Celebration of Undergraduate Engaged Scholarship

Friday, May 5, 2017
12:30 PM to 3:30 PM
Perkins Student Center
University of Delaware
Newark, DE

The Celebration of Undergraduate Engaged Scholarship showcases the work of undergraduate students participating in a wide range of disciplines at the University of Delaware.

A WORD FROM THE DIRECTOR

C.U.E.S!

Welcome to the second annual Celebration of Undergraduate Engaged Scholarship (CUES)!

This event serves as our comprehensive spring celebration, an opportunity for student researchers from a variety of programs to share their work with the campus community. Today, we will be showcasing continuing research begun by the Summer Scholars in 2016, the achievements of students now completing their Senior Theses, and an array of other student accomplishments from across the campus.

We hope that you will enjoy this rich representation of UD's continuing tradition of engaged learning, presented here through a variety of poster presentations and oral talks. Since the early 1980s, our undergraduates have increasingly been involved in research and engaged scholarship, making this a signature feature of a UD education. This coming summer, another 200 students will continue that tradition. They will present their work in May 2018, so be on the lookout for that event next year! For now, though, please enjoy the exceptional accomplishments of the 2017 CUES presenters.

- Dr. Kristen Poole

Faculty Director of Undergraduate
Research & Experiential Learning

Program Overview

Welcome		
12:30 P.M.	Concourse	Registration Desk Opens
12:30 P.M.	East Lounge	Refreshments Served
Poster Presentations		
12:45 P.M.–2:00 P.M.	Rodney Room	Poster Session 1
2:15 P.M. – 3:30 P.M.	Rodney Room	Poster Session 2
Oral Session 1		
12:45 P.M.–2:00 P.M.	Ewing Room	Engineering
12:45 P.M.–2:00 P.M.	Williamson Room	Humanities & Social Sciences
Oral Session 2		
2:15 P.M. – 3:30 P.M.	Ewing Room	Biology
2:15 P.M. – 3:30 P.M.	Williamson Room	Technology & Economics

A Note on Formatting: Each student is listed in the program **in bold**, followed by their department, their supervising professor and professor's department, and their project title *in italics*.

POSTER SESSION 1

12:45 PM—2:00 PM in the Rodney Room

1:
Eduardo Arocha
Exercise Science
Thomas Kaminski, Kinesiology and Applied Physiology
The Relationship Between Y-Balance Test Scores and Cumberland Ankle Instability Tool Scores Among Collegiate Athletes

2:
Branden Bateman
Biomedical Engineering
Randal Duncan, Biomedical Engineering
Effects of IGF-1 on Chondrocyte Morphology in Three Dimensions

3:
Carly Battistoni
Chemical and Biomolecular Engineering
Christopher Roberts, Chemical and Biomolecular Engineering
Multiple Particle Tracking Microrheology: A Technique for Measuring Protein Solution Viscosity

4:
Sarah Beamish
Neuroscience
Jaclyn Schwarz, Psychological Brain Sciences
The Impact of Sex and Neonatal Infection on Delays in Novel Object Recognition and Location and Changes in Proimflammatory Gene Expression in Juvenile Rats

5:
Amy Bednarek
Athletic Training
Thomas Buckley, Kinesiology and Applied Physiology
A Descriptive Analysis of Concussion History and Abnormalities Identified by Vestibular/Ocular Motor Screening Tools

6:
Corey Beinhart
Cognitive Science
Timothy Vickery, Psychology
Contextual Cueing is Enhanced by Prior Regularities in Search Configurations

7:
Ryan Beneck
Electrical Engineering
Sunita Chandrasekaran, Computer Science
Optimizing Search and Graph Algorithms Using Parallel Programming Models

12:45 PM—2:00 PM in the Rodney Room

8:
Justin Berg
Biology/Pre-Veterinary Medicine and Animal Biosciences
Amy Biddle, Animal and Food Sciences
Equine Microbiome Project: Understanding the Difference in the Horse Gut Related to Diet

9:
Margaret Billingsley
Biomedical Engineering
Emily Day, Biomedical Engineering
Enhanced Detection of Circulating Tumor Cells Using EGFR-Targeted Nanoshells

10:
Nathaniel Borders
Biological Sciences
Salil Lachke, Biological Sciences
Functional Characterization of RNA Binding Protein Caprin2 in Mouse Eye Development

11:
John Bounds
Mechanical Engineering
Michela Taufer, Computer Science
Study of Clustering Methods for Food Items in NHANES Datasets

12:
Megan Cain
Environmental Science
Danielle Dixson, Marine Science
Sunscreen Negatively Effects the Development and Survival of the Atlantic Horseshoe Crab, Limulus polyphemus.

13:
Casey Campbell
Electrical Engineering
Fouad Kiamilev, Electrical and Computer Engineering
Stochastic Parallel Gradient Descent

14:
Patrick Canning
Biomedical Engineering
Megan Killian, Biomedical Engineering
Sustained Growth of Mouse Embryonic Limb Buds in Vitro

15:
Tess Carella
Mechanical Engineering
Suresh Advani, Mechanical Engineering
Fabric and Textile 3D Permeability Characterization Workstation

POSTER SESSION 1

POSTER SESSION 1

12:45 PM—2:00 PM in the Rodney Room

16:
EJ Carron
Mechanical Engineering
Valery Roy, Mechanical Engineering
Simulation, Design and Fabrication of a Torsional Galloping Wind Energy Harvester

17:
Johanna Chajes
Neuroscience
Tania Roth, Psychological and Brain Sciences
Using HDAC Inhibitors to Prevent Maltreatment-Induced Brain DNA Methylation

18:
Brian Chambers
Pre-Vet & Animal Biosciences
Amy Biddle Animal and Food Science
Optimization of Molecular Techniques for the Identification of Small Strongyles

19:
Marisa Chamness
Neuroscience and Psychology
Dayan Knox, Psychological and Brain Sciences
Glucocorticoid Receptor Functionality in the Hippocampus

20:
Kanak Chattopadhyay
Mechanical Engineering
Suresh Advani, Mechanical Engineering
Evaluation of Pore Structures in Partially Saturated Prepregs via Micro-CT

21:
Kelly Chen
Nursing
Ingrid Pretzer-Aboff, Nursing
Parkinson's Disease and Exercise

22:
Robert Cipolla
Chemical and Biomolecular Engineering
Maciek Antoniewicz, Chemical and Biomolecular Engineering
Metabolic Flux Analysis of the Extreme Thermophile Sulfolobus solfataricus

23:
Nicole Coffey
Chemistry, Marine Science
George Luther, School of Marine Science and Policy
Low-Level Soluble Manganese Speciation in Surface Seawater

12:45 PM—2:00 PM in the Rodney Room

24:
Louis Colaruotolo
Food Science
Changqing Wu, Animal and Food Science
Influences of Pulsed Light on Anthocyanins and Other Compounds in Red Raspberries

25:
Shea Cole
Chemical Engineering
Christopher Kloxin, Chemical & Biomolecular Engineering; Materials Science & Engineering
Anion & Ligand Effects on Kinetic Behavior of Photopolymerizable CuAAC Networks

26:
Charles Collins
Chemical Engineering
Feng Jiao, Chemical Engineering
Bimetallic Nanoparticles for Electrochemical Conversion of CO2

27:
Shannon Coyle
Psychology
Anjana Bhat, Physical Therapy
The Effects of Hippotherapy on Motor Abilities and Social Communication in Children with ASD

28:
Natalie Criscenzo
Energy & Environmental Policy and Public Policy
Philip Barnes, Institute for Public Administration
Achieving Community Resiliency in Delaware: Local Planning Recommendations

29:
Griffen Desroches
Chemistry
Svilen Bobev, Chemistry and Biochemistry
Synthesis & Structural Characterization of RE6Cd23T (RE = La-Gd; T = Sn, Sb, Pb, & Bi)

30:
Margaret Donahue
Neuroscience
Amy Griffin, Psychological and Brain Sciences
Optogenetic Inhibition of Prefrontal-Reuniens Projections During Working Memory

POSTER SESSION 1

POSTER SESSION 1

12:45 PM—2:00 PM in the Rodney Room

31:
Morgan Dukes
Psychology
Robert Simons, Psychological & Brain Sciences
Behavioral Indices of Preparedness to Deceive Among Habitual Cheaters

32:
Kaitlyn Duong
Biological Sciences
Anja Nohe, Biological sciences
The Effects of Turmeric Extract on PC12 Cell Adhesion

33:
Nicholas Geneva
Mechanical Engineering
Lian-Ping Wang, Mechanical Engineering
3D Rayleigh-Benard Convection in a Cylindrical Cell with the Lattice Boltzmann Method

34:
Patrick Geneva
Mechanical Engineering
Guoquan Huang, Mechanical Engineering
Visual-Inertial Navigation on Mobile Devices with Rolling Shutter Cameras

35:
Danielle Gerstman
Mechanical Engineering
Liyun Wang, Mechanical Engineering
SimUThor Enhancement for Simulation Study Preparation

36:
Elspeth Grasso
Biomedical Engineering
Fabrizio Sergi , Biomedical Engineering
Testing MR-Compatibility of the MR-SoftWrist

37:
Sydney Gualtieri
Biological Sciences
John Jungck, Biological Sciences
Cancerous Tumor Growth Models

38:
Madison Gutekunst
Environmental Engineering
Rodrigo Vargas, Plant and Soil Sciences
Below Ground Greenhouse Gas Concentrations in the St. Jones Estuary

12:45 PM—2:00 PM in the Rodney Room

39:
Alex Kate Halvey
Chemical Engineering
John Rabolt, Materials Science and Engineering
Miscibility and Crystallization Behavior of Poly (vinylidenefluoride)/Poly[(R)-3-hydroxybutyrate-co-(R)-3-hydroxyhexanoate] Blends

40:
Nathan Hamilton
Chemical Engineering & Computer Science
John Rabolt, Materials Science & Engineering
Discovery of Planar Zigzag Conformation in Mechanically Stretched Films of Biosynthesized and Biodegradable Poly (3-hydroxybutyrate-co-3-hydroxyhexanoate) Random Copolymers

41:
Lauren Harper
Biological Sciences
Anja Nohe, Biological Sciences
Ability of CK2 Blocking Peptides to Induce Mineralization and Lipid Droplet Formation in Differentiated C2C12 Cells

42:
Ian Heffner
Chemical Engineering
Eric Furst, Chemical Engineering
Microrheology and Differential Dynamic Microscopy of Complex Viscoelastic Materials

43:
Kyle Hinkle
Biology
Matthew Butchbach, Biology
Regulation of SMN2 Expression by Novel Small Molecules

44:
Michael Hoffman, Susanna Trost
Biology
Anjana Bhat, Physical Therapy
Differences in fNIRS-Based Cortical Activation During Motor Planning/Praxis Tasks Between Children with and without Autism

45:
Katie Holland
Biological Sciences with a Concentration in Cell & Molecular Biology and Genetics
Michele Lobo, Physical Therapy
Examining the Effect of the Playskin LiftTM Exoskeletal Garment on Reaching Space in a Toddler with Arthrogryposis Multiplex Congenita

POSTER SESSION 1

POSTER SESSION 1

12:45 PM—2:00 PM in the Rodney Room

46:
Alexis Holzmann
International Relations
Cynthia Paris, HDFS
Kimochi's and Community: A Descriptive Study of the Implementation of a Socioemotional Learning Curriculum

47:
Guanyu Hou
Mathematics
Francisco J Sayas, Mathematical Sciences
Numerical Simulation of Waves in Viscoelastic Media

48:
Robert Jaquette
Physics and Applied Math
Fabrice Veron, Physical Ocean Science and Engineering
Observational Study of the Nantucket Sound's Marine Atmosphere Boundary Layer with Application of Monin - Obukhov Similarity Theory and Critical Layer Theory

49:
Benjamin Jenkins
Delaware State University Agriculture and Natural Resources
Dewayne Fox, Delaware State University Agriculture and Natural Resources
Run Size Estimates of Atlantic Sturgeon (Acipenser oxyrinchus oxyrinchus) in the Delaware River

50:
Zachary Jones
Biochemistry
Catherine Leimkuhler Grimes, Chemistry and Biochemistry
Chemoenzymatic Synthesis of Bioorthogonal Peptidoglycan Derivatives: Tools to Remodel Bacterial Cell Wall

51:
Maya Kassoff and Andrea Miller
Environmental Science (Kassoff),
Environmental Studies (Miller)
Gerald Kauffman, Delaware Water Resources Center
Water Quality Monitoring in the White Clay Creek Wild and Scenic River Watershed

52:
Simran Kaur
Neuroscience
Tania Roth, Psychology
The Effect of Zebularine on Maternal Caregiving in a Rodent Model of Caregiver Maltreatment.

12:45 PM—2:00 PM in the Rodney Room

53:
Malak Kawan
Neuroscience
Jeffrey Rosen , Psychological and Brain Sciences
Differential Expression of Immediate Early Genes of Juvenile Rats After Contextual Fear Conditioning

54:
Benjamin Kelly
Chemical Engineering
Michael Klein, Chemical Engineering
Modeling the Production of Deoxygenated Biomass Fast Pyrolysis Oils via Product Recycling

55:
Kelley Kempski
Biomedical Engineering
Jill Higginson, Mechanical Engineering
Interlimb Comparison of Joint Angle Variability Post-Stroke

56:
Nathaniel Kim
Mathematics and Economics
Mahya Ghandehari, Math
Creation of a Four Dimensional Frame using the Fourier Transform

57:
Grant Knappe
Chemical Engineering
Christopher Kloxin, Chemical & Biomolecular Engineering
Novel Mechanophores for Self-Healing and Strengthening Polymer Systems

58:
Nicole Kreuzberger
Biomedical Engineering
Emily Day, Biomedical Engineering
Synthesis of Polyethylenimine (PEI)-Coated Spherical Nucleic Acids for Enhanced siRNA Delivery

59:
Varsha Kripalu
Biology
Freda Patterson, Behavioral Health and Nutrition
A Systems-Approach to Promote Smoking Cessation in Food Pantry Recipients

60:
Alexander Kulyk
Biomedical Engineering
Curtis Johnson, Biomedical Engineering
Quantification of Brain Tumor Stiffness and Heterogeneity from MRE Images

POSTER SESSION 1

POSTER SESSION 1

12:45 PM—2:00 PM in the Rodney Room

61:
Mark LaRue
Biomedical Engineering
April Kloxin, Chemical & Biomolecular Engineering
Mimicking the Structure of the Extracellular Matrix Using Collagen-Mimetic Peptides

62:
Sean Lein
Biochemistry
Ramona Neunuebel, Biology
Identification of Phosphoinositide Binding Regions of Legionella pneumophila Effector Proteins

63:
Sarah Leung
Biomedical Engineering
Dave Burris, Mechanical Engineering
Polyvinyl Alcohol Hydrogels: Interstitial Fluid Pressurization

64:
Daniel Liang
Computer Science
Sunita Chandrasekaran, Computer Science
Enhancing Performance of Physics Simulations and Linear Algebra Programs Using OpenACC & OpenMP

65:
Maria Limmina
Biological Sciences
Fidelma Boyd, Biological Sciences
Investigating the Role of Bacterial Cell Wall Modifications in Fitness and Survival

66:
Yifeng Liu
Computer Engineering
Chengmo Yang, Electrical & Computer Engineering
Complier Based Fault Injection Experiment

67:
Jing Luo
Dietetics
Sheau Ching Chai, Behavioral Health and Nutrition
Dietary Fatty Acids and Associated with Anxiety and Depression in Older Adults

68:
Priyha Mahesh
Biological Science
Melinda Duncan, Biological Sciences
Canonical Wnt Signaling In The Developing Eye

12:45 PM—2:00 PM in the Rodney Room

69:
Alex Manders
Chemistry
Mary Watson, Chemistry and Biochemistry
Enatiospecific Allylic Arylations to form Quaternary Stereocenters

70:
Grace McIlvain
Biomedical Engineering
Curtis Johnson, Biomedical Engineering
The Mechanical Properties of the Adolescent Brain

71:
Nicole Moylett
Mechanical Engineering and Japanese
Joseph Feser, Mechanical Engineering
Laser System Spot Size Variance and Optical Enhancement

72:
Natalie Muneses
Biomedical Engineering
Chandran Sabanayagam, Biotechnology Institute
Developing a Micro-fraction Collector Using Fluorescence Microscopy

73:
Hallye Rosenbloom
Biology and Psychology
Jaclyn Schwarz, Psychology
Impact of Sex and Neonatal Infection on Novel Object Recognition and Location at the Onset of Spatial Learning in Juvenile Rats

74:
Justin Terr
Chemical Engineering
Wilfred Chen, Chemical & Biomolecular Engineering
Elastin-Like Peptides (ELPs) for the Simple Purification of Snake Antivenom Peptides

75:
Christian Thompson
Biomedical Engineering
Curtis Johnson, Biomedical Engineering
Stiffness of White Matter Lesions in Multiple Sclerosis

76:
Qile Wang
Mathematics and Economics
Dominique Guillot, Mathematics
Paleoclimate Reconstruction via Modern Data Science

POSTER SESSION 1

POSTER SESSION 2

2:15 PM—3:30 PM in the Rodney Room

1:
Marisa Bisram
Mechanical Engineering
X. Lucas Lu, Mechanical Engineering
The Chondro-Protective Effect of Zoledronate on In Situ Chondrocytes Damaged by Interleukin-1

2:
Jesse Bloecker
Mechanical Engineering
Guoquan Huang, Mechanical Engineering
Visual-Inertial Navigation with Crazyflie 2.0 Nano-Quadcopter

3:
Marc Christian
Mechanical Engineering
Xinqiao Jia, Materials Science and Engineering
Vocal Fold Bioreactor Fabrication and Characterization

4:
Stephanie Clampitt
Mathematics and Economics; Women and Gender Studies
Sebastian Cioaba, Mathematical Sciences
Applications of Mathematics to Economics

5:
Collin Clark
Computer Engineering / Computer Science
Sunita Chandrasekaran, Computer Science
Parallelizing Bioinformatics and Medical Imaging Applications- A Directive Based Approach

6:
Natale DePase, Shailja Gangrade, Cate Medlock
Environmental Science (DePase, Medlock)
Environmental Engineering & Marine Science (Gangrade)
Gerald Kauffman, Delaware Water Resources Center
Fairfield Run Watershed Implementation Plan: UD Arboretum

7:
Michael DiMercurio
Mechanical Engineering
Herbert Tanner, Mechanical Engineering
Autonomous Quadrotor Control and Stationary Radiation Detection

8:
Nicole DiPasquale
Statistics
Sebastian Cioaba, Mathematics
Investigations in Network Medicine

2:15 PM—3:30 PM in the Rodney Room

9:
Lauren Glinko
Geography
Afton Clarke-Sather, Geography
Causes of Change of Irrigation in the Eastern United States

10:
Kevin Hrubik
Mechanical Engineering
Liyun Wang, Mechanical Engineering
Effects of Perlecan Deficiency on Intervertebral Discs

11:
Matthew Hurlock
Biochemistry
Catherine Grimes, Chemistry and Biochemistry
Investigation of the ATPase Activity of the Innate Immune Receptor Nod2

12:
Christopher Kitson
Mechanical Engineering
Ajay Prasad, Mechanical Engineering
Self-Healing Proton Exchange Membrane Electrolyzers for Asteroid Mining Applications

13:
Jennifer Lawrence
Biological Sciences
Jaclyn Schwarz, Brain and Psych Sciences
An Investigation of Sex Difference in Microglia Morphology and Function

14:
Lizzy Marano
Psychology
Julie Hubbard , Psychological & Brain Sciences
Gender Differences in Children's Conversations with Peers

15:
Elizabeth Marcin
Neuroscience
Jason Gleghorn, Biomedical Engineering
Exploring Myofibroblast Contractility and Protein Expression in Fetal Lung Development

16:
Aris Mardirossian
Mechanical Engineering
Erik Thostenson, Mechanical Engineering
Mechanism of Carbon Nanotube Film Growth by Electrophoretic Deposition

POSTER SESSION 2

POSTER SESSION 2

2:15 PM—3:30 PM in the Rodney Room

17:
Andrew Mason
Pre-Veterinary Medicine and Animal Biosciences
Ryan Arsenault, Animal and Food Sciences
Comparison of Immunometabolic Response in Macrophages Infect with Salmonella enteritidis or Salmonella heidelberg

18:
Naiim Mason
Linguistics, Cognitive Science, Computer Science
Irene Vogel, Linguistics and Cognitive Science
Systematic and Computational Quantification of Language Differences

19:
Alex Matacchieri
Marine Science
Patrick Gaffney, Marine Biosciences
Exploring the Different Trematodes Found in the Eastern Mudsnail, Tritia obsoleta, Through DNA Profiling Techniques

20:
Abraham McIlvaine
Computer Engineering and Computer & Information Sciences
Chengmo Yang, Computer Engineering
FPGA State Encoding

21:
Ryan McNulty
Chemical & Biomolecular Engineering
Maciek Antoniewicz, Chemical & Biomolecular Engineering
Elucidating Synergistic Interactions in Microbial Communities Consisting of Complementary E. coli Auxotrophs

22:
Rachel Metzgar
Neuroscience and Biological Sciences
James Hoffman, Psychological and Brain Sciences
How does Emotion Interfere with Attention?

23:
Lauren Miller
Neuroscience
Mark Stanton, Psychological and Brain Science
The Ontogeny of Postshock and Retention Freezing Across Variants of Contextual Fear Conditioning

24:
Alissa Moritz
Pre-veterinary Medicine and Animal Biosciences
Eric Benson, Animal and Food Sciences
Testing the Efficacy of Several Foam Applied Disinfectants to Inactivate Infectious Bronchitis Virus in the Presence of an Organic Load

2:15 PM—3:30 PM in the Rodney Room

25:
Emily Moulton
Neuroscience
Dayan Knox, Psychological and Brain Sciences
Glucocorticoid Receptor Function in the mPFC and Amygdala in the Single Prolonged Stress Model

26:
Kassandra Moyer
Animal and Food Science & Agriculture and Natural Resources
Tanya Gressley, Animal and Food Science
Characterization of Urea Release Rates from Slow Release Urea Products

27:
Laura Mumper
Chemical and Biomolecular Engineering
Christopher Kloxin, Chemical and Biomolecular Engineering-
Kinetic Analysis of Thiol-Ene Photo-Polymerization Reactions Incorporating Charged Monomers

28:
Clare Murphy
Dietetics
Kristin Wiens, Behavioral Health and Nutrition
Cooking Confidence, Nutrition Behavior and Dietary Intake among College Students Enrolled in an Experiential Cooking Class

29:
Kayla Neiderfer
Pre-Veterinary Medicine and Animal Biosciences
Tanya Gressley, Animal and Food Sciences
Impact of Different Buffers on Hindgut Fermentation

30:
Jaspal Nijjar
Physics and Applied Mathematics
John Clem, Physics and Astronomy
Radio Emissions from Jupiter and the Galactic Plane

31:
John Nixon
Biomedical Engineering
Erica Selva, Biological Sciences
Examining the Dynamic Oligomerization of Wntless

32:
John Pfreundschuh
Mechanical Engineering
Valery Roy, Mechanical Engineering
Engineering Analysis of a Torsional Galloping Wind Energy Harvester

POSTER SESSION 2

POSTER SESSION 2

2:15 PM—3:30 PM in the Rodney Room

33:
Jacob Piane
Chemistry
Mary Watson, Chemistry
Development of a Nickel-Catalyzed Suzuki Coupling via C-N Bond Activation of Alkyl Amines

34:
Kyle Plusch
Biological Sciences
Deni Galileo, Biological Sciences
Determining the Relationship Between L1CAM and Malignant Glioblastoma Stem Cells

35:
Joseph Rea
Pre-Veterinary Medicine & Animal Biosciences
Ryan Arsenault, Animal and Food Science
Kinome Profiling of Gene Knockout Mutants of Salmonella typhimurium

36:
Courtney Rempfer
Environmental Science
Rodrigo Vargas, Plant and Soil Sciences
Water Property Trends for St. Jones Reserve Salt Marsh in Dover, DE.

37:
Austin Roadarmel
Biological Sciences
David Colby, Chemical and Biomedical Engineering
Implications of Pathological Tau Protein Conformation in Neurodegenerative Disease

38:
Celine Robinson
Environmental Engineering
Rachel Davidson, Civil and Environmental Engineering
Voluntary Home Acquisition to Reduce Hurricane Risk: A Multivariate Analysis

39:
Eric Rouviere
Physics
Ed Lyman, Physics and Astronomy
Automated Identification of Cholesterol Interaction Sites on G-protein Coupled Receptors

2:15 PM—3:30 PM in the Rodney Room

40:
Jack Saltwick
Chemical Engineering
Thomas Epps, III, Chemical and Biomolecular Engineering, Materials Science and Engineering
Combining Solvent Swelling and Shear Alignment to Direct Block Polymer Thin Film Self-Assembly

41:
Dominic Santoleri
Biochemistry & Quantitative Biology
Sharon Rozovsky, Chemistry and Biochemistry
Creating Peptide Hydrazides via Intein Splicing for Native Chemical Ligation and Protein Labeling

42:
Lakshmi Sastry
Pre-veterinary Medicine and Animal Biosciences
Mark Parcells, Animal Science
Gibson Assembly of Zika Virus

43:
Matt Schmittle
Computer Science
Christopher Rasmussen, Computer & Information Sciences, and Dustyn Roberts, Mechanical Engineering
Drone Navigation using Deep Learning

44:
Ilana Schnaufer
Chemistry and Environmental Science
Delphis Levia, Geography
Variations in the Residence Time and Isotopic Signature of Stemflow Along an Edge-to-Interior Transect

45:
Tyler Seidel
Chemical Engineering
Paul Imhoff, Civil and Environmental Engineering
Examining the Effect on Water Retention of Soils Amended with Biochar

46:
Amanda Seiwell, Erin Tellup
Secondary Mathematics Education
Michelle Cirillo, Mathematics
Proof in Secondary Classrooms

47:
Jesse Semmel, Andrew Kacmarcik
Electrical Engineering
Dennis Prather, Electrical Engineering
Design and Demonstration of a Wireless Communication System

POSTER SESSION 2

POSTER SESSION 2

2:15 PM—3:30 PM in the Rodney Room

48:
Zachary Sexton
Biomedical Engineering
Jason Gleghorn, Biomedical Engineering
Developing Microfluidic Models for Fluid Stresses in Complex Epithelial Networks

49:
Connor Shannon
Biomedical Engineering
Millicent Sullivan, Chemical and Biomolecular Engineering
Covalent Crosslinking H3 tails and PEI for Gene Delivery Purposes

50:
Jacob Shapiro
Chemical Engineering
David Colby, Chemical and Biomolecular Engineering
Using cDNA Libraries to Find Prion Protein-Protein Interactions with Body Tissue

51:
Jacob Shelton
Environmental Studies
Maria Pautler, Plant and Soil Sciences
Sustained Water Quality Monitoring of Possum Creek and Noxontown Pond, Delaware

52:
Emily Smith
Biological Sciences
Michele Lobo, Physical Therapy
Upper Extremity Exoskeletons and Their Effects on the Mobility of Toddlers with Arthrogryposis Multiplex Congenita

53:
Joseph Spohn
Biomedical Engineering
April Kloxin, Chemical Engineering
Understanding Fibroblast Response to Cell Polarization Using Layered Hydrogels

54:
Joshua Sporre
Mathematics
Tobin Driscoll, Mathematics
Dimension Reduction for Stochastic ODEs Using Active Subspaces

55:
Peter Spurrell
Biology
Thomas Kaminski, Kinesiology and Applied Physiology
A Comparative Analysis of CAIT and BESS Outcomes

2:15 PM—3:30 PM in the Rodney Room

56:
Morgan Spurrier
Cognitive Science
Joshua Neunuebel, Psychological and Brain Sciences
Sex Differences in the Acoustic Structure of Mouse Ultrasonic Vocal Signals

57:
Benjamin Steenkamer
Computer Engineering
Fouad Kiamilev, Electrical and Computer Engineering
Designing a New Amplifier for the SLEDS Projection System

58:
Jason Stevens
Mechanical Engineering
Dustyn Roberts, Mechanical Engineering
This Machine Kills Fascists: A Guitar Playing Robot

59:
Alexander Stubbolo
Biological Sciences
Deni Galileo, Biological Sciences
Does L1CAM Provide Chemotactic Signals That Instruct Migrating Glioblastoma Cells?

60:
Laura Sturgill
Biomedical Engineering
John Slater, Biomedical Engineering
Antibody Treatment of Endothelial Cells to Inhibit Circulating Tumor Cell Docking

61:
Megan Tessier
Dietetics
Kristin Wiens, Behavioral Health and Nutrition
Eating Away from Home Frequency Before and After an Experiential Cooking Class

62:
Junius Thomas
Biochemistry
John Koh, Chemistry & Biochemistry
Design & Synthesis of Potential NSD1 Inhibitors for Pediatric Leukemia

63:
Tyler Tice
Athletic Training
Karin Silbernagel, Physical Therapy
Changes In Gait Pattern and Triceps Surae Activity in Immobilization Boots

POSTER SESSION 2

POSTER SESSION 2

2:15 PM—3:30 PM in the Rodney Room

64:
Dunia Tonob
Anthropology
Melissa Melby , Anthropology; Behavioral Health and Nutrition
Patient Satisfaction and Use of Complementary and Alternative Medicine in China and the United States

65:
Amy Trask, Emily Wunsch
Exercise Science
Nancy Getchell, Kinieseology and Applied Physiology
Contextual Interference Effect: Motor Learning in Adults vs. Children

66:
Alison Treglia
Environmental Engineering & Music
Julia Maresca, Civil Engineering
Role of Carotenoid Compounds in Oxidative Stress Response in Bacteria Isolated From Concrete

67:
Abi Vanover
Energy and Environmental Policy, Economics
John Byrne, Center for Energy and Environmental Policy
The Case for Alternatives: Movement Beyond the Car in the U.S.

68:
Wenxin Wang
Chemical Engineering
Douglas Buttrey, Chemical and Biomolecular Engineering
Synthesis and Characterization of Mo-V-Nb-Te-O M1 Catalysts

69:
Hannah Wastyk
Biochemistry
Catherine Grimes, Chemistry and Biochemistry
Critical Contact Region of Hsp70 Stabilizes Crohn's Disease Variants of Nod2

70:
Alexis Webb
Physics
Edward Lyman, Physics and Astronomy
Computational Calorimetry and the Martini Force Field

71:
Nicole Wenzell
Biochemistry
Neal Zondlo, Chemistry and Biochemistry
Steric and Electronic Control of an n → π interaction: α-Helix and Polyproline Helix Conformations in Dipeptides*

2:15 PM—3:30 PM in the Rodney Room

72:
Michael Whiting
Mechanical Engineering
David Burris, Mechanical Engineering
Tribologically Induced Articular Cartilage Recovery

73:
George Wieber
Chemical Engineering
Thomas Epps, Chemical Engineering
Synthesis and Characterization of Bio-based Polymers

74:
Michael Wilson
Biological Sciences
Mary Boggs, Biological Sciences
Purinergic Signaling in Bone as a Potential Mechanism in Prostate Cancer Proliferation and Cancer-Induced Bone Pain

75:
Patrick Wise
Biology, History
Angelia Seyfferth, Plant & Soil Sciences
Variable Regulation of Silicon Transporter Gene Expression in Rice

76:
Minghan Xian
Chemical Engineering
Pei Chiu, Civil and Environmental Engineering
Determining the Electron Storage Capacities of Black Carbon and Other Geochemical Constituents through Chemical Redox Titration

77:
Natalie Zelenky
Pre-Vet and Animal Biosciences
Robert Dyer, Animal and Food Sciences
E. coli Endotoxin Activates Proinflammatory Cytokine Secretion in Immune Cells of Bovine Spleen and Mesenteric Adipose Tissue

POSTER SESSION 2

ORAL SESSION 1

ENGINEERING

12:45 P.M.—2:00 P.M.
Location: Ewing Room
Moderator: Dr. Jason Gleghorn

Liz Racca
Mechanical Engineering
Dustyn Roberts, Mechanical Engineering
Transportation Networks and How Pathfinding Algorithms Can Inform Public Policy

Cameron Mertz
Chemical Engineering
Norman Wagner, Chemical Engineering
An Experimental Study on the Viscosity of Multimodal Suspensions

Peter Sariano
Biomedical Engineering
Jason Gleghorn, Biomedical Engineering
Engineering a 3D Model of the Airway with Contractile Smooth Muscle

Humanities and Social Sciences

12:45 P.M.—2:00 P.M.
Location: Williamson Room
Moderator: Dr. Kristen Poole

Rebecca Glinn
Women and Gender Studies, Public Policy
Jennifer Naccarelli, Women and Gender Studies
The Role of Pornography in Understanding Consent

Sam Katz
Psychology
Jared Medina, Psychological and Brain Sciences
Integrating Proprioceptive, Visual, and Tactile Information in the Mirror Box Illusion

Mengzheng Yao
Sociology, Asian Studies, Geography
Ivan Sun, Sociology and Criminal Justice
The Impact of Socialization Preferences on Perceptions of Generalized Social Trust in China

Alexa Meinhardt
Biological Sciences
Allison Karpyn, Human Development and Family Sciences
Understanding the Social Determinants of Health in Underserved Communities: A Community Needs Analysis

ORAL SESSION 1

ORAL SESSION 2

BIOLOGY

2:15 P.M.—3:30 P.M.
Location: Ewing Room
Moderator: Judi Smith

Shelby Roseman
Chemistry
John Koh, Chemistry and Biochemistry
AF4-AF9 Protein-Protein Interaction Inhibitor: Synthesis and Biological Evaluation

William Keilsohn
Entomology and Marine Science
Doug Tallamy, Entomology and Wildlife Conservation
The Effects of Roadside Habitat on Insect Traffic Mortality

Arvind Annamalai
Chemistry and Biology
Neal Zondlo, Chemistry and Biochemistry
Probing the Structural Effects of Ser/Thr OGlcNAcylation and Phosphorylation on Alpha Helical Stability

TECHNOLOGY & ECONOMICS

2:15 P.M.—3:30 P.M.
Location: Williamson Lounge
Moderator: Matthias Seisay

Margaret Mary Rilling
Accounting
David Jenkins, Accounting & MIS
Beyond the Spreadsheets: An Analysis of Undergraduate Accounting Education in America

Xingguo Wang
Economics
Joshua Duke, Applied Economics and Statistics
Simulation Study (Monte Carlo) on the Different Types of Property Taxes in Matlab

Zachary Senzer
Computer Science
Lori Pollock, Computer Science
Automatically Identifying Goals and Symptoms from Software Developer Q&A Forums

ORAL SESSION 2

The Celebration of Undergraduate Engaged Scholarship would not have been possible without the following people at the Undergraduate Research Program:

Dr. Kristen Poole, Faculty Director,
Dr. Lauren Barsky, Associate Director,
Mary Ann Null, Coordinator,
Judi Smith, Program Coordinator,
Victoria Sunnergren, Graduate Assistant,
Krysta La Bruna, Program Assistant.

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Program designed, organized, and edited by Victoria Sunnergren.