intellectual and creative work they have been doing over the summer. Our future looks bright!

Sincerely,

Rosalie Rolón-Dow, Ph.D.
Faculty Director, Undergraduate Research Program
August 2023

Dear UD Colleagues and Friends,

Welcome to the University of Delaware’s 2023 Symposium for Undergraduate Research and Creative Activity. This event celebrates the results of 10 weeks of hard work, dedication and commitment of more than 500 UD undergraduate students. During these 10 weeks students have worked tirelessly to develop the knowledge and skills that are associated with these experiential learning opportunities. Students have learned from faculty, community partners, graduate students, peers and others. They have been engaged in projects that represent disciplines across the university, learned how to solve real world problems and developed the confidence needed to succeed both at UD and beyond. Examples this year have included addressing the overall health and wellbeing of older adults, exploring ways in which to improve the lives of downtown Wilmington residents, and evaluating how microrobots could possibly be used to treat some Sickle-Cell symptoms.

So as we can see, UD has a rich history in providing these high impact opportunities for our undergraduate students and the commitment and dedication of those individuals who support our students is readily apparent and appreciated. On behalf of the University of Delaware I would like to thank all those individuals, including the staff of the Undergraduate Research Program, that have made this a rich and rewarding experience for our students.

Sincerely,

Avron Abraham, Ph.D.
Interim Vice Provost for Undergraduate Education
University of Delaware
Explanation of Program Entries

- Student Name: John Doe, Biomedical Engineering (LS) (UW)
- Major: Biomedical Engineering
- Home University: University of Washington
- Faculty Mentor Department: Biomedical Engineering
- Faculty Mentor Name: Joe Smith
- Project Title: Identification of Early Through Late-Stage Changes in Murine Articular Chondrocyte Biology Following Joint Destabilizing Surgery
POSTER SESSION I 8:30 - 10:00AM

AGRICULTURE

1) Nicholas Sharp, Agribusiness Management (UD Envision) (University of Maryland Eastern Shore)
   Abby Reeves, Plant and Soil Sciences
   *The Effects Of Light Availability On Plant In Small Space Container Gardens*

2) Kaneko Azuma, Agricultural & Natural Resources (Cooperative Extension Program) (University of Delaware)
   Jenn Volk, Cooperative Extension
   *Investigating the Benefits of Individual Climate Change Actions*

3) Rylee Ridgley, Agricultural Education (Cooperative Extension Program) (Oklahoma State University)
   Susan Garey, Cooperative Extension
   *Leading and Learning with Animal Science Extension*

4) Zuri Hobson-Gladney, Agriculture: Pre-Veterinary Science (Delaware INBRE) (Delaware State University)
   Aditya Dutta, Animal and Food Sciences
   *Analyses of Differentially Expressed Genes in Broiler Breeder Ovarian Follicles to Enhance Reproductive Efficiency*

PLANT SCIENCE

5) Kevin Chan, Plant Science (CANR Unique Strengths) (University of Delaware)
   Nicole Donofrio, Plant and Soil Sciences
   *Foliar and Soilborne Fungal pathogens: Resistance to the bacterium Bacillus velezensis strain S4*

6) Emilia Pierce, Plant Science (Summer Scholars) (University of Delaware)
   Harsh Bais, Plant and Soil Sciences

7) Yuki Jatmiko, Plant Science (UD Envision) (University of Maryland Eastern Shore)
   Alyssa Koehler, Plant and Soil Sciences
   *Diversity of Pythium Species Associated with Snap Bean Production in Delaware*

8) Raven McIntosh, Plant Science (CANR Summer Institute) (St. Augustine University)
   Harsh Bais, Plant and Soil Sciences
   *Bacterial-derived components drives synthetic community (SYNCOM) association in plants*

LANDSCAPE ARCHITECTURE

9) Talia Brinker, Landscape Architecture (Summer Scholars) (University of Delaware)
   Zach Hammaker, Plant and Soil Sciences
   *Coastal Resilience Design Studio: Conceptual Community Plan*

WILDLIFE ECOLOGY

10) Dominic Carrea, Wildlife Ecology (CANR Unique Strengths) (University of Delaware)
    Vincenzo Ellis, Entomology and Wildlife Ecology
    *Prevalence and Diversity of Avian Malaria Parasites in North American Raptors*

11) Ekaterina Hampton, Wildlife Ecology (UD Envision) (Shippensburg University)
    Zach Hammaker, Plant and Soil Sciences and Chris Williams, Entomology and Wildlife Ecology
    *Measuring Carbon Sequestration of University of Delaware’s Central Campus*

    Deborah Delaney, Cooperative Extension
    *Kids and Bees and Gardens, Oh My!*

13) John Hendell, Wildlife Ecology Conservation (Summer Scholars) (University of Delaware)
    Jeffrey Buler, Entomology and Wildlife Ecology
    Chris Williams, Entomology and Wildlife Ecology
Using Automated Radio Telemetry to Quantify Fine Scale Habitat Use Patterns of Northern Bobwhite (Colinus virginianus)

14) Kara Taylor, Wildlife Ecology Conservation (Summer Scholars) (University of Delaware)
   Greg Shriver, Entomology and Wildlife Ecology
   Effects of phenology and territory intrusion on Carolina Wren behavior

15) Emma Feldman, Wildlife Ecology (UD Envision) (University of Delaware)
   Chris Williams, Entomology and Wildlife Ecology/Sustainability
   Energetic availability of wintering Green-winged Teal foods in North Carolina

ANIMAL SCIENCES

16) Isabella Ferraro, Animal Science (Summer Fellows) (University of Delaware)
    Amy Biddle, Mathematical Sciences
    Identifying Uncharacterized Proteins Associated with Anthelmintic Resistance in Cyathostomins

17) Giovanni Rollo, Animal Science (CANR Unique Strengths) (University of Delaware)
    Hong Li, Animal and Food Science
    Field Evaluation of a Novel Water Treatment System in Commercial Boiler Operations

18) Mia Sanders, Animal Science (UD Envision) (University of Delaware)
    Yihang Li, Animal and Food Science
    In Ovo injection of Glutamine and the Effects on Intestinal Epithelium

PRE-VETERINARY SCIENCES

19) Sydney Iredell, Pre-Veterinary Medicine and Animal Biosciences (Summer Scholars) (University of Delaware)
    Shawn Polson, Biological Sciences
    DNA Polymerase I enzyme biochemistry reflects life cycles of environmental phages

20) Jillian Reifsnyder, Pre-Veterinary Medicine and Animal Biosciences (Summer Scholars) (University of Delaware)
    Amy Biddle, Animal and Food Science
    Effect of Nutritional Management Strategies on Ulcer Incidence in Standardbred Racehorses

21) Gabrielle Bannister, Pre-Veterinary Sciences (UD Envision) (University of Delaware)
    Gianna Metzger, Pre-Veterinary Sciences (University of Delaware)
    Amy Biddle, Animal and Food Science
    Correlating levels of salivary and fecal SIgA in horses with differing cyathostomin parasite egg shedding rates

22) Nia Hopkins, Pre-Veterinary Sciences (UD Envision and UD Equine Science Program) (University of Delaware)
    Amy Biddle, Animal and Food Sciences
    Identifying the Source of Gastric Ulcers in Standardbred Racehorses

23) Stefanie Severin, Pre-Veterinary Sciences (UD Envision) (University of Delaware)
    Mark Parcells, Animal and Food Sciences
    Identifying the Source of Gastric Ulcers in Standardbred Racehorses

MARINE SCIENCE

24) Thomas Repetz, Marine Biology (Summer Fellows) (University of Delaware)
    Edward Hale, Marine Biology
    Assessing Relative Habitat Quality of Freshwater Tributaries using Relative Abundance and Size of Resident Fishes

25) Elizabeth Roros, Marine Science (Summer Scholars) (University of Delaware)
    Mark Warner, Marine Studies
    Will genotypes of Breviolum minutum retain thermal tolerance? Photochemical analysis of Caribbean symbiotic dinoflagellates across various heat exposure

26) Alyssa Wentzel, Marine Science and Public Policy (Civil and Environmental Engineering) (University of Delaware)
    Tian-Jian Hsu, Civil and Environmental Engineering
    The Effects of EPS, Clay Minerals, and Sand on the Flocculation Process

ENVIRONMENTAL SCIENCE AND ENGINEERING
27) Charles Sobocinski, Environmental and Resource Economics (NSF Project WiCCED) (University of Delaware)  
Kent Messer, Applied Economics and Statistics  
Diya Ganguly, Experimental and Applied Economics  
Is Cash Trash?: A Study on Participant Recruitment from the Field

28) Georgia Angeletakis, Environmental Engineering (Summer Scholars) (University of Delaware)  
Earl Lee, Civil and Environmental Engineering  
The Greenhouse Gas Estimator for Road Construction and Rehabilitation Projects

29) Ryan Kim, Environmental Engineering (USDOT Center for Integrated Asset Management for Multimodal Transportation Infrastructure Systems) (University of Delaware)  
Daniel Cha, Civil and Environmental Engineering  
Sustainable Production of Bioplastics Utilizing Halophiles

30) Dillon Siple, Environmental Engineering (Summer Scholars) (University of Delaware)  
Yu-Ping Chin, Civil and Environmental Engineering  
Effects of Solid Phase Extraction on Stemflow DOM Properties

31) Evan Bletz, Environmental Science (UD Envision) (Franklin & Marshall)  
Shree Inamdar, Plant and Soil Sciences  
Bulk Density of Soils at Floodplain Restoration Sites

32) Grace Chen, Environmental Science (CANR Summer Institute) (University of California-Berkley)  
Michael Crossley, Entomology and Wildlife Ecology  
Evaluating the Decomposition Rate of Hermetia illucens on Compostable Takeout Waste

33) Shayna Demick, Environmental Science (University of Delaware)  
Kelly Cobb, Fashion and Apparel Studies  
Luis Quijano, Fashion and Biotechnology  
Bacterial Cellulose in Fashion

34) Itzel Duran-Herrera, Environmental Science (University of Delaware)  
Pinki Mondal, Geography and Spatial Sciences  
The Agricultural History of Brandywine Park

35) Kadisha Mitchell, Environmental Science (Howard University)  
Changqing Wu, Animal and Food Sciences  
Jinglin Zhang, Animal and Food Science  
Efficacy of DCN Filters in Removing Micro/Nanoplastics from Water

36) Lauren Schechter, Environmental Science (University of Delaware)  
Yan Jin, Plant and Soil Sciences  
Effect of Salinity and Flooding Events on the Mobilization of Size-fractionated Colloid-bound Phosphorus in Marshland

37) Ryan Eagan, Environmental Science (University of Delaware)  
Tracy DeLiberty, Geography  
Climate Change and Variability in the East Antarctic Icescape

38) Chase Thompson, Environmental Stewardship (University of Maryland College Park)  
Abby Reeves, Plant and Soil Sciences  
How To Create Plant Pigments

CIVIL ENGINEERING

39) Steffan Ghin, Civil Engineering (USDOT Center for Integrated Asset Management for Multimodal Transportation Infrastructure Systems) (University of Delaware)  
Jovan Tatar, Civil and Environmental Engineering  
Durability of Composites Derived from Renewable Resources

40) Adriana Mercado Cruz, Civil Engineering (National Science Foundation) (Universidad de Puerto Rico-Mayagüez)  
Monique Head, Civil and Environmental Engineering  
Vulnerability Assessment of Coastal Bridges

41) Semon Rezkalla, Civil Engineering (USDOT Center for Integrated Asset Management for Multimodal Transportation Infrastructure
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<td>Agatha Sereti Uchi, Civil Engineering</td>
<td>(National Science Foundation)</td>
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<td>Chris Williams, Office of Sustainability</td>
<td>Michael Chajes, Civil and Environmental Engineering</td>
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<td>Jeffrey Summerhays, Office of Sustainability</td>
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<td>Developing A Rapid Assessment System For Evaluating The Energy Efficiency Of University Of Delaware Buildings</td>
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<td>Evaluation of Dry Film Thickness Data for Assessing Field Performance of Uncoated Weathering Steel</td>
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<td>Cole Purcell, Anthropology (NSF Project</td>
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<td>Moving Fashion Forward: At the Crossroads of Adaptability and Sustainability</td>
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<td>Spiritual Colonialism or Cultural Borrowing, New Age Influences in the Era of Contemporary Spirituality and Social Media</td>
<td>Alyssa Gorton, Anthropology BA (McNair Scholars Program) (University of Delaware)</td>
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<td>Easton Thomas, Anthropology</td>
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<td>First Need In the First State: LGBTQ+ Youth Face Too Many Barriers to Secure Housing In Delaware</td>
<td>Mary Mitsdarffer, Public Policy</td>
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<td>letzet Overby, Theater</td>
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<td>Undergraduate Research in Dance: Contributions to the Second Edition</td>
<td>Michaela Herdoiza, International Bus Studies (University of Delaware)</td>
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<td>Marissa Jackson, Public Policy (Community Engagement Initiative)</td>
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<td>Kendron Thomas, Anthropology</td>
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<td>Michael Shields, Education &amp; Human Development</td>
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<td>Eric Layland, Human Development and Family Sciences</td>
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<td>Natalie Maruer, Human Development and Family Services</td>
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<td>Lisa Jaremka, Psychological and Brain Sciences</td>
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Geraldine Lara-Silva, Elementary Teacher Educ
BSED (McNair Scholars Program) (University of Delaware)
Elizabeth Soslau, School of Education
What discriminatory barriers do college-level multilingual students face?

MATERIAL SCIENCE

Owen Shullaw, Materials Science and Engineering (CHARM REU) (Purdue University)
Matthew Doty, Materials Science and Engineering
Improving the Functionality of Time-Domain Terahertz Spectroscopy Systems to Further Characterize Materials

COGNITIVE SCIENCE

Kezia Osei-Sebuabe, Medical Diagnostics BS (McNair Scholars Program) (University of Delaware)
Naomi Samimi-Sadeh, Psychological and Brain Sciences
TBD

Jazmine Winters, Cognitive Science BS (McNair Scholars Program) (University of Delaware)
Amanda Owen Van Horne, Communication Sciences and Disorders
Examining Special Education Policy Documents Before and After Natural Disasters

LINGUISTICS

Anna Koppy, Linguistics (Delaware INBRE) (University of Delaware)
Amanda Owen Van Horne, Communication Sciences and Disorders
Some Structures are Learned more Easily than Others: Analysing non-corrective recasts for children with DLD

Claudia McCormick, Biomedical Engineering (Delaware INBRE) (University of Delaware)
Nathan Lazarus, Electrical and Computer Engineering

Liquid Metal Strain Sensors For Pediatric Patients

Gharem Santos, Psychology Education (Delaware INBRE) (University of Delaware)
Lisa Jaremka, Psychological and Brain Sciences
Stress Reduction Training Can Improve Emotional Connection and Relationship Satisfaction in Couples Engaging in Conflict Discussions

POSTER SESSION II

10:15 - 11:45AM
(Biological Sciences, Chemistry & Biochemistry)

BIOLOGICAL SCIENCES

1) Anastasia Pashukov, Bioinformatics & Computational Biology (Graduate College) (Worcester Polytechnic Institute)
Jia Song, Department of Biological Sciences, University of Delaware
Karen Hoober, Center for Bioinformatics and Computational Biology
Investigating Transport Mechanisms of Mitotic Spindle Localized Transcripts

2) Raktim Basu, Applied Molecular Biology and Biotechnology (Summer Scholars) (University of Delaware)
Mona Batish, Department of Medical and Molecular Sciences
Optimization of 2-step smFISH for specific exon detection in the BOK gene

3) Trevor Burleigh, Applied Molecular Biology and Biotechnology (Summer Scholars) (University of Delaware)
Mona Batish, Medical and Molecular Sciences
Identifying Expression of Circular RNA in Cardiac Fibroblasts and Cardiac Myocytes

4) Julia Serjantova, Applied Molecular Biology and Biotechnology (Summer Scholars) (University of Delaware)
Chi Keung Lam, Biological Sciences
*Mapping Binding Domains between HAX1, HSP90, and PLN*

Atif Bacchus, Biological Sciences (Summer Scholars) (University of Delaware)
Scott Siegel, ChristianaCare Helan f. Graham Cancer Center Research Institute
*Deconstructing a Hot Spot of Advanced Breast Cancer Among Women in Wilmington: An Exploratory Study on Root Causes*

Emily Borell, Biological Sciences (Summer Scholars) (University of Delaware)
Deni Galileo, Biological Sciences
*Effects of Small-Molecule Inhibitors of FGFR, Integrins, and FAK on L1CAM-Stimulated Glioblastoma Stem Cell Motility and Proliferation*

Luke Coster, Biological Sciences (Summer Scholars) (University of Delaware)
Sharon Rozovsky, Department of Chemistry and Biochemistry
*Expression and Characterization of P97*

Kailey DeGeorge, Biological Sciences (Summer Scholars) (University of Delaware)
Anja Nohe, Biological Sciences
*Optimizing the Concentration of Peptide CK2.1 for Chondrogenesis in Primary Cells from Patients with Osteoarthritis and Osteoporosis*

Owen Donnelly, Biological Sciences (Summer Scholars) (University of Delaware)
K. Wommack, Plant and Soil Sciences
*Enterobacteria phage T7 DNA Polymerase I point mutation greatly affects enzyme activity*

Melissa Grogin, Biological Sciences (Summer Fellows) (University of Delaware)
Curtis Johnson, Biomedical Engineering
*A Custom Carbon Filament Bite-Bar Enhances Signal-to-Noise Ratio in Preclinical Magnetic Resonance Elastography Scanning Using a 9.4T Bruker Scanner*

Austin Jensen, Biological Sciences (NSF Award #2040346 & USDA Award #2022-67012-36840) (University of Delaware)

Ashley Hostetler, USDA NIFA Postdoctoral Fellow UD Sparks Lab Department of Plant and Soil Sciences
Erin Sparks, Delaware Biotechnology Institute, Department of Plant and Soil Sciences
*Characterization of brace root development in Sorghum bicolor x Sorghum propinquum RIL population*

Adam Kerzner, Biological Sciences (Summer Scholars) (University of Delaware)
Ramona Neunuebel, Biological Sciences
*Characterizing PIP-binding Legionella Pneumophila effector proteins using Halo-tag and GFP constructs*

McKenna Millar, Biological Sciences (Summer Scholars) (University of Delaware)
Jessica Tanis, Biological Sciences
*Impact of Vitamin B12 on Amyloid-Beta Proteotoxicity*

Christina Natalini, Biological Sciences (NSF Project WiCCED) (University of Delaware)
Thomas Hanson, Marine Science and Policy
*Discovering Diversity in Delaware*

Krisha Parekh, Biological Sciences (Summer Scholars) (University of Delaware)
Jessica Tanis, Biological Sciences,
*Investigating the effects of stam-1 on extracellular vesicle biogenesis*

Esha Patlola, Biological Sciences (Summer Scholars) (University of Delaware)
Amber Krauchunas, Biological Sciences
*Characterization of a mutation in C. elegans*

Alyssa Perrin, Biological Sciences (Summer Scholars) (University of Delaware)
Jeremy Bird, Biological Sciences
*Adapting a ppGpp Biosensor To Alternative E.coli Strains*

Donna Price, Biological Sciences (Summer Scholars) (University of Delaware)
Molly Sutherland, Biological Sciences,
*Engineering Single Amino Acid Cysteine Variants to Investigate the Heme Receptor Domain for System I Bacterial Cytochrome c Biogenesis*
19) Nikolas Rafaelidis, Biological Sciences (Summer Scholars) (University of Delaware)  
Jason Gleghorn, Biomedical Engineering  
CodonBERT: A Novel Machine Learning Approach to Improve Protein Semantic Understanding

20) Kristztina Sershen, Biological Sciences (Summer Scholars) (University of Delaware)  
Deni Galileo, Biological Sciences  
Flow Cytometry Analysis of the Differentiation of Stem Cells Using Staining Procedures with Various Markers

21) Spencer Toth, Biological Sciences (Summer Scholars) (University of Delaware)  
Eric Wommack, Plant and Soil Sciences, Jeffy Fuhrmann, Plant and Soil Sciences  
Genomic similarities reflect infectivity patterns in Bradyrhizobium rhizobacteriophage

22) Amberly Tran, Biological Sciences (Summer Scholars) (University of Delaware)  
Mona Batish, Biological Sciences  
The role of cyclic-di AMP in the regulation of Staphylococcus aureus

23) Sophia Vrh, Biological Sciences (Graduate College) (University of South Carolina)  
Mi-Ling Li, Earth Sciences, Water Sciences, and Policy  
Assessing Methylmercury Biomagnification in the Delaware Bay Food Web

24) Zachary Waterman, Biological Sciences (Summer Scholars) (University of Delaware)  
Deni Galileo, Biology  
Assessment of Small Molecule Inhibitors on Glioblastoma Cell Invasiveness in an Ex Vivo Brain Slice Culture System

25) Hannah Weile, Biological Sciences (Summer Scholars) (University of Delaware)  
Jeremy Bird, Department of Biological Sciences  
The Use of Type III-A CRISPR-Cas Systems to Determine Sequence Importance in E. coli’s Defense Against T4 Phage

26) Derek Wu, Biological Sciences (Summer Scholars) (University of Delaware)  
Jennifer Biddle, Marine Sciences  
Recovery and identification of ancient DNA from deep sea J-Anomaly Ridge & Newfoundland Ridge sediment cores

27) Mckenzie Yurcaba, Biological Sciences (Delaware INBRE) (Delaware State University)  
Scott Siegel, ChristianaCare Helen F. Graham Cancer Center and Research Institute  
Deconstructing a hot spot of advanced breast cancer among younger women in Middletown: An exploratory study on root causes

28) Paul Schultz, Biological Sciences BA (McNair Scholars Program) (University of Delaware)  
Lisha Shao, Biological Sciences  
Social Density and Feeding Behavior in Drosophila melanogaster

29) Nikolas Rafaelidis, Biological Sciences (McNair Scholars Program) (University of Delaware)  
Jason Gleghorn, Biomedical Engineering  
CodonBERT: A Novel Machine Learning Approach to Improve Protein Semantic Understanding

30) Sana Patil, Human Physiology (Summer Scholars Program) (University of Delaware)  
Reid Nichols, Orthopedics, Nemours A.I. Dupont Hospital for Children  
Chris Church, Orthopedics, Nemours A.I. Dupont Hospital for Children  
Health-Related Quality of Life in Ambulatory Children with Physical Disabilities

31) Rachel Wang, Neuroscience (Summer Fellows) (University of Delaware)  
Jessica Tanis, Biological Sciences  
Exploring Sustainability in Universal Workwear

32) Daivik Arora, Biology (Delaware INBRE) (University of Delaware)  
Austin Keeler, Biology  
TBD

33) Abram Banoub, Biology (Delaware INBRE) (University of Delaware)  
Michele Lobo, Physical Therapy, University of Delaware  
Julie Orlando, Physical Therapy  
The Effects of Play Education on Infant
Positioning Using a Smart Garment: A Randomized Control Trial

34) Victoria Barbone, Biology (Delaware INBRE) (Delaware Technical Community College)
Shawn Polson, Depts. of Computer & Information Sciences, Plant & Soil Sciences, Biological Science
*Biochemical properties of helicase types are predictive of marine phage infection strategy*

35) Emma Bertolino, Biology (Delaware INBRE) (University of Delaware)
Arit Ghosh, Delaware Biotechnology Institute
*Multiparametric flow cytometry panels for analyses of whole blood samples as a tool for drug screening and immunotherapy-based applications*

36) Heather Boliver, Biology (University of Delaware)
Sadia Islam
*The Role of Non-Muscle Myosin IIA (NMIIA) in Lens Epithelial Cell Shape Change*

37) Katie Bushong, Biology (Delaware INBRE) (Wilmington University)
Nancy Lennon, Nemours Childrens Hospital,
*Early Physical Therapy and Mobility Outcomes in Youth with Cerebral Palsy who Undergo High Burden Multi-Level Surgery*

38) Austin Chambers, Biology (Delaware INBRE) (Delaware Technical Community College)
Clara Chan, College of Earth, Ocean and Environment
*Quantifying Growth of an Iron Oxidizer and Building Tools to Find Functional Genes*

39) Maria Chihuahua, Biology (Delaware INBRE) (Delaware Technical Community College)
Velia Fowler, Biology
*TBD*

40) Gabriel DaSilva, Biology (Delaware INBRE) (University of Delaware)
Michael Crossley, Entomology and Wildlife Ecology
*TBD*

41) Sarah Gamer, Biology (University of Delaware)
Molly Sutherland, Biology
*TBD*

42) Anh Ho, Biology (University of Delaware)
Justin Parrino, Biology
*TBD*

43) Simran Kaur, Biology (Delaware INBRE) (University of Delaware)
Amiee Jaramillo-Lambert, Biological Sciences
*Characterization of nurf-1 mutations in suppressing of top-2-induced embryonic lethality in C. elegans*

44) Areli Martinez, Biology (Delaware INBRE) (Delaware State University)
Carissa Baker-Smith, Nemours Children’s Hospital
*TBD*

45) Jack Mason, Biology (Delaware INBRE) (University of Delaware)
Velia Fowler, Biological Sciences
*Investigating the protein expression of a novel short isoform of Tensin 1 in mouse tissue*

46) Dexter Matthews, Biology (Delaware INBRE) (University of Delaware)
Chi Keung Lam, Biological Sciences
*The Effect of Hsp90b Knockout on Murine Myocardial Mitochondria*

47) Mason Meadows, Biology (Delaware INBRE) (Delaware Technical Community College)
Juan Perilla, Chemistry & Biochemistry
*Developing immersive experiences into the world of pathogens: from atomistic motions to biological phenotypes*

48) Karen Melo-Rubio, Biology (Delaware INBRE) (University of Delaware)
Jessica Tanis, Biological Sciences
*How Nicotinamide Riboside affects rate of paralysis in c. elegans*

49) Chloe Mirack, Biology (Delaware INBRE) (University of Delaware)
Justin Parreno, Biological Sciences
Decreased Substrate Stiffness Prevents Epithelial-to-Mesenchymal Transition in Lens Cells

50) Zaina Punter, Biology (Delaware INBRE) (Delaware Technical Community College)
RAD51 Superfamily and RecA-like Superfamily II Helicases as Indicators of Phage Infection Strategy

51) Alison Ramirez, Biology (Delaware INBRE) (University of Delaware)
Shawn Polson, Biological Sciences
Barbra Feller
RAD51 Superfamily and RecA-like Superfamily II Helicases as Indicators of Phage Infection Strategy

52) Caitlyn Zeller, Biology (Delaware INBRE) (University of Delaware)
John Jungck, Department of Mathematics and Department of Biology
Origami of Viral Capsids

53) Medha Annam, Biology / Liberal Studies - Medical Scholar Concentration (Delaware INBRE) (University of Delaware)
Heather Bittner Fagan, Family and Community Medicine, ChristianaCare
Karen Antell, Family and Community Medicine, ChristianaCare
Bringing Light: Opportunities Missed in Breast Cancer

54) Julia Rusinski, Biology/Psychology (Delaware INBRE) (University of Delaware)
Lisha Shao, Biological Sciences
Investigating the Role of Pepck2 in Feeding Behaviors of Female Virgin Drosophila melanogaster in Various Social Densities

55) Rohith Maraka, Quantitative Biology (Summer Scholars) (University of Delaware)
Curtis Johnson, Biomedical Engineering
Accurate generation of 3D structural brain stiffness maps using Generative Adversarial Networks

56) Mariela Alfaro Garcia, Microbiology (Iowa State University)
Erin Sparks, Department of Plant and Soil Sciences, University of Delaware
Jingjing Tong, Department of Plant and Soil Sciences
Establishment of a PEG-mediated Maize Root Protoplast Transformation System

57) Ishika Sharma, Molecular Biology Biotechnology (Delaware INBRE) (University of Delaware)
Vincenzo Ellis, Entomology and Wildlife Ecology
Selective Whole Genome Amplification Shows Potential for Sequencing Avian Malaria Pathogen Genomes

58) Maliyah Long, Forensic Biology (Delaware INBRE) (Delaware State University)
Amber Krauchunas, Biological Sciences
Characterization of F57A8.6; a DX domain Protein

CHEMISTRY

59) Elizabeth Bodio, Chemistry (University of Delaware)
Joel Rosenthal, Chemistry and Biochemistry
Synthesis of Extended Isocorroles as a Photosensitizer for Photodynamic Therapy

60) Daniel Chaykin, Chemistry (Stony Brook University)
Koffi Pierre Yao, Mechanical Engineering
Reducing or Replacing NMP as Solvent in Battery Electrode Slurry Preparations

61) Alondra Diaz-Pena, Chemistry (University of Puerto Rico at Rio)
Emil Hernández-Pagán, Chemistry and Biochemistry, University of Delaware
Joel Rosenthal, Chemistry and Biochemistry, Surface Plasmon-Assisted Peractivation of Nitrile Functional Groups

62) Jacob Letnaunchyn, Chemistry (University of Delaware)
Donald Watson, Department of Chemistry and Biochemistry, University of Delaware
Jessica Sampson, Department of Chemistry and Biochemistry
Enhancing Reproducibility in Organic Chemistry and Analytical Data Comparisons

63) Kaitlin Lupinacci, Chemistry (Summer Fellows) (University of Delaware)
Catherine Grimes, Chemistry/Biochemistry
Automation of Mature PG Synthesis

64) Julian Novin, Chemistry (Delaware INBRE) (University of Delaware)
Erin Mulhearn, Chemistry, University of Delaware
Ariel Alperstein, Chemistry
Investigating protein-plastic interactions: visualization and analysis of the protein corona

65) Andrew Richards, Chemistry (Summer Scholars) (University of Delaware)
Donald Watson, Chemistry and Biochemistry
Synthesis of Anti-Trisubstituted Vinylsilanes via Palladium Catalysis

66) Kenneth Ross, Chemistry (Summer Scholars) (University of Delaware)
Mary Watson, Department of Chemistry and Biochemistry
Synthesis of Alkynylated Benzisoxazolines For Copper-Catalyzed Kinetic Resolution

67) Kelsey Staniec, Chemistry (Project WiCCED) (University of Delaware)
Wei-Jun Cai, Marine Science
Developing a Relationship Between Calcium Ion Concentration [Ca 2+] and Salinity in Atlantic Coastal Waters

68) Sarah Tuoni, Chemistry (Summer Scholars) (University of Delaware)
Mary Watson, Chemistry and Biochemistry
Synthesis of Tertiary Benzylic Pivalate Substrates for Stereospecific Borylation Optimization

69) Jessica Williams, Chemistry (CHARM REU) (Johns Hopkins University)
Thomas Epps, Chemical Engineering, University of Delaware
LaShonda Korley, Materials Science & Engineering

--Lignin-derivable non-isocyanate polyurethane-epoxy hybrid thermosets with tunable thermal properties--

70) Carina Eisenberg, Chemistry (CANR Summer Scholars) (New York University)
Angela Seyfferth, PLSC
Cadmium Levels Across Spinach Varieties

BIOCHEMISTRY

71) Christopher Blanda, Biochemistry (University of Delaware)
Clara Chan, Earth Sciences
Quantifying iron oxidase expression in microcosm experiments with RT-qPCR

72) Zyairr Imond, Bissoon-Gibson, Biochemistry (University of Delaware)
Jazzlyn Jones, Applied Molecular Biology & Biotechnology (University of Delaware)
Esther Biswas, Medical and Molecular Sciences
Retinal Transporter ABCA4 and Cloning of its Extracellular Domain ECD1

73) Liam Dress, Biochemistry (Summer Scholars) (University of Delaware)
Joel Rosenthal, Chemistry and Biochemistry
Synthesis and Purification of Novel Non-Aromatic Non-Cyclic Tetrapyrrolic Derivatives for Use in Photodynamic Therapy

74) Montana Edwards, Biochemistry (Summer Scholars) (University of Delaware)
Donald Watson, Chemistry and Biochemistry
Asymmetric Synthesis of 3,5-Substituted Hydantoins via an aza-Heck Cyclization

75) Jeremiah Epting, Biochemistry (Summer Scholars) (University of Delaware)
Catherine Grimes, Chemistry and Biochemistry
Evaluating the Promiscuity of Peptidoglycan Biosynthetic Enzymes to Optimize the Incorporation of 3 Azide N-Acetyl Muramic Acid (NAM) Probes in Biological Systems

76) Emma Hudgins, Biochemistry (Summer Scholars) (University of Delaware)
Ibra Fancher, Kinesiology and Applied Physiology
Hyperglycemia Degrades the Endothelial Glycocalyx Through a Decrease in Syndecan-1

77) Sarah Janney, Biochemistry (Summer Scholars) (University of Delaware)
    Joseph Fox, Chemistry and Biochemistry,
    Late Stage Functionalization of GalNAc Tetrazine Probes for Real-time Live Cell Labeling

78) Blake Kiefer, Biochemistry (CHARM REU) (Washington & Jefferson College)
    Chitraleema Chakraborty, Materials Science and Engineering
    Obtaining 2D Semiconductors

79) Connor Kosinski, Biochemistry (Summer Scholars) (University of Delaware)
    Neal Zondlo, Chemistry & Biochemistry
    Effects of Serine and Threonine Phosphorylation on Serine-Proline cis-trans Isomerism

80) Joseph Mild, Biochemistry (Summer Scholars) (University of Delaware)
    Marco Messina, Chemistry & Biochemistry
    Boron-rich cluster templates for the facile synthesis of 3-dimensional polymer materials

81) Phillip Moquin, Biochemistry (Summer Scholars) (University of Delaware)
    Zhihao Zhuang, Chemistry and Biochemistry
    Modification of a Chemical Linker via the Finkelstein Reaction Mechanism

82) Sophie Olson, Biochemistry (Summer Scholars) (University of Delaware)
    Jeffrey Mugridge, Chemistry and Biochemistry
    Determining TRMT1-Protein Interaction Partners Through Proximity Labeling

83) Harrison Oven, Biochemistry (Summer Scholars) (University of Delaware)
    Neal Zondlo, Chemistry & Biochemistry
    Local Organization at Ser-Pro and pSer-Pro Sequences: Stabilization of the cis-amide via C—H/O Interaction

84) Liam-Michale Sandles, Biochemistry (Summer Scholars) (University of Delaware)
    Catherine Grimes, Chemistry & Biochemistry
    Implementation of a Leaky Outer Membrane E. Coli Cell Line for Characterization of Peptidoglycan Recycling Pathways and Improved Cell Wall Labeling

85) Nicole Wang, Biochemistry (Summer Scholars) (University of Delaware)
    Hank Chen, Radiation Oncology, ChristianaCare
    Laura Doyle, Radiation Oncology, ChristianaCare
    Lessons Learned from a Tragedy: Quality Assurance for Dose Delivery in Radiation Therapy

86) Caroline Zu, Biochemistry (Center for Plastics Innovation) (Purdue University)
    Mark Blenner, University of Delaware
    Discovery and characterization of polyethylene degrading microbes from the gut of the yellow mealworm

POSTER SESSION III
12:00 - 1:30PM
(Chemical and Biochemical Engineering, Civil and Environmental Engineering, Mechanical Engineering)

GENETICS
1) Saffiya Haider, Genetics/Genomics (CANR Summer Institute) (University of Texas Austin)
   Irene Ikiriko, Sparks Lab, University of Delaware
   Erin Sparks, Sparks Lab, University of Delaware
   Linking Biomechanics To Cellular-Scale Signaling

CHEMICAL AND BIOMOLECULAR ENGINEERING
2) Jadira Fuentes Bautista, Chemical Engineering (NSF CAREER) (University of Delaware)
   Identifying essential native protein Interactors of Clostridium butyricum Argonaute
3) Mahdi Al Ismail, Chemical Engineering (University of Delaware)  
Tejas Goculdas, Chemical and Biomolecular Engineering, University of Delaware  
Sunitha Sadula, Chemical and Biomolecular Engineering  
*Scaling-up Aldol Condensation Reaction in Flow Reactor for Branched Bio-Lubricant Base Oil Production*  

4) Aravind Arunachalam, Chemical Engineering (ARC Grant from the Delaware Bioscience Center for Advanced Technologies) (University of Delaware)  
Eleftherios Papoutsakis, Chemical and Biochemical Engineering  
*Manipulating Electron and Nitrogen Flux to Improve Product Selectivity and pH Control in a Syntrophic Clostridia Consortium*  

5) Grace Azevedo, Chemical Engineering (Summer Scholars) (University of Delaware)  
Emily Day, Biomedical Engineering  
*Biomimetic Nanoparticles for the Homotypic Targeting of Triple-Negative Breast Cancer*  

6) Altaf Bacchus, Chemical Engineering (Summer Scholars) (University of Delaware)  
Millicent Sullivan, Chemical and Biomolecular Engineering  
*Hydrogel Microparticles for MMP-Mediated Gene Delivery to Chronic Wounds*  

7) Xiomaris Baez-Santiago, Chemical Engineering (Center for Plastics Innovation) (University of Puerto Rico at Mayaguez)  
Mary Watson, Department of Chemistry and Biochemistry, University of Delaware  
Pankti Mehta, Department of Chemistry and Biochemistry  
*Post-polymerization Functionalization of PMMA*  

8) Paige Bastek, Chemical Engineering (Summer Scholars) (University of Delaware)  
Eleftherios Papoutsakis, Chemical and Biomolecular Engineering  
*Exploring Impact of Hydrogen Gene Engineering, Cell Density, and Fermentation Mode on Isopropanol Production and Testing Fluorescence Based Population Tracking in a Clostridium Coculture*  

9) Gavin Brownstein, Chemical Engineering (CCMT332476 AFRL THOSTENSON TASK 3) (University of Delaware)  
Eleftherios Papoutsakis, Chemical and Biomolecular Engineering  
*Exploring Impact of Hydrogen Gene Engineering, Cell Density, and Fermentation Mode on Isopropanol Production and Testing Fluorescence Based Population Tracking in a Clostridium Coculture*  

10) Joshua Bryan, Chemical Engineering (Center for Plastics Innovation) (University of Delaware)  
Roman Dickey, Department of Chemical and Biomolecular Engineering  
*Development of Biocatalytic Cascade for the Valorization of Plastic Deconstruction Products*  

11) Anoushka Buddhikot, Chemical Engineering (Summer Scholars) (University of Delaware)  
Aditya Kunjapur, Chemical and Biomolecular Engineering  
*Determining Optimal Conditions for in vitro Threonine Transaldolase Activity*  

12) Abigail Conklin, Chemical Engineering (University of Delaware)  
Munetaka Kubota  
*Effects of Recycling Processes on Carbon Fiber Strength and Adhesion with PMMA*  

13) Matthew Conlon, Chemical Engineering (Center for Composite Materials) (University of Delaware)  
Yeonsu Kwak, Chemical Engineering  
Kewei Yu, Chemical Engineering  
Dionisios Vlachos, Chemical Engineering, *Electrified heating properties of carbon supports for propane dehydrogenation*  

14) Andrew Dalton, Chemical Engineering (Summer Scholars) (University of Delaware)  
Joseph Dougherty, Chemical Engineering (University of Delaware)  
Eleftherios Papoutsakis, Chemical and Biomolecular Engineering  
*Bioreactor Development for Bioenergy Production from an Engineered Mixotrophic Consortium for Enhanced CO2 Fixation*
15) Defne Elbeyli, Chemical Engineering (Summer Scholars) (University of Delaware)
    Aditya Kunjapur, Chemical and Biomolecular Engineering
    Synthetic Auxotrophy as A Pathway for Obligate Commensialism

16) Jake George, Chemical Engineering (Summer Scholars) (University of Delaware)
    Norman Wagner, Department of Chemical and Biomolecular Engineering
    Ted Egnaczyk, Department of Chemical and Biomolecular Engineering
    Effects of Curing Conditions on Material Properties of BP-1 Lunar Regolith Simulant Geopolymer Binders

17) Nicole Gill, Chemical Engineering (Summer Scholars) (University of Delaware)
    Catherine Fromen, Chemical Engineering
    Survival Analysis and Identification of Pro-Survival Signal From Macrophages Treated With PEG-Based Nanoparticles

18) Shirly Gottieb, Chemical Engineering (Summer Fellows) (University of Delaware)
    Stephen Sidebotham, History
    Engineering Yeast to produce human glycoproteins

19) Rohan Goyal, Chemical Engineering (CHARM REU) (University of Massachusetts Amherst)
    Lars Gundlach, Department of Chemistry and Biochemistry
    Synthesizing Au/NiO Nano-Heterostructures for Effective Hot Charge Carrier Harvest

20) Guillen Kuroki, Chemical Engineering (University of Delaware)
    TBD

21) Jaylen Harrison, Chemical Engineering (Summer Scholars) (University of Delaware)
    Ross Klauer, Biomolecular Engineering, University of Delaware
    Darien Nguyen, Chemical Engineering
    Effect of plasma oxidation on plastics degradation by the yellow mealworm and their gut microbes

22) Lila Hintz, Chemical Engineering (Summer Scholars) (University of Delaware)
    Norman Wagner, Chemical & Biomolecular Engineering
    Colloidal Stability Analysis in the Formulation Process of the Type II Diabetes Drug

23) Tiffany Jung, Chemical Engineering (Summer Scholars) (University of Delaware)
    William Hartt, Chemical Engineering, Alexandra Bayles, Chemical Engineering
    Computational Modeling of Glycerol-Water Solutions in Laminar Flow Through SMX Mixers

24) Ashley Kalan, Chemical Engineering (Delaware INBRE) (University of Delaware)
    Kevin Solomon, Chemical & Biomolecular Engineering
    Engineering Prokaryotic Argonautes for Transcriptional Regulation

25) Olivia Kelly, Chemical Engineering (Summer Scholars) (University of Delaware)
    Thomas H., III Epps, Chemical Engineering
    Polymer blend electrolytes with enhanced room temperature conductivity for lithium-ion batteries

26) George Lauri, Chemical Engineering (Summer Scholars) (University of Delaware)
    Thomas H., III Epps, Chemical & Biomolecular Engineering
    Synthesis and Characterization of Biomass-Derivable Ionic Liquids

27) Caleb Lavallee, Chemical Engineering (CHARM REU) (University of Minnesota: Twin Cities)
    Xinqiao Jia, Materials Science and Engineering
    Functionalizing P622-N-Cys with Tetrazine and trans-cyclooctene for the use of interfacial bioorthogonal cross-linking

28) Caleb Lawson, Chemical Engineering (Summer Scholars) (University of Delaware)
    Mark Blenner, Chemical and Biomolecular Engineering
    Toward a Serine Integrase Mediated Integration System in Yarrowia lipolytica
29) Hayden Marquard, Chemical Engineering (CCMT432558 UPITT/ARMY UHMWPE) (University of Delaware)
Erik Thostenson, Mechanical Engineering
Dae Han Sung, Engineering
TBD

30) Erin McKnight, Chemical Engineering (CCMT332467 ONR TUFF 20-22 YARLAGADDA) (University of Delaware)
Thomas Cender, Center of Composite Materials
Microstructure Evolution in Forming Aligned Discontinuous Fiber Composites

31) Miyu Mudalamane, Chemical Engineering (Summer Scholars) (University of Delaware)
Aditya Kunjapur, Chemical & Biomolecular Engineering
An Improved Strain for Aromatic Aldehyde Stability: Recoded RARE

32) Jesal Patel, Chemical Engineering (Summer Scholars) (University of Delaware)
Kevin Solomon, Chemical and Biomolecular Engineering, University of Delaware
Akash Vaidya, Chemical and Biomolecular Engineering
Surface Functionalization of Barley Stripe Mosaic Virus (BSMV) Virus-Like Particles (VLPs)

33) Alexander Perros, Chemical Engineering (National Science Foundation (NSF) Future Manufacturing Research Grant (FMRG)) (University of Delaware)
Sunitha Sadula, Chemical Engineering, University of Delaware
Dionysios Vlachos, Chemical Engineering
Synthesis and Property Evaluation of Branched Bio-Lubricants

34) Andy Redder, Chemical Engineering (Summer Fellows) (University of Delaware)
Feng Jiao, Chemical Engineering
Earth-Abundant Oxygen Evolution Catalysts for Water Electrolysis

35) Elizabeth Rock, Chemical Engineering (CCMT332476 AFRL THOSTENSON TASK 3) (University of Delaware)
Thomas Cender, Center for Composite Materials, University of Delaware
Steve Sauerbrunn, Center for Composite Materials
Resin Cure Kinetics and Exploring the Possibilities of Material Degradation

36) Balamurugan Saravanan, Chemical Engineering (Summer Fellows) (University of Delaware)
Mark Blenner, Biomolecular and Chemical Engineering
Advances in Production of rAAV Through Mutations to the Cap Gene Sequence

37) Brian Sipko, Chemical Engineering (Summer Scholars) (University of Delaware)
Mark Blenner, Chemical and Biomolecular Engineering
Secretion and Purification of the Hydrophobin, RodA

38) Gerard Skourlis, Chemical Engineering (CCMT372153 DOE TUFF IWRAP GILLESPIE) (University of Delaware)
Jack Gillespie, Center for Composite Materials
Lukas Fuessel, Center for Composite Materials
Application of UV-Curing Resins for In-Place Pipe Repair

39) Rena So, Chemical Engineering (Summer Scholars) (University of Delaware)
Mark Blenner, Chemical and Biomolecular Engineering
Development of an Accelerated Platform for Vector Optimization using RMCE Facilitated Mini-pool Cloning

40) Vishal Somasundaram, Chemical Engineering (Summer Scholars) (University of Delaware)
Priyanka Nain, Department of Chemical and Biomolecular Engineering
Aditya Kunjapur, Department of Chemical and Biomolecular Engineering
Developing a steady state growth model for epithelial cancer cells and biocontained E.coli DEP cells

41) Abigail Spangler, Chemical Engineering (Summer Scholars) (University of Delaware)
Aditya Kunjapur, Chemical and Biomolecular Engineering
Investigating a phenylserine dehydratase from *R. pickettii* and aminotransferase from *E. coli* for nonstandard amino acid production

42) Kaveri Srivastava, Chemical Engineering (Summer Scholars) (University of Delaware)
Arthi Jayaraman, Chemical Engineering
*Computational Studies of the Effect of Hydrogen Bonding on Ordering of Block Polymers Towards Designing High Thermal Conductivity Materials*

43) Zachary Stevenson, Chemical Engineering (Summer Scholars) (University of Delaware)
Mark Blenner, Chemical & Biomolecular Engineering
*Flocculation of Microplastics in Aqueous Solutions Using Hydrophobins*

44) Victoria Thompson, Chemical Engineering (CHARM REU) (University of Florida)
Kristi Kiick, Materials Science and Engineering
*Genetic Fusion of Intrinsically Disordered Polypeptides Affords Thermoresponsiveness to Coiled Coil Bundlemers*

45) Daniel Tortorella, Chemical Engineering (Summer Scholars) (University of Delaware)
Svilen Bobev, Chemistry and Biochemistry,
*Various Methods of Synthesis and Analysis of Undiscovered Zintl Phases*

46) Hanna White, Chemical Engineering (Summer Scholars) (University of Delaware)
Mark Blenner, Chemical Engineering
*Microplastic Removal via Microbial Flocculation*

47) Mekhi Williams, Chemical Engineering (Summer Scholars) (University of Delaware)
Mark Blenner, Chemical and Biomolecular Engineering
*Using DNS to Design a High-Throughput Assay for Plastic-Degrading Enzymes*

48) Kayla Wolf, Chemical Engineering (Summer Scholars) (University of Delaware)
Mark Blenner, Chemical & Biomolecular Engineering

49) Julia Wolfe, Chemical Engineering (Summer Scholars) (University of Delaware)
Chris Cloxin, Chemical Engineering
*Mammalian Cell Synthetic Biology for Advanced Biomanufacturing*

50) Qi Zhang, Chemical Engineering (Summer Scholars) (University of Delaware)
April Kloxin, Chemical & Biomolecular Engineering, University of Delaware
Eric Furst, Chemical & Biomolecular Engineering
*Probing Remodeling of Responsive Synthetic Extracellular Matrices with Nanoscale Characterization Techniques to Expand the 3D Cell Culture Toolbox*

51) Sabrina Liskey, Chemical Engineering (CHARM REU) (University of Virginia)
Darrin Pochan, Materials Science and Engineering
*Effect of Varying Solution Conditions and External Residues on Nanoparticle Assembly of Peptide Bundles*

52) Taras Nagornyy, Chemical Engineering (National Science Foundation Award #2050884) (University of Massachusetts Amherst)
Christopher Kloxin, Chemical and Biomolecular Engineering
*Covalent Adaptable Network Materials*

53) Natassja Corrado, Chemical Engineering (National Science Foundation, Award Number MCB-20270) (University of Delaware)
Aditya Kunjapur, Chemical and Biomolecular Engineering
*Optimization of Library Generation Protocols for Fluorescence-Activated Cell Sorting*

54) Joshua Whitehead, Chemical Engineering (NSF) (University of Delaware)
Riley McKeon, Biochemistry, University of Delaware
Jodi Hadden-Perilla, Chemistry and Biochemistry
Characterizing Protein-Fluorophore Interaction in 3- Versus 4- Point Explicit Solvent Models

Ethan Speerli, Energy & Environmental Policy (Delaware Energy Institute (DEI) and the National Science Foundation (NSF)) (University of Delaware)
Dionisios Vlachos, Chemical & Biomolecular Engineering
Investigation of PET Recycling Using Long-Chain Oligomers and Biomass-Derived Monomers

Robyn Logue, Engineering Physics (Delaware INBRE) (Delaware State University)
Kevin Solomon, Department of Chemical and Bimolecular Engineering, University of Delaware
Akash Vaidya, Department of Chemical and Bimolecular Engineering
In Vitro Assembly of Barley-Stripe Mosaic Virus-Like Particles

Helen Xiang, High School Intern (Catalysis Center for Energy Innovation (CCEI) (Charter School of Wilmington)
Dianiosis Vlachos, Chemical and Biomolecular Engineering
A Kinetic Study of the Hydrolysis of Cellulose to Glucose in Molten Salt Hydrate Media

Maria Carattini, Engineering Physics (CHARM REU) (Delaware State University)
Joseph Fox, Chemistry and Biochemistry
Mechanistic Study of the Activation of Rapid Bioorthogonal Chemistry via Photocatalytic Oxidation of Dihydrotetrazine to Tetrazine

MECHANICAL ENGINEERING

Hanaa Abdallah, Mechanical Engineering (Summer Scholars Program) (University of Delaware)
Dawn Elliott, Biomedical Engineering
Automating Post-Processing of Lumbar Disc MRI Segmentation

Nicolas Bailey, Mechanical Engineering (Summer Scholars) (University of Delaware)
Joseph Feser, Mechanical Engineering

Using Time-Domain Thermoreflectance to Measure the Thermal Resistance of Microscopic Interfaces

Cameron Baines, Mechanical Engineering (Summer Scholars) (University of Delaware)
X. Lucas Lu, Mechanical Engineering
Effect of Triamcinolone Treatment on the Mechanical Properties of Cartilage

Andrew Brown, Mechanical Engineering (CCMT332476 AFRL THOSTENSON TASK 3) (University of Delaware)
Thomas Cender, Center for Composite Materials
Rheology of Thermosetting Resins During Cure for Process Modeling of Composite Materials

Jomar Camacho Garay, Mechanical Engineering (University of Puerto Rico Mayagüez)
TBD

Ben Caro, Mechanical Engineering (CCMT432549 PPG/ARMY AMASS TANNER) (University of Delaware)
Matthew Young, Mechanical Engineering, University of Delaware
Jared Wierzbicki, Biomedical Engineering, University of Delaware
Herbert Tanner, Mechanical Engineering, University of Delaware
Jacob Robinson, Mechanical Engineering
AUTOMATED MANUFACTURING FOR AUTONOMOUS SYSTEMS SOLUTIONS (AMASS)

Isaac Chandler, Mechanical Engineering (Summer Scholars) (University of Delaware)
Tyler Van Buren, Mechanical Engineering
Bio-Inspired Unmanned Underwater Vehicles

Owen Conway, Mechanical Engineering (Summer Scholars) (University of Delaware)
Xin Lu, Mechanical Engineering
Micro-Indentation Mechanical Testing of Cartilage

Kaitlyn Dohn, Mechanical Engineering (Summer Scholars) (University of Delaware)
X. Lucas Lu, Mechanical Engineering
Spontaneous Calcium Signaling Pathways of Chondrocytes in Human Osteoarthritis Joints
68) Nicholas Duncan, Mechanical Engineering (CCMT332476 AFRL THOSTENSON TASK 3) (University of Delaware)
Thomas Cender, Center for Composite Materials
Digital Image Correlation Calibration for High Deformation

69) Owen Ferrone, Mechanical Engineering (CCMT372151 NASA ULI) (University of Delaware)
Thomas Cender, Center for Composite Materials
Stretch Forming of Thermoplastic Aligned Discontinuous Fiber Composites: Effects of Environmental Conditions on Forming Optimization

70) Kevin Graziose, Mechanical Engineering (Summer Scholars) (University of Delaware)
Joseph Kuehl, Mechanical Engineering
High Enthalpy Effects on Hypersonic Boundary-Layer Transition

71) Jiro Guillen, Mechanical Engineering (Summer Scholars) (University of Delaware)
Matthew Yezek, Mechanical Engineering (University of Delaware)
Shashank Sharma, CCM
FORMING CELL FOR TUFF THERMOSET PART FABRICATION

72) Het Himanshu Patel, Mechanical Engineering (Summer Scholars Program) (University of Delaware)
Zubaer Hossain, Mechanical Engineering
Manufacturing Lightweight Nanocomposites

73) Prasanna Krishnamoorthy, Mechanical Engineering (Summer Scholars Program) (University of Delaware)
Tyler Van Buren, Mechanical Engineering
Time-Varying Torsional Stiffness Modulation for Bio-Inspired Hydrofoil Propsulsors

74) Noah Leslie, Mechanical Engineering (Summer Scholars Program) (University of Delaware)
Sambeeta Das, Mechanical Engineering
Microrobots for Monitoring and Treating Sickle-Cell Induced Ischemia

75) Robert Martin, Mechanical Engineering (CCMT332478 AFRL THOSTENSON TASK) (University of Delaware)
Erik Thostenson, Mechanical Engineering
Dae Han Sung, Engineering
TBD

76) Connor McCleery, Mechanical Engineering (Summer Scholars) (University of Delaware)
Bingqing Wei, Mechanical Engineering
Electrochemical behavior of ferroelectric enhanced Li-S batteries of different cathode composition

77) Russel Perdue, Mechanical Engineering (Delaware INBRE) (University of Delaware)
Dawn Elliott, Biomedical Engineering
TBD

78) Tyler Phommachanh, Mechanical Engineering (CCMT332445 ARL CREATE Armor Durability) (University of Delaware)
Sagar Doshi, Center for Composite Materials
Joseph Dietzel, Center for Composite Materials
Investigation Of Tensile Strength Of UHMWPE Fibers Extracted From Composite Panels

79) Hemelis Reyes, Mechanical Engineering (Summer Scholars) (University of Delaware)
Robert Opila, Dupont
Interdigitated Back Contact Solar Cell Using Ink-Jet Printing

80) Kamyia Taneja, Mechanical Engineering (Summer Scholars) (University of Delaware)
Mahya Ghardehari, Mathematical Sciences
Understanding the Left Regular Bundle of Finite Groupoids

81) Gianluca Tiso, Mechanical Engineering (CCMT332478 AFRL THOSTENSON TASK 5) (University of Delaware)
Dan Han Sung, Engineering
TBD

82) Miguel Vasquez, Mechanical Engineering (Summer Scholars) (University of Delaware)
Fabrizio Sergi, Mechanical/Biomedical Engineering
Validating a Method for the Estimation of Propulsive Ground Reaction Force from
Healthy Individuals at Constant Walking Speeds

Charles Whealton, Mechanical Engineering (CCMT372151 NASA ULI) (University of Delaware)
Thomas Cender, Center for Composite Materials Characterization of Material Response of Highly Aligned Discontinuous Fiber Composites During Loading

Kevin Wolynetz, Mechanical Engineering (Summer Scholars) (University of Delaware)
Elisa Arch, Kinesiology & Applied Physiology Using Pressure Insoles to Measure In-Shoe Foot Energetics Affected by Shoes and Deformable Foot Orthoses

Joseph Yarbrough, Mechanical Engineering (Delaware INBRE) (University of Delaware)
John Jungck, Department of Mathematical Sciences and Department of Biological Sciences Modeling Expanding Viral Capsids

Kayshavi Bakshi, Mechanical Engineering (National Science Foundation Award #2050879) (Arizona State University)
Jovan Tatar, Civil & Environmental Engineering Investigating The Durability Of Thermoset Resin Under Different Temperature And Saturation Conditions

POSTER SESSION IV
1:45 - 3:15PM
(Psychological & Brain Sciences, Materials Science & Engineering, Electrical & Computer Engineering, CIS, Math and Physics)

COMPUTER ENGINEERING

Brandon Bauer, Computer Engineering (UR-ECE REU) (University of Delaware)
Nektarios Tsoutsos, Electrical Engineering Investigating the Vulnerability of Cyber-Physical Systems to Side Channel Attacks

Logan Blackburn, Computer Engineering (CCMT432552 CA NASA SBIR PH II CENDER) (University of Delaware)
Tom Cender, Center for Composite Materials Developing Extractable Tooling to Adapt Bladder Molding of Short Fiber Composites to Create Bent Formations

Adam Bourjal, Computer Engineering (Summer Scholars) (University of Delaware)
Chengmo Yang, Computer Engineering Examining Vulnerabilities in Autonomous Driving Technology

Jack Cartwright, Computer Engineering (Summer Scholars Program) (University of Delaware)
Chengmo Yang, Computer Engineering Discovering Vulnerabilities in Bluetooth Connections via Hijacking Attacks

Roberto Alexis Cema Espiritu, Computer Engineering (Columbian Program)
Hung Feng, Computer Engineering TBD

Jhan Carlos Diaz Vidal, Computer Engineering (Columbian Program)
Nektarios Tsoutsos, Computer Engineering TBD

Colby Dolbow, Computer Engineering (Summer Scholars Program) (University of Delaware)
Nathan Lazarus, Computer and Electrical Engineering Protoyping 3D Printed Components for Power Electronics

Noah Durbin, Computer Engineering (Summer Scholars Program) (University of Delaware)
Nathan Lazarus, Electrical and Computer Engineering 3D Printed Electrodes For Pediatric Autoimmune Disease Diagnosis

Michael Earley, Computer Engineering (ECE Department) (University of Delaware)
Nathan Lazarus, Electrical and Computer Engineering 3D-Printed Electrodes for Power-Producing Microbial Fuel Cells
10) Mihailo Knezevis, Computer Engineering (Columbian Program)  
Chengmo Yang, Computer Engineering  
Nektarios Tsoutsos, Computer Engineering  
TBD

11) Herissa Monsalud, Computer Engineering (Summer Scholars Program) (University of Delaware)  
Hui Fang, Electrical and Computer Engineering  
Revamping Disaster Research Database for User Accessibility

12) Oluwatomiwa Morakinyo, Computer Engineering (Summer Scholars) (University of Delaware)  
Mohsen Badiey, Electrical Engineering  
Underwater Acoustics

13) Thomas O’Flynn, Computer Engineering (UR-ECE REU) (University of Delaware)  
Rudolf Eigenmann, Electrical and Computer Engineering  
Miguel Rosas, Electrical and Computer Engineering  
Exploring Performance Optimizations through a Comprehensive Search Space Navigation System

14) Oscar Herman Olaya Guiterrez, Computer Engineering (Columbian Program)  
Chengmo Yang, Computer Engineering  
TBD

15) Nathaniel Riehl, Computer Engineering (CCMT332488 DEVCOM CBC SAXENA 22) (University of Delaware)  
Vishal Saxena, Electrical and Computer Engineering  
Thomas Dillon, Electrical and Computer Engineering  
Mark Mirotznik  
Automated Test Bed for Passive Millimeter Wave Imaging

16) Michael Schleider, Computer Engineering (Summer Scholars Program) (University of Delaware)  
John Shaw, Computer Engineering (Summer Scholars Program) (University of Delaware)  
Rocco Dumnich, Electrical Engineering (Summer Scholars Program) (University of Delaware)  
Richard Martin, ECE Department  
Mohsen Badiey, ECE Department  
Project WiCCED

17) Sebastian Torres, Computer Engineering (Summer Scholars) (University of Delaware)  
Nektarios Tsoutsos, Computer Engineering  
Centralizing 3D Printer Data for Analysis Through iOS Applicatio

18) Matthew Ward, Computer Engineering (UR-ECE REU) (University of Delaware)  
Chengmo Yang, Electrical and Computer Engineering  
Disrupting the Intelligence of a Machine: Understanding Neural Network Vulnerabilities through Voltage Glitching

COMPUTER SCIENCE

19) John Bean, Computer Science (Delaware INBRE) (University of Delaware)  
Logan Hallee, Biomedical Engineering  
Jason Gleghorn, Biomedical Engineering  
WIPE3D: An Accessible Machine Learning Pipeline for Biomedical Image Segmentation and 3D Reconstruction

20) Devin Cummings, Computer Science (Center for Plastics Innovation) (University of Delaware)  
Hui Fang, Department of Electrical and Computer Engineering  
Efficient Data Management at CPI

21) Pedro Espinoza, Computer Science (National Science Foundation Award #2050882) (MiraCosta College)  
Mark Nejad, Department of Computer and Information Sciences  
Enhancing The Grid: Two-Sided Market for Vehicle-To-Grid
William Hart, Computer Science (Institute for Public Administration, Biden School (University of Delaware)
Lori Pollock, Computer Science
*Analyzing Amazon Web Service’s Serverless Application Latency Times to Study Fluctuations in Cloud Platform Performance*

Owen He, Computer Science (Summer Scholars) (University of Delaware)
Matthew Mauriello, Computer and Information Sciences
*Co Creative AI Character Model Generation*

Jack Kingham, Computer Science (USDOT Center for Integrated Asset Management for Multimodal Transportation Infrastructure Systems) (University of Delaware)
Shangjia Dong, Civil and Environmental Engineering
*Predicting Travel Patterns to Healthcare Facilities for Delaware Communities During Flooding*

Brendan Lewis, Computer Science (Summer Scholars) (University of Delaware)
John Aromando, Computer & Information Sciences
*Assessing the Utility of LLMs in Generating Effective Student Feedback*

Jingqing Liu, Computer Science (Summer Scholars) (University of Delaware)
Xing Gao, Department of Computer and Information Sciences
*Invisible Threats in the Met-Averse: Investigating Roblox’s Security Vulnerabilities*

Michael Lutz, Computer Science (Summer Scholars) (University of Delaware)
Keith Decker, Computer Science
*Leveraging Smartwatches to Monitor Physical Activity: A Dashboard for Behavioral Health*

Usama Mahmood, Computer Science (Summer Scholars) (University of Delaware)
Gonzalo Arce, Electrical and Computer Engineering
*HyperHeight Data Cubes: Advancing LiDAR Remote Sensing with Hyper-Spectral Integration*

Nathan Manning, Computer Science (Summer Scholars) (University of Delaware)
Lauren Rosica, Mathematics, University of Delaware
Nikolas Schonsheck, Mathematics
*Tracking Cyclic Features of Neural Coding Using Topological Data Analysis*

Aaron Oster, Computer Science (Summer Scholars) (University of Delaware)
Jason Gleghorn, Biomedical Engineering
*Using Machine Learning for Robust Protein Function Prediction With a Large Language Model*

Aiden Pape, Computer Science National Science Foundation Award #2050885 (Middlebury College)
Shangjia Dong, Civil and Environmental Engineering
*Generating Geolocated Synthetic Population to Assess Travel Need to Access Opioid Treatment Centers*

William Sharp, Computer Science(Summer Scholars) (University of Delaware)
Jason Gleghorn, Biomedical Engineering
*Using Machine Learning to Advance Protein Understanding through Contrastive Language Alignment*

Aman Singh, Computer Science (Summer Scholars) (University of Delaware)
Mahya Ghandehari, Department of Mathematical Sciences
*Experimental Implementation and Verification of Spectral Seriation*

Ava West, Computer Science (Summer Scholars) (University of Delaware)
Jodi Hadden-Perilla, Chemistry and Biochemistry
*Visual Abstractions of Virus Capsids for Improved Data Analysis and Outreach*

Brendan Baird, Electrical Engineering (Summer Scholars) (Delaware Technical Community College)
Swati Singh, Department of Electrical and Computer Engineering
*ELECTRICAL ENGINEERING*
Examining Phase Coherence in Ultralight Dark Matter Signals

36) Jose Daniel Bemal Rodriguez, Electrical Engineering (Columbian Project)
Swati Singh, Department of Electrical and Computer Engineering
TBD

37) Marc Bonnet, Electrical Engineering (UR-ECE REU) (University of Delaware)
Ujjwal Das, Institute of Energy Conversion
Optical and Electrical Characterization of Boron Doped P-type Amorphous Silicon Thin Films for High Efficiency Silicon Heterojunction Solar Cell

38) Richard Breder, Electrical Engineering (CCMT432548 UMD/ARL MONITORING MIROTZNIK) (University of Delaware)
Mark Mirotznik, Engineering
TBD

39) Juan Sebastian Cachaya Munar, Electrical Engineering (Columbian Project) (Universidad Nacional de Colombia)
Austin Brockneier, Electrical Engineering
TBD

40) Maria Isabel Cano Achuri, Electrical Engineering (Columbian Program) (Universidad de Antioquia) Colombia)
Austin Brockneier, Engineering
TBD

41) Christina Carroll, Electrical Engineering (CCMT332469 ONR MULTIFUNCTIONAL MIROTZNIK) (University of Delaware)
Mark Mirotznik, Electrical Engineering
TBD

42) Paola Andrea Castro Correa, Electrical Engineering (Columbia Project) (Universidad Francisco de Paula Santander)
Mohsen Badiey, Electrical Engineering
TBD

43) Juan David Cortazar Aguiar, Electrical Engineering (University of Delaware)
Mohsen Badiey, Electrical Engineering
TBD

44) Robin Depto, Electrical Engineering (University of Delaware)
Vishal Saxena, Electrical and Computer Engineering
TBD

45) James Pollock, High School (University of Delaware)
Jesse Brown, Engineering
Shridhar Yarlagadda, Electrical and Computer Engineering
TBD

46) Travis Deputy, Electrical Engineering (University of Delaware)
Austin Brockmeier, Electrical and Computer Engineering
Effects of Targeted Pixilation on Image Classification Using a Custom Computer Vision Model

47) Joshua Hyman, Electrical Engineering (University of Delaware)
Nathan Lazarus, Electrical and Computer Engineering
Force Characterization of Different Metal Thicknesses Using Laser Folding

48) Benjamin Mirotznik, Electrical Engineering (University of Delaware)
Nathaniel Riehl, Computer Engineering, (University of Delaware)
Vishal Saxena, Electrical and Computer Engineering
Thomas Dillon, Electrical and Computer Engineering
Mark Mirotznik, Electrical and Computer Engineering
Automated Test Bed for Passive Millimeter Wave Imaging

49) Alex Mulrooney, Electrical Engineering (University of Delaware)
Austin Brockmeier, Electrical and Computer Engineering
fMRI Encoding of Visual Cortex with Contrastive Learning
50) Carlos Rafael Mundo Levano, Electrical Engineering (Columbian Program)
Gonzolo Arce, Electrical Engineering
TBD

51) Matthew O’Donnell, Electrical Engineering (UR-ECE REU) (University of Delaware)
Ken Barner, Electrical Engineering
TBD

52) Martin Olguin Lopez, Electrical Engineering (Summer Scholars) (University of Delaware)
Moshen Badiey, Electrical Engineering
TBD

53) Sergio Andrew Pachon Dotor, Electrical Engineering (Columbian Program)
Abhyudai Singh, Electrical Engineering

54) Jan Passas, Electrical Engineering (UR-ECE REU) (Northeastern University)
Yuping Zeng, Electrical and Computer Engineering
Characterization of GaN High Electron Mobility Transistors and Effects of Radiation Exposure to Performance

55) Nicky Reigel, Electrical Engineering (Summer Scholars) (University of Delaware)
Chengmo Yang, Electrical Engineering
Fault Injection Attacks and Defense on an Object Detection System

56) Tyler Rizak, Electrical Engineering (CCMT432548 UMD/ARL MONITORING MIROTZNIK) (University of Delaware)
Mark Mirotznik, Engineering
TBD

57) Sebastian Rojas Ortega, Electrical Engineering (Columbian Project) (Universidad Franscisco de Paula Santander)
Moshen Badiey, Electrical Engineering
TBD

58) Logan Suchanec, Electrical Engineering (UR-ECE REU) (University of Delaware)
Jamie Phillips, Electrical and Computer Engineering Delaware
Abhilasha Kamboj, Electrical and Computer Engineering

59) Phoenix Swiacki, Electrical Engineering (UR-ECE REU) (University of Delaware)
Swati Singh, Electrical Engineering
Spatial Correlation and Modeling of Dark Matter Signals Across the Globe

60) Melissa Varela Alvarez, Electrical Engineering (Columbian Program)
Swathi Signh, Electrical Engineering
TBD

61) Lindsey Wang, Electrical Engineering (University of Delaware)
Kenneth Barner, Electrical & Computer Engineering
3D TREES: Tree Recognition via fEature Extraction & Segmentation

62) Patrick Young, Electrical Engineering (UR-ECE REU) (University of Delaware)
Gonzolo Arce, Electrical Engineering
TBD

63) Christopher Sepka, Electrical Engineering and Computer Sciences (National Science Foundation Award #2050886) (University of California Berkeley)
Danielle Lee, Department of Civil and Environmental Engineering, University of Delaware
Mark Nejad, Department of Civil and Environmental Engineering
Two-Sided Electricity Auction Mechanism Incorporating X2G

64) Isabella Leite, Materials Science and Engineering (CHARM REU) (University of Delaware)
April Kloxin, Chemical and Biomolecular Engineering
Wilfred Chen, Chemical and Biomolecular Engineering
Christopher Kloxin, Chemical and Biomolecular Engineering

MATERIALS SCIENCE AND ENGINEERING

65) Characterization and Outdoor Evaluation of Photovoltaic Cell I-V Curves for Power Generation

66) Two-Sided Electricity Auction Mechanism Incorporating X2G
Scalable Biosynthesis of Peptide Building Blocks and Nano Materials

65) Mary Musa, Materials Science and Engineering (Charm REU) (University of Delaware)
April Kloxin, Chemical and Bimolecular Engineering
Synthesis of Multifunctional Peptides for Incorporation within Hierarchically Structured Biomaterials

66) Evan Phillips, Materials Science and Engineering (Center for Plastics Innovation) (University of Florida)
Dongxia Liu, Chemical & Biomolecular Engineering, University of Delaware
Song Luo, Chemical & Biomolecular Engineering
Two-Dimensional (2D) Mesoporous Zeolite-based Catalysts for Plastics Recycling

67) Abigail Sicher, Materials Science and Engineering (Summer Scholars) (University of Delaware)
William Shafarman, Material Science and Engineering
Enhancing Solar Cell Efficiency: Antimony Chloride (SbCl3) Post-Treatment for Cadmium Zinc Telluride (CdZeTe) Cells

68) Lily Walton, Materials Science and Engineering (Summer Scholars) (University of Delaware)
Charles Dhong, Materials Science and Engineering
Distinguishability of Surfaces with Altered Molecular Structures

69) Tuan Huynh, Physics (Graduate College) (Lawrence University)
Chitraleema Chakraborty, Material Sciences and Engineering
TBD

70) Bryson Krieger, Physics (CHARM REU) (Northern Michigan University)
Anderson Janotti, Materials Science and Engineering
Simulating Strain in 2D Materials with COMSOL Multiphysics

71) Benjamin Putnam, Physics (CHARM REU) (Lafayette College)
Xi Wang, Materials Science and Engineering
Characterization of THz Polarization Modulator with THz Time-Domain Spectroscopy (TDDS)

72) Arriana Bisram, Materials Science and Engineering (Summer Fellows) (University of Delaware)
Kristi Kiick, Biomedical Engineering
Recombinant Synthesis and Characterization of Thermoresponsive Biopolymers

73) Caitlyn Edgar, Materials Science and Engineering (CHARM REU) (University of Delaware)
Christopher Kloxin, Chemical and Biomolecular Engineering
Effects of sodium pyruvate concentration on the polymerization kinetics of OEOMA

74) Julian Alberto, Chemical Engineering (University of Delaware Research Foundation) (University of Delaware)
Laure Kayser, Materials Science & Engineering
Impact of Stir Rate during Polymerization on the Properties of PEDOT:PSS

75) Emma Gutleber, Materials Science and Engineering (Summer Scholars) (University of Delaware)
Charles Dhong, Materials Science and Engineering
Microfluidic Devices

76) William Neuschwender, Applied Physics and Mathematics (CHARM REU) (SUNY Geneseo)
M. Benjamin Jungfleisch, Departments of Physics and Astronomy
Muhammad Tomal Hossain, Departments of Physics and Astronomy
Rawnak Sultana, Departments of Physics and Astronomy
Understanding Magnon Interactions in Engineered Magnetic Metamaterials

PHYSICS

77) Aidan Wensel, Physics (CHARM REU) (Lafayette College)
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<th>Poster Session V</th>
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<tr>
<td><strong>POSTER SESSION V</strong></td>
<td>3:30 - 5:00 PM (Health Sciences, Psychological and Brain Sciences, Biomedical Engineering)</td>
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### MATHEMATICAL SCIENCES

**78) John Xiao, Physics and Astronomy**  
*Investigating the temperature dependent exchange coupling in NiFe RuO2 bilayers up to 500 K*

**79) Marisol Catalan, Physics BS (McNair Scholars Program) (University of Delaware)**  
*Veronique Petit, Physics*  
*Magnetic Fields in B- and Be-type Stars*

**80) Jordan Photis, Applied Math (Summer Fellows) (University of Delaware)**  
*Richard Braun, Mathematical Sciences*  
*Tear Film and Thermal Dynamics on the Ocular Surface*

**81) Jan Ahmed, Applied Mathematics (Summer Scholars) (University of Delaware)**  
*Sebastian Cioaba, Mathematics*  
*Synchronizing Graphs*

**82) Wenzhen Zhang, Applied Mathematics (Summer Scholars Program) (University of Delaware)**  
*Ivan Todorov, Mathematical Sciences*  
*Non-local games on discrete structures*

**83) Daniel Bowers, Mathematical Sciences (Summer Scholars) (University of Delaware)**  
*David Edwards, Mathematical Sciences*  
*Models for Weld Temperatures in Additive Manufacturing*

**84) Madison Bradshaw, Mathematical Sciences (Summer Scholars) (University of Delaware)**  
*Tobin Driscoll, Mathematical Sciences*  
*Training neural ordinary differential equations on data from a tear film model*

**85) Yuxuan Fan, Mathematical Sciences (Summer Scholars) (University of Delaware)**  
*The Mathematics of Quantum Self-testing*

**86) Silo Murphy, Mathematical Sciences (Summer Scholars) (University of Delaware)**  
*Mahya Ghandehari, Mathematical Sciences*  
*Instance Independent Graph Signal Processing*

**87) Sebastian Cioaba, Mathematical Sciences**  
*Graph Drawings using Linear Algebra*

**88) Jeffrey Woulfe, Physics (Summer Scholars) (University of Delaware)**  
*Adebanjo Oriade, Physics*  
*Analysis of Question Order on Student Test Performance in an Introductory Physical Science Course*

**89) Jadyn Worthington, Computer Science (NSF PFI) (University of Delaware)**  
*Bob Opila, Computer Sciences*  
*Surface Chemistry and Applications*

### NEUROSCIENCE

**1) Samantha Haas, Neuroscience (MS) (Carol Mueller Plasket Award) (University of Delaware)**  
*Peter Mende-Siedlecki, Psychological & Brain Sciences*  
*Does Target Gender Appearance Moderate Sadness or Pain Perception?*

**2) Miguel Prysakar, Medical Diagnostics (Summer Scholars) (University of Delaware)**  
*Tania Roth, Psychological and Brain Sciences*  
*Changes in Epigenetic Regulation in the Periaqueductal Gray Due to Predator Odorant Exposure and Maternal Separation*

**3) India Dixon, Medical Diagnostics BS (McNair Scholars Program) (University of Delaware)**  
*John Jungck, Department of Mathematical Sciences*
Seeking to Improve Antidepressant Remission by Targeting P-glycoprotein

4) Arianna Mason, Medical Diagnostics / Comm Scholar (Delaware INBRE) (University of Delaware)
Lydia Timmins, Communication
*The Science of Science Communication*

5) Shriya Bagid, Neuroscience (Summer Scholars) (University of Delaware)
Jason Gleghorn, Biomedical Engineering
*A Self-Assembled Vascular Network on a Chip for Ex Vivo Organoid Perfusion*

6) Zoe Cronin, Neuroscience (Summer Fellows) (University of Delaware)
Helene Intraub, Psychology
Timothy Vickery, Neuroscience
*NEURAL EVIDENCE OF BOUNDARY EXTENSION DURING IMAGERY*

7) Paige DeVivo, Neuroscience (Community Engagement Initiative) (University of Delaware)
Mary Dozier, Department of Psychological and Brain Sciences, University of Delaware
Marta Korom, Department of Psychological and Brain Sciences, University of Delaware

8) Kristen Miller, Department of Psychological and Brain Science (University of Delaware)
*Effects of Early Life Adversity on Risky Behavior during Adolescence*

9) Mikul Duggal, Neuroscience (Summer Scholars) (University of Delaware)
Brian Bahnson, Department of Chemistry and Biochemistry
Jared Miller, Department of Chemistry and Biochemistry

10) Baze Gianiodis, Neuroscience (Summer Scholars) (University of Delaware)
Jaclyn Schwarz, Psychological and Brain Sciences
*Effects of maternal immune activation with lipopolysaccharide on adult offspring behaviors and immune regulation*

11) Rose Pristas, Neuroscience (Summer Scholars) (University of Delaware)
William Kenkel, Psychological and Brain Sciences
*The Effects of Cage Size Variation on Prairie Vole Monogamy*

12) Wendy Sanchez-Rodriguez, Neuroscience BS (McNair Scholars Program) (University of Delaware)
*TBD*

**NURSING**

13) Jirair Love-Stroman, Nursing (Delaware INBRE) (Delaware State University)
Sonali Barwe, Nemours
*The Role of Mesothelin in Pediatric Leukemia*

14) Olivia Rivera, Nursing (Delaware INBRE) (University of Delaware)
Kathleen Brewer-Smyth
*What Emergency Department Healthcare Providers Can Do To Prevent a Trajectory of Violence*

**NUTRITION AND DIETETICS**

15) Jessica Nicolich, Nutrition (Delaware INBRE) (University of Delaware)
Andrea Lobene, Cardiovascular Nutrition Research Laboratory, University of Delaware
Shannon Lennon, Cardiovascular Nutrition Research Laboratory
Sodium Density and Blood Pressure in Athletes and Non-Athletes in Young Adulthood and Midlife

PHYSICAL THERAPY
16) Matthew Carr, Physical Therapy (Peter White Fellowship) (University of Delaware)
Darcy Reisman, Physical Therapy
Effects of Cognition on Explicit Learning of a Novel Walking Task in Individuals Post-Stroke: Preliminary Results

COGNITIVE SCIENCE
17) Johana Mendoza, Cognitive Science
BS (McNair Scholars Program)
(University of Delaware)
Giovanna Morini, Communication Sciences Disorder
Examining the role of aerobic exercise on second language learning

EXERCISE SCIENCE AND KINESIOLOGY
18) Leah Alexander, Health Behavior Science (Summer Scholars)
(University of Delaware)
Danielle Williams, Occupational Therapy (University of Delaware)
Anjana Bhat, Physical Therapy
Prevalence of Mental Health Issues in Children With Developmental Disorders: An Analysis of the National Survey of Children’s Health Dataset

19) Gabrielle Herman, Exercise Science (Summer Scholars)
(University of Delaware)
Todd Royer, Kinesiology and Applied Physiology
TBD

20) Veda Sri Datta Kakarapari, Neuroscience (Summer Scholars Program) (University of Delaware)
Physical Therapy and its correlation to ASD in Children

21) Katherine Rippon, Dietetics
Sheau Ching Chai, Health Behavior and Nutrition Science (University of Delaware)
Effects of Wild Blueberry Consumption on Cognitive Function in Older Adults

22) Ashwin Mhadeshwar, Department of Physical Therapy (Highschool)
Anjana Bhat, Physical Therapy
TBD

23) Dylan Ngo, Exercise Science (University of Delaware)
Jason Gleghorn, Biomedical Engineering
Developing manufacturing methods for a lymph node-targeted cancer drug delivery vehicle

24) Sara Rata, Exercise Science (University of Delaware)
Soumya Bhat (University of Delaware)
Suzanne Morton, Exercise Science
Comparing Implicit Motor Learning in Older Adults With and Without Task Instructions

25) Molysha Brown, Kinesiology (Delaware State University)
Megan Sions, Physical Therapy
TBD

PSYCHOLOGY
26) Sarah Scotti, Health Behavior Science (Community Engagement Initiative) (University of Delaware)
Isabel Folger, Psychology (Carlton College)
Jared Medina, Psychological & Brain Sciences
Exploring the Malleability of the Body Schema Using the Anne Boleyn Illusion

27) Sean Fletcher, Honors Medical Diagnostics (Santoro ’05 MMSC Summer Research Awardee) (University of Delaware)
Subhasis Biswas, MMSC
Computational analysis of Human papillomavirus (HPV) E1, E2, E6, E7 proteins, the LCR regions, and biological consequences

28) Jillian Attinelly, Psychological Science (Mind, Brain and Behavior Fellowship) (University of Delaware)
Mary Dozier, Psychological and Brain Sciences
*Intervention Effects on Adolescents’ Perception of Parent Relationship Quality*

29) My Trieu, Psychological Science (Graduate College) (Vassar College)
Mary Dozier, Psychological and Brain Sciences
*Early Life Adversity and Adolescent Depressive Symptoms: The Mediating Role of Parental Attachment in Adolescence*

30) Kiely Bol, Psychology (Graduate College) (University of California, Berkeley)
F. Sayako Earle, Communication Sciences and Disorders
*TBD*

31) Eliza Coull, Psychology (Graduate College) (Dickinson College)
Francis Earle Sayako, Communication Sciences & Disorders
*The Effect of Motor Rest on the Stabilization of a Motor Speech Pattern*

32) Joy Harrison, Psychology (Summer Scholars) (University of Delaware)
Megan McMahon, Psychosocial Oncology, University of Delaware
Hillary Howrey, Psychosocial Oncology
*Tobacco Cessation Pilot: A quality improvement project*

33) Kathryn Jennings, Psychology (Community Engagement Initiative) (University of Delaware)
Christopher Costello, Psychology, (University of Delaware)
Maia Olsen, Psychology (University of Delaware)
Mary Dozier, Psychology
*Associations of Parent and Child Report of Anxiety Across Adolescence*

34) Ryan McNemey, Psychology (Graduate College) (Middlebury College)
Stephanie Del Tufo, School of Education
*Associations Among Childhood Epilepsy, Theory of Mind, and Academic Performance: A Preliminary Systematic Literature Review*

35) L. Khawn Phang, Psychology (Graduate College) (Temple University)
Christina Barbieri, Education and Human Development
*Improving Mathematical Achievement: Investigating The Impact of Errorful Learning Intervention on Metacognition*

36) Kallie Sweetman, Psychology (Delaware INBRE) (University of Delaware)
Tim Vickery, Psychological and Brain Sciences
*Anterior visual regions reflect boundary extension for remembered scenes*

37) Nadia Brogan, Psychology BA (McNair Scholars Program) (University of Delaware)
Tania Roth, Psychology
*The Effect of Maternal Care on Epigenetic Regulation in the Developing Spinal Cord*

38) Ariel Grier, Psychology BA (McNair Scholars Program) (University of Delaware)
Franssy Zablah, Psychological and Brain Sciences
Examining Barriers and Outcomes Associated with Respite Care Reimbursement Services for Families with Children

Shanea Higgin, Psychology BA (McNair Scholars Program)
Eve Buckley, History (University of Delaware)
TBD

Gabriella Morra, (University of Delaware)
Christina Barbieri, School of Education
Student Satisfaction and Self-Regulation During COVID-Era Online Learning

BIOMEDICAL ENGINEERING

Colin Horger, Biomedical Engineering (Summer Fellows) (University of Delaware)
Jason Gleghorn, Department of Biomedical Engineering, University of Delaware
Logan Hallee, Department of Bioinformatics
Autocompleting Protein Sequences with Protein Language Models

Heather King, Biomedical Engineering (Summer Scholars) (University of Delaware)
Martha Hall, Health Sciences
Designing a Novel Ankle Foot Orthotic (AFO) Device for Showering and Everyday Use for Patients with Cerebral Palsy

Kate Menzer, Biomedical Engineering (Delaware INBRE) (Case Western Reserve University)
Jocelyn Hafer, Kinesiology and Applied Physiology
Exploring Sparse Inertial Measurement Unit Setups for Out-of-Lab Gait Kinematics

Shannon Rosen, Biomedical Engineering (UDRP) (University of Delaware)
Elise Corbin, Biomedical Engineering
Examining the role of cell-cell communication in spatiotemporal YAP translocation

Adam Burk, Biomedical Engineering (Summer Scholars) (University of Delaware)
Stephanie Cone, Biomedical Engineering
Estimating tendon wave speed from skin-mounted accelerometers

Kira Byers, Biomedical Engineering (Summer Scholars) (University of Delaware)
Jason Gleghorn, Biomedical Engineering
Design of multicompartment organ-on-a-chip systems of the human endocervix capable of longitudinal time lapse imaging

Nikos Demetriou, Biomedical Engineering (Summer Fellows) (University of Delaware)
Emily Day, Biomedical Engineering
Evaluating the Effect of Antibody Loaded Gold Nanoparticles to Inhibit Triple Negative Breast Cancer (TNBC)

Gabriella Dunay, Biomedical Engineering (Summer Scholars) (University of Delaware)
Curtis Johnson, Biomedical Engineering
Acute Lower Body Negative Pressure Changes Human Brain Tissue Perfusion and Stiffness in vivo Measured with MR Elastography

Thomas Elia, Biomedical Engineering (Summer Scholars) (University of Delaware)
Dawn Elliott, Biomedical Engineering
Automated Analysis Method for Determining Tendon Collagen Fiber
Orientation from Second Harmonic Generation Images

50) Emma Guzzetti, Biomedical Engineering (Summer Scholars) (University of Delaware)
Emily Day, Biomedical Engineering
Purification of DiD-Encapsulated Nanoparticles Through Triton-Washing

51) Tanmayee Joshi, Biomedical Engineering (Summer Scholars) (University of Delaware)
Chris Church, Orthopedics, Nemours Hospital
Jason Howard, Orthopedics, Nemours Hospital
The Prevalence and Risk Factors Associated with Excess Anterior Pelvic Tilt in Ambulatory Children with Cerebral Palsy

52) Casey Lorch, Biomedical Engineering (Summer Scholars) (University of Delaware)
Laure Kayser, Materials Science
Reversibly Gellable Conductive Polymers for Minimally Invasive Electronics

53) Gabriel Ma, Biomedical Engineering (Summer Scholars) (University of Delaware)
Mark Blenner, Biomedical Engineering
Dynamic Control of Lipid Metabolism in CHO Cells

54) Ethan Neidich, Biomedical Engineering (Summer Scholars) (University of Delaware)
Brian Kwee, Biomedical Engineering
Effect of Mechanically and Chemically Altered Alginate Hydrogels on Fibroblastic Reticular Cell Function

55) Shelby Nelson, Biomedical Engineering (Summer Scholars) (University of Delaware)

56) Joseph Fox, Chemistry and Biochemistry
Thiomethyltetrazine Based Reversible Covalent Chemistry Hydrogels to Support 3D Cell Culture

57) Akshay Patel, Biomedical Engineering (McNair Scholars Program) (University of Delaware)
Kristi Kiick, Biomedical Engineering
Investigating expression conditions used to synthesize recombinant proteins

58) Casey Lorch, Biomedical Engineering (Summer Scholars) (University of Delaware)
Laure Kayser, Materials Science
Reversibly Gellable Conductive Polymers for Minimally Invasive Electronics

59) Christopher Peters, Biomedical Engineering (Summer Scholars) (University of Delaware)
Joshua Cashaback, Biomedical Engineering
Human Motor Planning Approaches but Fails to Achieve Optimal Indecisiveness

60) Erin Smyntek, Biomedical Engineering (Summer Scholars) (University of Delaware)
Kristi Kiick, Biomedical Engineering
Injectable Hybrid Microgels for Cargo Delivery

61) Makana Steinmetz, Biomedical Engineering (Summer Scholars) (University of Delaware)
Dawn Elliott, Biomedical Engineering
Pre-processing Spine MRI to Expedite Disc Segmentation

62) Megan Tarr, Biomedical Engineering (Summer Scholars) (University of Delaware)
Mark Blenner, Chemical Engineering
Enhancing Plastic Degradation Through Mealworm Gut Enzyme Cocktails and Cascades

63) Yaren Usul, Biomedical Engineering (Summer Scholars) (University of Delaware)
Fabrizio Sergi, Biomedical Engineering
The Role of Task Instructions on the Neural Representation of Stretch Reflexes in the Brain

62) Jared Wierzbicki, Biomedical Engineering (CCMT432549 PPG/ARMY AMASS TANNER) (University of Delaware)
Matthew Young, Mechanical Engineering (University of Delaware)
Benjamin Caro, Mechanical Engineering (University of Delaware)

AUTOMATED MANUFACTURING FOR AUTONOMOUS SYSTEMS SOLUTIONS (AMASS)

63) Avery Wolverton, Biomedical Engineering (Summer Scholars) (University of Delaware)
Emily Day, Biomedical Engineering

Targeting Triple-Negative Breast Cancer Cells via Cancer Cell Membrane-Wrapped Nanoparticles

64) Katherine Zucaro, Biomedical Engineering (Summer Scholars) (University of Delaware)
Jason Gleghorn, Biomedical Engineering

Improved therapeutic design for local drug delivery in the lymph node

65) Tom Le, Biomedical Engineering (Summer Scholars) (University of Delaware)
Brian Kwee, Biomedical Engineering

Engineering microvasculature in vitro in biomaterials

66) Valerie West, Biomedical Engineering (National Institute of Arthritis and Musculoskeletal and Skin Diseases under grant number R01AR080059) (University of Delaware)
Justin Parreno, Biological Sciences and Biomedical Engineering

Actin Regulates Tenocyte Gene Expression via MRTF

67) Brooklyn Tyndall, Human Physiology BS (McNair Scholars Program) (University of Delaware)
Christopher Price, Biomedical Engineering

Effects of Hyaluronic Acid on the Lubrication of Degraded Articular Cartilage Under Biofidelic Sliding Conditions

68) Yuan (Marrian) Tan, Neuroscience (Graduate College) (Bryn Mawr College)
F. Sayako Earle, the College of Health Sciences' Communication Sciences & Disorders

The impact of sensitivity to native sound on second-language learning as revealed by the mismatch negativity

69) Isabella DeGuzman, Psychological and Brain Sciences (NiH/NIAAA AA027269) (University of Delaware)

Examining the effects of third trimester alcohol exposure and behavioral super intervention in a rodent model of FASDs

70) Angelina Sora, Medical Diagnostics (University of Pittsburgh School of Pharmacology) (University of Delaware)

Targeting Regulation of NFAT for Treatment of Leukemia
Oral Session One
8:30 – 9:45am

FASHION & DESIGN (ROOM 202)

Moderator: Belinda Orzada

Josephine Gladden, Apparel Design (Summer Scholars) (University of Delaware)
Miranda Rack, Fashion Merchandising (Summer Scholars) (University of Delaware)
Alexandra Arroyo, Apparel Design (Summer Scholars) (University of Delaware)
Alex Culley, Apparel Design (Summer Scholars) (University of Delaware)
Belinda Orzada, Fashion and Apparel Studies

Veepra Mishra, Apparel Design (Summer Scholars) (University of Delaware)
Katya Roelse, Fashion and Apparel Studies
A Study of Sari’s: Exploring the Significance & Evolution of the Sari Through Four Generations Against the Backdrop of Change and Inclusivity in the 21st Century

Delaney Slattery, Apparel Design (Summer Scholars) (University of Delaware)
Katya Roelse, Fashion and Apparel Studies
Artisanship Meets Technology: Laser Cutting to Create an Ann Lowe Installation for Winterthur

Casey Tyler, Fashion Merchandising (Summer Scholars) (University of Delaware)
Adriana Gorea, Fashion and Apparel Studies
Eco-Conscious Machine Knitting with Innovative 3D Motifs

MUSIC EDUCATION & HISTORY (ROOM 207)

Moderator: Aimee Pearsall

Benjamin McMonagle, Music Composition (Summer Scholars) (University of Delaware)
Philip Duker, Music
A Comparative Analysis of Gershwin’s "Concerto in F" and Copland’s "Concerto for Piano and Orchestra," and Their Use of Jazz Idioms in an Orchestral Setting

Jo Griffin, Music Education (Summer Scholars) (University of Delaware)
Aimee Pearsall, Music Education
Investigating Gender Identity within High School Choir Students in Classroom Settings

Kevin Romano, Music Education (Community Engagement Initiative) (University of Delaware)
Mark Adams, Music Education
Making Music-Making Accessible: A Free, 2-Day Music Festival for Student Musicians
Oral Session Two
10:00 – 11:15am

THE WORLD OF SCIENCE
(ROOM 202)

Moderator: Justin Parreno

Karl Matthew Ebron, Biological Sciences (Summer Fellows) (University of Delaware)
Justin Parreno, Biological Sciences
The regulation of tendinosis-like gene expression by F-actin via MRTF

Bukola Molake, Biology (UD Envision) (University of Maryland-Baltimore County)
Michael Crosley, ENEW
Drivers of darkling beetle burrowing behavior in chicken litter

Jacqueline Rima, Animal Science (UD Envision) (University of Delaware)
Ashley Taylor, Animal and Food Sciences
Kathryn Ellwood, Animal and Food Sciences
Aditya Dutta, Animal and Food Sciences
Identification of master regulators driving chicken follicular development in nine month old layers

James Egnor, Ancient Greek and Roman Studies (Summer Scholars) (University of Delaware)
Jay Custer, Anthropology
On the Half Shell: A Novel Zooarchaeological Approach Utilizing Oyster Shells as a Marker in Determining Socio-Economic Status at Sites in the Chesapeake Bay Region of the 1600-1700’s.

Natalie Rivera, Psychology (Summer Scholars) (University of Delaware)
Elina Rodriguez, Psychological & Brain Sciences, Mary Beth Bielicki-Hall, Psychological & Brain Sciences
Jaclyn Schwarz, Psychological & Brain Sciences
Gene Expression In Pup Placenta Tissue As A Result Of Maternal Immune Activation

ART & HISTORY (ROOM 302)

Moderator: Jennifer Van Horn

Sarah Lacour, Art (Summer Scholars) (University of Delaware)
Amy Hicks, Art & Design
Tracing Nuclear Landscapes: A Hazardous History of Lewiston, New York

Cara McDonald, Fine Arts (Summer Scholars) (University of Delaware) David Brinley, Art and Design
Exploration of the Human Relationship with Technology Through Storytelling and Book Arts

Lufei Xu, Art (Summer Scholars) (University of Delaware)
The power of color and short animation exercise

Vivian McGinnis-Tingle, Art History (Summer Scholars) (University of Delaware)
Jennifer Van Horn, Art History

Camille Jeannot, Business Analytics (Cooperative Extension Program) (University of Delaware)
Katie Young, Cooperative Extension
Photography in Storytelling
THE BRAIN & BODY (ROOM 205)

Moderator: Mary Dozier

Leopold Pullella, Neuroscience (Summer Fellows) (University of Delaware)
Mary Dozier, Psychological and Brain Sciences
*Internationally adopted children and their behavioral and psychiatric risks*

Rachel Spera, Neuroscience (Graduate College) (High Point University)
Mary Dozier, Psychological & Brain Science
*Structures of the Ventral Striatum Influence Adolescent Anxiety and Depression*

Sudha Anilkumar, Biomedical Engineering (Delaware INBRE) (University of Delaware)
Elizabeth Wright-Jin, Neuroscience
*Characterization of Cytokine-Mediated Inflammation via Transcriptomics in a Novel Murine Model of Hypoxic Ischemic Encephalopathy*

Mark Arranguez, Human Physiology (Summer Fellows) (University of Delaware)
Justin Parreno, Biological Sciences
*Regulation of Surface Cell Expression of Lubricating Protein Proteoglycan-4 in Articular Cartilage*

Mackenzie Rattigan, Exercise Science, (Summer Fellows) (University of Delaware)
Melissa Witman, KAAP
*The Association Between Serum Vitamin D Concentration and Central Blood Pressure in Young Adult Black Women*

Fahima Chowhurdy, Cognitive Science (Summer Scholars) (University of Delaware)
Giovanna Morini, Communication Sciences and Disorders
*Understanding the Role of Physical Activity on Second-language Learning*

Marquaya Bennett, Elementary Teacher Education (Summer Scholars) (University of Delaware)
Sara Goldstein, Education & Human Development
*Plan A or Plan B: College-attending Emerging Adults’ Perceptions of Birth Control Access*

Reese Miller, Human Physiology (Dickerson Cooperative Extension Scholar) (University of Delaware)
Gina Crist, Cooperative Extension
*Health and Well-being for Delawareans*

Gabrielle Jakobsberg, Nutritional Science (Robert Wood Johnson Foundation Well Connected Communities and Cooperative Extension Program) (University of Delaware)
Alyssa Whittaker, Cooperative Extension Health and Wellness
*Choose Health, Food, Fun, and Fitness: Engaging Youth in New Castle County*

STUDIES IN HEALTHCARE (ROOM 302)

Moderator: Elisabeth Orsega-Smith

Chelsea Cohen, Public Policy (McNair Scholars Program) (University of Delaware)
Elizabeth Fournier, Biden School of Public Policy
*Teaching Sex: The Differential Impact of Varying Sex Education on American Teens by Race and Class*

Tara Franks, Sociology (Summer Scholars) (University of Delaware)
Victor Perez, Sociology
*Community Perceptions of Social and Health Impacts of Green Infrastructure Revitalization in South Wilmington, DE*

Qiulin Chen, Health Behavioral Sciences (Community Engagement Initiative) (University of Delaware)
Fatou Marong, Health Behavioral Sciences (University of Delaware)
Nicholas Ragan, Health Behavior Sciences (University of Delaware)
Oral Session Three
11:30am – 12:45pm

EDUCATION & HUMAN DEVELPMENT (ROOM 202)

Moderator: Teresa Hickock

Dat Nguyen, Early Childhood Education/Early Childhood Special Education (Community Engagement Initiative) (University of Delaware)
Teresa Hickok, College of Education and Human Development

STEM Education in the Middle School Classroom: The Effectiveness of the Engineering Design Process

Aaron Wallace, Elementary Teacher Education (McNair Scholars Program) (University of Delaware)
Teresa Hickok, College of Education and Human Development

Arts Integration in the Elementary Classroom: An Approach to Increasing Student Engagement

Erlande Amisal, Elementary Teacher Education (McNair Scholars Program) (University of Delaware)
Brittany Zakszeski, School of Education

School-based Programs/Practices for Promoting Mental Health and Socio-emotional Well-being of Multilingual Learners

Madeline Bendo, Early Childhood Education/Early Childhood Special Education (Community Engagement Initiative) (University of Delaware)
Teresa Hickok, Education

Integrating Technology to Improve Adolescents’ Proficiency in the Common Core English Language Arts (ELA) Reading Standards: Key Ideas and Details

Destiny Spivey, Human Services (Summer Scholars) (University of Delaware)
Roderick Carey, Human Development and Family Sciences

The Evolution of Black Masculinity in Televised Media

ISSUES OF HIGHER EDUCATION (ROOM 205)

Moderator: Thomas Maldonado-Reis

Brandon Cangialosi, Political Science (Summer Scholars) (University of Delaware)
Jason Mycoff, Political Science and International Relations

College Students & The Supreme Court of the United States: A Longitudinal Study

Alexis Oppong, Public Policy (Institute for Public Administration, Biden School) (University of Delaware)
Scott Abbott, Biden School
Francis O’Malley, Biden School
Lisa Allred, Biden School

Making Room for Me in Your Curriculum

David Jacobson, Psychology (Graduate College) (University of Minnesota - Twin Cities)

We’re Here, We’re Queer, and We’re Tenured: Queerness in post-secondary tenure policy

SD Weldin, Communication (Summer Fellows) (University of Delaware)
Tracey Holden, Communication

A New Era of Firsts: The Support Peer Mentors Give First-Generation College Students

Alya Wallace, International Relations (McNair Scholars Program) (University of Delaware)
Muqtedar Khan, Political Science

China’s Rising Influence in Latin America: Implications for U.S. Political Development and Regional Interests
EXPLORING ECONOMICS

(ROOM 207)

Moderator: Sean O’Neill

Fanta Barry, Finance (Summer Scholars) (University of Delaware)
Laura Fields, Finance
Acknowledging Student Loan Complexities

Vincent Tucci, Finance (Summer Scholars) (University of Delaware)
James Butkiewicz, Economics
Student-Centered Learning: Leveraging AI TAs for Educational Success

Jack Doolittle, Economics (McNair Scholars Program) (University of Delaware)
Hans Holter, Economics
Welfare State Models and Egalitarianism: an Economic and Philosophical Analysis

Ella Dietz, Mathematics and Economics (University of Delaware)
Sean O’Neill, Institute for Public Administration; Biden School of Public Policy & Administration
Workforce Housing Options for Delaware – A Case Study Analysis

Caleb Mathis, Public Policy (Institute for Public Administration, Biden School) (University of Delaware)
Signe Bell, Joseph R. Biden, Jr. School of Public Policy & Administration
Navigating the Path to Nonprofit Empowerment

STUDIES OF POWER (ROOM 302)

Moderator: Dael Norwood

Amber Kriste, International Relations (McNair Scholars Program) (University of Delaware)
Holly Myers, Languages literatures and Cultures Stalin’s Role in Putin’s Russia

Mary Ladely, History (Summer Scholars Program) (University of Delaware)
Dael Norwood, History

How White Fear and Paranoia in 19th Century Delaware Impacted Black Freedom
Anne Hicks, History Education (Summer Scholars Program) (University of Delaware)
Dael Norwood, History
Slavery, Freedom, and Mobility: Black Labor at Cooch’s Bridge Historic Site
Brayden Moore, History Education (Summer Scholars) University of Delaware
Dael Norwood, History
Delaware’s Freedom Suits: Argument As Agency

Oral Session Four
2:00pm – 3:15pm

VIOLENCE & INJUSTICE IN OUR SOCIETY (ROOM 202)

Moderator: Angelia Hattery

Bailey Blewitt, Psychology (Summer Scholars Program) (University of Delaware)
Angela Hattery, Women and Gender Studies, University of Delaware
Earl Smith, Women & Gender Studies
Betrayed by the Blue: Intimate Partner Violence and Institutional Betrayal by the Criminal Legal System

Zarah Zurita, Sociology (Summer Scholars Program) (University of Delaware)
Angela Hattery, Women and Gender Studies, University of Delaware
Earl Smith, Women & Gender Studies
Institutional Betrayal and Institutional Courage: Intimate Partner Violence Among Hispanic Women and Black Women who are Criminal Legal System Impacted

Jasmine Pennington, Criminal Justice (Summer Scholars Program) (University of Delaware)
Cresean Hughes, Department of Sociology and Criminal Justice
Lack of Structure for Foster Kids during the System and After
Sanjana Vinjamuri, Psychology (Summer Scholars Program) (West Chester University of Pennsylvania)
Morgan Ellathorpe, Communication
What is Hate Speech and How Can We Combat It
Miranda Askay, Public Policy, (Summer Scholars Program) University of Delaware
Jessica Sowa, Biden Institute
Investigating Advocacy Efforts for Missing and Murdered Indigenous Women and Girls

STUDIES IN PSYCHOLOGY
(Room 205)
Moderator: Jaclyn Schwarz
Jenna Loquercio, Psychology (Summer Scholars Program) (University of Delaware)
Robert Golinoff, School of Education
The Impact of Surgical Masks on Children’s Gender Classification

Geordan Haynes, Psychology (Graduate College) (University of Chicago)
Mary Dozier, Department of Psychological and Brain Sciences
Early Adversity Effects on Adolescent Depression

Carl Webster, Geography (Graduate College) (Vassar College)
Lindsay Naylor, Geography & Spatial Sciences
Antisocial Development: Exploring the Impacts of Gentrification on Social Cohesion within Marginal Spaces

Kiara Meléndez Rivera, English (Graduate College) (University of Puerto Rico)
Laura Helton, English
Arturo Alfonso Schomburg’s Legacy of Alternative Narratives in Contemporary Diasporican Lilliam Rivera’s “Never Look Back”

Yasmine Skalli, Societal and Environmental Geology (UD Envision & Ag Extension) (Ohio State University)
Mark Parcells, Animal and Food Studies.
UD Envision, CANR Summer Institute and CANR Unique Strengths Programs - Summer 2023

EARTH & ENVIRONMENT
(Room 207)
Moderator: Erin Sparks
Michelle Chavanne, Environmental Science (Cooperative Extension Program) (University of Delaware)
Jerri Husch, UD Cooperative Extension
Jennifer Volk, IUD Cooperative Extension
An Overview of the Delaware Extension Climate Change Coordination Initiative (DECCCI)

Sarah Ding, Plant Science, (CANR Unique Strengths) (University of Delaware)
Jung-youn Lee, Plant and Soil Sciences
Generating Transgenic Arabidopsis Expressing Redox-Sensitive Green Fluorescent Protein

Brianna Egan, Landscape Agriculture (Community Engagement Initiative) (University of Delaware)
Madeline Downer, Landscape Agriculture (University of Delaware)
Fiona Gorman, Landscape Agriculture (University of Delaware)
Zach Hammaker, Landscape Agriculture
Slaughter Beach Comprehensive Resilience Plan

Abby Haney, Landscape Architecture (ArtsBridge/Community Engagement Initiative) (University of Delaware)
Jennifer Reitz, Biden School for Public Policy & Administration
Eric Bardenhagen, Plant & Soil Sciences
Visualizing the Potential of 2301 N. Market Street

CULTURE, SOCIETY & POLICY
(Room 302)
Moderator: Laura Helton
Riley Gates, Linguistics (Summer Scholars) (University of Delaware)
Maria Tu, Chinese
Identifying Taiwan’s Everyday Efforts Toward a Cleaner Future
Otto Mendez-Castro, Political Science (McNair Scholars Program) (University of Delaware)
Sheldon Rennie, Political Science, University of Delaware
Wayne Batchis, Political Science
*Researching Delaware’s Recidivism Rate Through The Hope Commission’s Achievement Center*

Kally Bennett, Political Science (Summer Scholars Program) (University of Delaware)
Anna Squiers, Political Science (Summer Scholars Program) (University of Delaware)
Lindsay Hoffman, Political Communication
*The establishment of cross-partisan empathy and openness to diversity and challenge through Braver Angels non-combative debates*

Samiyah Sherman, Public Policy and Political Science (Institute for Public Administration, Biden School) (University of Delaware)
Kathy Murphy, Public Administration
*Student Food Pantry Inquiry and Recommendation*

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**Oral Session Five**

**3:30pm – 4:45pm**

**PUBLIC POLICY IN DELAWARE & BEYOND (ROOM 202)**

**Moderator: Brian Kunkel**

Hoda Bazzi, Public Policy (Center for Community Research & Service, Biden School) (University of Delaware)
Stephen Metraux, Biden School of Public Policy and Administration
Erin Nescott, Biden School of Public Policy and Administration
*Impacts of Fines and Fees on the City of Wilmington, DE*

Lexi Haws, Public Policy (Institute for Public Administration, Biden School) (University of Delaware)
Julia O’Hanlon, Biden School of Public Policy and Administration
*Trends, Issues, and Policy Considerations for Infrastructure and the Aging Population in Delaware*

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Miranda Perez-Rivera, Public Policy (Center for Community Research & Service, Biden School) (University of Delaware)
Janice Barlow, Biden School of Public Policy and Administration
Erin Nescott, Biden School of Public Policy and Administration
*Communicating Data to Support Child Well-Being in Delaware*

Gianna Richason, Human Services, Organizational and Community Leadership (Institute for Public Administration, Biden School) (University of Delaware)
Julia O’Hanlon, Biden School of Public Policy and Administration
*Data and Resource Tracking to Support the Delaware Food Resources Connection*

Thomas Kramer, Agriculture and Natural Resources (Lomax Cooperative Extension Scholars Fund) (University of Delaware)
Brian Kunkel, Entomology and Wildlife Ecology
*On Wheels: Entomology and Education*

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**VISUAL COMMUNICATION**

**(ROOM 205)**

**Moderator: Ashley Pigford**

Mason Blauch, Visual Communications (Summer Scholars) (University of Delaware)
Katie Leech, Art and Design
*The Artistic Expression of London’s LGBTQIA+ Community*

Jake Cohen, Visual Communications (Summer Scholar) (University of Delaware)
Aaron Terry, Department of Art and Design
*Spanish as a Visual Language: Translating Language and Culture through Design + Typography*

Moira Gervay, Visual Communications (Summer Scholars) (University of Delaware)
Katie Leech, Art and Design
*Typography Beyond Borders: A Comparison in Design Systems of the United States and the United Kingdom*

Maura Kelly, Visual Communications (Summer Scholars) (University of Delaware)
Ashley Pigford, Art & Design
Visualizing my Creative Voice
Autumn Wolinski, Visual Communications (Summer Scholars) (University of Delaware)
David Brinley, Arts and Sciences
Lives Unfolded: Tales of Everyday Mundanity

ARTISTIC EXPRESSION (ROOM 207)
Moderator: TBD
Isabella Cocuzza, Art (Summer Scholars) (University of Delaware)
Aaron Terry, Art
Architecture: A Display of Human Emotions Being Inherently Logical

Alexia Capraiello, Fine Arts (Summer Scholars) (University of Delaware)
David Brinley, Art
Madness in the Cosmos

Janice Castro, Art (Summer Scholars) (University of Delaware)
Gregory Shelnutt, Art & Design
Nuestro Granada

Ryan Morris, Art (Summer Scholars) (University of Delaware)
Aaron Terry, Art
Print and Physicality – A Study of Printmaking Processes

Isabella Lam, English (Summer Scholars) (University of Delaware)
Haihong Yang, Chinese
The World on Stage: Queer Themes in China’s Shakespeare

INTERDISCIPLINARY RESEARCH TOPICS (ROOM 302)
Moderator: Rosalie Rolon-Dow
Faiza Saeedi, (Summer Scholars) (University of Delaware)
Georgina Ramsey, Anthropology
Emily Davys, Anthropology
The International Politics Regarding Women’s Education

Brishna Nazari, Computer Science (Summer Scholars) (University of Delaware)
Georgina Ramsey, Anthropology
Emily Davys, Anthropology

Zoe Lipkin, Applied Music (Summer Scholars) (University of Delaware)
Elise Ruggiero, Applied Music (Summer Scholars) (University of Delaware)
Malika Iyer, Computer Science (Summer Scholars) (University of Delaware)
Matthew Mauriello, Computer and Information Sciences, University of Delaware
Daniel Stevens, School of Music,
Exploring the Benefit of a Modular Music Listening Device for Children with Autism Spectrum Disorder