22nd Annual FRONTIERS
IN UNDERGRADUATE RESEARCH POSTER EXHIBITION

April 12, 2019
2:00-3:30 p.m. • 4:00-5:30 p.m.

April 13, 2019
10:00-11:30 a.m. • 12:00-1:30 p.m.
Schedule of Events

Poster Exhibition

Friday, April 12, 2019
Session 1: 2:00 p.m. – 3:30 p.m.
Session 2: 4:00 p.m. – 5:30 p.m.

Saturday, April 13, 2019
Session 3: 10:00 a.m. – 11:30 a.m.
Session 4: 12:00 p.m. – 1:30 p.m.

Student and Faculty Reception

Friday, April 12, 2019
5:30 p.m. – 6:30 p.m.

Introduction and Welcome

Caroline McGuire, Director, Office of Undergraduate Research

Presentation of the Mentorship Excellence Awards

Faculty Awards

Seok-Woo Lee, Assistant Professor, Materials Science and Engineering
Presented by Hetal Patel ’19 (ENG)

Charles W. Mahoney, Professor, English
Presented by Lauren Cenci ’19 (CLAS)

Graduate Student Award

Elizabeth Knapp, Ph.D. Candidate, Physiology and Neurobiology
Presented by Celina Caetano ’19 (CLAS) and Ekatarina Skaritanov ’20 (CLAS)

Closing Remarks

Jennifer Lease Butts, Assistant Vice Provost, Enrichment Programs and Director, Honors Program
About Frontiers in Undergraduate Research

The Frontiers Poster Exhibition is a multidisciplinary research forum and the largest showcase of undergraduate research, scholarship, and creative projects at the University of Connecticut. Frontiers 2019 is the twenty-second annual Frontiers event sponsored by the Office of Undergraduate Research (OUR). This year’s exhibition includes 303 students presenting posters for 269 research and creative projects.

Students’ projects span the disciplines and include both independent research and work pursued in collaboration with other undergraduates. The projects presented reflect the invaluable contributions of research mentors, including graduate students, postdoctoral scholars, staff, and faculty members. We hope you enjoy meeting our wonderful students and learning about their innovative projects.

About the Office of Undergraduate Research

The Office of Undergraduate Research (OUR) is a resource for students interested in enriching their undergraduate experience through participation in research, scholarship, and creative activity. OUR provides information and advising to assist students in identifying relevant opportunities, as well as several funding programs to support the students and their faculty mentors.

Many of the Frontiers presenters have received financial support for their projects from the OUR, which awarded over $500,000 in 2017-18 in support of students’ research and creative endeavors. These awards are funded by the Office of Undergraduate Research with generous support from the Office of the Provost, the Office of the Vice President for Research, the Deans of the schools and colleges, and private donations from alumni, parents, and other friends of UConn and undergraduate research.
Sequential Listing of Poster Presentations

This listing of projects includes the undergraduate student authors and their faculty mentors. Please note that this is not a comprehensive listing of mentors: many projects also reflect the contributions and mentorship of dedicated graduate students, post-doctoral scholars, and research staff members.

- Friday Session 1 presentations are listed on pages 3-12.
- Friday Session 2 presentations are listed on pages 13-21.
- Saturday Session 3 presentations are listed on pages 22-30.
- Saturday Session 4 presentations are listed on pages 31-39.
- An alphabetical listing of presenters begins on page 41.

SESSION 1 PRESENTATIONS

1. CreateAT - Making Assistive Technology
Nancy Kuhn, Allied Health Sciences
Karl Douglass Mueller, Materials Science and Engineering & German Studies
Advisor: Alyssa Marinaccio, Assistive Technology Coordinator, Center for Students with Disabilities

2. Prismatic: Reflections on Transgender and Non-Binary Identity
Blue Wallick, Art – Printmaking
Advisor: Laurie Sloan, Associate Professor, Art and Art History

3. Exploring the Relationship between District Income Segregation and Achievement in Connecticut
Michael Reid Jr., English
Advisor: Betsy McCoach, Professor, Educational Psychology

4. The Asian American Educational Experience
Clarissa Tan, English & Secondary English Education
Advisor: Catherine Little, Professor, Educational Psychology
Advisor: Cathy Schlund-Vials, Associate Dean, College of Liberal Arts and Sciences, and Professor, English & Asian/Asian American Studies

5. Wordsworth’s Elegiac Mode
Lauren Cenci, English
Advisor: Charles Mahoney, Professor, English
Advisor: A. Harris Fairbanks, Associate Professor, English
Advisor: Yohei Igarashi, Assistant Professor, English
SESSION 1 (FRIDAY 2:00-3:30)

6. The Black Hole of Modernism: Transgressive Realism by African-American Writers in Modernist Literature
Brianna McNish, English
Advisor: Sean Forbes, Professor, English

7. The Social Influence on HIV Testing Among Black Students at a PWI
Caira Ward, Human Development and Family Studies
Advisor: Edna Brown, Associate Professor, Human Development and Family Studies

8. Comparing the Efficacy of Sexual Health Intervention Techniques among Sexually Active and Abstinent Hispanic and Latino Youth in the United States: Results from a Meta-Analysis
Geycel Muniz, Allied Health Sciences
Ashley Holmes, Psychological Sciences
Melanie Moreno, Allied Health Sciences
Advisor: Tania Huedo-Medina, Associate Professor, Allied Health Sciences

9. Understanding the Experience of Parents Utilizing Car Bed Travel
Christina O’Connor, Nursing
Advisor: Jacqueline McGrath, Professor Emeritus, Nursing
Advisor: Michele DeGrazia, Director of Nursing Research, Neonatal Intensive Care Unit, Boston Children’s Hospital

10. Family Attitudes on Aromatherapy Use in a Pediatric Setting
Maria Zinter, Nursing
Advisor: Deborah McDonald, Associate Dean and Associate Professor, Nursing

11. Neonatal Nurses’ Self-Reported Practices, Knowledge and Attitudes toward use of Maternal Voice for Preterm Infants
Selena Williamson, Nursing
Advisor: Jacqueline McGrath, Professor Emeritus, Nursing
Advisor: Deborah McDonald, Associate Dean and Associate Professor, Nursing

12. Caring for the Family of the Neonate: A Descriptive Analysis of Nurse Beliefs
Anna Baxter, Nursing
Advisor: Deborah McDonald, Associate Dean and Associate Professor, Nursing
13. Is the Green Revolution Making Farmers Sick?: Agricultural Transformation and Chronic Kidney Disease of Unknown Etiology (CKDu) in Sri Lanka
Fajar Alam, Molecular and Cell Biology
Advisor: Stephen Schensul, Professor, Community Medicine and Healthcare

14. Urinary Analysis on the Effects of Dietary Intake on Sulfur-Containing Metabolites in Newborns at Risk for Autism Spectrum Disorder (ASD)
Ama Appiah, Molecular and Cell Biology & Communication
Meeshali Patel, Allied Health Sciences
Sejal Patel, Molecular and Cell Biology
Sai Vietla, Physiology and Neurobiology
Advisor: Ruth Lucas, Assistant Professor, Nursing
Advisor: Geoffrey Tanner, Assistant Professor in Residence, Physiology and Neurobiology

Usra Qureshi, Human Rights & Molecular and Cell Biology
Advisor: Kathryn Libal, Associate Professor, Social Work & Human Rights

16. Advocacy and Action: Improving Food Security for UConn Students
Wanjiku Gatheru, Environmental Studies
Abhishek Gupta, Molecular and Cell Biology & Sociology
Advisor: Phoebe Godfrey, Assistant Professor in Residence, Sociology

17. West Indian Diasporic Consciousness: The Case of Hartford, CT
Leann McLaren, Political Science and History
Advisor: Evelyn Simien, Professor, Political Science
Advisor: Jennifer Sterling-Folker, Alan R. Bennett Honors Professor, Political Science
Advisor: Fiona Vernal, Associate Professor, History

18. Six Years to Life: The Impact of Term Length on Judicial Independence
Frederick Augur, Political Science
Advisor: Virginia Hettinger, Associate Professor, Political Science
Advisor: Jennifer Sterling-Folker, Alan R. Bennett Honors Professor, Political Science
SESSION 1 (FRIDAY 2:00-3:30)

19. A Study of the Relationship Between Race, Gender and Victim Blaming on College Campuses
Odia Kane, Cognitive Science and Political Science
Advisor: Shayla Nunnally, Associate Professor, Political Science

20. The Feminine Touch: How Female Representation Affects the Legislative Success of Women’s Issues Legislation
Jessica Weaver, Political Science
Advisor: Virginia Hettinger, Associate Professor, Political Science

21. Presidential Power Couples: Does a Strong First Lady Correlate with a Strong President?
Misha Jethwa, Political Science & Economics
Advisor: Jeffrey Ladewig, Associate Professor, Political Science

22. Determining Defense: Bureaucracy, Threat and Missile Defense
Emilyn Tuomala, Individualized Major: International Security & Political Science
Advisor: Evan Perkoski, Assistant Professor, Political Science
Advisor: Jennifer Sterling-Folker, Alan R. Bennett Honors Professor, Political Science

Akhil Choudhary, Anthropology
Advisor: Eleanor Ouimet, Assistant Professor In Residence, Anthropology

24. Dyadic Worry Induced in a Laboratory Setting Increases Anxiety Between Friends
Carly Danziger, Psychological Sciences
Seyenah Lopez, Psychological Sciences & Human Development and Family Studies
Izabela Zubrzycka, Biological Sciences & English
Advisor: Kimberli Treadwell, Associate Professor, Psychological Sciences

25. Can Discussing Worries Promote Anxiety Contagion? An Observational Study of Worry Conversations
Kimberly Morais, Psychological Sciences & Human Development and Family Studies
Advisor: Kimberli Treadwell, Associate Professor, Psychological Sciences
26. Dyadic Worry Amongst Friends
Nathan Rivera, Psychological Sciences
Jeffrey Hunt, Psychological Sciences
Advisor: Kimberli Treadwell, Associate Professor, Psychological Sciences

27. The Influence of Talker Idiolect on Dynamic Phonetic Adaptation
Ana Hernandez, Biological Sciences & Psychological Sciences
Advisor: Emily Myers, Associate Professor, Speech, Language, and Hearing Sciences

28. Be Quiet! Activity and Noise Level Characteristics of Mandated Periods of Quiet in College Students with Varied Noise Exposure Histories
Claire Murphy, Speech, Language, and Hearing Sciences
Advisor: Erika Skoe, Assistant Professor, Speech, Language, and Hearing Sciences

29. Finding the Self Through the Narratives We Tell
Madeline Eldredge, Psychological Sciences & Speech, Language, and Hearing Sciences
Advisor: Letitia Naigles, Professor, Psychological Sciences

30. Testing the Test: Implicit Theory of Mind Measurements
Samantha Richards, Speech, Language, and Hearing Sciences
Advisor: Marie Coppola, Associate Professor, Psychological Sciences
Advisor: Deanna Gagne, Assistant Professor, Linguistics, Gallaudet University

31. Evaluating Cross-Site Reliability of Relationships among Cortical Structure and Age in Children and Adolescents
Vidyalaxmi Kandarpa, Biomedical Engineering & Molecular and Cell Biology
Arun Narikatte, Molecular and Cell Biology
Emma Wolfman, Psychological Sciences
Advisor: Nicole Landi, Associate Professor, Psychological Sciences

32. Distinguishing Electrode Placement in Dorsal and Ventral Hippocampus using the Microorganism Bacillus Subtilis
Nathalia Hernandez, Molecular and Cell Biology & Spanish
Advisor: Etan Markus, Professor, Psychological Sciences
Advisor: Patricia Rossi, Assistant Professor in Residence, Molecular and Cell Biology
Advisor: Peter Setlow, Distinguished Professor, Molecular Biology and Biophysics
SESSION 1 (FRIDAY 2:00-3:30)

33. Rat Observational Learning in a Working Memory Task
Judie Wang, Physiology and Neurobiology & Psychological Sciences
Nathalia Hernandez, Molecular and Cell Biology & Spanish
Thomas Shao, Physiology and Neurobiology
Advisor: Etan Markus, Professor, Psychological Sciences

34. Developing a Reliable Rating System for Observing Oral Tremor in Rodents
Emily Robertson, Physiology and Neurobiology
Advisor: John Salamone, Distinguished Professor, Psychological Sciences

35. Behavioral Score and Neuroanatomical Correlation in a Rat Model of Hypoxic Ischemic Brain Injury Measuring the Effect of Caffeine Treatment
Sara Rohde, Physiology and Neurobiology & Psychological Sciences
Advisor: R. Holly Fitch, Professor, Psychological Sciences

36. The Ketogenic Diet on Seizure Reduction in a Drosophila Model
Anna Vaeth, Physiology and Neurobiology
Adeline Bray, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Assistant Professor in Residence, Physiology and Neurobiology

37. Resistance Training for Health Related Outcomes in the Elderly Population
Charles Abrams, Individualized Major: Exercise Physiology and Health
Advisor: Craig Denegar, Professor, Kinesiology

38. Extracellular HSP Responses to Endurance Running in a High-Risk Race for Exertional Heatstroke
Zoha Sarwat, Physiology and Neurobiology
Advisor: Elaine Lee, Assistant Professor, Kinesiology

39. Identification and Characterization of the Roles of MicroRNA Sequences in Salpa thompsoni
Melinda Wei, Molecular and Cell Biology
Advisor: Rachel O’Neill, Professor, Molecular and Cell Biology

40. Examining the Potential for Nitrogen Fixation by Bacteria Present in the Trachymyrmex septentrionalis Fungus Gardens
Brandon O’Sullivan, Molecular and Cell Biology
Advisor: Jonathan Klassen, Assistant Professor, Molecular and Cell Biology
41. Endogenous MyoF complementation in ΔKu80-ΔMyoF *Toxoplasma gondii* Parasites
Raphael Britt, Molecular and Cell Biology
Advisor: Aoife Heaslip, Assistant Professor, Molecular and Cell Biology

42. Virtual Modeling and Analysis of EGFR molecules
Kelvin Peterson, Molecular and Cell Biology
Advisor: Leslie Loew, Professor, Cell Biology & Computer Science and Engineering

43. Single Cell RNA Sequencing Analysis to Identify Genetic Deviations That Lead to Colorectal Cancer
Ramsha Khan, Molecular and Cell Biology & Human Development and Family Studies
Advisor: Carolyn Teschke, Professor, Molecular and Cell Biology

44. Tracking Illegal Logging: Cyberinfrastructure for Data Collection and Management of Georeferenced Trees
Peter Richter, Computer Science and Engineering
Advisor: Jill Wegrzyn, Assistant Professor, Ecology and Evolutionary Biology

45. Multi-responsive Chromic System
Mengting Zhu, Chemical Engineering
Advisor: Luyi Sun, Professor, Chemical and Biomolecular Engineering

46. Advances in 3D Printing Using Image Projection
Justin Schroeder, Mechanical Engineering & Computer Science and Engineering
Advisor: Xu Chen, Assistant Professor, Mechanical Engineering

47. 3D Bioprinting for Application to Drug Manufacturing
Eric Lepowsky, Mechanical Engineering
Advisor: Savas Tasoglu, Assistant Professor, Mechanical Engineering & Biomedical Engineering
Advisor: Luyi Sun, Professor, Chemical and Biomolecular Engineering
Advisor: Sharareh Emadi, Assistant Professor in Residence, Biomedical Engineering

48. Assembly of Compact Neurostimulator Circuit Board for Neuroprosthetic Applications
Amanda Johnson, Biomedical Engineering
Advisor: Martin Han, Associate Professor, Biomedical Engineering
SESSION 1 (FRIDAY 2:00-3:30)

49. Characterization of Biopotential Electrodes
Michaela Green, Biological Sciences
Advisor: Insoo Kim, Assistant Professor, Medicine

50. The Morphological and Molecular Responses of Articular Cartilage to Mechanical Load
Kelsey Richard, Individualized Major: Global Health
Advisor: Caroline Dealy, Associate Professor, Center for Regenerative Medicine and Skeletal Development, Cell Biology, & Orthopedic Surgery
Advisor: David Pierce, Associate Professor, Mechanical Engineering & Biomedical Engineering

51. Deferoxamine Conjugated Hydrogel Effects on Bone Regeneration in Mice
Paige Holden, Biomedical Engineering
Advisor: Lakshmi Nair, Associate Professor, Orthopedic Surgery

52. A Novel Cerebral Spinal Fluid Shunt
Ariane Garrett, Biomedical Engineering & Spanish
Advisor: Kazunori Hoshino, Associate Professor, Biomedical Engineering

53. The Utilization of Dental Burrs to Create a Tibial Growth Plate Injury in Col2 x Col10 x Col3.6 Genetic Reporter Mice
Natasha Patel, Molecular and Cell Biology
Advisor: Liisa Kuhn, Associate Professor, Center for Regenerative Medicine and Skeletal Development & Biomedical Engineering

54. MYB Transcription Factors influence on Flavonoid Production in Aronia
Liam Iorio, Molecular and Cell Biology
Advisor: Huanzhong Wang, Associate Professor, Plant Science and Landscape Architecture

55. Lighting up the Route to the Photocatalytic Oxidative Transformation of Amines to Amides
Joshua Paolillo, Chemistry
Advisor: Nicholas Leadbeater, Associate Professor, Chemistry
56. Determination of PFC’s in Bloodspots Using Rapid Liquid-Liquid Extraction Followed by Analysis Using UPLC-MS/MS
Patrick Kaplita, Chemistry
Son Nguyen, Chemistry
Eric Noi, Chemical Engineering
Advisor: Anthony Provatas, Academic Assistant II, Center for Environmental Sciences and Engineering

57. A Canonical Metacommunity Structure in a Hurricane-Prone Tropical Forest
Eve Cullerton, Natural Resources and the Environment
Advisor: Michael Willig, Distinguished Professor, Ecology and Evolutionary Biology

58. Analysis of Insecticides in Lobster and Shellfish using GC-MS/MS followed by Rapid Quechers Extraction and Phospholipid Sample Purification
Myagmarsuren Otgonbayar, Biological Sciences
Patrick Nguyen, Biological Sciences
Lynn Vo, Biological Sciences
Advisor: Anthony Provatas, Academic Assistant II, Center for Environmental Sciences and Engineering

59. No Droplet Too Small: Nanoliter Blood Osmolality Measurements
Rebecca Bullers, Biological Sciences
Advisor: Eric Schultz, Professor, Ecology and Evolutionary Biology

60. Phenological Changes in Avian Migration Revealed by Local Long-Term Data From Northeast Connecticut
Sarah Rumsey, Ecology and Evolutionary Biology
Advisor: Morgan Tingley, Assistant Professor, Ecology and Evolutionary Biology

61. Diversity of Terrestrial Green Algae from Chile and Panama, with a focus on Diplosphaera (Trebouxiophyceae, Chlorophyta)
Maryam Shahabadi, Biological Sciences
Advisor: Louise Lewis, Professor, Ecology and Evolutionary Biology

62. Macro- and Microevolution of Salinity-specific Ionocyte Morphologies in Euryhaline Fishes
Melinda Gosselin, Natural Resources
Advisor: Eric Schultz, Professor, Ecology and Evolutionary Biology
63. Sediment Oxygen Consumption and Denitrification in Wequetequock Cove
Clare Schlink, Marine Sciences & Chemistry
Advisor: Julie Granger, Associate Professor, Marine Sciences
Advisor: Craig Tobias, Professor, Marine Sciences

64. Seasonal Patterns of Denitrification in Salt Marshes
Kayleigh Granville, Environmental Sciences
Advisor: Ashley Helton, Assistant Professor, Natural Resources and the Environment
Advisor: Beth Lawrence, Assistant Professor, Natural Resources and the Environment
Advisor: Chris Elphick, Associate Professor, Ecology and Evolutionary Biology

65. Deicing Salt-Induced Cation Exchange in Roadside Soils
Katherine Bell, Environmental Sciences & Molecular and Cell Biology
Advisor: Ashley Helton, Assistant Professor, Natural Resources and the Environment
Advisor: John Volin, Vice Provost for Academic Affairs and Professor, Natural Resources and the Environment

66. Poor Maternal Nutrition During Gestation Alters Placental IGF-I, IGF-II, and IGFBP-3 mRNA Expression in Sheep
Caitlyn Splaine, Animal Science
Advisor: Sarah Reed, Associate Professor, Animal Science

67. Force Applied to the Horse's Head by Bitted and Bitless Bridles
Kelli Knapp, Animal Science
Advisor: Jenifer Nadeau, Associate Professor, Animal Science

68. Bending Borders – An Exploration of Social, Political, and Economic Implications of Language in Catalonia Through Documentary Film
Sahil Laul, Molecular and Cell Biology & Individualized Major: Global Health
Michael Costello, Biomedical Engineering
Advisor: Gustavo Nanclares, Associate Professor, Literatures, Cultures, and Languages
Advisor: Catherine Masud, Adjunct Faculty, Digital Media and Design
SESSION 2 PRESENTATIONS

1. Making Welcome: Space Material and Human Centered Design
   Olivia Crosby, Art – Graphic Design
   Advisor: Ray DiCapua, Professor, Art and Art History
   Advisor: Gary Krewson, Machine Shop Engineer/Manager, School of Fine Arts

2. Issues of Gender and Modernism in Ralph Vaughan Williams' Folksongs of the Four Seasons
   Christine Goss, Music History
   Advisor: Eric Rice, Associate Professor, Music
   Advisor: Jessica VonVillas-Dickerson, Assistant Professor in Residence, Music

   Kenneth Glazer, Art – Illustration/Animation
   Advisor: Alison Paul, Assistant Professor, Art and Art History

4. Make History Accessible: The Case for YouTube
   Rohit Kandala, History
   Advisor: Frank Costigliola, Distinguished Professor, History

5. Vignettes of Physician Experience
   Dhruv Shah, Molecular and Cell Biology & English
   Advisor: Bruce Cohen, Instructor in Residence, English

6. An Interdisciplinary Education: Just A Bridge Away
   Nicole Gerardin, Secondary English Education & English
   Advisor: Hannah Dostal, Associate Professor, Curriculum and Instruction

7. Assessing the Mindsets of Introductory Physics Students through the Lens of Intellectual Humility (IH)
   Meagan Sundstrom, Mathematics/Physics
   Advisor: Fabiana Cardetti, Professor, Mathematics

8. Associations Between Low Birthweight and Cognitive Development in Early Childhood
   Kristen Cardascia, Human Development and Family Studies & Speech, Language, and Hearing Sciences
   Advisor: Caitlin Lombardi, Assistant Professor, Human Development and Family Studies
9. Child Birth Weight and Reading Skills: A Moderation by Race  
Kalea Coles, Human Development and Family Studies & Psychological Sciences  
Advisor: Annamaria Csizmadia, Associate Professor, Human Development and Family Studies

10. Bullying Experiences of Children of Immigrants  
Alyssa Sullivan, Human Development and Family Studies  
Advisor: Linda Halgunseth, Associate Professor, Human Development and Family Studies

11. College Students’ Perceptions of On-Campus Civility as Influenced by Communication Processes in Families of Origin  
Casey Cunningham, Human Development and Family Studies & Psychological Sciences  
Valerie Girard, Human Development and Family Studies & Psychological Sciences  
Jordyn Isabelle, Psychological Sciences  
Advisor: Shannon Weaver, Associate Professor, Human Development and Family Studies

12. Support for Mothers and Families: A Battle on Neonatal Abstinence Syndrome  
Amberly Lao, Nursing  
Tessa Weidig, Nursing  
Advisor: Xiaomei Cong, Associate Professor, Nursing  
Advisor: Valarie Artigas, Assistant Clinical Professor, Nursing

13. Low Breastfeeding Rates in Infants Born with Neonatal Abstinence Syndrome  
Sarah Squillace, Nursing  
Advisor: Xiaomei Cong, Associate Professor, Nursing

14. Health Literacy, Cognitive Impairment, and Diabetes Knowledge among Incarcerated Persons Transitioning to the Community: Considerations for Innovative Intervention Development  
Sarah Todd, Nursing  
Advisor: Louise Reagan, Assistant Professor, Nursing

15. The Acceptability of a Self-Management Intervention for Irritable Bowel Syndrome (IBS)  
Carleen Joyce Tan, Nursing  
Advisor: Angela Starkweather, Associate Dean and Professor, Nursing
16. Perceived Discrimination, Health Behavior, and Health Status among Muslims Living in the US
Anita Luxkaranayagam, Physiology and Neurobiology
Sania Saeed, Biological Sciences
Advisor: Rick Gibbons, Professor, Psychological Sciences
Advisor: Meg Gerrard, Research Professor, InCHIP and Psychological Sciences

17. Party Differences in Candidate Emergence and Successes in the 2018 House Elections
Kyle Adams, Political Science & Economics
Advisor: Paul Herrnson, Professor, Political Science

18. Cooperation or Conflict: Using Alliance Theory to Explain the Current Gulf Cooperation Council Crisis
Pierre Aguirre, Political Science & Economics
Advisor: Evan Perkoski, Assistant Professor, Political Science

19. The Positive Impact of Decentralization on Public Services in Khyber Pakhtunkhwa, Pakistan
Mishaal Afteb, Political Science
Advisor: Betty Hanson, Professor Emeritus, Political Science

20. Native American Children’s Access to Nutritional Food in the Age of Qualification: How Food Insecurity on Native American Reservations Underscores Children’s Realization of the Right to Health
Emily Dodson, Political Science & Human Rights
Advisor: Francoise Dussart, Professor, Anthropology

21. Immigration in the Media: Political Ideologies of Online Media Sites and Their Effects on Immigration Discourse
Rosella Aluia, Individualized Major: Crime, Law, and Justice
Advisor: Charles Venator-Santiago, Associate Professor, Political Science

22. The Education of American Political Elites
Brian Forbes, History
Gianna Demasi, Economics
Advisor: David Weakliem, Professor, Sociology

23. Predicting Tone Discrimination Abilities from Characteristics of Autism
Anusha Mohan, Psychological Sciences
Advisor: Inge-Marie Eigsti, Associate Professor, Psychological Sciences
24. Mindful Muse? Assessing Tools to Help College Students Manage Mental Health: A Randomized Controlled Trial
Mareyna Simon, Psychological Sciences & Individualized Major: Neuroscience
Jacob Kustra, Biological Sciences
Spencer Low, Individualized Major: Computational Neuroscience
Advisor: Blair Johnson, Distinguished Professor, Psychological Sciences

25. How Timing Cues Enhance and Bias Categorical Perception of Sound
Vishruthi Palanivel, Physiology and Neurobiology & Psychological Sciences
Advisor: Heather Read, Associate Professor, Psychological Sciences

Lina Kane, Speech, Language, and Hearing Sciences & Human Development and Family Studies
Ashley Lombardi, Speech, Language, and Hearing Sciences
Advisor: Adrian Garcia-Sierra, Assistant Professor, Speech, Language, and Hearing Sciences

27. My Dominant Hand Speaks My Language: Hand Effects are Specific to Linguistic Experience
Calli Smith, Cognitive Science
Cynthia Dias, Cognitive Science
Advisor: Adrian Garcia-Sierra, Assistant Professor, Speech, Language, and Hearing Sciences

28. Finding Familiarity in the Unfamiliar: Native Speech Perception in Different Linguist Contexts
Eilis Welsh, Speech, Language, and Hearing Sciences
Sam Beacham, Speech, Language, and Hearing Sciences
Crystal Flores, Speech, Language, and Hearing Sciences & Anthropology
Advisor: Adrian Garcia-Sierra, Assistant Professor, Speech, Language, and Hearing Sciences

29. Effects of Lisdexamfetamine on Selection of Voluntary Physical Activity in a Rat Model of Binge-Eating Disorder
Olivia DiMarco, Psychological Sciences & Physiology and Neurobiology
Advisor: John Salamone, Distinguished Professor, Psychological Sciences
30. Overexpression of Cyclin D1 in the Development of Parathyroid Adenomas and Hyperparathyroidism
Mitali Banerjee, Physiology and Neurobiology & Molecular and Cell Biology
Advisor: Andrew Arnold, Murray-Heilig Chair in Molecular Medicine and Professor, Medicine & Genetics and Genome Sciences
Advisor: Jessica Costa-Guda, Assistant Research Professor, Center for Molecular Oncology

31. Microtubule Acetylation in Drosophila Germ Cell Development
Taylor Simao, Molecular and Cell Biology
Advisor: Mayu Inaba, Assistant Professor, Cell Biology

32. Subcellular Localization of Protocadherin Gamma C4 and Protocadherin 8 in Relation to GABAergic Synapses in the Rat Brain
Michael Taylor, Biological Sciences
Advisor: Angel de Blas, Professor, Physiology and Neurobiology

33. Dietary Effects on Lifespan and Fertility in a Drosophila Model of Traumatic Brain Injury
Salaheddine Madhoun, Molecular and Cell Biology
Advisor: Geoffrey Tanner, Assistant Professor in Residence, Physiology and Neurobiology

34. Investigating the Ketogenic Diet as a Treatment in a Drosophila Model of Chronic Traumatic Encephalopathy
Krishna Vali, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Assistant Professor in Residence, Physiology and Neurobiology

35. Pxt Plays an Active Role in Oocyte Maturation and Ovulation
Celina Caetano, Physiology and Neurobiology & Molecular and Cell Biology
Advisor: Jianjun Sun, Assistant Professor, Physiology and Neurobiology

36. Neuroanatomical and Behavioral Analysis of GABAergic Neurons in the Lateral Hypothalamic Area
Eric Beltrami, Physiology and Neurobiology & Molecular and Cell Biology
Advisor: Alexander Jackson, Assistant Professor, Physiology and Neurobiology

37. Defining a Tachykininergic Projection to Melanin-Concentrating Hormone (MCH) Neurons in the Lateral Hypothalamic Area (LHA)
Lily Zhong, Physiology and Neurobiology
Advisor: Alexander Jackson, Assistant Professor, Physiology and Neurobiology
SESSION 2 (FRIDAY 4:00-5:30)

38. Neuroanatomical Characterization of Lateral Hypothalamic Neurotensin and Somatostatin Neurons and their Projections in the Mouse Brain
James Costanzo, Physiology and Neurobiology
Advisor: Alexander Jackson, Assistant Professor, Physiology and Neurobiology

39. Developmental Changes to the Brain Stem Cell Niche in Fetal-Onset Hydrocephalus
Saurabh Kumar, Physiology and Neurobiology
Patrick Briody, Physiology and Neurobiology
Advisor: Joanne Conover, Professor, Physiology and Neurobiology

40. Mechanisms of Stem Cell Division in the V-SVZ Stem Cell Niche
Patrick Briody, Physiology and Neurobiology
Amar Kalaria, Physiology and Neurobiology
Saurabh Kumar, Physiology and Neurobiology
Derek Pan, Molecular and Cell Biology
Advisor: Joanne Conover, Professor, Physiology and Neurobiology

41. Interactions of the C11orf95-RELA Oncogene and NF-kB Subunits in the Development of Ependymoma Brain Tumors in Mice
Ericka Randazzo, Physiology and Neurobiology & Pathobiology
Advisor: Joseph LoTurco, Professor, Physiology and Neurobiology

42. Preparation and Characterization of Gastrointestinal Stable Nanoparticles as an Oral Delivery Vehicle for Lipophilic Nutrients
Nikolas Rodriguez, Nutritional Sciences
Advisor: Yangchao Luo, Assistant Professor, Nutritional Sciences

43. Cracking Protein Clumps: Characterization of Phenylalanine Self-Assembly
Alexis Barrera, Biomedical Engineering
Advisor: Anna Tarakanova, Assistant Professor, Mechanical Engineering & Biomedical Engineering

44. The Characterization of the Tropoelastin-Fibrillin Complex through Molecular Modeling
Helena Newandee, Biomedical Engineering
Advisor: Anna Tarakanova, Assistant Professor, Mechanical Engineering & Biomedical Engineering

45. Stem Cell Spheroids for Cartilage Regeneration
Ming-Yeh Hu, Molecular and Cell Biology & Allied Health Sciences
Advisor: Syam Nukavarapu, Associate Professor, Biomedical Engineering
46. Vascular Laser Induced Thermolysis of Vessels Varying in Size
Fawaz Mohsin, Biomedical Engineering
Advisor: Thomas Milner, Professor, Biomedical Engineering, University of Texas at Austin

47. Development of a Sonically Powered Biodegradable Nanogenerator for Bone Regeneration
Avi Patel, Molecular and Cell Biology & Individualized Major: Health, Medicine, and Society
Advisor: Thanh Nguyen, Assistant Professor, Mechanical Engineering
Advisor: David Goldhamer, Professor, Molecular and Cell Biology

48. Analyzing Driver Fatigue and Testing Reduced Graphene Oxide Electrodes
John Nelson, Physiology and Neurobiology
Advisor: Insoo Kim, Assistant Professor, Medicine

49. Computational Analysis of Assembly of CPLS Nanoparticles
Alessandro Fisher, Mechanical Engineering & Molecular and Cell Biology
Advisor: Ying Li, Assistant Professor, Mechanical Engineering

50. Computational Study of Designed Tau Protein Antibodies with Enhanced Binding Characteristics
Aberdeen Taylor, Structural Biology and Biophysics
Advisor: Eric May, Assistant Professor, Molecular and Cell Biology

51. The Effect of the Microbiome on Alzheimer's Diseases Pathogenesis
Michael Zhu, Molecular and Cell Biology & Economics
Advisor: Nichole Broderick, Assistant Professor, Molecular and Cell Biology

52. Signaling Pathways of Metallothionein-Mediated Chemotaxis in Breast Cancer
Jennifer Messina, Molecular and Cell Biology
Advisor: Michael Lynes, Professor, Molecular and Cell Biology

53. The Hunt for Rare Genes in Salty Communities
Marlene Abouaassi, Molecular and Cell Biology & Sociology
Advisor: Johann Peter Gogarten, Distinguished Professor, Molecular and Cell Biology
54. Chemical Trends in Al-Cu and Al-Ag Interfaces from First-Principles Theory
Cassidy Atkinson, Materials Science and Engineering
Advisor: Pamir Alpay, GE Professor in Advanced Manufacturing, Materials Science and Engineering

55. The Effect of the Tip Radius on Dislocation Nucleation in [0 0 1] Tungsten Single Crystal Under Spherical Nanoindentation
Hetal Patel, Materials Science and Engineering
Advisor: Seok-Woo Lee, Assistant Professor, Materials Science and Engineering

56. NTRUEncrypt in a Quantum World: Using and Implementing Post-Quantum Cryptosystems
Sam Markelon, Computer Science
Advisor: Walter Krawec, Assistant Professor, Computer Science and Engineering

57. Continuous Biometric Authentication in Haptic Users
Stephen Sam, Computer Science
Advisor: Paolo Gasti, Assistant Professor, Computer Science, New York Institute of Technology
Advisor: Kiran Balagani, Assistant Professor, Computer Science, New York Institute of Technology

58. Subset Clustering for Analyzing Seasonal Trends in Energy Usage at UConn
Hang Zeng, Mathematics and Statistics
Advisor: Ming-Hui Chen, Professor, Statistics

59. Temperature Bin Model (TBM) for Comparative Assessment of Energy Usage
Ziyi Kang, Statistics
Advisor: Ming-Hui Chen, Professor, Statistics

60. Adaptive Box-Cox Transformation Models for Analyzing Energy Usage at UConn
Yutong Chen, Statistics, Psychological Sciences, & Finance
Advisor: Ming-Hui Chen, Professor, Statistics

61. The Effect of Lactic Acid Bacteria on Terpene Biosynthesis in Cannabis Flowers
Evert McKee, Sustainable Plant and Soil Systems
Advisor: Gerald Berkowitz, Professor, Plant Science and Landscape Architecture
62. The Effect of Density and Diet Quality on Lepidopteran Larvae Melanization
Nikki Pirtel, Environmental Sciences
Amanda Minicucci, Ecology and Evolutionary Biology & Psychological Sciences
Advisor: Robert Bagchi, Assistant Professor, Ecology and Evolutionary Biology

63. Detection of Dairy Cattle Mastitis Using Ultrasound
Alexander Calvi, Animal Science
Advisor: Sheila Andrew, Professor, Animal Science

64. The Effects of Poor Maternal Nutrition on Fetal Brain Development
Lauren Engels, Animal Science
Advisor: Kristen Govoni, Associate Professor, Animal Science

Michaela Mitchell, Animal Science
Advisor: Sarah Reed, Associate Professor, Animal Science

66. Differential Expression of Needle Abscission Zones to Study the Progression of Autumn Senescence in a Gymnosperm
Olivia Maher, Biological Sciences
Advisor: Jill Wegrzyn, Assistant Professor, Ecology and Evolutionary Biology

67. Strategies to Improve Annotation and Assembly for Complex and Large Plant Genomes
Alyssa Ferreira, Pathobiology
Advisor: Jill Wegrzyn, Assistant Professor, Ecology and Evolutionary Biology

68. Utilizing Blockchain Trade Finance to Promote Financial Inclusion
Bryce Ciccaglione: Individualized Major: Global Finance and Political Economy
Advisor: Stanley McMillen, Adjunct Faculty, Economics
Advisor: Richard Langlois, Professor, Economics
SESSION 3 PRESENTATIONS

1. **The Color of You**
   Regan Kilkenny, Digital Media and Design
   Lucian Hatfield, Theater Studies
   Christian Partenio, Digital Media and Design
   Advisor: Vincent Tycer, Assistant Professor in Residence, Dramatic Arts

2. **Catharsis Theory: A Graphic Novel Exploring LGBT Adolescence and Coming of Age**
   Taylore Grunert, English and Ecology and Evolutionary Biology
   Advisor: Cathy Schlund-Vials, Associate Dean, College of Liberal Arts and Sciences, and Professor, English & Asian/Asian American Studies

3. **Musket Ball Analysis of the 17th Century Pequot War in Southern New England**
   Srishti Sadhir, Ecology and Evolutionary Biology & Anthropology
   Advisor: Kevin McBride, Associate Professor, Anthropology

4. **Cultural Influences on Traditional Chinese Medicine (TCM) Decision Making**
   Maria Latta, Pharmacy Studies
   Advisor: Nathaniel Rickles, Associate Professor, Pharmacy Practice

5. **Comparing the Influence of Gender on Female College Students Majoring in Physics and/or Human Rights**
   Jillian Rastinejad, Human Rights and Physics
   Advisor: Shareen Hertel, Associate Professor, Political Science & Human Rights

6. **Child Marriage in the United States**
   Chineze Osakwe, Political Science and Human Rights
   Advisor: Françoise Dussart, Professor, Anthropology

7. **Sexual Assault Recovery in the LGBTQIA+ Community**
   Danielle Hartshorn, Individualized Major: Film and Global Activism & Human Rights
   Advisor: David Richards, Associate Professor, Political Science & Human Rights

8. **Maternal Perceptions in Comparison to Infant Breastfeeding Behavior**
   Anusha Basnet, Physiology and Neurobiology
   Advisor: Ruth Lucas, Assistant Professor, Nursing
9. Physiological Feeding Behavior Comparison Between Pre-Term and Full-Term Infants
Ajeetej Rai, Psychological Sciences & Physiology and Neurobiology
Advisor: Ruth Lucas, Assistant Professor, Nursing

Melanie Moreno, Allied Health Sciences
Ashley Holmes, Psychological Sciences
Geycel Muniz, Allied Health Sciences
Advisor: Tania Huedo-Medina, Associate Professor, Allied Health Sciences

12. Islands in Limbo: An Argument to Anchor U.S. Virgin Islands’ Citizenship in the Fourteenth Amendment
Garrett D’Amato, Political Science & Individualized Major: Law and Society
Advisor: Charles Venator-Santiago, Associate Professor, Political Science

13. Executive Approval in Latin America
Shankara Narayanan, Political Science & History
Advisor: Matthew Singer, Associate Professor, Political Science

14. Temporary Protected Status for El Salvador as a Foreign Policy Response
Veronica Rollins, Political Science & Individualized Major: Law and Immigration
Advisor: Charles Venator-Santiago, Associate Professor, Political Science
Advisor: Jennifer Sterling-Folker, Alan R. Bennett Honors Professor, Political Science

15. The Scholio Project: Designing Online News Comments to Promote Intellectual Humility in Public Discourse
Brendan Hogan, Political Science & Psychological Sciences
Advisor: Michael Morrell, Associate Professor, Political Science

16. Seizing the News Cycle: The Coverage of Terrorism in American Hard and Soft News Sources
Mary Szarkowicz, Political Science & Accounting
Advisor: Evan Perkoski, Assistant Professor, Political Science
Jonathon Hastings, Molecular and Cell Biology & Individualized Major: Community Health
Advisor: Stephen Schensul, Professor, Community Medicine and Healthcare

18. Is Villainy Written in the Star (War)s?
Rachel Sullivan, Political Science
Advisor: Stephen Dyson, Associate Professor, Political Science
Advisor: Jennifer Sterling-Folker, Alan R. Bennett Honors Professor, Political Science

19. "I Grew It, I Made It, I Ate It!" Evaluating a Bilingual Curricular Intervention for Middle School Students
Celeste Kurz, Nutritional Sciences
Advisor: Michael Puglisi, Assistant Extension Professor, Nutritional Sciences
Advisor: Hedley Freake, Professor, Nutritional Sciences
Advisor: Phoebe Godfrey, Associate Professor in Residence, Sociology

20. Race-Gender Identities in the 2018 House Elections
Isabelle Geller, Political Science
Advisor: Paul Herrnson, Professor, Political Science

21. Family Perspectives on Accessing Community Resources to Mitigate Toxic Stress
Maria Antony, Molecular and Cell Biology & Allied Health Sciences
Advisor: Aoife Heaslip, Assistant Professor, Molecular and Cell Biology
Advisor: Sharon Smith, Adjunct Professor, Molecular and Cell Biology

22. Pediatric Nasal Burns During Operative Cautery: Are Aural Speculums More Protective Than Nasal Speculums?
Anika Makol, Molecular and Cell Biology & Human Rights
Advisor: Victoria Robinson, Associate Professor, Molecular and Cell Biology

23. Risk Factors and Exposure to Violence in Pediatric Emergency Department Patients
Maryyam Ali, Molecular and Cell Biology
Advisor: Victoria Robinson, Associate Professor, Molecular and Cell Biology
24. Vocabulary and Speed-Accuracy Tradeoffs in Three Different Executive Function Tasks
Maria Sol Anyosa, Psychological Sciences & Human Development and Family Studies
Advisor: Nicole Landi, Associate Professor, Psychological Sciences

25. Relationships between Personality, Coping and Medication Adherence among Female College Students
Mairead Deacy, Psychological Sciences
Advisor: Dean Cruess, Professor, Psychological Sciences

26. The EEG Mu Rhythm and Temperament in 6- and 12-Month-Olds
Christina Flores, Psychological Sciences
Advisor: Kimberly Cuevas, Associate Professor, Psychological Sciences

27. Effects of Age Stereotypes on Hireability Ratings: Examining the Right Fit for a Job Within the Five Factor Framework
Sam Strizver, Psychological Sciences and English
Advisor: Janet Barnes-Farrell, Professor, Psychological Sciences

28. Investigating Speech Perception in Noise and Noise Exposure Patterns in College Musicians
Helena Sun, Speech, Language, and Hearing Sciences & Music
Advisor: Erika Skoe, Assistant Professor, Speech, Language, and Hearing Sciences

29. Using Quantitative Methods to Assess Language Use in the Home Environment: A Feasibility Study
Madison Thompson, Psychological Sciences & Speech, Language, and Hearing Sciences
Sarah Arnett, Speech Language, and Hearing Sciences & Cognitive Science
Advisor: Jennifer Mozeiko, Assistant Professor, Speech, Language, and Hearing Sciences

30. Investigating Molecular Targets of Dietary Therapies for Seizure-Like Event in Drosophila Metabolic Mutants
Jazmine Riley, Physiology and Neurobiology
Mirella Fernandez, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Assistant Professor in Residence, Physiology and Neurobiology
31. Ketogenic Diet Treatment for Cognitive Deficits in a Drosophila Model of Glial Tauopathy
Muhammad Shahzad, Physiology and Neurobiology
Xuezhi Zhang, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Assistant Professor in Residence, Physiology and Neurobiology

32. Effects of the VMAT-2 Inhibitor Tetrabenazine on Effort-Related Choice Behavior Using Mouse Touchscreen Procedures
Arsal Shah, Biological Sciences
Taina Quiles, Biological Sciences
Advisor: John Salamone, Distinguished Professor, Psychological Sciences

33. Investigating the Neurobiology of Motivational Deficiencies in Major Depressive Disorder: 5-HT1B Receptor Involvement in Behavioral Effects of Fluoxetine (Prozac)
Sarah Ferrigno, Psychological Sciences & Molecular and Cell Biology
Advisor: John Salamone, Distinguished Professor, Psychological Sciences

34. The Effect of Different Rhythmic Frequencies on Negative Mean Asynchrony
Danielle LaMay, Individualized Major: Computational Neuroscience
Advisor: Edward Large, Professor, Psychological Sciences

35. The Role of Vasculature Tone in the Retrotrapezoid Nucleus in Response to Hypoxia
Carlos Calderón Valero, Physiology and Neurobiology
Advisor: Daniel Mulkey, Professor, Physiology and Neurobiology

36. The Role of ApoC-III on Circulating Immune Cells in Response to a Western Diet
Nicholas Tambini, Allied Health Sciences
Advisor: Alison Kohan, Assistant Professor, Nutritional Sciences

37. Identification of Early Gene Differentiation Markers in Progenitor Cells Involved in the Onset of Fibrodysplasia Ossificans Progressiva (FOP)
Annie Jin, Molecular and Cell Biology & Nutritional Sciences
Advisor: David Goldhamer, Professor, Molecular and Cell Biology

38. Identification of Enterohemorrhagic Escherichia coli-Encoded Noncanonical Inflammasome Inhibitors
Sree Kolli, Biomedical Engineering
Advisor: Sivapriya Kailasan Vanaja, Assistant Professor, Immunology
39. Cranial Neural Crest-Targeted Deletion of Cdc73 Results in Embryonic Lethality
Lilia Shen, Biological Sciences
Advisor: Jessica Costa-Guda, Assistant Research Professor, Center for Molecular Oncology
Advisor: Andrew Arnold, Murray-Heilig Chair in Molecular Medicine and Professor, Medicine & Genetics and Genome Sciences

40. Effects of Bone Morphogenetic Proteins and Fibroblast Growth Factors on Mammalian Cells
Jolene Addi, Psychological Sciences
Advisor: Wai Hong (Kevin) Lo, Assistant Professor, Medicine & Endocrinology
Advisor: Cato Laurencin, University Professor, Albert and Wilda Van Dusen Distinguished Professor of Orthopedic Surgery, and Professor of Chemical, Materials, and Biomedical Engineering

41. Identity of Downstream Partners of SMa0113
Daniel Netting, Molecular and Cell Biology
Advisor: Daniel Gage, Professor, Molecular and Cell Biology

42. Investigating the Role of RhoD in the Regulation of Autophagy
Jessica Lohret, Molecular and Cell Biology
Advisor: Kenneth Campellone, Associate Professor, Molecular and Cell Biology

43. Muscle Activation in Patients with a History of Anterior Cruciate Ligament Reconstruction (ACLR)
Elena Masiello, Exercise Science
Advisor: Adam Lepley, Assistant Professor, Kinesiology

44. Imatinib Reduces the Efficacy of Cytotoxic Chemotherapy Agents
Willie Dong, Physiology and Neurobiology
Advisor: Andrew Wiemer, Associate Professor, Pharmaceutical Sciences

45. Molecular Mechanisms of Phenylalanine Aggregation
Samuel Kokomoor, Electrical Engineering, Computer Engineering, & Computer Science
Advisor: Anna Tarakanova, Assistant Professor, Mechanical Engineering & Biomedical Engineering
47. Galaxies Which Hosted Multiple Type IA Supernova in the Dark Energy Survey and Pan-STARRS
Aisha Massiah, Mathematics/Physics
Advisor: Daniel Scolnic, Assistant Professor, Physics, Duke University
Advisor: Cara Battersby, Assistant Professor, Physics

48. Preparation of Single Stranded Modified Vectors for Mutagenesis Studies in Bacteria and Mammalian Cells Using Recombinant DNA Technology
Mishil Nana, Physiology and Neurobiology
Advisor: Ashis Basu, Professor, Chemistry

49. Geochemical Signatures of Life in an Extreme Environment: Chemical "Footprints" of a Martian Analogue?
Benjamin Teerlinck, Molecular and Cell Biology and Geoscience
Advisor: Michael Hren, Assistant Professor, Chemistry

50. Development of an Open-Source Physiologically-based Pharmacokinetic Model to Predict Maternal-fetal Exposures of CYP450-metabolized Drugs
Madeleine Gastonguay, Applied Mathematical Sciences
Advisor: Ahmed Elmokadem, Research Scientist, Metrum Research Group
Advisor: Matthew Riggs, Chief Science Officer, Metrum Research Group

51. A Modular Approach to Multiscale Modeling of Invasive Pulmonary Aspergillosis
Yu Mei, Computer Science
Advisor: Reinhard Laubenbacher, Professor, Cell Biology & Computational Biology

52. Role of CD13 in Focal Adhesion Turnover and Its Significance in the Formation of Tunneling Nanotubes
Brian Aguilera, Molecular and Cell Biology
Advisor: Mallika Ghosh, Assistant Professor, Cell Biology & Center for Vascular Biology
Advisor: Linda Shapiro, Professor, Cell Biology & Center for Vascular Biology

53. Soluble Epidermal Growth Factor Receptor Isoforms: Functional Roles and Potential Therapeutic Application in Rheumatoid Arthritis
Tyler Ackley, Pharmacy & Molecular and Cell Biology
Advisor: Caroline Dealy, Associate Professor, Center for Regenerative Medicine and Skeletal Development, Cell Biology, & Orthopedic Surgery
54. Cellular Response to Biodegradable Stent in Vascular Bioreactor
Vinayak Mishra, Molecular and Cell Biology
Advisor: Laura Niklason, Professor, Anesthesiology and Biomedical Engineering, Yale University

55. Low-Cost Wearable Rhythmic Auditory Stimulation Device for Gait Enhancement
Ryanne Ramadan, Biomedical Engineering & Electrical Engineering
Advisor: Patrick Kumavor, Assistant Professor, Biomedical Engineering

56. Evaluation of Gallium Nitride Power Devices
Hamza Malik, Electrical Engineering
Advisor: Sung Yeul Park, Associate Professor, Electrical and Computer Engineering

57. Effect of Targeted Delivery of Hyaluronan by a Polymer-Peptide System on Ocular Surface Lubrication
Robert Driscoll, Biomedical Engineering
Advisor: Tannin Schmidt, Associate Professor, Biomedical Engineering

58. CartograTree: A Web-based Landscape Genomics Tool for Georeferenced Trees
Ronald Santos, Computer Science
Advisor: Jill Wegrzyn, Assistant Professor, Ecology and Evolutionary Biology

59. Creating a Deep Learning Pipeline to Improve the Accuracy and Efficiency of Non-Model Genome Annotation
Jeremy Bennett, Biomedical Engineering & Computer Science and Engineering
Advisor: Jill Wegrzyn, Assistant Professor, Ecology and Evolutionary Biology

60. Assessing the Accuracy of Gene Tree Rooting Methods on Prokaryotic Gene Families
Taylor Wade, Biomedical Engineering
Advisor: Mukul Bansal, Assistant Professor, Computer Science and Engineering

61. Analyzing Microplastics in Long Island Sound
Julia Lineweber, Environmental Engineering
Caroline Anastasia, Chemistry
Advisor: James Stuart, Senior Research Scientist, Center for Environmental Sciences and Engineering and Professor Emeritus, Chemistry
Advisor: Christopher Perkins, Academic Assistant II, Center for Environmental Sciences and Engineering
62. Mastitis Trends in Dairy Herds in Connecticut: A Retrospective Analysis
Kelsey Tyler, Animal Science
Advisor: Guillermo Risatti, Associate Professor, Pathobiology and Veterinary Science

63. Culicoides Vectors Involved in the Transmission of Epizootic Hemorrhagic Disease Virus-6 in the State of Connecticut
Sarah Srivichitraranond, Molecular and Cell Biology & Pathobiology
Advisor: Guillermo Risatti, Associate Professor, Pathobiology and Veterinary Science

64. Road Salts Influence Ranavirus Outbreaks in Wood Frog (Lithobates sylvaticus) Tadpoles
Sarah Jacobson, Natural Resources
Advisor: Tracy Rittenhouse, Associate Professor, Natural Resources and the Environment

65. How Does Sea Level Rise Alter Salt Marsh Plant Biomass Allocation and Nitrogen Content
Fiona Liu, Ecology and Evolutionary Biology
Advisor: Beth Lawrence, Assistant Professor, Natural Resources and the Environment

66. Impacts of Salt Marsh Vegetation and Sea-Level Rise on Soil Carbon Stability
Alaina Bisson, Environmental Sciences
Advisor: Beth Lawrence, Assistant Professor, Natural Resources and the Environment

67. Learning How To Improve Sanitation Practices in the Peruvian Andes: Community-Led Total Sanitation and Citizen Science
Mateo Escobar, Biomedical Engineering & Materials Science and Engineering
Caitlin Turney, Chemical Engineering & German Studies
Advisor: Jonathan Mellor, Assistant Professor, Civil and Environmental Engineering

68. Something Scary: Exploring Otherness through the Art of Horror
Kat Folker, Puppetry
Advisor: Bart Roccoberton, Professor, Dramatic Arts
Advisor: John Bell, Associate Professor, Dramatic Arts
Advisor: Lewis Gordon, Professor, Philosophy
SESSION 4 PRESENTATIONS

1. Anonymous is a Woman
Isabella Saraceni, Art – Painting
Advisor: Ray DiCapua, Professor, Art and Art History

2. Painting with Plants
David Rascati, Sustainable Plant and Soil Systems
Advisor: Eleanor Ouimet, Assistant Professor in Residence, Anthropology
Advisor: Julia Kuzovkina, Professor, Plant Science and Landscape Architecture

3. Out of Sight
Mei Buzzell, Art – Graphic Design
Advisor: Janet Pritchard, Professor, Art and Art History
Advisor: Edvin Yegir, Associate Professor, Art and Art History
Advisor: Kelly Dennis, Associate Professor, Art and Art History

4. What Are You? Documenting Filipino American Diversity Through Film
Nina Drozdenko, Digital Media and Design
Advisor: Matthew Worwood, Assistant Professor in Residence, Digital Media and Design

5. The Great Forest Beast
Carly Martin, Secondary English Education & English
Advisor: Alison Paul, Assistant Professor, Art and Art History

6. When Trends and Sustainability Clash: The Environmental Impacts of the Fast Fashion Industry
Taylor Muncy, History & Human Rights
Advisor: Shareen Hertel, Associate Professor, Political Science
Advisor: Jennifer Sterling-Folker, Alan R. Bennett Honors Professor, Political Science

7. Linguistic Contact and Conflict in the Balkans
Geoffrey Horvath, Individualized Major: Historical Linguistics
Advisor: Andrea Calabrese, Professor, Linguistics

Matthew Byanyima, Political Science & Economics
Advisor: Oksan Balyugen, Associate Professor, Political Science
SESSION 4 (SATURDAY 12:00-1:30)

9. The New Deal: Elements of Socialism in American Capitalism
Dea Ballij, Political Science & Economics
Advisor: Stacy Maddern, Adjunct Faculty, Urban and Community Studies

11. Ideological Inquiry: An Analysis of the Rhetoric Nominees Face In Supreme Court Confirmation Hearings
Michael Cocchiola, Political Science
Advisor: Virginia Hettinger, Associate Professor, Political Science

12. Domestic Minors in Sex Trafficking: Victims or Criminals?
Cyrene Nicholas, Physiology and Neurobiology & Anthropology
Advisor: Françoise Dussart, Professor, Anthropology

13. Measuring the Impacts of Regional Violence against Women Treaties on Domestic Practice
Amelia Henkel, Physics and Human Rights
Advisor: David Richards, Associate Professor, Political Science & Human Rights

14. Relationships Between Prejudice, Hate Crimes, and Gun Violence
Joshua Lovett-Graff, Women's, Gender, and Sexuality Studies & Chemical Engineering
Advisor: Blair Johnson, Distinguished Professor, Psychological Sciences

15. Can Educational Attainment Help Reduce the Gun Violence Crisis in the United States?
Rachel Rogerson, Political Science & Statistics
Advisor: Thomas Hayes, Assistant Professor, Political Science
Advisor: Jennifer Sterling-Folker, Alan R. Bennett Honors Professor, Political Science

Haley Hinton, Political Science and Individualized Major: Law, Science, and Technology
Advisor: Molly Land, Professor, Human Rights & Law
Advisor: Kristin Kelly, Associate Professor, Political Science

17. To Blame or Back the Blue: The Socio-Political Development of *Miranda v. Arizona* on Television Crime Dramas from 1967 to 1987
William Weishaupt, Political Science & American Studies
Advisor: Kimberly Bergendahl, Assistant Professor in Residence, Political Science
18. Global Terrorism: Examining the Radicalization of Terrorist Organizations Worldwide
Shreya Murthy, Individualized Major: Criminology, Human Rights, Finance
Advisor: David Richards, Associate Professor, Political Science & Human Rights

Mary Vlamis, Economics & Political Science
Advisor: Virginia Hettinger, Associate Professor, Political Science

20. In the Best Interests of the Child: A 50-State Comparison of Statutes
Maryanne Bowman, Human Development and Family Studies
Advisor: Preston Britner, Professor, Human Development and Family Studies

21. The Implications of Caregiver-Child Racial/Ethnic Match on Children's Early Care Quality and Developmental Outcomes
Hayley McDonald, Human Development and Family Studies
Advisor: Caitlin Lombardi, Assistant Professor, Human Development and Family Studies

22. To Cohabit or Not to Cohabit: Do Selection Factors Influence Marital Success or Dissolution?
Amanda Blazka, Human Development and Family Studies
Advisor: Caitlin Lombardi, Assistant Professor, Human Development and Family Studies

23. Sexting Behaviors and Justifications in Heterosexual and Homosexual Young Adults
Emily Karr, Human Development and Family Studies
Advisor: Alaina Brenick, Associate Professor, Human Development and Family Studies

24. #EATINGFORTWO: What are People Posting about When They Use This Hashtag in Instagram Posts about Diet, Physical Activity, and Weight Gain during Pregnancy?
Caitlyn Sward, Dietetics
Advisor: Molly Waring, Assistant Professor, Allied Health Sciences
SESSION 4 (SATURDAY 12:00-1:30)

25. Filling Gaps by Creating Webs to Support Student Mental Health: Applying a Multi-Tiered Systems of Support Framework to Postsecondary Education
Ireti Adegbesan, Human Development and Family Studies
Corona Zhang, Anthropology
Advisor: Sandra Chafouleas, Distinguished Professor, Educational Psychology

Chrystal Charles, Psychological Sciences
Advisor: Crystal Park, Professor, Psychological Sciences

27. Modelling Visual Attention During Natural Optic Flow
Andrew Banasiak, Psychological Sciences
Advisor: Ian Stevenson, Assistant Professor, Psychological Sciences

28. Pain in African American Young Adults and Their Pain Reduction Strategies
Bright Eze, Nursing
Advisor: Deborah McDonald, Associate Dean and Associate Professor, Nursing

29. A Survey of Parent Engagement in the Neonatal Intensive Care Unit (NICU)
Joeanna Novak, Nursing
Advisor: Dorothy Vittner, Assistant Clinical Professor, Nursing
Advisor: Deborah McDonald, Associate Dean and Associate Professor, Nursing

30. Near Infrared Spectroscopy to Diagnose Statin-Associated Muscle Symptoms: Reflections on A Student Learning Experience
Isabella Sanchez, Allied Health Sciences
Advisor: Beth Taylor, Associate Professor, Kinesiology

31. Size Threshold for Sonographic Follow-up of Simple Postmenopausal Adnexal Cysts: 1 cm versus 3 cm?
Mallika Shekhar, Physiology and Neurobiology
Advisor: Priyanka Jha, Assistant Professor, Radiology and Biomedical Imaging, University of California, San Francisco

32. INP Enhancement of Radiation Dosage and its Localization within U87 Tumors
Ferris El-tayyeb, Biological Sciences
Advisor: Henry Smilowitz, Associate Professor, Cell Biology
33. **Computational Pathway Analysis and Categorization of Colorectal Cancers**  
Raven Vella, Structural Biology and Biophysics and Spanish  
Advisor: Charles Giardina, Professor, Molecular and Cell Biology

34. **A Robust Delivery System for RNA Therapeutics**  
Suleyman Bozal, Structural Biology and Biophysics  
Advisor: Diane Burgess, Distinguished Professor, Pharmaceutical Sciences  
Advisor: Antonio Costa, Assistant Research Professor, Pharmaceutical Sciences

35. **The Effect of Stress on the Microbiome and Physiology of *Drosophila melanogaster***  
Sabrina Yum-Chan, Psychological Sciences & Molecular and Cell Biology  
Advisor: Nichole Broderick, Assistant Professor, Molecular and Cell Biology

36. **Assessing the Level of Shiga Toxin Production in *Escherichia coli* Strains**  
Corey Mallozzi, Structural Biology and Biophysics  
Advisor: Sivapriya Kailasan Vanaja, Assistant Professor, Immunology

37. **The Highly Conserved Intron of the DBP2B Gene May Effect Cis-Splicing in *T. Brucei***  
Zachary O’Connor, Molecular and Cell Biology  
Advisor: Arthur GunzI, Professor, Genetics and Genome Sciences

38. **Investigating: Carbon Source Utilization by Symbiotic Bacteria in the Hawaiian Bobtail Squid, *Euprymna scolopes***  
Abishek Arokiadoss, Physiology and Neurobiology  
Advisor: Spencer Nyholm, Associate Professor, Molecular and Cell Biology

39. **Antifouling Effects Provided by Bacterial Symbionts in the Hawaiian Bobtail Squid Egg**  
Hope Dieffenbach, Biological Sciences  
Advisor: Spencer Nyholm, Associate Professor, Molecular and Cell Biology

40. **Microglia Invasion and Activation in Low Grade Glioma Brain Tissue**  
Veolette Hanna, Physiology and Neurobiology  
Advisor: Joseph LoTurco, Professor, Physiology and Neurobiology
41. Investigating the ETS Transcription Factor, Pointed, for its Role in *Drosophila* Ovulation
Ekaterina Skaritanov, Physiology and Neurobiology
Advisor: Jianjun Sun, Assistant Professor, Physiology and Neurobiology

42. Construction of a 64-Channel Microelectrode Array for In-vivo, Single Neuron Recording in Rats
Neha Mathew, Physiology and Neurobiology
Advisor: Etan Markus, Professor, Psychological Sciences

43. Cyp4e2 is a Marker for *Drosophila* Trichogen Cells in Antenna Sensilla
Monica Nagalla, Physiology and Neurobiology
Advisor: Karen Menuz, Assistant Professor, Physiology and Neurobiology
Advisor: Linnaea Ostroff, Assistant Professor, Physiology and Neurobiology
Advisor: Rahul Kanadia, Associate Professor, Physiology and Neurobiology

44. The Effects of Lipopolysaccharide-Induced Inflammation on Effort-Related Choice Behavior
Jason Gallo, Physiology and Neurobiology
Advisor: John Salamone, Distinguished Professor, Psychological Sciences

45. Effects of the Novel Atypical Dopamine Transporter Blocker (S)-CE-123 on Effort-Based Choice: Studies with a Progressive Ratio/Chow Feeding Choice Procedure
Shanna Samels, Physiology and Neurobiology & Psychological Sciences
Advisor: John Salamone, Distinguished Professor, Psychological Sciences

47. FISHing in the Eye: An Investigation into the Mechanisms of Axon Regeneration
Kathleen Renna, Diagnostic Genetic Sciences
Advisor: Ephraim Trakhtenberg, Assistant Professor, Neuroscience
Advisor: Judy Brown, Associate Professor in Residence, Allied Health Sciences

48. Delayed Delivery of Simvastatin Using Biomimetic Materials in Elderly Mouse Calvarial Defects
Michael Nicolson, Biomedical Engineering
Advisor: Liisa Kuhn, Associate Professor, Center for Regenerative Medicine and Skeletal Development & Biomedical Engineering

49. Prototyping and Development of a Hands Free Umbrella System
Ryan Newell, Biomedical Engineering
Advisor: Savas Tasoglu, Assistant Professor, Mechanical Engineering & Biomedical Engineering
50. Developing Approaches for Genotyping Assay Design for Complex and Repetitive Plant Genomes
Ava Fritz, Biomedical Engineering
Advisor: Jill Wegrzyn, Assistant Professor, Ecology and Evolutionary Biology

51. Mimubase: A Genomics Database for the Monkeyflower Research Community
Charles Demurjian, Biological Sciences
Advisor: Yaowu Yuan, Assistant Professor, Ecology and Evolutionary Biology
Advisor: Jill Wegrzyn, Assistant Professor, Ecology and Evolutionary Biology

52. Platform to Custom Pattern Electrospun Nanofibers to Study Cell-Material Interaction
Joshua Moskow, Biomedical Engineering and Materials Science and Engineering
Advisor: Sangamesh Kumbar, Associate Professor, Orthopedic Surgery

53. Exploring New Materials For Nanopositioning: Strontium Titanate as a Cryogenic Piezoelectric
Emerson Dang, Physics
Advisor: Ilya Sochnikov, Assistant Professor, Physics

54. Novel Script for Finding Unique Gene Combinations for scRNAseq Clusters
Jacky Yang, Molecular and Cell Biology
Advisor: Ephraim Trakhtenberg, Assistant Professor, Neuroscience

55. Coupling of Markov Chains
Mason DiCicco, Mathematics & Computer Science
Advisor: Iddo Ben-Ari, Associate Professor, Mathematics

56. School Policy Evaluated with Reversible Discrete Time Markov Chain
Trajan Murphy, Applied Mathematical Sciences
Advisor: Iddo Ben-Ari, Associate Professor, Mathematics

57. Pricing VIX and TYVIX Options Using a Risk-Neutralized Historical Returns Distribution
Anthony Sisti, Mathematics/Statistics
Advisor: Marcel Blais, Professor, Mathematical Sciences, Worcester Polytechnic Institute
Advisor: Stephan Sturm, Associate Professor, Mathematical Sciences, Worcester Polytechnic Institute
SESSION 4 (SATURDAY 12:00-1:30)

58. Molecular Mechanisms of Tropoelastin Elasticity
Julia Oppenheimer, Mechanical Engineering
Michael Bernard, Mechanical Engineering
Advisor: Anna Tarakanova, Assistant Professor, Mechanical Engineering & Biomedical Engineering

59. Molecular Design of Soluble Zein Protein
Kaixiang Lin, Computer Science and Engineering and Engineering Physics
Advisor: Anna Tarakanova, Assistant Professor, Mechanical Engineering & Biomedical Engineering

60. Analyzing Perfluorinated Alkyl Acids in Surface Water by Solid Phase Extraction Followed by Ultra High-Performance Liquid Chromatography/Tandem Mass Spectrometry
Trevor McBrine, Chemistry
Jacob Cortigiano, Chemistry
Advisor: James Stuart, Senior Research Scientist, Center for Environmental Sciences and Engineering and Professor Emeritus, Chemistry
Advisor: Anthony Provatas, Academic Assistant II, Center for Environmental Sciences and Engineering
Advisor: Christopher Perkins, Academic Assistant II, Center for Environmental Sciences and Engineering

61. Electron Delocalization in Nitrile-Functionalized Oligopolyphenylenes
Reid Wilson, Chemistry
Advisor: Tomoyasu Mani, Assistant Professor, Chemistry

62. Silver Nanoparticle Toxicity and the Effect on Soil Protists
Daniel Zeigher, Environmental Engineering
Advisor: Leslie Shor, Associate Professor, Chemical and Biomolecular Engineering

63. Microbial Succession of a Newly Developed Aquaponics System
Tanzin Begam, Biological Sciences
Advisor: Kendra Maas, Academic Assistant III, Microbial Analysis, Resources, and Services (MARS)

64. Causes of Synchrony in Food Provisioning to Nestlings and Its Relationship to Nest Success in Forest Fragments
Benjamin Ranelli, Ecology and Evolutionary Biology & English
Advisor: Chris Elpick, Associate Professor, Ecology and Evolutionary Biology
65. Investigating Geographical Differentiation in Sculpin (Cottus spp.) Morphology in Connecticut Watersheds
Joshua Tellier, Ecology and Evolutionary Biology
Advisor: Eric Schultz, Professor, Ecology and Evolutionary Biology

66. The Relationship Between Soil Conditions, Forest Composition, and Morph Frequencies of a Woodland Salamander, *Plethodon cinereus*
Ryan Mayer, Ecology and Evolutionary Biology
Advisor: Elizabeth Jockusch, Professor, Ecology and Evolutionary Biology

67. The Effects of Maternal Nutrient Restriction Followed by Realimentation on Offspring Immunity and Metabolism
Veronica Pleasant, Animal Science & Pathobiology
Advisor: Kristen Govoni, Associate Professor, Animal Science

68. The Role of Probiotic Lactic Acid Bacteria in Treating Clostridium Difficile Infections
Jamie Georgelos, Molecular and Cell Biology
Advisor: Kumar Venkitanarayanan, Associate Dean, College of Agriculture, Health, and Natural Resources, and Professor, Animal Science
Special Thanks

The Office of Undergraduate Research wishes to thank the deans of the represented schools and colleges, the Office of the Provost, the Office of the Vice President for Research, and the generous donors to the Honors Program for their support of undergraduate research through contributions to the Summer Undergraduate Research Fund and OUR grant programs. In addition, we thank the following individuals for their support:

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Jamie Georgelos ’19 (CLAS)  Veronica Pleasant ’19 (CAHNR)
Priscilla Grillakis ’19 (CLAS)  Emily Regan ’19 (SFA)
### Alphabetical Listing of Presenters with Poster Numbers

**S1 denotes a Session 1 presentation** – Friday, April 12 at 2:00 p.m.

**S2 denotes a Session 2 presentation** – Friday, April 12 at 4:00 p.m.

**S3 denotes a Session 3 presentation** – Friday, April 13 at 10:00 a.m.

**S4 denotes a Session 4 presentation** – Friday, April 13 at 12:00 p.m.

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Frontiers is a celebration of scholarship, innovation, creativity, and collaboration. Since its establishment in 1998, Frontiers has provided a venue for students to share their ideas and discoveries with the University community.