Dear Friends of Undergraduate Research and Service Learning:

Welcome to the fifth annual Celebratory Symposium for students in our Summer Scholars program. With over three hundred and fifty presenters, this is our largest event ever, and we are very excited to share their work with you.

As the Symposium program shows, these students have worked on an extraordinary range of projects in disciplines all across the university. Over the past ten weeks, they have collaborated with their faculty mentors and, in many cases, with other undergraduate and graduate students, exploring and creating knowledge and learning how original research takes place. Many students have worked with a wide range of external partners, translating research into action that both benefits community agencies and provides the students themselves with deepened understandings of the ways in which they can both contribute and learn from their service. National studies of undergraduate research and experiential learning have shown time and again that these experiences are often the most powerful part of a student’s education, shaping their lives and careers for years to come.

Both today’s event and the summer program itself would not be possible without the extraordinary dedication and support of many people and offices across our campus. The Alliance of Summer Scholar Programs, which brings these groups together, is the foundation of that support, and I would also like to call out for particular thanks the staff of the Office of Undergraduate Research and Experiential Learning and members of the faculty and staff throughout UD who volunteer their time and expertise to teach the summer researchers about ethical issues, presentation skills, and about how to pursue future professional opportunities.

On behalf of all these members of the UD community, thank you for attending today’s program. We hope you will enjoy seeing and hearing the fruits of the students’ research and take away an even deeper appreciation for the intellectual accomplishment and creative achievements of students at the University of Delaware.

Sincerely,

Iain Crawford
Faculty Director, Undergraduate Research and Experiential Learning
Dear Colleagues and Friends:

Welcome to the University of Delaware’s fifth Annual Undergraduate Research and Service Celebratory Symposium that brings this year’s Summer Scholars program to a conclusion. This event marks the culmination of 10 weeks of full-time research by more than 350 student researchers who have worked with faculty mentors and community partners. During the program, these students have been engaged in projects representing disciplines across the university, discovering the challenges and excitement of creating new knowledge in collaboration with faculty and other researchers.

Studies have shown that these types of experiences are among the most important forms of learning. We know that engaging in mentored research can be a life-changing experience. Some of the students will build from this program as they go on to graduate school; others will find the experience they have gained invaluable as they move into professional careers. All of them will look back on these summer months as some of the most intensive and successful parts of their education.

On behalf of the University, I thank everyone who has made this program possible, including the staff of the Office of Undergraduate Research and Experiential Learning, faculty, mentors and community partners. Being part of a top-flight research university such as Delaware means that every student must possess courage, enthusiasm, and the willingness to push the boundaries of understanding and knowledge. I want to challenge every student to dare to be great. This is what makes Delaware shine.

Go Hens,

Domenico Grasso
Undergraduate Research and Service Celebratory Symposium
Clayton Hall Conference Center
Thursday, August 14, 2014 • 8:30 a.m. - 4:30 p.m.

8:00 – 8:35  Registration
Breakfast                                    Lobby
Poster Set-Up                                Room 101 A/B

8:40 – 8:55  Welcoming Remarks by Nancy Brickhouse, Deputy Provost  Lobby

9:00 --10:30  Poster Session I (Even-numbered students stand by poster) Room 101 A/B

9:00 – 10:00  Oral Session 1
1. Art/Art Conservation                      Room 119 pg. 19
2. War on Drugs                              Room 120 pg. 19
3. Economics/Finance                         Room 123 pg. 19
4. Hunger                                    Room 125 pg. 19

10:10 – 11:10  Oral Session 2
1. Communication                             Room 119 pg. 19
2. Exercise                                  Room 120 pg. 20
3. Justice                                   Room 123 pg. 20
4. Psychology                                Room 125 pg. 20

10:45 – 12:15  Poster Session II (Odd-numbered students stand by poster) Room 101 A/B

11:20 – 12:35  Oral Session 3
1. Art/Dance/Fashion & Apparel Studies       Room 119 pg. 20
2. Women & Gender                            Room 120 pg. 21
3. (no session)                              Room 123 pg. 19
4. Education/Music for Social Justice        Room 125 pg. 21

12:15 – 1:20  LUNCH
Pencader 103, 106, 115A&B, 117

1:30 – 2:30  HHMI Keynote Speaker Dr. James Collins  Auditorium, Room 128
Virginia M. Ullman Professor of Natural History and the Environment
School of Life Sciences, Arizona State University
“Studying Life in a Golden Age: Opportunities, Challenges, and Responsibilities”

1:30 – 2:30  Oral Session 4
1. History/Music/Art Conservation            Room 119 pg. 21
2. Courts                                   Room 120 pg. 21
3. Agricultural Sciences                     Room 123 pg.22
4. Ese’Eja                                   Room 125 pg. 22

2:40-3:55  Oral Session 5
1. Literature                                Room 119 pg. 22
2. Leadership                                Room 120 pg. 22
3. International Relations                   Room 123 pg. 22
4. Chemistry/Psychological & Brain Sciences  Room 125 pg. 23

3:15-4:00  UD Creamery Ice Cream, courtesy of the College of Agriculture and Natural Resources Lobby

4:00-4:30  Closing Remarks by Iain Crawford, Faculty Director of Undergraduate Research and Experiential Learning  Auditorium, Room 128
Presentation of The Center for Science, Ethics, and Public Policy Essay Competition Award
Presentation of Interdisciplinary Undergraduate Research in Sustainability Prize
Presentation of Phi Kappa Phi Research and Service Essay Awards
Raffle with giveaway prizes
**Explanation of Program Entries**

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Major</th>
<th>Home University</th>
<th>Funding Source</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Doe, Biomedical Engineering (LS)</td>
<td>Biomedical Engineering</td>
<td>(UD)</td>
<td></td>
<td>Identification of Early Through Late-Stage Changes in Murine Articular Chondrocyte Biology Following Joint Destabilizing Surgery</td>
</tr>
<tr>
<td>Joe Smith, Biomedical Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key to Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH</td>
<td>Arts &amp; Humanities Scholars</td>
</tr>
<tr>
<td>ANFS</td>
<td>Department of Animal &amp; Food Science</td>
</tr>
<tr>
<td>ARL CREATE</td>
<td>Army Research Laboratory Composite</td>
</tr>
<tr>
<td>ARTSBRIDGE</td>
<td>ArtsBridge America</td>
</tr>
<tr>
<td>CANR</td>
<td>College of Agriculture and Natural Resources</td>
</tr>
<tr>
<td>CBER</td>
<td>Center for Biomedical Engineering Research</td>
</tr>
<tr>
<td>CBER &amp; BMEG</td>
<td>Biomedical Engineering Department</td>
</tr>
<tr>
<td>CBER &amp; MEEG</td>
<td>Mechanical Engineering Department</td>
</tr>
<tr>
<td>CBER &amp; PHYT</td>
<td>Physical Therapy Department</td>
</tr>
<tr>
<td>CPC</td>
<td>Center for Political Communication</td>
</tr>
<tr>
<td>CPW-Bio</td>
<td>Charles Peter White Biology Scholars</td>
</tr>
<tr>
<td>CPW-PT</td>
<td>Charles Peter White Physical Therapy Scholars</td>
</tr>
<tr>
<td>DNREC</td>
<td>Delaware Department of Natural Resources &amp; Environmental Control</td>
</tr>
<tr>
<td>DRI</td>
<td>Delaware Rehabilitation Institute</td>
</tr>
<tr>
<td>DSU</td>
<td>Delaware State University</td>
</tr>
<tr>
<td>DTCC</td>
<td>Delaware Technical Community College</td>
</tr>
<tr>
<td>EPSCoR</td>
<td>Experimental Program to Stimulate Competitive Research</td>
</tr>
<tr>
<td>EPSCoR</td>
<td>SITE SMART - Serving Industry Through Education: Student Mentoring and</td>
</tr>
<tr>
<td></td>
<td>Research Techniques</td>
</tr>
<tr>
<td>EPSCoR</td>
<td>NASA - National Aeronautics &amp; Space Administration</td>
</tr>
<tr>
<td>ES</td>
<td>Extension Scholars</td>
</tr>
<tr>
<td>GEMS</td>
<td>Groups Exploring Mathematical Sciences</td>
</tr>
<tr>
<td>Heitzier</td>
<td>David M. Heitzer Award</td>
</tr>
<tr>
<td>HHMI</td>
<td>Howard Hughes Medical Institute</td>
</tr>
<tr>
<td>ICES</td>
<td>Interdisciplinary Community Engaged Scholars</td>
</tr>
<tr>
<td>INBRE</td>
<td>IDeA Network of Biomedical Research Excellence</td>
</tr>
<tr>
<td>INBRE - NSURP</td>
<td>Nemours Summer Undergraduate Research</td>
</tr>
<tr>
<td>JRF</td>
<td>John Jungck Research Fund</td>
</tr>
<tr>
<td>LS</td>
<td>Life Science Scholars</td>
</tr>
<tr>
<td>McNair</td>
<td>McNair Scholars Program</td>
</tr>
<tr>
<td>NASA</td>
<td>National Aeronautics &amp; Space Administration</td>
</tr>
<tr>
<td>NECA</td>
<td>Northeastern Chemical Association</td>
</tr>
<tr>
<td>NIH</td>
<td>National Institutes of Health</td>
</tr>
<tr>
<td>NSF</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>NSF CHEM REU</td>
<td>Chemistry Research Experiences for Undergraduates</td>
</tr>
<tr>
<td>NSF NUE</td>
<td>Nanotechnology Undergraduate Education</td>
</tr>
<tr>
<td>OEIP</td>
<td>Office of Economic Innovation and Partnerships</td>
</tr>
<tr>
<td>ONR</td>
<td>Office of Naval Research</td>
</tr>
<tr>
<td>ORN AMIPC</td>
<td>Advanced Materials Intelligent Processing Center</td>
</tr>
<tr>
<td>Paradigm</td>
<td>Paradigm Fellow Award</td>
</tr>
<tr>
<td>Pattison</td>
<td>Hellen Pattison Scholar Award</td>
</tr>
<tr>
<td>Plastino</td>
<td>David A. Plastino Scholar Award</td>
</tr>
<tr>
<td>PPF</td>
<td>Public Policy Fellow</td>
</tr>
<tr>
<td>REACT</td>
<td>President's Diversity Initiative</td>
</tr>
<tr>
<td>Russell</td>
<td>T.W. Fraser Russell Undergraduate Enrichment Endowment</td>
</tr>
<tr>
<td>SE</td>
<td>Science &amp; Engineering Scholars</td>
</tr>
<tr>
<td>SF</td>
<td>Summer Fellowship</td>
</tr>
<tr>
<td>SL</td>
<td>Service Learning Scholars</td>
</tr>
<tr>
<td>SS</td>
<td>Social Sciences Scholars</td>
</tr>
<tr>
<td>Stetson</td>
<td>Milton H. Stetson Memorial Fellowship</td>
</tr>
<tr>
<td>UPENN</td>
<td>University of Pennsylvania</td>
</tr>
<tr>
<td>USDA APHIS</td>
<td>United States Department of Agriculture, Animal &amp; Plant Health Inspection Service</td>
</tr>
</tbody>
</table>
Life Sciences (Agriculture & Natural Resources, Animal & Food Sciences, Entomology & Wildlife Ecology, Plant & Soil Sciences, Biological Sciences, Neuroscience, Nemours)

AGRICULTURE & NATURAL RESOURCES

1) Jenna Jones, Pre-Veterinary Science (EPSCoR) (DSU)  
   Bertrand Hankoua, Agriculture & Natural Resources (DSU)  
   TBA

2) Lasheda Brooks, Animal & Poultry Science (EPSCoR) (DSU)  
   Brigid McCrea, Agriculture & Natural Resources (DSU)  
   Prevalence of Raptors at Delmarva Broiler Farm Composters

3) Eleanor Johnson, Plant Science (EPSCoR) (DSU)  
   Gulnihal Ozbay, Agriculture & Natural Resources (DSU)  
   Blue Crab (Callinectes sapidus) Population Dynamics across the Salinity Gradient in Blackbird Creek, Delaware

4) Katharine Ommanney, Wildlife Management (EPSCoR) (DSU)  
   Gulnihal Ozbay, Agriculture & Natural Resources (DSU)  
   Heavy Metal Impacts on Marsh Grasses and Macrofauna in Blackbird Creek, Delaware

ANIMAL & FOOD SCIENCES

5) Gabrielle Dressel, Animal & Food Science & Jaclyn Weiher, Pre-Veterinary Medicine & Animal Biosciences (USDA APHIS) (UD)  
   Eric Benson & Robert Alphin, Animal & Food Sciences  
   Implementation of an International Emergency Poultry Disease Response Certificate Course

6) Monique Robinson, Pre-Veterinary Medicine & Animal Biosciences (McNair/CANR) (UD)  
   Eric Benson & Robert Alphin, Animal & Food Sciences  
   Using a Spectrophotometer to Evaluate the Spectral Power Distribution of Lamps for Poultry Production

7) Deanna Roundy, Pre-Veterinary Medicine & Animal Biosciences (S&E) (UD)  
   Erin Brannick, Animal & Food Sciences  
   Assessing Seasonal Variability in Delmarva Poultry Respiratory Disease Incidence

8) Candice Gittens, Pre-Veterinary Medicine & Animal Biosciences (CANR) (UD)  
   Robert Dyer, Animal & Food Sciences  
   Immune Cells in Bovine Mesenteric Adipose Tissue: CD3+ T Lymphocytes and CD8+

9) Jenna Wilson, Pre-Veterinary Medicine & Animal Biosciences (S&E) (UD)  
   Robert Dyer, Animal & Food Sciences  
   Immune Cells in Bovine Mesenteric Adipose Tissue: CD3+ T Lymphocytes and CD4+ Dendritic Cells

10) Laura Steimer, Animal & Food Science (S&E) (UD)  
    Tanya Gressley, Animal & Food Sciences  
    Effects of Filter Pore Size and CO2 on Neutrophil Migration and in vitro Neutrophil Chemotaxis Assays in Lactating Holstein Cows

11) Amanda Wagner, Animal & Food Sciences (S&E) (UD)  
    Tanya Gressley, Animal & Food Sciences  
    Effects of CO2 and Heps Buffer on in vitro Neutrophil Chemotaxis Assays of Lactating Holstein Cows

12) Quincy Hardy, Food Science (EPSCoR) (Florida A&M)  
    Rolf Joerger, Animal & Food Sciences  
    The Significance of the hdeB Gene in Acid Tolerance Response in Salmonella enterica Serovars Kentucky and Enteritidis

13) Hannah Simmons, Animal & Food Science (ANFS) (UD)  
    Calvin Keeler, Animal & Food Sciences  
    Understanding Immunity in the Embryonated Egg

14) June Teichmann, Food Science (EPSCoR) (UD)  
    Kalmia Kniel-Tolbert, Animal & Food Sciences  
    Determining Bacterial Uptake and Distribution in Microgreens Grown Hydroponically

15) Paula Thomas, Food Science (McNair/CANR) (UD)  
    Kalmia Kniel-Tolbert, Animal & Food Sciences  
    Use of Biocontrol Agent Bacillus Subtilis UD1022 To Reduce Risk of Listeria monocytogenes Contamination on Cantaloupes

16) Michael Hickey, Food & Nutritional Sciences (EPSCoR) (DSU)  
    Jung-lim Lee, Food Microbiology (DSU)  
    TBA

17) Eric Loverro, Biological Sciences (Allen Family Fellow) (UD)  
    Mark Parcells, Animal & Food Sciences  
    Marek’s Disease

ENTOMOLOGY & WILDLIFE ECOLOGY

18) Kevin Archibald, Quantitative Biology (EPSCoR) (UD)  
    Jeff Buler, Entomology & Wildlife Ecology  
    Migrating Birds Reorient Towards Land at Dawn over the Great Lakes

19) Katharine Lewis, Wildlife Conservation (EPSCoR) (UD)  
    Jacob Bowman, Entomology & Wildlife Ecology  
    Resource Selection of Yearling Bucks

20) Christine Piazza, Biological Sciences (CANR) (Towson)  
    Jacob Bowman, Entomology & Wildlife Ecology  
    An Investigation of Deer Abundance in Urban Forest Fragments of Northern Delaware

21) Janine Klosiewicz, Wildlife Conservation (Allen Family Fellow) (UD)  
    Deborah Delaney, Entomology & Wildlife Ecology  
    Pollen Diversity Among Native Bees

22) Cassandra Ference, Wildlife Conservation/Entomology (EPSCoR) (UD)  
    Deborah Delaney, Entomology & Wildlife Ecology  
    Diversity and Abundance of Natural Enemies: Parasitic Wasps in Urban Forest Fragments
<table>
<thead>
<tr>
<th><strong>PLANT &amp; SOIL SCIENCES</strong></th>
<th><strong>BIOLOGICAL SCIENCES</strong></th>
</tr>
</thead>
</table>
| **23)** Bryan Von Hagel, Biological Sciences (LS) (UD)  
Pamela Green, Plant & Soil Sciences  
Identifying Targets of SOV in Arabidopsis thaliana and Analyzing the Role of SOV in Stress Response | **35)** Molly Peters, Biological Sciences (CPW-Bio) (UD)  
E. Fidelma Boyd, Biological Sciences  
*Vibrio cholerae NRT36S: An Analysis of a Type III Secretion System Containing Pathogenicity Island* |
| **24)** Ha Vu, Chemistry (EPSCoR-SITE SMART) (DTCC)  
Deb Jaisi, Plant & Soil Sciences  
*Phosphorus Speciation and Dynamics in Water Column and Sediment Pore Waters in the Chesapeake Bay* | **36)** Miguel Nava, Medical Laboratory Sciences (McNair) (UD)  
E. Fidelma Boyd, Biological Sciences  
*Investigating the Roles of ProU1 and ProU2 Compatible Solute Transporters in Vibrio parahaemolyticus* |
| **25)** Michelle Paukett, Animal & Food Science/Food & Agribusiness Marketing & Management (C&N) (UD)  
Angelia Seyfferth, Plant & Soil Sciences  
*Interactions Between Silicon, Arsenic, and Magnaporthe Oryzae in Rice Plants* | **37)** Nicholas Chubbs, Biological Sciences (LS) (UD)  
Matthew Butchbach, Biological Sciences  
*SMN Expression in Rare SMN2 Variants* |
| **26)** Kelli Kearns, Environmental Engineering (EPSCoR) (UD)  
Angelia Seyfferth, Plant & Soil Sciences  
*The Effect of Sampling Method on the Concentration of Methane Gas in Soils* | **38)** Andrew Connell, Biological Sciences (CPW-Bio) (UD)  
Matthew Butchbach, Biological Sciences  
*Effects of cAMP-Activating Drugs on Gene Expression in Spinal Muscular Atrophy Cells* |
| **27)** Nicole Delp, (EPSCoR-SITE SMART) (DTCC)  
Janine Sherrier, Plant & Soil Sciences  
*The Effects of Inoculation of Phaseolus lunatus with Native US Rhizobial Strains* | **39)** Gleb Borovok, Biological Sciences (LS) (UD)  
Matthew Butchbach, Biological Sciences  
*Effect of Protein Phosphatase Inhibitors on SMN Expression in Spinal Muscular Atrophy Cells* |
| **28)** Prian Vidal, Agricultural Science (EPSCoR) (Florida A&M)  
Donald Sparks, Plant & Soil Sciences/DENIN  
TBA | **40)** Ryan Kirk, Neuroscience (LS) (UD)  
Matthew Butchbach, Biological Sciences  
*Effects of PKA Phosphorylation on the Subcellular Localization of SMN in Motor Neuron-like Cells* |
| **29)** William Donahoe, Computer Science (EPSCoR) (UD)  
Rodrigo Vargas, Plant & Soil Sciences  
Zohra Ali-Khan Catts, Cancer Genetics Program (Christiana Care)  
*Clinical Familial Adenomatous Polyposis in APC/MYH Mutation-negative Families* |
| **30)** Zachary DiSpirito, Pre-Veterinary Medicine & Animal Biosciences (Blair & Cheryl Carmean Fellow) (UD)  
K. Eric Wommack, Plant & Soil Sciences  
*Community Diversity Correlation with Shiga Toxin-producing E. Coli Presence in Beef Processing* | **42)** Rebecca Pollak, Biological Sciences (Stetson) (UD)  
Patricia DeLeon, Biological Sciences  
*Expression of Neuronal Nitric Oxide Synthase (nNOS) in the Extrareticular Pathway and Its Role in Sperm Maturation* |
| **31)** Amelia Harrison, Ecology (EPSCoR) (UD)  
K. Eric Wommack, Plant & Soil Sciences  
*Fine-Scale Temporal Dynamics of Estuarine Vibrioplankton and Bacterioplankton Populations* | **43)** Ashley Aiken, Medical Laboratory Sciences (McNair) (UD)  
Patricia DeLeon, Biological Sciences  
*Characterization of Pmca 4 Males: Elucidating the Mechanisms Underlying Motility Loss* |
| **32)** Alessandra Ceretto, Biological Sciences (S&E) (UD)  
K. Eric Wommack, Plant & Soil Sciences  
*Biogeographical Investigation of Viral Diversity within the Eastern Oyster, Crassostrea virginica* | **44)** Dipen Patel, Biological Sciences (EPSCoR) (DSU)  
Harbinder Singh Dhillon, Biological Sciences (DSU)  
TBA |
| **33)** Andrew Boddicker, Biological Sciences (CPW-Bio) (UD)  
K. Eric Wommack, Plant & Soil Sciences  
*Characterization of Bacteriophage in the Human Vagina* | **45)** Troy Rubenstein, Biological Sciences (INBRE) (UD)  
Melinda Duncan, Biological Sciences  
*Tubb6 and Kif1a Involved in Lens Fiber Cell Elongation* |
| **34)** Nicole Place, Biological Sciences (NUCLEUS) (UD)  
K. Eric Wommack, Plant & Soil Sciences  
*Host-Phage Interactions of the Vaginal Microbiome* | **46)** Christopher Kelbaugh, Neuroscience (Lafayette College LEARN/National Eye Institute) (Lafayette)  
Melinda Duncan, Biological Sciences  
*A Novel Analysis of CD24 Expression in the Lens* |
| **36)** Nicholas Chubbs, Biological Sciences (LS) (UD)  
Matthew Butchbach, Biological Sciences  
*SMN Expression in Rare SMN2 Variants* | **47)** Erin Wadman, Biological Sciences (CPW-Bio) (UD)  
Randall Duncan, Biological Sciences  
*Cancer Gene Panel Assessment* |
<table>
<thead>
<tr>
<th>Entry</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>48)</td>
<td>Andy Lam, Biological Sciences (SF) (UD) Randall Duncan, Biological Sciences</td>
<td><em>Effect of 2D/3D Environment on Chondrocyte Cytoskeletal Organization</em></td>
</tr>
<tr>
<td>49)</td>
<td>Joshua Tworig, Biological Sciences (INBRE) (UD) Diane Fitzgerald, Office of Health Equity &amp; Inclusion (Nemours)</td>
<td>TBA</td>
</tr>
<tr>
<td>50)</td>
<td>Shabana Amiri, Biology &amp; Chemistry (INBRE) (DSU) Vincent Fondong, Biology (DSU)</td>
<td>TBA</td>
</tr>
<tr>
<td>51)</td>
<td>Hannah Anderson, Biological Sciences (Governor’s Biotech Award) (UD) Deni Galileo, Biological Sciences</td>
<td><em>Differential Effects of Inhibitors and Antibodies on Motility and Proliferation of L1-Positive vs. L1-Negative Glioma Cells</em></td>
</tr>
<tr>
<td>52)</td>
<td>Andre Freligh, Biological Sciences (HHMI) (UD) John Jungck, Biological Sciences/Mathematical Sciences</td>
<td><em>Cooperation at the Molecular Level Affects Your Performance and Health</em></td>
</tr>
<tr>
<td>53)</td>
<td>Ross Sausa, Accounting/Finance (HHMI) (UD) John Jungck, Biological Sciences/Mathematical Sciences</td>
<td><em>Game Theory: If You Are Trying to Avoid Extinction or Survive Cancer, It’s Not Just a Game</em></td>
</tr>
<tr>
<td>54)</td>
<td>Laura Cahill, Quantitative Biology (HHMI) (UD) John Jungck, Biological Sciences/Mathematical Sciences</td>
<td><em>Have You Finished Growing? Why Does It Matter?</em></td>
</tr>
<tr>
<td>55)</td>
<td>Damir Creecy, Ecology/Anthropology (JRF) (UD) John Jungck, Biological Sciences/Mathematical Sciences</td>
<td><em>Optimal Foraging Theory Module</em></td>
</tr>
<tr>
<td>56)</td>
<td>Kirsten Kervin, Biological Sciences (EPSCoR) (DTCC) Venu Kalavachara, Molecular Genetics &amp; Genomics (DSU)</td>
<td><em>Analysis of Fungal Rust Resistance Genes in Phaseolus vulgaris: A Time Course Study in Differential Gene Expression</em></td>
</tr>
<tr>
<td>57)</td>
<td>Brittny Chesser, Wildlife Management (EPSCoR) (DSU) Karuna Chintapenta, Molecular Genetics &amp; Genomics (DSU)</td>
<td><em>Monitoring Total Bacteria, Total Vibriocacte, and Vibrio parahaemolyticus in Eastern Oysters (Grassostrea virginica) from Delaware Inland Bays</em></td>
</tr>
<tr>
<td>58)</td>
<td>Mahtrey Dave &amp; Mabel D’Souza (EPSCoR) (Charter School of Wilmington) Jonathon Kidd, Biology (Wesley)</td>
<td><em>Effects of Broth Concentration and Mineral Concentration on Growth of B. Subtilis Biofilm</em></td>
</tr>
<tr>
<td>59)</td>
<td>Angela Stigmuller, Biochemistry (LS) (UD) Catherine Kirk-Safran, Biological Sciences</td>
<td><em>Osteoblast-Derived Leptin Induces an Early Osteoarthritis Phenotype in Chondrocytes</em></td>
</tr>
<tr>
<td>60)</td>
<td>Mika Heredia, Biological Sciences (EPSCoR) (DSU) Hakeem Lawal, Biological Sciences (DSU)</td>
<td>TBA</td>
</tr>
<tr>
<td>61)</td>
<td>Sandra Yoo, Exercise Science (INBRE) (UD) Robert Mason, Biological Sciences</td>
<td><em>Mechanisms of a New Treatment for Neuroblastoma Cells</em></td>
</tr>
<tr>
<td>62)</td>
<td>Nayana Gadde, Nursing (EPSCoR) (UD) Karl Miletli, Biological Sciences (DSU)</td>
<td><em>Protein-Protein Interactions Between CD44-Intracytoplasmic Domain and Transcription Factors in Breast Cancer Cells</em></td>
</tr>
<tr>
<td>63)</td>
<td>Joshua Barton, Biological Sciences/Neuroscience (S&amp;E) (UD) Ulhas P. Naik, Biological Sciences</td>
<td><em>Alopecia in Transgenic Polo like Kinase 3 Knockout Mice</em></td>
</tr>
<tr>
<td>64)</td>
<td>Prashanth Moku, Biological Sciences (S&amp;E) (UD) Anja Nohe, Biological Sciences</td>
<td><em>Role of Varying Concentrations of CK2.3 on Osteoblast Differentiation, Gene Expression of Proteins and Transcription Factors, and Differing Initial Cell-Type and Stage That May Alter Rate of Osteogenesis</em></td>
</tr>
<tr>
<td>65)</td>
<td>Rebecca Russell, Biological Sciences (CPW - Bio) (UD) Anja Nohe, Biological Sciences</td>
<td><em>Targeting of Calcitriol to Inflammatory Breast Cancer Tumors with Nanoparticles</em></td>
</tr>
<tr>
<td>66)</td>
<td>Matthew Fischer, Biological Sciences (CPW - Bio) (UD) Erica Selva, Biological Sciences</td>
<td><em>Investigating the Molecular Basis of Atg18 Mutants in Drosophila Melanogaster</em></td>
</tr>
<tr>
<td>67)</td>
<td>Brooke Palus, Biological Sciences (CPW - Bio) (UD) Erica Selva, Biological Sciences</td>
<td>TBA</td>
</tr>
<tr>
<td>68)</td>
<td>Morgan Thomas, Biological Sciences/Neuroscience (HHMI) (UD) Erica Selva, Biological Sciences</td>
<td><em>The Role of N-linked Glycosylation in Drosophila Eye Development</em></td>
</tr>
<tr>
<td>69)</td>
<td>Tyler McCann, Biochemistry (HHMI) (UD) Jia Song, Biological Sciences</td>
<td><em>MicroRNA Regulation of Dishevelled in the Wnt Signaling Pathway</em></td>
</tr>
<tr>
<td>70)</td>
<td>Krittika Madadi, Exercise Science (EPSCoR) (UD) Murali Temburni, Biological Sciences (DSU)</td>
<td><em>The Role of Astrocytes in the Development of Synchronized Bursting Behavior in Neuronal Networks</em></td>
</tr>
<tr>
<td>71)</td>
<td>Christopher Rivera-Pintado, Biology (EPSCoR) (DSU) Cynthia van Golen, Biological Sciences (DSU)</td>
<td><em>IGF-IR Effects on RANK, RANKL, and OPG Expression and Function in Neuroblastoma</em></td>
</tr>
<tr>
<td>72)</td>
<td>Sydney Sudler, Biology/Chemistry (INBRE) (DSU) Kenneth van Golen, Biological Sciences</td>
<td><em>IGF-1 and Wisp3 (LIBC) in Inflammatory Breast Cancer</em></td>
</tr>
<tr>
<td><strong>NEUROSCIENCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73)</td>
<td>Daniel Charytonowicz, Biomedical Engineering/Computer Science (S&amp;E) (UD) James Hoffman, Psychological &amp; Brain Sciences</td>
<td><em>Neural Mechanisms Surrounding Visual Attention</em></td>
</tr>
</tbody>
</table>
74) Chau Nguyen, Psychology (McNair) (UD)  
James Hoffman, Psychological & Brain Sciences  
*Can the Cerebral Hemispheres Independently Track Moving Objects?*

75) Zyair Brown, Neuroscience (McNair) (UD)  
James Hoffman, Psychological & Brain Sciences  
*Is Emotion-induced Blindness Automatic?*

76) Sarah McKeown, Neuroscience (S&E) (UD)  
Anna Klintsova, Psychological & Brain Sciences  
*Influence of Wheel Running and Environmental Complexity on Hippocampal Adult Neurogenesis in Rats Postnatally Exposed to Alcohol*

77) Jennifer Staib, Neuroscience (S&E) (UD)  
Dayan Knox, Psychological & Brain Sciences  
*Sex Differences in Fear Extinction Retention in an Animal Model of PTSD*

78) Emily Baumert, Biological Sciences/Neuroscience & Michael Grzenda, Neuroscience (S&E) (UD)  
Jared Medina, Psychological & Brain Sciences  
*Examining the Body Schema Using Voxel-based Lesion-symptom Mapping*

79) Taneesha Dorn, Psychology (McNair) (UD)  
Jared Medina, Psychological & Brain Sciences  
*TBA*

80) Kristyn Borrelli, Neuroscience (INBRE) (UD)  
Tania Roth, Psychological & Brain Sciences  
*Effects of Prenatal Stress on the Methylation of the BDNF Gene in the Medial Prefrontal Cortex of Adult Rats*

81) Alicia DeRosa, Neuroscience (HHMI) (UD)  
Tania Roth, Psychological & Brain Sciences  
*DNA Methylation Changes in the Olfactory Bulb of Developing Rats Following Exposure to Nurturing or Aversive Caregiving Environments*

82) Amy Forster, Neuroscience (S&E) (UD)  
Tania Roth, Psychological & Brain Sciences  
*Global DNA Methylation Levels in the Adolescent Dorsal Hippocampus Following Aversive Caregiving*

83) Jasmine Caulfield, Neuroscience (S&E) (UD)  
Jaclyn Schwarz, Psychological & Brain Sciences  
*Sex Differences in Vulnerability to a Neonatal Infection and Potential Implications for Developmental Delays in Learning*

84) Jacob Wilmot, Neuroscience (S&E) (UD)  
Mark Stanton, Psychological & Brain Sciences  
*Effect of Temporal Separation on Temporal Order Recognition Memory*

85) Hollie Sanders, Neuroscience (NIH) (UD)  
Mark Stanton, Psychological & Brain Sciences  
*Ontogeny of Object-in-Context Recognition Memory Retention*

---

**NEMOURS**

86) Megan Feick, Neuroscience (INBRE-NSURP) (UD)  
Maria Carmen-Diaz, Critical Care & Emergency Medicine (Nemours)  
*The Impact of a Displayed Checklist on Time to Completion of Tasks in Pediatric Trauma Resuscitations*

87) Laura Malinowski, Biological Chemistry (INBRE) (Wesley)  
Katia Sol-Church, Biomolecular Studies (Nemours)  
*TBA*

88) Nicholas Jennelly, Biological Sciences (INBRE) (UD)  
Lauren Holmes, Orthopedics (Nemours)  
*Epidemiologic Characterization of Pediatric Pediatric Motor Vehicle Trauma: Race-Based Analysis*

89) Kristen Juhrden, Mathematics (INBRE) (DeSales)  
Kirk Dabney, Pediatric Orthopedics & Lauren Homes, Office of Health Equity & Inclusion (Nemours)  
*Age-Adjusted Neck Circumference Predicts Racial Disparities in Pediatric Asthma Severity*

---

**Natural Sciences (Chemistry & Biochemistry, Mathematical Sciences, Physics & Astronomy, Geography, Marine Science & Policy, Environmental Science)**

---

**CHEMISTRY & BIOCHEMISTRY**

90) Jacqueline Clarizio, Chemistry/Biochemistry (HHMI) (UD)  
Mark Baillie & Jacqueline Fajardo, Chemistry & Biochemistry  
*Breaking Down the Milky Way*

91) Gabriel Gregorzak, Chemistry/Biochemistry (HHMI) (UD)  
Mark Baillie & Jacqueline Fajardo, Chemistry & Biochemistry  
*Fueling the Interdisciplinary Flame: Exploring Plant-Based Alternative Fuels in the Undergraduate Laboratory*

92) Thanh Nguyen, Biological Sciences (INBRE/Governor’s Bioscience Award) (DTCC)  
Virginia Balke, Chemistry & Biochemistry (DTCC)  
*Characterization of Pseudomonas fluorescens Strains Isolated from Little Brown Bats (Myotis lucifugus) Infected with White Nose Syndrome*

93) Kelly Wilcox, Chemistry (NSF Chem REU) (Kutztown)  
Karl Booksh, Chemistry & Biochemistry  
*Surface Plasmon Resonance Sensors: Synthesis and Characterization of Gold Nanomaterials for Plasmonic Sensor Applications*
94) Alora Wilson, Biological Chemistry (INBRE) (Wesley)  
Malcolm D’Souza, Chemistry (Wesley)  
New Experimental and Kinetic Data for 2-Ethylhexyl Chloroformate

95) Jasbir Deol, Biological Chemistry (INBRE) (Wesley)  
Malcolm D’Souza, Chemistry (Wesley)  
Confirming the Use of Phenyl Chloroformate as an Appropriate Addition-Elimination Standard in LFER Analyses

96) Catherine Gross, Biological Chemistry (INBRE) (Wesley)  
Malcolm D’Souza, Chemistry (Wesley)  
Chloride (Cl-) vs Tosylate (OTs-): Leaving Group Battles at Alkoxycarbonyl Carbon

97) Katelyn Null, Biological Chemistry (INBRE) (Wesley)  
Malcolm D’Souza, Chemistry (Wesley)  
Trends Observed In Solvent Studies with Primary Alkyl Chloroformate Esters

98) Ariel Bilbrough, Biological Chemistry (EPSCoR) (Wesley)  
Malcolm D’Souza, Chemistry (Wesley)  
Studying Reactivity, Substituent, and Leaving Group Effects in Esters

99) Dionne Williams, Biological Chemistry (EPSCoR) (Wesley)  
Malcolm D’Souza, Chemistry (Wesley)  
Solvent Reactions of 4-Methoxyphenyl Chloroformate in Pure and Binary Solvents

100) Megan Durrant, Medical Technology (INBRE) (Wesley)  
Malcolm D’Souza, Chemistry (Wesley)  
Determining the Mechanism of Octyl Chloroformate Using Acid-Base Titrations

101) Victor DeBarros, Biological Chemistry (EPSCoR-NASA) (Wesley)  
Malcolm D’Souza, Chemistry (Wesley)  
Comparing Nucleophilic Reactivity in 2-Fluoroethyl and 2-Benzoyloxyethyl Chloroformates

102) Tyler Heiss, Biochemistry (HHMI) (UD)  
Catherine Leimkuhler Grimes, Chemistry & Biochemistry  
Synthesis of Bacterial Cell Wall Fragment Derivatives in order to Investigate the Promiscuity of the Mur Enzymes

103) Lauren Genova, Chemistry (HHMI) (UD)  
Catherine Leimkuhler Grimes, Chemistry & Biochemistry  
The Role of Bacterial Cell Wall Oligomers in the Innate Immune Response

104) Joseph Piccotti, Biochemistry (NSF Chem REU) (Albright)  
Catherine Leimkuhler Grimes, Chemistry & Biochemistry  
TBA

105) Chelsea Cook, Physics (NSF Chem REU) (Virginia Tech)  
Lars Grunlach, Chemistry & Biochemistry  
Computing Dipole Moments of Bridge Groups to Understand Electron Transfer Dynamics

106) Christopher Monaghan, Chemistry/Biochemistry (Plastino) (UD)  
John Koh, Chemistry & Biochemistry  
Developing Analogs to Target AF4/AF9 Proteins in Pediatric AML Leukemia

107) Katie Dillon, Biological Sciences/Neuroscience (LS) (UD)  
Edward Lyman, Chemistry & Biochemistry  
Hydration of Inactive A2a Adenosine Receptor

108) Joshua Darko, Biological Sciences, (SF) (Howard)  
Edward Lyman, Chemistry & Biochemistry  
Insights into A2A Adenosine Receptor from Crystal Structures

109) Salil Ketkar, Environmental Engineering (Plastino) (UD)  
Sharon Neal, Chemistry & Biochemistry  
Singlet Oxygen Production by Polycyclic Aromatic Hydrocarbons in Biorelevant Solvent

110) Sophia Hu, Chemistry (NSF Chem REU) (UPenn)  
John Newberg, Chemistry & Biochemistry  
Freeze Enhanced Formation of Halogen Species

111) Kenneth Weaver, Chemistry (Plastino) (UD)  
John Newberg, Chemistry & Biochemistry  
Freeze Enhanced Formation of Molecular Bromine

112) Thomas Keane, Chemistry (HHMI) (UD)  
Joel Rosenthal, Chemistry & Biochemistry  
Electrocatalyzed CO2 Conversion at Metal Triflate-Plated Electrodes

113) Benjamin Lefler, Chemistry (Plastino) (UD)  
Joel Rosenthal, Chemistry & Biochemistry  
A New Tetrarpyrrole Macrocycle Displaying Multielectron Photochemistry

114) Scarlett Tucker, Chemical Engineering (NSF Chem REU) (Oklahoma State)  
Sharon Rozovsky, Chemistry & Biochemistry  
Cloning of Mammalian Protein p-97 into an Expression Vector for Study of its Function in the EGRAD Pathway

115) Dominic Santoleri, Chemistry/Biochemistry (Plastino) (UD)  
Sharon Rozovsky, Chemistry & Biochemistry  
Application and Development of TLC Methods for Detection of Proteoliposomes

116) Jay Subramoney, Biochemistry (Heitzer) (UD)  
Sharon Rozovsky, Chemistry & Biochemistry  
Green Fluorescence Proteins as Membrane-bound Redox Indicators

117) Jasmin Philip, (HHMI-REACT) (UD)  
Sharon Rozovsky, Chemistry & Biochemistry  
Determination of Peroxidase Activity of Sec-Trrx Mutants Using Peroxidase Assays

118) Markia Smith, Biochemistry (HHMI-REACT) (UD)  
Colin Thorpe, Chemistry & Biochemistry  
Purification and Applications of Avian Riboflavin Binding Protein
119) Roxana Mitrut, Chemical Engineering (REACT) (UD)  Donald Watson, Chemistry & Biochemistry  
Diastereoselective Michael Additions with Nitroalkanes

120) Casey Kneale, Chemistry (NSF Chem REU) (California Univ. of Pennsylvania)  
Donald Watson, Chemistry & Biochemistry  
Selective Surface Modification for the Immobilization of Proteins

121) Ryan Kozlowski, Chemistry (Plastino) (UD)  
Donald Watson, Chemistry & Biochemistry  
Selective Formation of Secondary Amides via Copper-Catalyzed Amidation of Primary Pinacol Alkylboronates

122) Junius Thomas, Medical Laboratory Sciences (REACT) (UD)  
Donald Watson, Chemistry & Biochemistry  
Synthesis of Nitroalkanes

123) Clarissa Shoffler, Chemistry (NSF Chem REU) (Lebanon Valley)  
Mary Watson, Chemistry & Biochemistry  
Copper Catalyzed Enantioselective Alkynylation of Isoquinoline Derivatives

124) Gail Yborra, Biological Sciences (EPSCoR) (DTCC)  
Virginia Balke, Chemistry & Biochemistry (DTCC)  
Delaware Schools Energy Audits = Savings of $517,000 and 6.6 mil lbs of Carbon Dioxide

125) Kelly Daniels, Biochemistry (HHMI) (UD)  
Neal Zondlo, Chemistry & Biochemistry  
Use of Difluoroproline as 19F-Spectroscopic Probe for Identification of Phosphorylation-dependent Cis-trans Isomerization

126) Jesse Spillane, Biochemistry (LS) (UD)  
Neal Zondlo, Chemistry & Biochemistry  
Designing a Fluorinated Probe for the Detection of Protein-Protein Interactions by 19FNMR

MATHMATICAL SCIENCES

127) Joseph Brosch, Mathematics/Physics (NSF) (UD)  
Richard Braun, Mathematical Sciences  
Characterization of Blink Motion through Curve Fitting

128) Daniel Damiani, Mathematics Education (S&E) (UD)  
Jinfa Cai, Mathematical Sciences  
Fostering Student Learning Through Engaging Mathematical Modeling

129) Yi Zhang, Mathematics & Economics (S&E) (UD)  
Sebastian Cioaba, Mathematical Sciences  
Constructing Expander Graphs Using Signed Adjacency Matrices

130) Emma Kulek, Mathematics & Economics (S&E) (UD)  
Sebastian Cioaba, Mathematical Sciences  
The Mathematics and Economics of Matchings

131) Molina Nichols, Mathematics (INBRE) (UD)  
Tobin Driscoll, Mathematical Sciences  
Development of Modeling Software for an Infant Circulatory System

132) Alyson Grassi, Mathematics (NSF) (UD)  
David Edwards, Mathematical Sciences  
Modeling Multicomponent Reactions Through the Use of Ordinary Differential Equations

133) Benjamin King, Mathematics (S&E/GEMS) (UD)  
Mokshay Madiman, Mathematical Sciences  
TBA

134) Liedeke Sweitzer, Quantitative Biology (EPSCoR) (UD)  
Louis Rossi, Mathematical Sciences  
The Peculiar Paths of Plankton: Quantifying the Helical Motion of Dinoflagellates

135) Kathryn Levin, Computer Science (S&E/GEMS) (UD)  
Francisco-Javier Sayas, Mathematical Sciences  
TBA

136) Weiran Zhu, Mathematics & Economics (S&E) (UD)  
Gilberto Schleiniger, Mathematical Sciences  
Development of Cost-effective Criteria for Clinical Detection of Hereditary Colon & Breast Cancers in the Overall Cancer Population

137) Scott Fones, Quantitative Biology (HHMI) (UD)  
Gilberto Schleiniger, Mathematical Sciences  
Quantification of APC in the Colonic Crypt

138) Riza Bautista, Mathematics (EPSCoR-NASA) (Wesley)  
Derald Wentzien, Mathematics (Wesley)  
Selecting a Methodology to Estimate the Missing Values from a Time Series Data Set that Measures theExtent of the Northern Polar Ice Cap

139) Brittany Kowalewski, Mathematics (EPSCoR-NASA) (Wesley)  
Derald Wentzien, Mathematics (Wesley)  
Trends in the Polar Ice Caps

PHYSICS &ASTRONOMY

140) Inbok Yea, Physics (S&E) (UD)  
John Gizis, Physics & Astronomy  
Searching Brown Dwarf for Kepler Field Targets

141) Byron Lambrou, Physics/Electrical Engineering (S&E) (UD)  
Edward Lyman, Physics & Astronomy  
Lipid Bilayer Simulations and Nuclear Magnetic Resonance Experiments

142) Deval Mehta, Physics/Mathematics (NUCLEUS) (UD)  
Stanley Owocki, Physics & Astronomy  
Stellar Envelope Inflation as a Model for Luminous Blue Variable Stars
GEOGRAPHY

143) Sandra Demberger, Environmental Science (EPSCoR) (UD)
Luc Claessens, Geography
Investigation of Nitrogen Pollution in a Mixed Land-Use Watershed

144) Katherine Junghenn, Environmental Science (EPSCoR) (UD)
David Legates, Geography
Evaluation of Water Content Reflectometers in Estimating Soil Moisture

145) William Goldman, Marine Science (EPSCoR) (UD)
Dana Veron, Geography
Land Use and Local Climatic Shifts on Delaware Shores

MARINE SCIENCE & POLICY

146) Andrew Fleming, Finance/Economics (EPSCoR) (UD)
Cristina Archer, Marine Science & Policy
Cost/Benefit Analysis of Off Shore Wind Farms

147) Hayley De Marchis, Marine Science (EPSCoR) (UD)
Jonathan Cohen, Marine Science & Policy
Polarized Light as a Behavioral Cue in Talorchestia megalophalma

148) Caitlyn Sarno, Chemistry/Marine Science (EPSCoR) (UD)
George Luther, Marine Science & Policy
In Situ Voltammetry in Local Marine Environments

149) Rebecca Carroll, Ecology/Biology (EPSCoR) (UD)
Mark Warner, Marine Science & Policy
The Influence of Elevated Temperature upon the Sea Anemone Aiptasia pallida, Collected from Key Largo FL

150) Lukas Campolo, Chemistry (S&E) (UD)
Joanna York, Marine Science & Policy
The Impact of Groundwater-Borne Nitrate and Ammonium on the Phytoplankton Community in Delaware Estuaries

ENVIRONMENTAL SCIENCE

151) Gautam Sarikonda, Biology (EPSCoR) (DSU)
Venu Kalavacharla, Center for Integrated Biological & Environmental Research (DSU)
Methylome Sequencing and Identification of DNA Regulatory Elements Using DNase-seq in Common Bean (Phaseolus vulgaris)

152) John Dougherty, Environmental Studies (EPSCoR) (Wesley)
Stephanie Stotts, Environmental Studies (Wesley)
TBA

153) Nsiah Kwadwo, Energy Management (EPSCoR) (DTCC)
Stephanie Stotts, Environmental Studies (Wesley)
TBA

154) Samantha Weber, Biological Chemistry (EPSCoR) (Wesley)
Stephanie Stotts, Environmental Studies (Wesley)
TBA

155) James Welsh, Biology (EPSCoR) (Wesley)
Stephanie Stotts, Environmental Studies (Wesley)
TBA

156) Andrew Hageman, Environmental Engineering Technology (EPSCoR) (DTCC)
Robin Tyler, Natural Resources & Environmental Control (DNREC)
TBA

157) Kristabel Madera, Biology/Chemistry (EPSCoR-SITE SMART) (DTCC)
Lyndie Hice-Dunton, Delaware National Estuarine Research Reserve (DNREC)
TBA

158) Kyle Frame, Environmental Studies (EPSCoR) (Wesley)
Susan Love, Natural Resources & Environmental Control (DNREC)
TBA

Engineering (Biomedical, Chemical & Biomolecular, Civil & Environmental, Electrical & Computer Engineering, Mechanical, Materials Science, Center for Composite Materials, Computer & Information Sciences)

BIOMEDICAL

159) John Gagianas, Biomedical Engineering (INBRE) (UD)
Emily Day, Biomedical Engineering
Nanoshell Mediated Photothermal Therapy Against Triple-Negative Breast Cancer

160) Brittany Fay, Biomedical Engineering (LS) (UD)
Emily Day, Biomedical Engineering
Nanoshell-mediated Photothermal Therapy for Multidrug Resistant Breast Cancer Therapy

161) Pranita Murlidhar, Biomedical Engineering (LS) (UD)
Dawn Elliott, Biomedical Engineering
Reducing the Chance of At-Grip Failure in Tensile Tests of Bovine Meniscus

162) Rachel White, Biomedical Engineering (LS) (UD)
Dawn Elliott, Biomedical Engineering
The Impact of Substrate Rigidity and Cellular Age on Calcium Signaling in Meniscus Fibrochondrocytes
163) Mary Doolin, Biomedical Engineering (DRI) (UD)  
Jill Higginson, Biomedical Engineering  
_Evaluation of Multiple Training Paradigms When Using Biofeedback for Learning Partial Weight Bearing_  

164) Maria Nicholson, Biomedical Engineering (CBER & BMEG) (UD)  
Jill Higginson, Biomedical Engineering  
_Biofeedback Modality: Is Audio or Visual a More Effective Method?_  

165) Ian Berke, Biomedical Engineering (DRI) (UD)  
Christopher Price, Biomedical Engineering  
_En Block Staining and Clearing Techniques for Visualizing Bone and Cartilage Cell Morphology_  

166) Ryan Locke, Biomedical Engineering, (CBER & BMEG) (UD)  
Christopher Price, Biomedical Engineering  
_Structural and Compositional Changes in the Marine Knee Following Joint Destabilizing Surgery_  

167) Avery White, Biomedical Engineering (LS) (UD)  
Christopher Price, Biomedical Engineering  
_Identification of Early Through Late-Stage Changes in Marine Articular Chondrocyte Biology Following Joint Destabilizing Surgery_  

---

**CHEMICAL & BIOMOLECULAR**  

168) Ashwin Monian, Chemical Engineering (S&E) (UD)  
Maciek Antoniewicz, Chemical & Biomolecular Engineering  
_Characterization of Gas Transfer in Algae Cultures and its Impact on Algae Growth under Photoautotrophic, Mixotrophic and Heterotrophic Conditions_  

169) John Fillenwarth, Chemical Engineering (Russell) (UD)  
Antony Beris, Chemical & Biomolecular Engineering  
_One Dimensional Blood Flow Model: Development and Validation_  

170) Quentin Dubroff, Biomedical Engineering (HHMI) (UD)  
David Colby, Chemical & Biomolecular Engineering  
_Development of a Fluorescent Barcoding System for Cell Based Proteomic Libraries Using Yeast Surface Display_  

171) John McCarron, Chemical & Biomolecular Engineering (S&E) (UD)  
Thomas Epps, III, Chemical & Biomolecular Engineering  
_Thin Film Block Copolymers_  

172) Dakota Hanemann-Rawlings, Chemical Engineering (Russell) (UD)  
Thomas Epps, III, Chemical & Biomolecular Engineering  
_Block Copolymerization of Lignin Model Compounds and Lauryl Methacrylate_  

173) Douglas Scott, Chemical Engineering (NECA) (UD)  
Thomas Epps, III, Chemical & Biomolecular Engineering  
_Exploration of Tapered Molecular Architecture in Self-Assembled Block Polymer Thin Films_  

174) Alex Moore, Chemical Engineering (S&E) (UD)  
Feng Jiao, Chemical & Biomolecular Engineering  
_Transition Metals as Electrocatalysts for CO2 Reduction_  

175) William Ballance, Chemical Engineering (HHMI) (UD)  
April Kloxin, Chemical & Biomolecular Engineering  
_Investigating the Effects of the Cell Microenvironment on Breast Cancer Dormancy_  

176) Cody Reeves, Chemical Engineering (SF) (UD)  
April Kloxin, Chemical & Biomolecular Engineering  
_Degradable Hydrogels for Therapeutic Applications_  

177) Jonathan Galarraga, Chemical & Biomolecular Engineering (HHMI) (UD)  
Christopher Kloxin, Chemical & Biomolecular Engineering  
_Treatment of Articular Cartilage Defects with Novel Tissue Adhesive System_  

178) Laura Mumper, Chemical Engineering (S&E) (UD)  
Christopher Kloxin, Chemical & Biomolecular Engineering  
_Fabrication and Characterization of Photo-Crosslinked Thiol-Ene Membranes for Water Desalination_  

179) Justin Paloni, Chemical Engineering (HHMI) (UD)  
Christopher Kloxin, Chemical & Biomolecular Engineering  
_Click Nucleic Acid (CNA) Arrays for Rapid Detection of Genetic Disease_  

180) Stephanie Anderson, Chemical Engineering (Russell) (UD)  
Christopher Kloxin, Chemical & Biomolecular Engineering  
_Surface Functionalization and Wrinkle Formation on Elastomers using Click Chemistry_  

181) Joshua McNeely, Chemical Engineering (NSF Chem REU) (Missouri State)  
Dionisios Vlachos, Chemical & Biomolecular Engineering  
_Effect of Solvent on the Stabilization of 5-Hydroxymethylfurfural_  

182) Jehnae Linkins, Physics (NASA) (Lincoln University)  
Norman Wagner, Chemical & Biomolecular Engineering  
_Shear Thickening Fluids (STFs) for Extra-vehicular Activity (EVA) Space Suits Application_  

183) Charles McCutcheon, Chemical Engineering (NASA) (UD)  
Norman Wagner, Chemical & Biomolecular Engineering  
_Shear Thickening Fluid Nanocomposites for MMOD Resistance Application_  

184) Daniel Calabrese, Computer Science (TA Instruments) (University of Michigan)  
Norman Wagner, Chemical & Biomolecular Engineering  
_Computer Analysis of Shear-Banding in Wormlike Micelles using Particle Image Velocimetry (PIV)_  

185) Robert McAllister, Chemical Engineering, (SF) (UD)  
Norman Wagner, Chemical & Biomolecular Engineering  
_Small Angle Neutron Scattering Study of Reversible Colloidal Aggregation In a Near Critical Binary Mixture_
186) Thomas Benz, Chemical Engineering (S&E) (UD) Richard Wool, Chemical & Biomolecular Engineering The Optimal Design of Bio-based Foam
187) Michael Karavolias, Chemical Engineering (S&E) (UD) Richard Wool, Chemical & Biomolecular Engineering Biobased Polymers Derived from Lignin for Block Copolymer Application

CIVIL & ENVIRONMENTAL

188) Philip McGuire, Environmental Engineering (S&E) (UD) Daniel Cha, Civil & Environmental Engineering Fabrication of Biocomposites using Polyhydroxyalkanoates and Filamentous Bacteria from Wastewater Treatment Processes
189) Zelin Zhang, Chemistry Technology (EPSCoR) (DTCC) Pei Chiu, Civil & Environmental Engineering Microbial Nitrate Reduction Supported by Zero-Valent Iron
190) Jordan Hockman, Environmental Engineering (S&E) (UD) Steve Dentel, Civil & Environmental Engineering Breathable Membrane Enclosures for Fecal Sludge Stabilization
192) Julie Swanson, Environmental Engineering (EPSCoR) (UD) Gerald Kauffman, Institute of Public Administration/Civil & Environmental Engineering Securing Baseline Surveying and Habitat Assessment Data for the Health of Northern Delaware Streams
193) Madeline Carr, Civil Engineering (EPSCoR) (UD) Gerald Kauffman, Institute of Public Administration/Civil & Environmental Engineering Directing the Future Through Current Actions: Assessing the Health of Select Northern Delaware Streams
194) Sharon Dutton, Environmental Engineering Technology (EPSCoR) (DTCC) Gerald Kauffman, Institute of Public Administration/Civil & Environmental Engineering Conducting Comprehensive Stream Surveys in Northern Delaware
195) Kelsey McWilliams, Environmental Engineering (S&E) (UD) Julie Maresca, Civil & Environmental Engineering Seasonal Carbon Dioxide Fluxes From Coarse Wood, Soil and Trees in a Protected Watershed
196) Sarah Doggett, Civil Engineering (Pattison) (UD) Sue McNeil, Civil & Environmental Engineering Characteristics of Transit-Friendly Cities

ELECTRICAL & COMPUTER

198) Tyler Browning, Computer Engineering (S&E) (UD) Fouad Kiamilev, Electrical & Computer Engineering LRF and TCSA
199) Tianne Lassiter, Electrical Engineering (S&E) (UD) Fouad Kiamilev, Electrical & Computer Engineering V2G (Vehicle-to-grid Technology)
200) Kyle Davis, Biomedical Engineering (HHMI) (UD) Abhyudai Singh, Electrical & Computer Engineering Effect of Stochastic Holin Expression on Bacteriophage Lambda Lysis Time
201) Ben Sampson, Computer Engineering (Paradigm) (UD) Chengmo Yang, Electrical & Computer Engineering Hardware Security: Trojan Detection through Static and Dynamic Current Testing
202) Yuanqi Shen, Electrical Engineering (S&E) (UD) Chengmo Yang, Electrical & Computer Engineering Implementing Buffer Overflow Vulnerability Based Computer Security Attacks

MECHANICAL

203) Elizabeth Soulas, Biomedical Engineering (DRI) (UD) Tom Buchanan, Mechanical Engineering A Novel Technique to Determine the Viscoelastic Properties of the Achilles Tendon and Their Relation to Muscle Strength
204) Francis Rivera, Electrical Engineering (OEIP) (UD) Jenni Buckley, Mechanical Engineering SimuTrach and VidaVest
205) Cindy Weng, Mechanical Engineering (DRI) (UD) Jenni Buckley, Mechanical Engineering Force and Vibration Perception Threshold
206) Thomas McDowell, Biomedical Engineering (CBER & BMEG) (UD) David Burris, Mechanical Engineering Tribological Properties of Polyacrylamide/pHEMA Hybrid Hydrogels
207) Yongzhe Wen, Mechanical Engineering (S&E) (UD) Heather Doty, Mechanical Engineering Developing Computational Models of Nano-structured Photovoltaic Materials
208) Hunter Bachman, Mechanical Engineering (CBER & MEEG) (UD) X. Lucas Lu, Mechanical Engineering Efficacy of Boundary Lubricants on Friction in the TMJ
209) Monideepa Chatterjee, Biomedical Engineering (S&E) (UD)
X. Lucas Lu, Mechanical Engineering
The Effect of Delayed Mechanical Stimulation in an in vitro Microfracture Model

210) Jie Ma, Biomedical Engineering (S&E) (UD)
X. Lucas Lu, Mechanical Engineering
Spontaneous Calcium Response of in situ Chondrocyte and Related Pathways

211) Michael Furr, Mechanical Engineering (CBER & MEEG) (UD)
X. Lucas Lu & Michael Santare, Mechanical Engineering
Indentation Test for Articular Cartilage

212) Xiaoyu Gu, Mechanical Engineering (CBER & MEEG) (UD)
Liyun Wang, Mechanical Engineering
The Effects of Perlecan Deficiency on Bone's Response to Disuse

MATERIALS SCIENCE

213) Yvonne Ni, Biomedical Engineering (NUCLEUS) (UD)
David Martin, Materials Science & Engineering
Effects of Different Counterion Concentration and Electrochemical Deposition Parameters on the Synthesis of Dibromo-Substituted 3,4-Ethlenedioxythiophene (EDOT-Br) Monomer Crystals

214) Nile Bunce, Biomedical Engineering (EPSCoR) (UD)
John Rabolt, Materials Science & Engineering
Analysis of Thermo-Reversible Gels Comprised of Biodegradable PHB-HHx Polymers

215) Kevin Bichoupan, Chemical Engineering (S&E) (UD)
Joshua Zide, Materials Science & Engineering
Design and Calibration of a Liquid Phase Epitaxy Machine for the Synthesis of New Metal/Semiconductor Nanocomposites

CENTERS FOR COMPOSITE MATERIALS

216) Gemma Ciabattoni, English/Mechanical Engineering (ONR AMIPC) (UD)
Bazle Haque, Center for Composite Materials
TBA

217) Andrew Devenny, Biomedical Engineering (ONR AMIPC) (UD)
Bazle Haque, Center for Composite Materials
Split-Hopkinson Pressure Bar: High Strain Rate Testing and One-Dimensional Wave Analysis

218) Garrett Swenson, Mechanical Engineering (NSF NUE) (UD)
Bazle Haque, Center for Composite Materials
Molecular Dynamics Simulations of Carbon Nanotube Bundles under Mechanical Loading

219) Gao Chen, Mechanical Engineering (NSF NUE) (UD)
Erik Thostenson, Mechanical Engineering
Electrical Conductivity of Carbon Nanotube Solution

220) Lindsay Evans, Mechanical Engineering (NSF NUE) (UD)
Erik Thostenson, Mechanical Engineering
Processing and Scaling of Hybrid Composites Coated with Carbon Nanotubes via Electrophoretic Deposition

221) Taylor Boyle, Mechanical Engineering (NSF NUE) (UD)
Erik Thostenson, Mechanical Engineering
Mechanical/Electrical Characterization of Carbon Nanotube Coated Fibers and Multi-Scale Composites

222) Evan Furgason, Civil Engineering (NSF NUE) (UD)
Erik Thostenson, Mechanical Engineering
In Situ Micro-Damage Sensing Using Carbon Nanotube-based Composites as Structural Reinforcement

223) Jason Gulbinski, Chemical Engineering (NSF NUE) (UD)
Erik Thostenson, Mechanical Engineering
Analysis of Fracture Sensing using Carbon Nanotubes

224) Kan Liu, Mechanical Engineering (NSF NUE) (UD)
Erik Thostenson, Mechanical Engineering
TBA

225) Cameron Mengel, Chemical Engineering (NSF NUE) (UD)
Erik Thostenson, Mechanical Engineering
Carbon Nanotube Macro-films as Adhesive Conductor in Lithium-ion Batteries

226) Patrick Cullington, Mechanical Engineering (Diapedia Army SBIR Phase II) (UD)
John Tierney, Center for Composite Materials
Creating a LabVIEW User Interface for use in Automated Material Placement (AMP) Composite Applications

227) Francis Fish, Mechanical Engineering (ARL CREATE Orthotics Phase II) (UD)
John Tierney, Center for Composite Materials
Development of a Flexible Tool Form (FTF) for Ankle-Foot Orthotic Manufacturing

COMPUTER & INFORMATION SCIENCES

228) Cara Reedy, Cognitive Science (S&E) (UD)
Daniel Chester, Computer & Information Sciences
Developing New Artificial Life

229) Stephen Smith, Biotechnology (INBRE) (DTCC)
Shawn Polson, Computer & Information Sciences
Examining Methods for Estimating Viral Community Abundance from Environmental Shotgun Metagenomes

230) John Edenhofner, Computer Science (NSF) (UD)
Stephen Seigel, Computer & Information Sciences
Implementing Posix Threads Transformation for the Concurrency Intermediate Verification Language (CIVL)
**Human Sciences (Medical Laboratory Sciences, Kinesiology & Applied Physiology, Physical Therapy, Psychology)**

**MEDICAL LABORATORY SCIENCES**

231) Kaleb Tessema, Biomedical Engineering (McNair/INBRE) (UD)
Arun Kumar, Medical Laboratory Sciences
TBA

**KINESIOLOGY & APPLIED PHYSIOLOGY**

232) Charles Brodowski, Exercise Science (LS) (UD)
David Edwards, Kinesiology & Applied Physiology
*Family History and the Vascular Response to Dietary Sodium*

233) Dana Coyle, Exercise Science (S&E) (UD)
William Farquhar, Kinesiology & Applied Physiology
*Venous Distension Elicits a Greater Increase in Blood Pressure in Humans with Greater Salt Sensitivity*

234) Michael Stant, Athletic Training (S&E) (UD)
Thomas Kaminski, Kinesiology & Applied Physiology
*Utilizing a New Paradigm to Classify Collegiate Athletes with Chronic Ankle Instability*

235) Mark LaGreca, Exercise Science (INBRE) (UD)
Christopher Modlesky, Kinesiology & Applied Physiology
*Assessment of Fat Concentration in the Leg Muscles of Children with Cerebral Palsy using Magnetic Resonance Imaging*

236) Kimberly Milla Ceja, Exercise Science (INBRE) (UD)
Christopher Modlesky, Kinesiology & Applied Physiology
*Reduction of Magnetic Resonance Imaging Processing Time for the Assessment of Leg Muscle Volume in Children with Cerebral Palsy*

237) Kevin Connelly, Exercise Science (S&E) (UD)
Rhonda Prisby, Kinesiology & Applied Physiology
*Age-Related Bone Perfusion and Bone Mass with PTH and Anti-VEGF*

238) Mackenzie Chrisco, Exercise Science (INBRE) (UD)
Steven Stanhope, Kinesiology & Applied Physiology
*Changes in Peak Lower Extremity Joint Moments in Above Knee Amputee at Increasing Walking Velocities: A Case Study*

239) Bretta Fylstra, Biomedical Engineering (SF) (UD)
Steven Stanhope, Kinesiology & Applied Physiology
*Modifying a Fully Parameterized AFO Model with Adjustable ROM Ankle Joint*

240) SaiSri Gajjala, Biomedical Engineering (INBRE) (UD)
Steven Stanhope, Kinesiology & Applied Physiology
*Custom Harness Design for Body Weight Unloading During Treadmill Walking*

**PHYSICAL THERAPY**

241) Sharon Buchbinder, Biological Sciences (INBRE) (UD)
Stuart Binder-Macleod, Physical Therapy
*The FastFES Project*

242) Martha Lopez, Neuroscience (INBRE) (UD)
Cole Galloway, Physical Therapy
*The Fast & The Curious: DIY 'Collaborative Playground' Designed to Facilitate the Social Participation of Children*

243) Matthew Hersh, Mechanical Engineering (INBRE) (UD)
Cole Galloway, Physical Therapy
*Venous Distension Elicits a Greater Increase in Blood Pressure in Humans with Greater Salt Sensitivity*

244) Ben Greenspan, Mechanical Engineering (CBER & PHYT) (UD)
Cole Galloway, Physical Therapy
*Interactive Device Translating Muscle Activity into Visual Feedback to Improve User Functionality*

245) Naimisha Movva, Biological Sciences (INBRE) (UD)
Cole Galloway, Physical Therapy
*Use of an Innovative Rehabilitation Device for Infants to Improve Upper Extremity Functionality*

246) Alyssa Reyes, Exercise Science (CPW-PT) (UD)
Adam Marmon, Physical Therapy
*Processing Stair-Climbing from Patients with Joint Replacement: Analytical Code Development*

247) Menki Chen, Exercise Science (INBRE) (UD)
Darcy Reisman, Physical Therapy
*Relationship Between Spatiotemporal Asymmetries of Gait and Physical Function After Stroke*

248) Celeste Dix, Exercise Science (CPW-PT) (UD)
Lynn Snyder-Mackler, Physical Therapy
*Does Timing of Neuromuscular Training After ACL Reconstruction Affect Kinesiophobia, Knee Function, and Return to Sport Outcomes?*

249) Kevin Lapham, Exercise Science (CPW-PT) (UD)
Lynn Snyder-Mackler, Physical Therapy
*Bracing, Rather than Pre-Injury Activity Level, is Predictive of Functional Performance One Year after Surgery*

250) Lauren Baker, Biomedical Engineering (INBRE) (UD)
Lynn Snyder-Mackler, Physical Therapy
*Movement Patterns Differ Between the Sexes from ACL Injury to 5 Years After Reconstruction*

251) Ashely Bard & Aleksander Jano, Physical Therapy (INBRE) (DTCC)
Annette Torre, Physical Therapy (DTCC)
*The Effects of High Intensity Interval Training on Resting BP, HR, RMR, Body Composition for Sedentary College Population*
252) Joanna Osborne, Psychology (S&E) (UD)  
Adele Hayes, Psychological & Brain Sciences  
*Exploring the Role of Decentering in Trauma-Focused Cognitive-Behavioral Therapy for Childhood Posttraumatic Stress Disorder*  

253) Katrina Schmit, Psychology (S&E) (UD)  
Adele Hayes, Psychological & Brain Sciences  
*Eating Disorder Symptoms and Text Analysis of Electronic Communications in the Daily Lives of College Students*  

254) Sarah Sweigart, Psychology (S&E) (UD)  
Timothy Vickery, Psychological & Brain Sciences  
*An Investigation of Subject’s Abilities to Generate and Predict Random Sequences*  

255) Kyle Friedman, Cognitive Science/Psychology (INBRE) (UD)  
Timothy Vickery, Psychological & Brain Sciences  
*The Interaction of Reward and Visual Statistical Learning*  

256) Rachel Golding, Nursing (INBRE) (UD)  
Ingrid Pretzer-Aboff, Nursing  
*A Correlational Study of Upper Extremity Reaction Time, Bradykinesia, and Freezing of Gait in People Living with Parkinson’s Disease*  

257) Michelle Norton, Nursing (S&E) (UD)  
Ingrid Pretzer-Aboff, Nursing  
*Psychosocial Symptoms and their Relationship to Falls, Fear of Falling, and Balance in Patients with Parkinson’s Disease*  

258) Amefika Sababu, Health Behavior Sciences (McNair) (UD)  
Gregory Dominick, Behavioral Health & Nutrition  
*TBA*  

259) Gelan Shamloul, Nursing (INBRE) (UD)  
Shannon Lennon-Edwards, Behavioral Health & Nutrition  
*TBA*  

260) Laura Sahd, Dietetics (ES) (UD)  
Sue Snider, Animal & Food Sciences  
*Recipe for a Flash Mob*  

261) Mackenzie Bowman, Dietetics (ES) (UD)  
Sue Snider, Animal & Food Sciences  
*Healthy Food & Happy Families*  

262) Kristin Yurkanian, Health Behavior Sciences (ES) (UD)  
Sue Snider, Animal & Food Sciences  
*4H Food Smart Families Nutrition Program*  

263) Michael Griner, Computer Science (EPSCoR) (DTCC)  
Kent Messer, Applied Economics & Statistics  
*Developing Interactive Software to Study Human Behavior and Prevent Nonpoint Water Pollution*  

264) Paige Gugerty, Organizational & Community Leadership (PPF) (UD)  
Erin Knight, Center for Community Research & Service  
*Improving Health Equity in Delaware: A Guide for the Delaware Division of Public Health*  

265) Shyanne Miller, Wildlife Conservation (McNair) (UD)  
Gerald Kauffman, Institute for Public Administration/Civil & Environmental Engineering  
*Brandywine Piedmont Watershed Plan and Upper Christina River Restoration*  

266) William Lescas, International Relations/English (EPSCoR) (UD)  
Victor Perez, Sociology & Criminal Justice  
*Citizen Science in Delaware City: A Sociological Examination of a Local Environmental Justice Movement*  

267) Jenna Sbraccia, Cognitive Science (ArtsBridge) (UD)  
Lynnette Overby, Theatre  
*Marvelous Microbes: Teaching Microbiology through the Arts*  

268) Victoria Snare, English/Spanish (ArtsBridge) (UD)  
Lynnette Overby, Theatre  
*Inspiration through Arts Integration: Enhancing 3rd Grade Learning Experiences*  

269) Lucy Font, Elementary Education (ArtsBridge) (UD)  
Lynnette Overby, Theatre  
*Adding Movement to Subtract Monotony: A Dance-Integrated Math Curriculum*  

---
## ORAL PRESENTATIONS

### 9:00 – 10:00  Oral Session 1

**ART/ART CONSERVATION (ROOM 119)**

**Moderator: Vicki Cassman**

- Kristyn Chong, Fine Arts (PDI) (UD)
- Abigail Donovan, Art
  *Shaping Clay into Characters, Comics into Clay: An Experimental Study of Clay Animation*
- Emily Cummins, Art Conservation (AH) (UD)
- Vicki Cassman, Art Conservation
  *Early Synthetic Dyes in Relation to WWI*
- Madeline Cooper, Art Conservation/Chemistry (AH) (UD)
- Julianna Ly, Art Conservation/Art History (AH) (UD)

**WAR ON DRUGS (ROOM 120)**

**Moderator: Ronet Bachman (Room 120)**

- Kenneth Krogman, Criminal Justice (SS) (UD)
- Ronet Bachman, Sociology & Criminal Justice
  *Investigating Prescription Drug Abuse in a Cohort of Drug Involved Offenders*
- Gabrielle Green, Communication (McNair) (UD)
- Ronet Bachman, Sociology & Criminal Justice
  *Comparative Analysis of the Recidivism Rates in Female Drug Offenders*
- Aleksandra Pelszynska, Criminal Justice/Political Science (SS) (UD)
- Ivan Sun, Sociology & Criminal Justice
  *War on Drugs: Mandatory Sentences*

**ECONOMICS/FINANCE (ROOM 123)**

**Moderator: Paul Laux**

- Lucero Pizano, Mathematics/Economics (McNair) (UD)
- Farley Grubb, Economics
  *Undocumented Immigrants’ Impact on the U.S. Labor Market*
- Anisha Boucher, Criminal Justice/Sociology (McNair) (UD)
- Joseph Daniel, Economics
  *Community Deterioration in Detroit: How Residential Segregation Increases Social Disorganization*

**HUNGER (ROOM 125)**

**Moderator: Staci Perlman**

- Lina Sorg, English (AH) (UD)
- McKay Jenkins, English
  *A Call to Action: CSA Programs and Nutrition Education in Urban Delaware*
- Gemelle John, Spanish Education (SL) (UD)
- Eugene Matusov, Education
  *Community Partner: Food Bank of Delaware Where You Find It*
- Gabrielle Gilliam-Harris, Human Services (SL) (UD)
- Staci Perlman, Human Development & Family Studies
  *Community Partner: Bright Spot Ventures SNAP Usage at Farmers Markets*

**COMMUNICATION (ROOM 119)**

**Moderator: Juliet Dee**

- Shannon Poulsen, Political Science (CPC/SS) (UD)
- Dannagal Young, Communication
  *Laughter as Remedy: Fixing the Failures of Fact-Checking Through Satire*
- Abigail Goldring, Political Science/Public Policy (CPC/SS) (UD)
- Dannagal Young, Communication
  *Beyond the Laughs: Investigating the Differences Between Liberals' and Conservatives’ Interpretations of Humor*
- Jackie Arpie, University Studies (ES) (UD)
- Michele Walfred, Cooperative Extension
  *Marketing Cooperative Extension’s Centennial Celebration*
- Doan Vu, Communication (CPC/SS) (UD)
  *Vietnam: Protests in the Internet Age*

**The Benefits of Diversity as a Competitive Advantage**

Charity Cramer, Economics (NUCLEUS/SS) (UD)
John Stocker, Finance
EXERCISE (ROOM 120)

Moderator: Karen Edwards

Nate Elder & Chante’ Vann, Health & Physical Education (SL) (UD)
Karen Edwards, Behavioral Health & Nutrition
Community Partner: Girls Inc.
Does Using a Physical Activity Tracker Increase Summer Campers Fitness Levels?

Kaleigh Prendergast, Exercise Science, Chelsea Ganc & Lindsey Root, Health Behavior Science (SL) (UD)
Elizabeth Orsega-Smith, Behavioral Health & Nutrition
Community Partners: Claymore Senior Center & Howard West Senior Center
Engaging Older Adults Through Preventative Tactics to Promote Optimal Health

Devon Alesczyczk, Denise Cirelli, Exercise Science & Lily Guttenbag, Health Behavior Science (SL) (UD)
Iva Obrusnikova, Behavioral Health & Nutrition
Community Partner: Christiana School District REACH Program
Using Videomodeling to Promote Motor Skill Acquisition in Middle-School Children with Developmental Delays

JUSTICE (ROOM 123)

Moderator: Cynthia Robbins

Elliott Webster, Criminal Justice (McNair) (UD)
Aaron Kupchik, Sociology & Criminal Justice
From a Juvenile’s View: Exploring Incarcerated Youth Perceptions Towards Facilities and Staff

Akilah Alleyne, Human Services (McNair) (UD)
Cynthia Robbins, Sociology & Criminal Justice
Race & Gender Disparities in DE: Middle School Discipline

Lindsay Arndt & Chloe Haller-Kaplan, Criminal Justice (SS) (UD)
Susan Miller, Sociology & Criminal Justice
Civil Protection Orders and Perceptions of Justice: Courtroom Observations of Battered Women’s Experiences

PSYCHOLOGY (ROOM 125)

Moderator: Roger Kobak

Carrie DePasquale, Neuroscience, Julianne Speck & Casey Zucarelli, Psychology (SL) (UD)
Mary Dozier, Psychological & Brain Sciences
Community Partners: Center for Child and Family Health Learning Collaborative at Duke University, Forestdale, Kansas Early Head Start, North Carolina Child Protective Services, North Carolina Department of Social Services, Tulane Infant Team, University of Minnesota
Attachment and Biobehavioral Catch-Up Intervention: Implementation and Supervision

Danielle Haggerty & Jessica Velez, Psychology (SL) (UD)
Mary Dozier, Psychological & Brain Sciences
Community Partners: Center for Child and Family Health Learning Collaborative at Duke University, Forestdale, Kansas Early Head Start, North Carolina Child Protective Services, North Carolina Department of Social Services, Tulane Infant Team, University of Minnesota
Effects of Ongoing Supervision on ABC Parent Coaches’ In the Moment Commenting

Jordan Barnada, Psychology (McNair) (UD)
Julie Hubbard, Psychological & Brain Sciences
Relations Between Caregivers’ and Children’s Empathy and Emotion Recognition Abilities

Alexis Wiggins, Psychology (Diversity Scholar) (UD)
James Jones, Psychological & Brain Sciences
The Multiversity Project

11:20 – 12:35  Oral Session 3

ART/DANCE/FASHION & APPAREL STUDIES (ROOM 119)

Moderator: Lynnette Overby

Megan Fortman, Fine Arts (AH) (UD)
Abigail Donovan, Art
Art Therapy and the Artist: Documenting A Creative Process Based on Art Therapy Theories and Practices

Megan LaMotte, Psychology (ArtsBridge) (UD)
Lynnette Overby, Theatre
Community Partner: Elk Neck Elementary School
The Integrated Approach vs. the Traditional Approach: Analyzing the Benefits of a Dance Integrated Curriculum in Teaching Transportation Concepts

Cara Tortorice, Anthropology (SS) (UD)
Dila Lopez-Gydosh, Fashion & Apparel Studies
Fashion CSI: The Case of the Missing 19th Century Skirts

Layken Cahall, Apparel Design (AH) (UD)
Kelly Cobb, Fashion & Apparel Studies
Development of a Visual Fit Tutorial System in Collaboration With Destination Maternity Corporation

Jillian Silverman, Fashion Merchandising (AH) (UD)
Hye-Shin Kim, Fashion & Apparel Studies
Green Apparel Brand Extensions: Brand Fit and Brand Attitude
WOMEN & GENDER (ROOM 120)

Moderator: Aaron Fichtelberg

Amy Hopkins, Women & Gender Studies/Public Policy (SL) (UD)
Kathleen Turkel, Women & Gender Studies
Community Partner: Delaware Coalition Against Domestic Violence
Program Development and Community Outreach for The Delaware Coalition Against Domestic Violence
Nafissatou Dicko, Criminal Justice (McNair) (UD)
Aaron Fichtelberg, Sociology & Criminal Justice
Female Genital Mutilation: Cultural Rights vs. Human Rights
Isaiah Thompson, Women & Gender Studies (Ethel & Donald Hofmann Scholar/McNair/NUCLEUS) (UD)
Pascha Bueno-Hansen, Women & Gender Studies
No Tea No Shade: Black Gay Male Representation and Identity Formation

EDUCATION/MUSIC FOR SOCIAL JUSTICE (ROOM 125)

Moderator: Maria Purciello

Schyler Adkins, Tae Ho Hwang & Samantha Romero, Music Education (SL) (UD)
Suzanne Burton, Music
Community Partners: Edgemoor Revitalization Cooperative, Inc
The Beat Goes On

Julianne Boyle & Stephanie Espie, Music Education (SL) (UD)
Suzanne Burton, Music
ProjectMUSIC: Music Uniting Students Inspiring Communities

Sean Krazit, English Education (AH) (UD)
Deborah Bieler, English
Expanding the Impact of English Teacher Candidates’ Urban SAT-V Course

Melanie Bourgeault, Music Education (AH) (UD)
Pascha Bueno-Hansen, Women & Gender Studies
Self-Advocacy and Classroom Resources: LGBTQ Students in Educational Settings

Melany Justice, Public Policy (McNair) (UD)
Stephanie Rowley, Psychology & School of Education (University of Michigan)
Parent Racial Identity and Threats to Student Performance

HISTORY/MUSIC/ART CONSERVATION (ROOM 119)

Moderator: Russell Murray

Megan Lyons, Music Education (AH) (UD)
Philip Duker, Music
Chopin’s Nocturnes: A Comparison of Empirical and Performance Analysis
Maxwell Dabby, Music Education (AH) (UD)
Daniel Stevens, Music
Using Your Ear: An Approach to Teaching Music Fundamentals to the Casual Listener

Johanna Pinney & Elyssa Wallace, Art Conservation (SL) (UD)
Vicki Cassman, Art Conservation
Community Partners: Winterthur Museum, Garden and Library; Salvation Army
Art Outside of the Classroom: Introducing Three Audiences to Art Conservation and Craftsmanship

Michael D’Antonio, History (AH) (UD)
John Montaño, History
The Thirty Years’ War: Impact on the Civilian Population of Germany, 1618-1648

COURTS (ROOM 120)

Moderator: Eric Rise

Taylor Maurer, Psychology/Criminal Justice (SS) (UD)
Eric Rise, Sociology & Criminal Justice
You Must Be Mistaken: A Comparative Study of Eyewitness Evidence in the United States and Great Britain
Blair Schuman, Criminal Justice/Political Science (SS) (UD)
Kenneth Haas, Sociology & Criminal Justice
Deliberate Indifference to Due Care: Inmate-on-Inmate Violence and the Need to Overrule Farmer v. Brennan (1994)
Rachel Morenoff, Criminal Justice/Sociology (SS) (UD)
Benjamin Fleury-Steiner, Sociology & Criminal Justice
Ex-Offenders in the Pardon/Expungement Process

Zachary Bend, Criminal Justice/English (SS) (UD)
Kenneth Haas, Sociology & Criminal Justice
AGRICULTURAL SCIENCES  (ROOM 123)

Moderator: Deborah Delaney

Allison Wagner, Animal & Food Science (ES) (UD)
Brian Kunkel, Cooperative Extension/Entomology & Wildlife Ecology
Insect Pest Management of Ornamental Plants

James Wolfin, Ecology (ES) (UD)
Debbie Delaney, Entomology & Wildlife Ecology
Outreach for the Common Beekeeper: Tracking Pollinator Diet in the Mid-Atlantic

Molly Gartland, Wildlife Conservation (EPSCoR) (UD)
Greg Shriver, Entomology & Wildlife Ecology
Methods in Spatial Ecology

Erin Gaven, Pre-Veterinary Medicine & Animal Biosciences (ES) (UD)
Susan Garey, Kent County Cooperative Extension
TBA

ES'EJA  (ROOM 125)

Moderator: Jon Cox

Chelsea Rozanski, Anthropology/Women & Gender Studies; Lindsay Yeager, Visual Communications; Brian Griffiths, Environmental Engineering/Plant Sciences; Morgan Lehr, Elementary Education (ICES) (UD)
Faculty: Carla Guerrón-Montero, Anthropology; Jon Cox, Art; Jules Bruck, Plant & Soil Sciences; Rosalie Rolón Dow, School of Education
Community Partners: Ese’Eja and the Amazon Center for Environmental Education and Research (ACEER)
Ancestral Lands of the Ese’Eja - The True People

2:40 – 3:55 Oral Session 5

LITERATURE  (ROOM 119)

Moderator: John Ernest

Conor Small, English (AH) (UD)
Bernard McKenna, English
A Becoming Portrait: Bildungsroman, Print Culture, and the Multiple Versions of A Portrait of the Artist as a Young Man

Ethan Clark, English (AH) (UD)
Siobhan Carroll, English
Applications of Data-Mining to Literature

Cristina Cruz, Spanish/Sociology/Comparative Literature (AH) (UD)
Persephone Braham, Foreign Languages & Literatures
Phantoms and Prophesies: Magical Realism and Matriarchy in “La Casa De Los Espiritus” and “Como Agua Para Chocolate”

Anissa Speakman, Entomology (Ethel & Donald Hofmann Scholar) (UD)
Martin Brueckner, English
From Newspapers to Novels: The Feminist Legacy of 19th Century American It-Narratives

Yvonne Rivera, English Literature/Women & Gender Studies (McNair) (UD)
Margaret Stetz, Women & Gender Studies
An Examination of Heroines in American Young Adult Dystopian Fiction

LEADERSHIP  (ROOM 120)

Moderator: Anthony Middlebrooks

Erin Lynch, Organizational & Community Leadership (SL) (UD)
Anthony Middlebrooks, Public Policy & Administration
Community Partner: Read Aloud Delaware
Community Outreach Through Design

Aaron King, Public Policy & Matthew Rojas, Political Science/Public Policy (SL) (UD)
Nina David, Public Policy & Administration
Community Partner: Cornerstone West, West Side Grows Together
Better Block: How a Few Engaged Residents Can Revitalize a Neighborhood

Samantha Gartley, Food Science (ES) (UD)
Doug Crouse, Kent County Cooperative Extension
TBA

Lieke O’Regan, Cognitive Science (SS) & Micah Bernard, Human Services (McNair) (UD)
Nancy Weiss, Human Development & Family Studies
Factors that Support or Challenge the Success of Advocacy Organizations Run by Individuals with Developmental Disabilities

INTERNATIONAL RELATIONS  (ROOM 123)

Moderator: Alice Ba

Jennifer Retener, International Relations (SS) (UD)
William Meyer, Political Science & International Relations
Daniel Amato, International Relations/History Education (AH) (UD)
Alice Ba, Political Science & International Relations
Struggle for Hegemony in Asia: Discovering the Effect China's Assertiveness has on U.S. Alliances with Japan and South Korea

Kelly Scanlan, Human Services/Spanish Studies (AH) (UD)
Staci Perlman, Human Development & Family Studies
Statelessness in the Dominican Republic: Conducting a Needs Assessment to Determine and Address the Barriers to Nationalization Within the Haitian-Dominican Community

Emily Grubb, International Relations (SS) (UD)
Alan Fox, Philosophy
出生的，抚养的 (Born and Raised): Investigating the Origins of Taiwanese National Pride

Yousef Aly, International Relations (Ethel & Donald Hofmann Scholar) (UD)
Muqtedar Khan, Political Science & International Relations
Sustainable Energy Policy and its Role in Rebuilding Egypt's Economy

CHEMISTRY/PSYCHOLOGICAL & BRAIN SCIENCES (ROOM 125)

Moderator: Mark Stanton

Thomas Rivas, Biochemistry (INBRE) (UD)
Brian Bahnson, Chemistry & Biochemistry
Characterization of NOD1, an Innate Immune Receptor

Thomas DePietro, Neuroscience/Philosophy (AH) (UD)
Fred Adams, Linguistics & Cognitive Science
Are Bacteria Cognizant?

Adam Ramsaran, Neuroscience (McNair/INBRE) (UD)
Mark Stanton, Psychological & Brain Sciences
Examining Context-Dependent Recognition Memory in a Rodent Model of Fetal Alcohol Spectrum Disorder

Darneé Lawrence, Psychology (McNair) (UD)
Rogers Kobak, Psychological & Brain Sciences
The Attachment Hierarchy and Deviant Peer Affiliation in a Sample of Suicidal Adolescents
DONORS AND CONTRIBUTORS

University of Delaware
Alfred Lerner College of Business and Economics
ArtsBridge Scholars Program
Catalysis Center for Energy Innovation
Center for Biomechanical Engineering Research
Center for Composite Materials
Center for Community Research and Service
Center for Political Communication
Center for the Study of Diversity
College of Agriculture & Natural Resources
College of Arts & Sciences
College of Earth, Ocean & Environment
College of Education & Human Development
College of Engineering
Office of Student Development & Support
College of Health Sciences
Delaware Biotechnology Institute
Delaware Center for Transportation
Department of Animal & Food Sciences
Department of Anthropology
Department of Behavioral Health and Nutrition
Department of Biological Sciences
Department of Business Administration
Department of Chemical & Biomolecular Engineering
Department of Chemistry & Biochemistry
Department of Civil & Environmental Engineering
Department of Computer & Information Sciences
Department of Economics
Department of Electrical & Computer Engineering
Department of Entomology & Wildlife Ecology
Department of Fashion & Apparel Studies
Department of Human Development & Family Studies
Department of Kinesiology & Applied Physiology
Department of Laboratory Sciences
Department of Linguistics & Cognitive Science
Department of Marine Studies
Department of Mathematical Sciences
Department of Mechanical Engineering
Department of Physics and Astronomy
Department of Plant & Soil Sciences
Department of Psychological & Brain Sciences
Department of Sociology & Criminal Justice
Institute for Global Studies
Institute for Public Administration
Office of Graduate and Professional Education
Office of the Provost
Office of Service Learning
Office of the Vice Provost for Research
Student Support Services Program
Undergraduate Research Program
UDairy Creamery
Unidel Foundation
University of Delaware Cooperative Extension
University of Delaware Environmental Institute
University of Delaware Research Foundation
University of Delaware University Transportation Center
University Honors Program

Other Contributors
Allen Family Fellowship
Joan Bennett Scholarship
Blair & Cheryl Carmean Fellowship
Chemistry Alumni Fellowships
Delaware Department of Transportation
Delaware Governor’s Biotechnology Fellowship
Delaware Rehabilitation Institute
Ethel and Donald Hofmann Scholars Endowment
Gale Cengage Learning
General Electric Foundation
David M. Heitzer Award
Howard Hughes Medical Institute’s Undergraduate Science Education Program
Lafayette College LEARN
Ronald E. McNair Post-Baccalaureate Scholars Program
Burnaby Munson
National Eye Institute
National Science Foundation Chemistry Research Experience for Undergraduates Program
National Science Foundation’s Experimental Program to Stimulate Competitive Research (EPSCoR)
National Science Foundation Nanotechnology Undergraduate Education
National Institute of General Medical Sciences IDeA Networks of Biomedical Research Excellence program (INBRE)
Northeastern Chemical Association (NECA)
NUCLEUS
Paradigm Fellowship Award
Hellen Pattison Scholar Award
Liam Phibbs
David A. Plastino Scholar Award
Public Policy Fellowship
David Roselle
T.W. Fraser Russell Undergraduate Enrichment Endowment
Milton H. Stetson Memorial Fellowship
United States Department of Agriculture Animal & Plant Health Inspection Service
Charles Peter White Fellowships
COMMUNITY PARTNERS

4-H
Bright Spot Ventures
Cecil County Schools (Elk Neck Elementary School)
Center for Child and Family Health Learning Collaborative at Duke University
Christina School District: Downes Elementary School
   REACH Program, Shue-Medill Middle School, and Thurgood Marshall Elementary School
Claymore Senior Center
Delaware Coalition Against Domestic Violence
Edgemoor Revitalization Cooperative, Inc.
Food Bank of Delaware
Forestdale, New York
Gateway Charter School
Girls, Inc. of Delaware
Howard Weston Senior Center
Kansas Early Head Start
Nemours/Alfred I. duPont Hospital for Children
North Carolina Child Protective Services
North Carolina Department of Social Services
Perry Initiative
Read Aloud Delaware
Red Clay School District: Richardson Park Elementary
Salvation Army
Tulane Infant Team
UD Early Learning Center
University of Minnesota
Westside Grows Together Network
Winterthur Museum, Garden and Library

Thank you to the following merchants who generously donated items for the Raffle:
California Tortilla
Claymont Steak Shop
Grotto Pizza
Matilda’s/Mad Macs
Newark Deli & Bagel
Pat’s Pizza
ACKNOWLEDGEMENTS

Alliance of Summer Scholars Program Members

Convenor: Iain Crawford, Faculty Director, Office of Undergraduate Research and Experiential Learning
Michael Arnold, Director, University Honors Program
Lauren Barsky, Associate Director, Undergraduate Research Program
Cheryl Davis-Robinson, Academic Program Manager, Academic Enrichment Center
Tara Falcone, Academic Program Coordinator/NUCLEUS, College of Arts and Sciences
Corinne Hamed, Administrative Assistant, Center for Composite Materials
Rebekah Helton, Assistant Director for Education Programs, DENIN
Marianne Johnson, Student Support Manager, College of Engineering
Rosalind Johnson, Assistant Dean, College of Arts and Sciences
Jeanette Miller, Associate Director, Delaware Environmental Institute
Mary Ann Null, Office Coordinator, Undergraduate Research Program
Maria Pautler, Coordinator, College of Agriculture and Natural Resources Summer Institute
Louis Rossi, Professor, Department of Mathematical Sciences
Kimberly Saunders, Director, McNair Scholars Program
Tiffany Scott, Coordinator, McNair Scholars Program
Susan Serra, Coordinator, Office of Service Learning
Judi Smith, Program Assistant, Office of Undergraduate Research and Experiential Learning
Jeannie Stephens, Assistant Professor, Department of Biomedical Engineering
David Usher, Assistant Director, HHMI Undergraduate Science Education Program
Hal White, Director, HHMI Undergraduate Science Education Program

Program Assistants
Rokeisha Ashley, McNair Scholars program assistant
Binta Bah, McNair Scholars program assistant
Emily Bange, URP program assistant
Mike Cohen, URP program assistant
Natalie Cook, McNair Scholars graduate assistant
Prasad Gajare, UREL graduate assistant
Serita Moss, McNair Scholars program assistant
Aimee Pearsall, URP program assistant
Dana Yeliseyev, URP program assistant

Publicity
Tracey Bryant, Associate Director, Office of Communications & Marketing
Rebecca Ramos, Composer, University Printing
Joellen Rathbun, Copy Center Supervisor, University Printing
Don Shenkle, Senior Art Director, Office of Communications & Marketing

And finally, we would like to thank all of the University of Delaware faculty sponsors who have been working with and mentoring undergraduate students this summer.