27th Annual FRONTIERS

UNDERGRADUATE RESEARCH POSTER EXHIBITION

April 12, 2024
2:00-3:30 p.m. • 4:00-5:30 p.m.

April 13, 2024
11:00 a.m.-12:30 p.m. • 1:00-2:30 p.m.
Schedule of Events

Poster Exhibition

**Friday, April 12, 2024**
Session 1: 2:00 p.m. – 3:30 p.m.
Session 2: 4:00 p.m. – 5:30 p.m.

**Saturday, April 13, 2024**
Session 3: 11:00 a.m. – 12:30 p.m.
Session 4: 1:00 p.m. – 2:30 p.m.

Welcome and Introductions – Friday, April 12 - 3:45 p.m.

**Micah Heumann**,
Director, Office of Undergraduate Research

Keynote Speaker

**Gladis Kersaint**
Vice Provost for Academic Affairs
University of Connecticut

Presentation of the Mentorship Excellence Awards

**Faculty Awards**

**Ashley Helton**
Associate Professor, Natural Resources and the Environment

**Ryan Talbert**
Assistant Professor, Sociology

**Graduate Student Award**

**Olivia Corvino**
Ph.D. Candidate, Nutritional Sciences

Closing Remarks
About Frontiers in Undergraduate Research

The Frontiers Poster Exhibition is a multidisciplinary research forum showcasing undergraduate research, scholarship, and creative projects at the University of Connecticut. Frontiers 2024 is the twenty-seventh annual Frontiers event sponsored by the Office of Undergraduate Research (OUR). This year’s exhibition includes 220 students presenting posters for 204 research and creative projects at the Storrs in-person exhibition. 13 students will present 13 research and creative project at the Stamford in-person exhibition on April 16, 2024. Additional projects can be viewed in the online exhibition at ugradresearch.uconn.edu/frontiers2024.

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 $640,000 in 2022-23 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 3-10.
- Friday Session 2 presentations are listed on pages 11-17.
- Saturday Session 3 presentations are listed on pages 18-24.
- Saturday Session 4 presentations are listed on pages 25-31.
- An alphabetical listing of presenters begins on page 33.

SESSION 1 PRESENTATIONS

1. From Grandfather to Mother, From Mother to Daughter
   Irene Pham, Studio Art
   Advisor: Douglas Degges, Assistant Professor, Art and Art History

2. Beyond the Bars: Redemption and Renewal
   Sophia Dover, Journalism & Psychological Sciences
   Advisor: Marie Shanahan, Associate Professor, Journalism

3. Undocumented Students’ Experiences with Health Insurance
   Kelly Ruesta, Individualized Major: Health Disparities among Marginalized Groups
   Advisor: Sarah Willen, Associate Professor, Anthropology

4. Special Education Professionals Perceptions and Thoughts about Restraint and Seclusion in Special Education
   Erin Logan, Special Education
   Advisor: Jennifer Freeman, Associate Professor, Educational Psychology

5. “You Didn’t Even See the Signs”: Tucker Carlson Tonight, Partisan Media, and the 2020 Election
   Madeline Doyle, Political Science
   Advisor: Matthew Singer, Professor, Political Science
   Advisor: Jennifer Dineen, Associate Professor in Residence, Public Policy
6. Some Violence is Less Forgivable: How Violence Against Civilians is Remembered in South Korean History Textbooks
Madison Tyburski, Political Science & Individualized Major: Global Studies
Advisor: Jennifer Sterling-Folker, Professor, Political Science

7. Caution: You’re at the Supreme Court’s Discretion
Ariana Bahavar, Political Science
Advisor: Kristin Kelly, Associate Professor, Political Science

8. Integrating Pediatric Palliative Care Case Studies into an Undergraduate Nursing Curriculum
Lena Bosco, Nursing
Advisor: Katherine Bernier Carney, Assistant Professor, Nursing

9. Civil Rights Era Ku Klux Klan Mobilization and Changes in County-Level Incarceration Rates across the U.S. South
Joseph Annan-Kingsley, Individualized Major: Global Health and Social Inequality
Advisor: Ryan Talbert, Assistant Professor, Sociology

10. Civil Rights Era Klan Mobilization and Racial Disparities in Infant Mortality
Megha Rana, Molecular and Cell Biology
Advisor: Ryan Talbert, Assistant Professor, Sociology

11. Examining the Effects of a Joystick Operated Ride-On-Toy Intervention on Arm Function in Children with Hemiplegic Cerebral Palsy
Ava Carter, English & Psychological Sciences
Kylie Barbour, Allied Health Sciences
Advisor: Sudha Srinivasan, Assistant Professor, Kinesiology

12. The Space Between Black and Liberation: Intersectional Invisibility within Social Movements Visualized
Breanna Bonner, Human Rights & Political Science
Advisor: Evelyn Simien, Professor, Africana Studies & Political Science

13. Literary Invocations in Political Discourse: An Analysis of President Barack Obama’s Reading Lists
Lauren Baskin, Political Science & English
Advisor: Yohei Igarashi, Associate Professor, English
Advisor: Eleni Coundouriotis, Professor, English
Advisor: Jane Gordon, Professor, Political Science
14. One Small Step, One Giant Leap: Comparing America’s Trajectory to the Moon in the Apollo and Artemis Eras
Christian Chlebowski, Accounting & Individualized Major: Government, Policymaking, and Law
Advisor: Alina Lerman, Associate Professor, Accounting
Advisor: Bill Simonsen, Professor, Public Policy
Advisor: Vishal Baloria, Associate Professor, Accounting

15. Gender Differences in Linguistic Measures Among Three-Year-Olds with ASD
Kylie Robinshaw, Psychological Sciences
Advisor: Letitia Naigles, Professor, Psychological Sciences

16. Improvement in Measuring Attention Using Eye Movements
Annesha Das, Cognitive Science & Physiology and Neurobiology
Advisor: Ido Davidesco, Assistant Professor, Educational Psychology

17. Dynamical Processes in Rat Observational Learning
Nithila Annadurai, Psychological Sciences & Computer Science
Advisor: Etan Markus, Professor, Psychological Sciences

18. The Relationship Between Parenting Behavior and Child Prosocial Behavior Over Time
Vera Bici, Psychological Sciences
Kiley Sweet, Allied Health Sciences
Katherine Westcott, Art
Prattoi Saha, Psychological Sciences
Anisa Rafik, Psychological Sciences
Advisor: Jeffrey Burke, Associate Professor, Psychological Sciences

20. Effects of Aripiprazole on Effort-Based Behavior in Female Rats on FR5/Chow Feeding Choice Task: A Comparison with Male Rats
Samantha Esposito, Physiology and Neurobiology
Advisor: John Salamone, Distinguished Professor, Psychological Sciences

21. Effects of Aripiprazole on Effort-Related Behaviors of Female Rats Utilizing a Progressive Ratio / Chow Feeding Choice Task: A Comparison to Male Rats
Aastha Gupta, Physiology and Neurobiology & Sociology
Advisor: John Salamone, Distinguished Professor, Psychological Sciences
22. Are Individual Differences in EEG Mu Rhythm Related to 6-Month-Olds' Motor Skills?
Raynia Martinez, Psychological Sciences
Lira Cenka, Psychological Sciences
Advisor: Kimberly Cuevas, Associate Professor, Psychological Sciences

23. Relationship Between Total Anxiety Scores and Reading Comprehension in Students Aged 7-13
Mokshitha Chimbili, Molecular and Cell Biology
Advisor: Nicole Landi, Professor, Psychological Sciences

24. The Relationship between Amygdala and Orbitofrontal Cortex Volume with Oppositional Defiant Disorder
Rahul Alla, Molecular and Cell Biology
Nicholas Cyr, Psychological Sciences
Eunice Kim, Psychological Sciences
Aaron Matthew, Molecular and Cell Biology
Advisor: Jeffrey Burke, Associate Professor, Psychological Sciences

25. Unveiling Corpus Luteum function in Drosophila Ovary
Priya Aggarwal, Physiology and Neurobiology & Molecular and Cell Biology
Advisor: Jianjun Sun, Professor, Physiology and Neurobiology

26. Characterizing Key Properties of Complex Delivery Systems for the Treatment of Ovarian and Prostate Cancer
Ananya Aggarwal, Molecular and Cell Biology
Advisor: Xiuling Lu, Professor, Pharmaceutical Sciences

Kellen Maurus, Molecular and Cell Biology
Advisor: Diane Burgess, Distinguished Professor, Pharmaceutical Sciences

28. Exploring the Role of Arp2/3 in Follicle Rupture in Drosophila melanogaster
Juwon Kang, Biological Sciences
Advisor: Jianjun Sun, Professor, Physiology and Neurobiology

29. Modeling Stem Cell Fate in Ependymogensis Using Cre Lox Mice
Poorva Bagchee, Physiology and Neurobiology
Advisor: Joanne Conover, Professor, Physiology and Neurobiology
30. Synaptic Protein Expression in Hypothalamic Arousal Neurons Regulates Sleep-Wake Architecture
Alana Grant, Physiology and Neurobiology & Anthropology
Advisor: Alexander Jackson, Associate Professor, Physiology and Neurobiology

31. Impact of Prenatal Diagnosis on Postnatal Outcomes for Coarctation of the Aorta in Newborns
Nathan Barandon, Molecular and Cell Biology
Advisor: Sharon Smith, Professor, Pediatrics

32. Exploring the Impact of PTSD on Treatment Adherence in Buprenorphine-Assisted Treatment for Opioid Use Disorder
Amen Khan, Psychological Sciences
Advisor: Carla Rash, Associate Professor, Medicine

33. Widespread 3’ UTR Lengthening and Alternative Splicing in Human ES Cell Neural Differentiation
Steven Chen, Physiology and Neurobiology
Advisor: Pedro Miura, Associate Professor, Genetics and Genome Sciences

34. Suggested Effects of Ketone Supplementation on Fertility in *Drosophila melanogaster* Model, Oregon R
Maya Ravi, Nutritional Sciences
Fiona Boyd, Physiology and Neurobiology
Faith Thomas, Physiology and Neurobiology & Molecular and Cell Biology
Advisor: Geoffrey Tanner, Associate Professor in Residence, Physiology and Neurobiology

35. Molecular and Metabolic Mechanisms Ketone Body Effects on Fat Body Remodeling
Mirsha Pierre, Physiology and Neurobiology & Spanish
Advisor: Geoffrey Tanner, Associate Professor in Residence, Physiology and Neurobiology

36. The Impact of the Ketogenic Diet on Fertility in a Female *Drosophila melanogaster* Model
Faith Thomas, Physiology and Neurobiology & Molecular and Cell Biology
Maya Ravi, Nutritional Sciences
Fiona Boyd, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Associate Professor in Residence, Physiology and Neurobiology
37. Understanding Phosphotyrosine Signaling in Chronic Lymphocytic Leukemia Using Single-Cell SH2 Profiling
Marilia Gonzalez, Allied Health Sciences
Klea Ajazi, Molecular and Cell Biology
Advisor: Ji Yu, Associate Professor, Center for Cell Analysis and Modeling
Advisor: Bruce Mayer, Professor, Genetics and Genome Sciences
Advisor: Kazuya Machida, Associate Professor, Genetics and Genome Sciences

38. The Role of Zinc and Zinc Homeostasis in Mammalian Growth
Nishant D'Souza, Nutritional Sciences
Advisor: Sangyong Choi, Assistant Professor, Nutritional Sciences

39. Synthesis of Photoswitchable Pyrimidine Benzamides for KCNQ Channel Regulation
Sahiti Bhyravavajhala, Chemistry & Molecular and Cell Biology
Advisor: Michael Kienzler, Assistant Professor, Chemistry

40. Anti-Arrhenius Behavior of Electron Transfer Reactions in Molecular Dimers
Neo Lin, Chemistry
Advisor: Tomoyasu Mani, Associate Professor, Chemistry

41. Exploring the Antimicrobial Activity of Anionic Peptides Against Bacterial Strains Through Canonical Methodology
Michael Ibrahim, Chemistry
Bryant Perez-Torres, Chemistry
Advisor: Alfredo Angeles-Boza, Associate Professor, Chemistry

42. Diazocine Synthesis for Photocontrol of CRAC Channels
Carrie Epstein, Physiology and Neurobiology
Advisor: Michael Kienzler, Assistant Professor, Chemistry

43. Purification of Natural RNAs Through Size-Exclusion Chromatography
Cole Angell, Chemistry
Advisor: Daniele Fabris, Professor, Chemistry

44. Measuring Soot in a Novel Configuration for Diffusion Flames Fueled by Ethylene Doped with Isododecane
Christian Bjork, Mechanical Engineering
Advisor: Francesco Carbone, Assistant Professor, Mechanical, Aerospace, and Manufacturing Engineering
45. **Structural Differences and Protein Dynamics Brought by Variant Pro220Leu in Elastin**
Zyaja Huggan, Mechanical Engineering
Advisor: Anna Tarakanova, Assistant Professor, Mechanical, Aerospace, and Manufacturing Engineering

46. **Tackling Polyploid Genome Assembly of the Endangered Pumpkin Ash Tree (Fraxinus profunda)**
Emily Strickland, Molecular and Cell Biology & Nutritional Sciences
Laurel Humphrey, Biological Sciences
David Baukus, Molecular and Cell Biology
Owen McEwing, Biological Sciences
Advisor: Jill Wegrzyn, Associate Professor, Ecology and Evolutionary Biology

47. **The First Genome Reference for the Tropical Legume, Inga vera, and Comparative Gene Family Analysis Among the Fabaceae**
Harshita Akella, Molecular and Cell Biology
Advisor: Jill Wegrzyn, Associate Professor, Ecology and Evolutionary Biology

48. **The Ecology of the Black-Backed Jackal**
Devenny Widmer, Natural Resources and the Environment
Advisor: Morty Ortega, Associate Professor, Natural Resources and the Environment

49. **Comparative Energy Allocation of Adult Anadromous Sea Lamprey and Invasive Landlocked Sea Lamprey**
Annaliese Seibel, Biological Sciences
Advisor: Eric Schultz, Professor, Ecology and Evolutionary Biology

50. **Native Bee Biodiversity in Mansfield Hollow’s Rare Pine Barren Community**
Hailey Baranowski, Environmental Sciences & Ecology and Evolutionary Biology
Advisor: David Wagner, Professor, Ecology and Evolutionary Biology

51. **Does the Sex Ratio of Eastern Bluebird Nestlings Influence Parasite Abundance across Multiple Seasons?**
Heather Bjerke, Pathobiology
Advisor: Sarah Knutie, Associate Professor, Ecology and Evolutionary Biology
52. Taurus
Joanie Papillon, Puppet Arts
Advisor: Matt Sorensen, Visiting Assistant Professor, Puppet Arts
Advisor: Matthew Cohen, Professor, Dramatic Arts
1. Trans-Photography: Gender Euphoria and Expression Through Portraiture
Alexa Udell, Psychological Sciences
Advisor: Daniel Buttrey, Coordinator, Digital Art Service Lab, Art and Art History

2. Exploring Asexual Identity and Well-Being
Olivia Camacho, Communication
Advisor: Amanda Denes, Professor, Communication

3. Can a Law Really Protect Glaciers? Examining a Visionary Law in Argentina
Colin Piteo, History & Political Science
Advisor: Mark Healey, Associate Professor, History

4. The Evolution of Physics Education Research in the Last Two Decades
Isaac Pena, Physics
Advisor: Xian Wu, Associate Professor in Residence, Physics

5. Art in the Wake of Unrest: The Influence of the 2020 Protests on Artistic and Creative Narratives in Fresno and Springfield
Bridget Quiroga, Political Science & Human Rights
Foluke Akinkunmi, Political Science
Advisor: Jeremy Pressman, Professor, Political Science

6. Embedding Shared Decision Making in Pediatric Nursing Education
Emily Longtin, Nursing
Advisor: Katherine Bernier Carney, Assistant Professor, Nursing

7. Assessing Drowning Risk Factors in Patients Presenting to the Pediatric ED
Emily Chiappini, Molecular and Cell Biology
Advisor: Kathleen M. Felisca, Physician, Pediatric Emergency Medicine, Connecticut Children’s Medical Center
Advisor: Sharon Smith, Professor, Pediatrics
8. Acculturation and Access to Dental Care Trends from 2011-2020
Niti Kamani, Molecular and Cell Biology
Advisor: Thomas Abbott, Associate Professor in Residence, Molecular and Cell Biology
Advisor: Sharon Smith, Professor, Pediatrics

9. Disordered Eating in Adolescent Athletes
Rhythm Pravasi, Molecular and Cell Biology
Advisor: Elizabeth Kline, Assistant Professor in Residence, Molecular and Cell Biology
Advisor: Sharon Smith, Professor, Pediatrics

10. Need for Speed: Use of Ride-on-Toys for Rehabilitation in Children with Cerebral Palsy
Uthara Sunderesh, Physiology and Neurobiology & Individualized Major: Global Health & Reproductive Rights
Advisor: Sudha Srinivasan, Assistant Professor, Kinesiology

11. Variability in Test Performance as a Predictor of Dementia in Older Adults with Depression
Carissa Kelley, Psychological Sciences
Advisor: Kevin Manning, Associate Professor, Psychiatry

12. Peer Contagion in Anxiety Transmission Between Friends in Late Adolescents
Samantha Dougherty, Psychological Sciences
Advisor: Kimberli Treadwell, Associate Professor, Psychological Sciences

13. Using the ADAPT-ITT Model to Adapt a Tailored Oral Health and Nutrition Educational Messaging Intervention for Children and Adolescents in a Pediatric Dental Office Setting
Grace Xiong, Molecular and Cell Biology & Individualized Major: Global Health, Human Rights, and Food Justice
Advisor: Valerie Duffy, Professor, Allied Health Sciences

14. Impacts of Parental Behavior on Attention in Children with Cochlear Implants
Juliette Ranelli, Speech, Language, and Hearing Sciences
Advisor: Derek Houston, Professor, Speech, Language, and Hearing Sciences
15. Narrative Macrostructure: A Comparison Between Autistic and Typically Developing Adolescents
Yasmin Andalib, Cognitive Science
Advisor: Letitia Naigles, Professor, Psychological Sciences

16. Linking the ASPM Phenotype to Autism Spectrum Disorder
Jiss Joseph, Physiology and Neurobiology & Psychological Sciences
Advisor: R. Holly Fitch, Professor, Psychological Sciences

17. A Single Gene Association Study for Dyslexia: Expanding Our Understanding of the Relationship Between NRSN1 and Reading Disorders
Rhea Koyambreth, Physiology and Neurobiology & Psychological Sciences
Advisor: Nicole Landi, Professor, Psychological Sciences

18. BEST4+ CFTR High Expresser Cells (CHE) In Normal Rat Are Neuropods That Sense and Respond to Luminal PH and Are Altered in DF508 CF Intestine
Reginald “RJ” Streater, Physiology and Neurobiology & Molecular and Cell Biology
Jason Jin, Yale School of Medicine
Caroline Muiler, Yale School of Medicine
Advisor: Nadia Ameen, Professor of Pediatrics & Cellular and Molecular Physiology, Yale School of Medicine
Advisor: Joseph LoTurco, Professor, Physiology and Neurobiology
Advisor: David Daggett, Associate Professor in Residence, Molecular and Cell Biology

20. Characterizing the Minor Spliceosome in Arabidopsis thaliana
Tomas Lopes, Molecular and Cell Biology
Advisor: Rahul Kanadia, Associate Professor, Physiology and Neurobiology

21. Anatomical Characterization of Lateral Hypothalamic GABAergic Projections to Neuromodulatory Regions
Jeremy Lesser, Physiology and Neurobiology
Advisor: Alexander Jackson, Associate Professor, Physiology and Neurobiology

22. The BRAFV600E Mutation in Postnatal Radial Glial Cells Alters Glial Development in the Cerebral Cortex
Videep Soni, Physiology and Neurobiology & Molecular and Cell Biology
Advisor: Joseph LoTurco, Professor, Physiology and Neurobiology
23. A Cytoarchitectural Analysis of the Rat Amygdala in Ultrathin Serial Sections
Katrina Schneider, Biological Sciences & Psychological Sciences
Advisor: Linnaea Ostroff, Assistant Professor, Physiology and Neurobiology

24. Identifying Key Evolving Residues That Drive CID/CAL1 Incompatibility in Drosophila Species
Hayden Yuan, Molecular and Cell Biology
Advisor: Barbara Mellone, Professor, Molecular and Cell Biology

25. Characterization of Stage-Specific Expression and Localization of Retrotransposons in Drosophila Spermatocytes
Emma Kristine Beard, Molecular and Cell Biology
Advisor: Mayu Inaba, Assistant Professor, Cell Biology

26. Maintenance of Lysosomal Integrity by Actin Nucleation Factors
Lianna Wagner, Molecular and Cell Biology
Advisor: Kenneth Campellone, Associate Professor, Molecular and Cell Biology

27. Measuring Motility of Hematopoietic Progenitors by Time-Lapse Imaging and Single Cell Tracking to Elucidate a Role for PAR1 in Osteoclastogenesis
Rebecca Abirached, Medical Laboratory Sciences
Rakshan Chadha, Molecular and Cell Biology
Anthony Zuo, Biological Sciences
Advisor: Vanessa Scanlon, Assistant Professor, Center for Regenerative Medicine and Skeletal Biology
Advisor: Joseph Lorenzo, Professor, Medicine

28. Identifying Factors for Colonization Fitness in the Leech Digestive Tract Symbiont Aeromonas veronii Through Experimental Evolution
Darren Lee, Molecular and Cell Biology
Advisor: Joerg Graf, Professor, Molecular and Cell Biology

29. Using Deep Learning to Track Mammalian Facial Expressions in Correlation to Brain Activity
Varun Chamarty, Biomedical Engineering
Advisor: Timothy Spellman, Assistant Professor, Neuroscience
30. An Improved Computational Approach for Detecting Partial Gene Transfer
Shreya Seshadri, Computer Science
Advisor: Mukul Bansal, Associate Professor, School of Computing

31. The Function of the Binding of Polymerase iota and RAD23A
Jonathan Romine, Structural Biology and Biophysics & Psychological Sciences
Advisor: Irina Bezsonova, Associate Professor, Molecular Biology and Biophysics

32. Epiproteomic Signatures Regulating Behavioral Plasticity in Carpenter Ants
Matt Gilbert, Molecular and Cell Biology & Psychological Sciences
Advisor: Matan Sorek, Postdoc Scholar, Cell and Developmental Biology, University of Pennsylvania
Advisor: Heather Read, Professor, Psychological Sciences

33. Investigating the Different Antibiotic Activity Produced by the Same Genus: Pseudomonas Sp
Magdalena Swierczek, Molecular and Cell Biology
Advisor: Patricia Rossi, Associate Professor in Residence, Molecular and Cell Biology
Advisor: Spencer Nyholm, Professor, Molecular and Cell Biology

35. Lipid Nanocarriers For Encapsulation and Delivery of Plasmid DNA
Mia Haynes, Biomedical Engineering
Advisor: Mu-Ping Nieh, Professor, Chemical and Biomolecular Engineering

36. V-belt Optimization for Bicycle Continuously Variable Transmission
Ethan Wicko, Mechanical Engineering
Advisor: Horea Ilies, Professor, Mechanical, Aerospace, and Manufacturing Engineering

37. Analysis of Picoeukaryote Populations Inhabiting Extreme Environments in the Chilean Altiplano
Alex Frutos, Molecular and Cell Biology
Advisor: Lisa Nigro, Assistant Professor, Biology, Central Connecticut State University
Advisor: Rachel O'Neill, Distinguished Professor, Molecular and Cell Biology
38. A Novel Imputation Strategy for Incomplete Compositional Data Analysis
Sana Gupta, Statistics
Advisor: Ofer Harel, Interim Dean, College of Liberal Arts and Sciences & Professor, Statistics

39. Murmurations in Arithmetic
Alexey Pozdnyakov, Mathematics & Computer Science
Advisor: Kyu-Hwan Lee, Professor, Mathematics
Advisor: Jeremy Teitelbaum, Professor & Director, Mathematics
Advisor: Derek Aguiar, Assistant Professor, School of Computing

40. Investigation of Tail Bifurcation in Ambystoma maculatum
Deborah Heaslip, Animal Science
Advisor: Elizabeth Jockusch, Professor, Ecology and Evolutionary Biology

41. Monitoring the Calving Front of Breiðamerkurjökull Using UAV Photogrammetry and Sentinel-1 Imagery
Caroline Wexler, Earth Science & Individualized Major: Geoscience Communication and Visual Media
Advisor: Robert Thorson, Professor, Earth Sciences

42. Creating an R package: LoRaD (Lowest Radial Distance)
Elena Korte, Statistics
Advisor: Paul Lewis, Professor, Ecology and Evolutionary Biology

43. Batrachoseps Boundaries: A Response to Climate Change?
Lesley Rendon-Hernandez, Ecology and Evolutionary Biology & Natural Resources
Advisor: Elizabeth Jockusch, Professor, Ecology and Evolutionary Biology

44. Effect of α-pinene on Ectoparasite Resistance in Tree Swallows
Sila Inanoglu, Biological Sciences
Hannah Brewer, Animal Science & Ecology and Evolutionary Biology
Advisor: Sarah Knutie, Associate Professor, Ecology and Evolutionary Biology

45. The First Draft Genome of Cold-Water Octocoral Anthothela grandiflora, the Great Flowerbud Coral
Laurel Humphrey, Biological Sciences
Advisor: Jill Wegrzyn, Associate Professor, Ecology and Evolutionary Biology
46. Tale of the Terpenes: Analysis of Molecular Mechanisms Across Hemlock Species
David Baukus, Molecular and Cell Biology
Advisor: Jill Wegrzyn, Associate Professor, Ecology and Evolutionary Biology

47. How Does Hummock Creation in Submerging Salt Marshes Alter Nitrous Oxide Fluxes?
Juliette Doyle, Environmental Sciences
Advisor: Beth Lawrence, Associate Professor, Natural Resources and Environment

48. Comparing the Effectiveness of Different Forms of Vitamin E Supplementation (Liquid vs. Powder) on Serum Alpha-Tocopherol Concentrations in Developing Horses
Emilia Fong-Gallagher, Animal Science
Advisor: Amy Safran, Lecturer, Animal Science
Advisor: Sarah Reed, Associate Professor, Animal Science

49. Investigation of Reproductive Efficiency of Female Offspring Born to Poorly-Fed Ewes During Gestation
Ariel Kuhl, Animal Science
Advisor: Steven Zinn, Professor, Animal Science

50. Milk Components Affect Microbiome Composition in Dairy Cows
Jonathan Gallo, Animal Science
Advisor: Breno Fragomeni, Assistant Professor, Animal Science

51. Nutritional Management Strategy Effects on Beef x Dairy Crossbred Calves During the Grower Period
Rebecca Tudor, Animal Science
Advisor: Sarah Reed, Associate Professor, Animal Science

52. Protecting Native Pollinators of New England: Identifying the Effect of Combined Signaling Cues in Plant-Pollinator Interactions
Natalie Kach, Biological Sciences & Pathobiology
Advisor: Yaowu Yuan, Associate Professor, Ecology and Evolutionary Biology
SESSION 3 PRESENTATIONS

1. A Las Mujeres. To the Women.
Katherine Jimenez, English & Journalism
Advisor: Regina Barreca, Distinguished Professor, English
Advisor: Sean Forbes, Associate Professor in Residence, English
Advisor: Julie Serkosky, Associate Professor in Residence, Journalism

2. The Interactions Between the Ectoderm and Mesoderm Throughout Animal Development
Daniela Johnson, Animal Science & Art
Advisor: Sarah Reed, Associate Professor, Animal Science
Advisor: John Richardson, Professor, Art and Art History

3. Literature Review: Historic Transit Migration through Darién, Panama
Kelly Ruesta, Individualized Major: Health Disparities among Marginalized Groups
Advisor: Sarah Willen, Associate Professor, Anthropology

Katherine Dattner, Political Science
Advisor: Ruth Braunstein, Associate Professor, Sociology

5. Ensuring Reproductive Justice in the Carceral System - Evaluation of State Prison Healthcare Oversight
Akshara Iyer, Physiology and Neurobiology
Advisor: Matthew Hughey, Professor, Sociology

6. Dyadic Worry and Co-Rumination as Prospective Interpersonal Risk Factors in Development of Anxiety and Depression in Late Adolescents
Adriana Torlish, Psychological Sciences
Advisor: Kimberli Treadwell, Associate Professor, Psychological Sciences

7. Intergenerational Conflict Between Second Generation Vietnamese American College Students with an Eating Disorders and Their Vietnamese Immigrant Parents
Mai-Khanh Ho, Nursing
Advisor: Carrie Eaton, Associate Clinical Professor, Nursing
8. Drug and Alcohol Use in the Context of Sex Work Among Travestis and Trans Women in Sao Paulo, Brazil: A Qualitative Study
Michael Pena, Allied Health Sciences
Advisor: Pablo Valente, Assistant Professor, Allied Health Sciences

9. Seating in K-6 Classrooms
Ariana Spearin, Elementary Education
Advisor: Catherine Little, Professor, Educational Psychology

10. I Feel It in My Bones: A Narrative Review Proposing a Link Between Depression, Bone, and Health-Related Behaviors in Adolescent Females
Sarah Meade, Exercise Science
Advisor: Jennifer Fields, Assistant Professor, Nutritional Sciences

11. Cops Fights Back: How Law Enforcement in Reality TV are Turned into Community Heroes
Adam LaBarre, Political Science
Advisor: Kimberly Bergendahl, Associate Professor in Residence, Political Science

12. Resilience and Empowerment: An In-Depth Analysis of Support Resources for Survivors of Gender-Based Violence in Albania
Jola Bufi, Political Science & Women's, Gender, and Sexuality Studies
Advisor: David Richards, Associate Professor, Political Science & Human Rights
Advisor: Matthew Singer, Professor, Political Science

Aidan Caron, Geographic Information Science & Political Science
Advisor: Xiang Chen, Assistant Professor, Geography
Advisor: Talbot Andrews, Assistant Professor, Political Science
Advisor: Jeffrey Ladewig, Associate Professor, Political Science
Advisor: Stacy Maddern, Assistant Professor in Residence, Urban and Community Studies

14. Breakfast, Lunch, and Belonging: Associations Between Participation in Free/Reduced School Meal Programs and Sense of Belonging
Lucie Lopez, Psychological Sciences & Spanish
Advisor: Rhiannon Smith, Associate Professor, Psychological Sciences
15. Votes Gone Viral: Exploring the Impact of Social Media on Political Participation Among Gen X and Gen Z
Ainsley Lougal, Political Science
Advisor: Thomas Hayes, Associate Professor, Political Science

16. Overcoming Affective Polarization: The Issue Area of Abortion
Piper Glass, Political Science & Economics
Advisor: Talbot Andrews, Assistant Professor, Political Science

17. Moving Backwards: The Impact of Latin American Anti-Gender Networks on the Rights of Women
Emma Harvison, Human Rights & Political Science
Advisor: Shareen Hertel, Professor, Political Science

18. Transit-Oriented Development Applications for Brownfield Redevelopment in Connecticut
Wiktor Szwajger, Civil Engineering
Advisor: Stacy Maddern, Assistant Professor in Residence, Urban and Community Studies

Brett Hurley, Environmental Sciences & Political Science
Advisor: Oksan Bayulgen, Professor, Political Science

20. The Impact of Ketamine for Treatment of Post-Traumatic Stress Disorder: A Systematic Review with Meta-Analyses
Ava Sedensky, Pharmacy Studies
Advisor: C. Michael White, Distinguished Professor, Pharmacy Practice

21. New Therapeutics for Opioids Use Disorder (OUD)
Nandini Pasagadugula, Physiology and Neurobiology
Advisor: Gregory Sartor, Assistant Professor, Pharmaceutical Sciences

22. Predictors of HIV Testing Among At-Risk Women: A Secondary Analysis of Data from a Randomized Controlled Trial
Aayaat Saiyed, Cognitive Science
Advisor: Kristyn Zajac, Assistant Professor, Medicine
23. Sex Differences Among Older Adults Undergoing Percutaneous Coronary Intervention for Stable Ischemic Heart Disease
Mannat Kadian, Physiology and Neurobiology
Advisor: Michael Nanna, Assistant Professor, Internal Medicine (Cardiovascular Medicine), Yale School of Medicine

24. The Effects of Progressive Dehydration in a Hot Environment on Jump Height, mRSI, and Heart Rate
Carla Guirguis, Exercise Science
Advisor: Rebecca Stearns, Assistant Professor in Residence, Kinesiology
Advisor: Gabrielle Brewer, President of Occupational Safety, Director of Communication, Korey Stringer Institute
Advisor: John S. Navarro, Co-Director of Athlete Performance & Safety, Korey Stringer Institute
Advisor: Frances Carstens, Assistant Director of Athlete Performance & Safety, Korey Stringer Institute

25. Anatomical Analysis of Transcriptionally Distinct Melanin-Concentrating Hormone Neuron Projections in the Mouse Brain
Justin Senh, Physiology and Neurobiology
Advisor: Alexander Jackson, Associate Professor, Physiology and Neurobiology

26. Development of Vasculature Patterns in a Mouse Model of Supra-Tentorial Ependymoma
Jackson Ayers, Physiology and Neurobiology
Advisor: Joseph LoTurco, Professor, Physiology and Neurobiology

27. The Effects of Phosphodiesterases on Sperm Storage in Female Drosophila melanogaster
Olivia Bowes, Molecular and Cell Biology
Advisor: Jianjun Sun, Professor, Physiology and Neurobiology

28. Exploring the Role of Autophagy during Ovulation in Drosophila
Gunreet Grewal, Physiology and Neurobiology
Advisor: Jianjun Sun, Professor, Physiology and Neurobiology

Laura Zhang, Physiology and Neurobiology
Advisor: Jeffrey Divino, Assistant Professor in Residence, Physiology and Neurobiology
Advisor: Joseph LoTurco, Professor, Physiology and Neurobiology
30. The Effects of Exogenous Beta-Hydroxybutyrate Supplementation on Cerebral Glucose Levels In Traumatic Brain Injury, a *Drosophila melanogaster* Model
Meaghan Cameron, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Associate Professor, Physiology and Neurobiology

31. Ketone Body and Creatine-Supplement-Based Treatment for Post-TBI Sleep Disruption in a *Drosophila* Model of CTE
Natalie Aloisio, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Associate Professor, Physiology and Neurobiology
Advisor: Jeffrey Divino, Assistant Professor in Residence, Physiology and Neurobiology

32. Transgenerational Epigenetic Inheritance: Linking Meiotic Dysfunction with Genomic Imprint Disruption
Lauren Alvarez, Molecular and Cell Biology
Advisor: Michael O'Neill, Associate Professor, Molecular and Cell Biology

33. Quantitative Polymerase Chain Reaction to Verify Genes Identified by RNAseq and Immunohistochemistry for Protein Expression in Post Fracture Day 5 Femur Calluses from Wild Type and Fgf2ko Mice Treated with Vehicle or PTH
Claire Murphy, Molecular and Cell Biology & Individualized Major: Global Health, Gender, and Reproduction
Advisor: Marja Hurley, Professor, Medicine
Advisor: Liping Xiao, Assistant Professor, Medicine

34. Molecular Modeling and Virtual Screening of Inhibitors Against Angiogenin
Raheel Sarwar, Biomedical Engineering
Advisor: Andrei Korostelev, Professor, RNA Therapeutics Institute and Department of Biochemistry and Molecular Pharmacology, UMass Chan Medical School
Advisor: Anna Loveland, Assistant Professor, RNA Therapeutics Institute, UMass Chan Medical School

35. The Impact of Histidine Kinase 2 on Spirochetal Survival and Infectivity
Rebecca Kramer-Earley, Molecular and Cell Biology
Advisor: Melissa Caimano, Associate Professor, Medicine
36. Functional Characterization of Duplicated Aminoacyl-tRNA Synthetase Genes from *Burkholderia thailandensis* and *Mycobacterium tuberculosis*
Juan Maldonado, Molecular and Cell Biology
Advisor: Oscar Vargas-Rodriguez, Assistant Professor, Molecular Biology and Biophysics

37. Using the Red Blood Cell Cytoskeleton to Probe the Structural Basis of Actin Polymerization by Formin
Jieun Park, Physiology and Neurobiology
Advisor: Steven Chou, Assistant Professor, Molecular Biology and Biophysics

38. Evaluation of a Semisynthetic Hyaluronan-Based Hydrogel for the Treatment of Volumetric Muscle Loss
Isabella Helgeson, Physiology and Neurobiology
Advisor: Stephen Goldman, Senior Scientist, Extremity Trauma and Amputation Center of Excellence, Uniformed Services University

39. Whole Chromosome and Gene Specific Temporal Behavior
Romir Raj, Biomedical Engineering
Advisor: Jelena Erceg, Assistant Professor, Molecular and Cell Biology

40. Engineering the Size and Surface Charge of DNA-Inspired Nanopieces
Sidharth Masarur, Molecular Cell Biology & Pathobiology
Ashwini Patel, Biomedical Engineering
Advisor: Yupeng Chen, Associate Professor, Biomedical Engineering

41. Nonparametric Bootstrap Kolmogorov-Smirnov Goodness-of-Fit Test for Marginal Distributions of Stationary Time Series
Mathew Chandy, Statistics & Statistical Data Science
Advisor: Jun Yan, Professor, Statistics
Advisor: Elizabeth Schifano, Associate Professor, Statistics

42. Testing Microbes for Plastic Degradation Potential
Jolie Atwood, Molecular and Cell Biology & Pathobiology
Advisor: Kat Milligan-McClellan, Assistant Professor, Molecular and Cell Biology

43. Are You More than What You Eat? Investigating the Trophic Ecology of Fish in the Long Island Sound
Sadie Garfinkel, Biological Sciences
Advisor: Eric Schultz, Professor, Ecology and Evolutionary Biology
44. Assembly, Annotation, and Comparative Genomics for a Reference Genome of the Japanese Walnut (*Juglans ailantifolia*)
Stefan Wnuk, Individualized Major: Bioinformatics
Advisor: Jill Wegrzyn, Associate Professor, Ecology and Evolutionary Biology

45. Does Lipid Consumption and a Gut Microbiota Disruption Affect Immune Gene Expression?
Anita Amiti, Biological Sciences
Advisor: Sarah Knute, Associate Professor, Ecology and Evolutionary Biology

46. Unveiling the Diversity of Moon Lichen (*Sticta*) Species in Chile with DNA Barcoding
Crystal Zhu, Biological Sciences
Advisor: Bernard Goffinet, Professor, Ecology and Evolutionary Biology

48. Constraining the 3D Geometry of Molecular Clouds Using X-Ray Tomography
Danya Alboslani, Physics
Advisor: Cara Battersby, Associate Professor, Physics

49. GLIMPSE II and GLIMPSE Proper: An Exploratory Study of the Differences Between Two Epochs of the Central Molecular Zone
Sangeeta Kuchibhotla, Physics
Advisor: Cara Battersby, Associate Professor, Physics

50. Diol Oxidation and Preparation of a New Azo Dye
Kristiane Ohlhorst, Chemistry
Ethan Mercier, Chemistry
Advisor: Nicholas Leadbeater, Associate Professor, Chemistry

51. Synthesis and Characterization of Aerobactin: Key Player in the *Euprymna scolopes* - *Vibrio fisheri* Symbiosis
Megan LeMay, Chemistry
Advisor: Alfredo Angeles-Boza, Associate Professor, Chemistry
Advisor: Mark Peczuh, Professor, Chemistry

52. Design and Synthesis of a Cleavable DNA-Surfactant Building Block for the Controlled Release of Carrier-Free Therapeutic Nucleic Acid Cargo from DNA Micelles
Lisa Liang, Chemistry
Advisor: Jessica Rouge, Associate Professor, Chemistry
SESSION 4 PRESENTATIONS

1. Making Art with our History: A Material Exploration of Reused Fabrics and Revisited Heritage
   Sunny Sanderson, Art & Management
   Advisor: Daniel Buttrey, Coordinator, Digital Art Service Lab, Art and Art History

2. Promoting Mathematical Literacy: An Exploration of Elementary School Students’ Written Work in Mathematics
   Abigail Clifford, Mathematics-Statistics
   Advisor: Fabiana Cardetti, Professor, Mathematics

3. A Contemporary Insight Into Ecological Crisis
   Hashem Sufyan, Cognitive Science & Philosophy
   Advisor: Thomas Bontly, Associate Professor, Philosophy

4. Revisiting and Revising Green Ideas
   Alexavier Darius, Urban and Community Studies
   Advisor: Phil Birge-Liberman, Associate Professor in Residence, Urban and Community Studies

5. Ethnic Stratification, Skin Tone, and Health Disparities among U.S. Asians
   Kavya Sajeev, Allied Health Sciences
   Advisor: Ryan Talbert, Assistant Professor, Sociology

6. Skin Tone, Police Stops, and Mental Health among Latinx Adolescents
   Nicole Love, English
   Advisor: Ryan Talbert, Assistant Professor, Sociology

7. Sexual Health Outcomes in Young Adults: Associations with Family Sexual Communication and Comprehensive Sexual and Reproductive Health Education
   Chelsea Erem, Allied Health Sciences
   Advisor: Pablo Valente, Assistant Professor, Allied Health Sciences
Maryam Mageed, Psychological Sciences
Advisor: Megan O’Grady, Assistant Professor, Public Health Sciences
Advisor: Jennifer Sussmann, Clinical Research Associate, Public Health Sciences

9. Attention Patterns During a Ride-On-Toy Navigation Training Program in Children with Hemiplegia: A Pilot Study
Sai Akshitha Chaganti, Molecular and Cell Biology
Advisor: Sudha Srinivasan, Assistant Professor, Kinesiology

10. Examining the Improvement of Motor Skills and Coordination of Children with Hemiplegic Cerebral Palsy After Dual Joystick Operated Ride-On Toy Training
Niti Jhaveri, Molecular and Cell Biology & Psychological Sciences
Maxwell Keyt, Exercise Science
Advisor: Sudha Srinivasan, Assistant Professor, Kinesiology

11. Behavioral and Biological Indictors of Stress and Cardiometabolic Risk Amongst Young Female Adults
Aashi Kulkarni, Allied Health Sciences
Advisor: Bruce Blanchard, Assistant Clinical Professor, Allied Health Sciences
Advisor: Lauren Corso, Assistant Professor in Residence, Allied Health Science

12. Pushups, Pit Maneuvers, and Pistols: How the Police Academy May Be Stacked Against Females
Giuliana Vinces, Political Science & Psychological Sciences
Advisor: Kimberly Bergendahl, Associate Professor in Residence, Political Science
Advisor: Matthew Singer, Professor, Political Science

13. Removing the Pink Tax Stain: An Evaluation of State Success Adopting Legislation Against Gender-Based Price Discrimination
Bridget Abril, Political Science & Economics
Advisor: Lyle Scruggs, Professor, Political Science

Erin Carney, Political Science
Advisor: Kimberly Bergendahl, Associate Professor in Residence, Political Science
15. Emancipation Through Excrement: A People’s History of the Public Restroom
Adam Opin, Political Science
Advisor: Thomas Hayes, Associate Professor, Political Science

Meaghan Murphy, Human Rights & Economics
Advisor: Stephen Park, Associate Professor, Marketing

17. Inscribing Exclusion: Tracing Heteronationalist Ideologies in U.S. Citizenship Construction
Syd Cleaveland, Political Science
Advisor: Elva Orozco Mendoza, Assistant Professor, Political Science
Advisor: Anne Gebelein, Associate Professor in Residence, Latin American and Caribbean Studies

18. Perceived Health Status: A Predictor of Cardiovascular Risk? Exploring Associations from NHANES Data
Kathryn Wilkinson, Molecular and Cell Biology
Advisor: Sharon Smith, Professor, Pediatrics

20. The Rarity of Urachal Cancers: Case Studies and Clinical Discoveries
Vedaamrutha Reddy, Molecular and Cell Biology
Advisor: Kalyani Narra, Assistant Professor, Internal Medicine, Texas Christian University – Burnett School of Medicine

21. Novelty-Based Fear Extinction in People with Social Anxiety
Linnea Budge, Physiology and Neurobiology
Advisor: Robert Astur, Associate Professor, Psychological Sciences

22. The Role of Cannabidiol in Curtailing Tau Hyperphosphorylation by Induced Tauopathies in a Drosophila melanogaster Model
Joseph Mooney, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Associate Professor in Residence, Physiology and Neurobiology

23. The Role of Ketone Bodies in Delaying Neurodegeneration Caused by Traumatic Brain Injury in a Drosophila melanogaster Model
Pavayee Socrates, Physiology and Neurobiology
Advisor: Geoffrey Tanner, Associate Professor in Residence, Physiology and Neurobiology
24. A Genetic Maestro: Exploring the Role of DLX2 in Limb Development
Ishika Soni, Molecular Cell Biology & Pathobiology
Advisor: Rahul Kanadia, Associate Professor, Physiology and Neurobiology

25. A Single-Cell Analysis of the Convergence and Divergence of Neuronal Subtypes in Mouse and Chick Cerebella
Shravya Anisetti, Physiology and Neurobiology
Advisor: Yuanhao James Li, Professor, Genetics and Genome Science

26. Insulin Signal Suppresses De-differentiation in the Drosophila Male Germine Stem Cell System
Autumn Twillie, Molecular and Cell Biology
Advisor: Mayu Inaba, Assistant Professor, Cell Biology

27. Next-Generation Sequencing: 16s rRNA Protocol Development for Bacterial Communities
Eva Federico, Molecular and Cell Biology
Justin Li, Mathematics/Statistics
Advisor: Kendra Maas, Facility Scientist, Center for Open Research Resources and Equipment

28. Investigating Inflammasome Activation and the Role of Shiga Toxin in Modulating the Innate Immune Response
Rachel Lambert, Pathobiology
Advisor: Sivapriya Kailasan Vanaja, Assistant Professor, Immunology

29. Analyzing the Effectiveness of Clustering Algorithms on Multidimensional Respiratory Disease Data
Lucy Liu, Statistics
Advisor: Haim Bar, Associate Professor, Statistics

30. Molecular Mechanisms of Sensory Post-Acute Sequelae of COVID-19 Infection
Maha Siddiqui, Molecular and Cell Biology
Advisor: Thomas Abbott, Associate Professor in Residence, Molecular and Cell Biology
Advisor: Pallavi Limaye, Assistant Professor in Residence, Molecular and Cell Biology

31. Chromosome Territory Dynamics in Early Drosophila Embryogenesis
Taylor Orban, Molecular and Cell Biology & Sociology
Advisor: Jelena Erceg, Assistant Professor, Molecular and Cell Biology
32. Effects of Various Fungal Pathogens on *Trachymyrmex septentrionalis* Ants and their Fungal Cultivars
Cappy Pugliese, Molecular and Cell Biology & Ecology and Evolutionary Biology
Advisor: Jonathan Klassen, Associate Professor, Molecular and Cell Biology

33. Identifying Geographic Diversity in Gut Microbiomes of Bivalves
Alexandra Carabetta, Molecular and Cell Biology & Diagnostic Genetic Sciences
Advisor: Lisa Nigro, Assistant Professor, Biology, Central Connecticut State University

34. Synthesis of New Voltage Sensitive Dyes
Thejas Nair, Molecular and Cell Biology
Advisor: Ping Yan, Assistant Professor, Center for Cell Analysis and Modeling

35. Detecting The Presence of PFAS “Forever Chemicals” in Commonly Used Infant Care Products
Kevon Rattigan, Chemistry
Angelica Velasquez, Chemistry
Advisor: Anthony Provatas, Assistant Research Professor, Chemistry & Center for Environmental Sciences and Engineering

36. Qualitative Analysis of Polycyclic Aromatic Hydrocarbons in Vehicle Exhaust and Roadway Surfaces Utilizing GC-MS/MS
Conner Kocot, Chemistry
Advisor: Anthony Provatas, Assistant Research Professor, Chemistry & Center for Environmental Sciences and Engineering

37. Free and Controlled Radical Homo- and Block Photopolymerizations of (Fluoro)Alkenes with Group 14 Derivatives and (Fluoro) Alkyl Halides
Bryant Perez-Torres, Chemistry
Advisor: Alexandru Asandei, Associate Professor, Chemistry

38. In Vitro Evaluation of Drug Release from Situ Forming Implant Formulations
Owen Kwok, Pharmacy Studies
Advisor: Diane Burgess, Distinguished Professor, Pharmaceutical Sciences

Clyde D'Souza, Molecular and Cell Biology & Applied Mathematical Sciences
Advisor: Na Li, Assistant Professor, Pharmaceutical Sciences
40. PID Playground: Teaching Particle Identification Using Jupyter Notebooks
Richard Dube, Physics & Mathematics
Advisor: Richard Jones, Professor, Physics
Advisor: Diego Valente, Associate Professor in Residence, Physics

41. Testing Automatic Cut Finding Tool Performance for HADES Event Selection Optimization
Grace Gardella, Physics
Advisor: Kyungseon Joo, Professor, Physics

42. 3D-printed Microfluidic Devices for Electrochemiluminescence and Chemiluminescence Detection of Proteins and miRNA
Oscar Clement, Chemistry
Advisor: James Rusling, Professor, Chemistry

43. Prediction of Black Hole Mass in the Real Universe Using Artificial Intelligence Algorithm Trained on CAMELS Simulations
Sofya Levitina, Physics & Mathematics/Statistics
Advisor: Daniel Angles-Alcazar, Assistant Professor, Physics

44. Utilizing Machine Learning Algorithms to Predict COD (Chemical Oxygen Demand) In Wastewater Treatment
Richa Balamurugan, Chemical and Biomolecular Engineering
Advisor: Burcu Beykal, Assistant Professor, Chemical and Biomolecular Engineering

45. How Does the Size of Spiders Affect PFAs Concentration?
Stefania Payares, Environmental Sciences
Advisor: Jess Brandt, Assistant Professor, Natural Resources and the Environment

46. Comparison of Soil Total Carbon and Total Nitrogen at Three Depths in Silage Corn and Grass Fields
Joseph Howard, Sustainable Plant and Soil Systems
Advisor: Haiying Tao, Assistant Professor, Plant Science and Landscape Architecture

47. Sequencing of RuBisCo (rbcL) in Zostera marina
Richard Antosca, Marine Sciences
Advisor: Paola Batta-Lona, Assistant Research Professor, Marine Sciences
Advisor: Jamie Vaudrey, Assistant Research Professor, Marine Sciences
48. DNA Metabarcoding of Fish Diets and Food Webs in the Mesopelagic
Vicki You, Marine Sciences
Advisor: Paola Batta-Lona, Assistant Research Professor, Marine Sciences
Advisor: Ann Bucklin, Professor Emeritus, Marine Sciences

49. Historical Construction of Eelgrass in the Northeast and Mid-Atlantic
Meg Shah, Marine Sciences
Advisor: Jamie Vaudrey, Assistant Research Professor, Marine Sciences

50. Do the Eyes Have It? Reconstructing Fish Migration Using Stable
Isotope Analysis of Eye Lenses
Imogene Kline, Biological Sciences
Advisor: Eric Schultz, Professor, Ecology and Evolutionary Biology

51. The Effect of Climate Change on Oviparous Shark Reproduction and
Development
Elizabeth Doan, Ecology and Evolutionary Biology
Advisor: Karolina Heyduk, Assistant Professor, Ecology and Evolutionary Biology

52. Argonaut: A Flexible Reads to Genome Assembly Pipeline Built for
Eukaryotic Species of Conservation Concern
Emily Trybulec, Molecular and Cell Biology
Advisor: Rachel O'Neill, Distinguished Professor, Molecular and Cell Biology
Advisor: Jill Wegrzyn, Associate Professor, Ecology and Evolutionary Biology
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 Enrichment Programs and to the Honors Program for their support of undergraduate research. In addition, we thank the following individuals for their support:

Radenka Maric, *President, University of Connecticut*

Anne D’Alleva, *Provost and Executive Vice President for Academic Affairs*

Jennifer Lease Butts, *Associate Vice Provost, Enrichment Programs and Director, Honors Program*

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Melissa Berkey, *Assistant Director*

Jodi Eskin, *Program Administrator and Advisor*

Emily Schwab, *BOLD Director and Advisor*

**OUR Peer Research Ambassadors**

Emma Beard ’24 (CLAS)  
Riley Beckham ’24 (ENG)  
Anabelle Bergstrom ’25 (CLAS)  
Fariha Fardin ’25 (CLAS)  
Sana Gupta ’24 (CLAS)  
Lina Layakoubi, Dec. ’23 (CLAS)  
Darren Lee ’25 (CLAS)  
Lucie Lopez ’24 (CLAS)  
Fraser McGurk ’25 (CLAS)  
Romir Raj ’24 (ENG)  
Krithika Santhanam ’25 (CLAS)  
Grace Vaidian ’24 (CLAS)
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 – Saturday, April 13 at 11:00 a.m.
S4 denotes a Session 4 presentation – Saturday, April 13 at 1:00 p.m.

Abirached, Rebecca – 27 (S2)
Abrid, Bridget – 13 (S4)
Aggarwal, Ananya – 26 (S1)
Aggarwal, Priya – 25 (S1)
Akella, Harshita – 47 (S1)
Akinkunmi, Foluke – 5 (S2)
Alboslani, Danya – 48 (S3)
Alla, Rahul – 24 (S1)
Aloisio, Natalie – 31 (S3)
Alvarez, Lauren – 32 (S3)
Ami, Anita – 45 (S3)
Andalib, Yasmin – 15 (S2)
Angell, Cole – 43 (S1)
Anisetti, Shravya – 24 (S4)
Annadurai, Nithila – 17 (S1)
Annan-Kingsley, Joseph – 9 (S1)
Antosca, Richard – 47 (S4)
Atwood, Jolie – 42 (S3)
Ayers, Jackson – 26 (S3)
Bagchee, Poorva – 29 (S1)
Bahavar, Ariana – 7 (S1)
Balamurugan, Richa – 44 (S4)
Barandon, Nathan – 31 (S1)
Baranowski, Hailey – 50 (S1)
Barbour, Kylie – 11 (S1)
Baskin, Lauren – 13 (S1)
Baukus, David – 46 (S2)
Beard, Emma Kristine – 25 (S2)
Bhyravavajhala, Sahiti – 39 (S1)
Bici, Vera – 18 (S1)
Bjerke, Heather – 51 (S1)
Bjork, Christian – 44 (S1)

Bonner, Breanna – 12 (S1)
Bosco, Lena – 8 (S1)
Bowes, Olivia – 27 (S3)
Boyd, Fiona – 34, 36 (S1)
Budge, Linnea – 21 (S4)
Bufi, Jola – 12 (S3)
Camacho, Olivia – 2 (S2)
Cameron, Meaghan – 30 (S3)
Carabetta, Alexandra – 33 (S4)
Carney, Erin – 14 (S4)
Caron, Aidan – 13 (S3)
Carter, Ava – 11 (S1)
Chadha, Rakshan – 27 (S2)
Chaganti, Sai Akshitha – 9 (S4)
Chamarty, Varun – 29 (S2)
Chandy, Mathew – 41 (S3)
Chen, Steven – 33 (S1)
Chiappini, Emily – 7 (S2)
Chimbili, Mokshitha – 23 (S1)
Chlebowski, Christian – 14 (S1)
Cleaveland, Syd – 17 (S4)
Clement, Oscar – 42 (S4)
Clifford, Abigail – 2 (S4)
Cyr, Nicholas – 24 (S1)
Darius, Alexavier – 4 (S4)
Das, Annesha – 16 (S1)
Dattner, Katherine – 4 (S3)
Doan, Elizabeth – 51 (S4)
Dougherty, Samantha – 12 (S2)
Dover, Sophia – 2 (S1)
Doyle, Juliette – 47 (S2)
Doyle, Madeline – 5 (S1)
D'Souza, Clyde – 39 (S4)
D'Souza, Nishant – 38 (S1)
Dube, Richard – 40 (S4)
Epstein, Carrie – 42 (S1)
Erem, Chelsea – 7 (S4)
Esposito, Samantha – 20 (S1)
Federico, Eva – 27 (S4)
Fong-Gallagher, Emilia – 48 (S2)
Frutos, Alex – 37 (S2)
Gallo, Jonathan – 50 (S2)
Gardella, Grace – 41 (S4)
Garfinkel, Sadie – 43 (S3)
Gilbert, Matt – 32 (S2)
Glass, Piper – 16 (S3)
Gonzalez, Marilia – 37 (S1)
Grant, Alana – 30 (S1)
Grewal, Gunreet – 28 (S3)
Gupta, Aastha – 21 (S1)
Gupta, Sana – 38 (S2)
Harvison, Emma – 17 (S3)
Haynes, Mia – 35 (S2)
Heaslip, Deborah – 40 (S2)
Helgeson, Isabella – 38 (S3)
Ho, Mai-Khanh – 7 (S3)
Howard, Joseph – 46 (S4)
Huggan, Zyaja – 45 (S1)
Humphrey, Laurel – 45 (S2)
Hurley, Brett – 19 (S3)
Ibrahim, Michael – 41 (S1)
Inanoglu, Sila – 44 (S2)
Iyer, Akshara – 5 (S3)
Jhaveri, Niti – 10 (S4)
Jimenez, Katherine – 1 (S3)
Johnson, Daniela – 2 (S3)
Joseph, Jiss – 16 (S2)
Kach, Natalie – 52 (S2)
Kadian, Mannat – 23 (S3)
Kamani, Niti – 8 (S2)
Kang, Juwon – 28 (S1)
Kelley, Carissa – 11 (S2)
Khan, Amen – 32 (S1)
Kim, Eunice – 24 (S1)
Kline, Imogene – 50 (S4)
Kocot, Conner – 36 (S4)
Korte, Elena – 42 (S2)
Koyambeth, Rhea – 17 (S2)
Kramer-Earley, Rebecca – 35 (S3)
Kuchibhotla, Sangeeta – 49 (S3)
Kuhl, Ariel – 49 (S2)
Kulkarni, Aashi – 11 (S4)
Kwok, Owen – 38 (S4)
LaBarre, Adam – 11 (S3)
Kolbert, Rachel – 28 (S4)
Lee, Darren – 28 (S2)
LeMay, Megan – 51 (S3)
Lesser, Jeremy – 21 (S2)
Levitina, Sofya – 43 (S4)
Li, Justin – 27 (S4)
Liang, Lisa – 52 (S3)
Lin, Neo – 40 (S1)
Liu, Lucy – 29 (S4)
Logan, Erin – 4 (S1)
Longtin, Emily – 6 (S2)
Lopes, Tomas – 20 (S2)
Lopez, Lucie – 14 (S3)
Lougal, Ainsley – 15 (S3)
Love, Nicole – 6 (S4)
Mageed, Maryam – 8 (S4)
Maldonado, Juan – 36 (S3)
Martinez, Raynia – 22 (S1)
Masarur, Sidharth – 40 (S3)
Matthew, Aaron – 24 (S1)
Maurus, Kellen – 27 (S1)
McEwing, Owen – 46 (S1)
Meade, Sarah – 10 (S3)
Mercier, Ethan – 50 (S3)
Mooney, Joseph – 22 (S4)
Murphy, Claire – 33 (S3)
Murphy, Meaghan – 16 (S4)
Nair, Thejas – 34 (S4)
Ohlhorst, Kristiane – 50 (S3)
Opin, Adam – 15 (S4)
Orban, Taylor – 31 (S4)
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