



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

27. Long-acting Levonorgestrel Intrauterine Systems: Impact of Excipients and PDMS Properties on Release Mechanisms

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 Ependymogenesis 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

SESSION 2 PRESENTATIONS

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

4. Meanings of Democracy Lab: Pluralistic Resistance to Christian Nationalism

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

13. Promoting Environmental Justice: A Mixed-Method Approach to Identifying Socioeconomic Disparities in Urban Park Access

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 Sz wajger, Civil Engineering

Advisor: Stacy Maddern, Assistant Professor in Residence, Urban and Community Studies

19. Built to Impede: A Comparative Case Study of Electrical Sector Decarbonization Policy in Connecticut, Massachusetts, and Rhode Island

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

Ayaat 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 Ovation in *Drosophila*

Gunreet Grewal, Physiology and Neurobiology

Advisor: Jianjun Sun, Professor, Physiology and Neurobiology

29. How Do Gut Microbes Affect Neurological Disorders? A Meta Analysis of Gut-Brain Axis Studies

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 Amati, 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 fischeri* Symbiosis

Megan LeMay, Chemistry

Advisor: Alfredo Angeles-Boza, Associate Professor, Chemistry

Advisor: Mark Peczu, 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

8. Adult Use Cannabis Legalization: A Scoping Review of Outcome Monitoring Recommendations

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 Indicators 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

14. Beyond the Bars: A Comparative Analysis of Gender Sentencing Disparities Among Offenders in US District Courts

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

16. Legislating Responsible Business Practices: A Comprehensive Review and Efficacy Assessment of Mandatory Human Rights Due Diligence Laws

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 Aniseti, Physiology and Neurobiology

Advisor: Yuanhao James Li, Professor, Genetics and Genome Science

26. Insulin Signal Suppresses De-differentiation in the *Drosophila* Male Germline 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 Provasas, 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 Provasas, 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

39. Mechanistic Studies on the Permeability of Non-Membrane Permeable Drug Nanoparticles

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*

Student Volunteers for the Spring Frontiers Poster Exhibition

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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)

Krihika 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)
Abril, 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)
Amiti, 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)
 Guirguis, Carla – 24 (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)
 Koyambreth, 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)
 Lambert, 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)

Papillon, Joanie – 52 (S1)
 Park, Jieun – 37 (S3)
 Pasagadugula, Nandini – 21 (S3)
 Patel, Ashwini – 40 (S3)
 Payares, Stefania – 45 (S4)
 Pena, Isaac – 4 (S2)
 Pena, Michael – 8 (S3)
 Perez-Torres, Bryant – 37 (S4)
 Pham, Irene – 1 (S1)
 Pierre, Mirsha – 35 (S1)
 Piteo, Colin – 3 (S2)
 Pozdnyakov, Alexey – 39 (S2)
 Pravasi, Rhythm – 9 (S2)
 Pugliese, Cappy – 32 (S4)
 Quiroga, Bridget – 5 (S2)
 Rafik, Anisa – 18 (S1)
 Raj, Romir – 39 (S3)
 Rana, Megha – 10 (S1)
 Ranelli, Juliette – 14 (S2)
 Rattigan, Kevon – 35 (S4)
 Ravi, Maya – 34, 36 (S1)
 Reddy, Vedaamrutha – 20 (S4)
 Rendon-Hernandez, Lesley – 43 (S2)
 Robinshaw, Kylie – 15 (S1)
 Romine, Jonathan – 31 (S2)
 Ruesta, Kelly – 3 (S1), 3 (S2)
 Saha, Prattoi – 18 (S1)
 Saiyed, Aayaat – 22 (S3)
 Sajeev, Kavya – 5 (S4)
 Sanderson, Sunny – 1 (S4)
 Sarwar, Raheel – 34 (S3)
 Schneider, Katrina – 23 (S2)
 Sedensky, Ava – 20 (S3)
 Seibel, Annaliese – 49 (S1)
 Senh, Justin – 25 (S3)
 Seshadri, Shreya – 30 (S2)
 Shah, Meg – 49 (S4)
 Siddiqui, Maha – 30 (S4)
 Socrates, Pavayee – 23 (S4)
 Soni, Ishika – 24 (S4)
 Soni, Videep – 22 (S2)
 Spearin, Ariana – 9 (S3)
 Streater, Reginald – 18 (S2)
 Strickland, Emily – 46 (S1)
 Sufyan, Hashem – 3 (S4)
 Sunderesh, Uthara – 10 (S2)
 Sweet, Kiley – 18 (S1)
 Swierczek, Magdalena – 33 (S2)
 Szwajger, Wiktor – 18 (S3)
 Thomas, Faith – 36, 34 (S1)
 Torlish, Adriana – 6 (S3)
 Trybulec, Emily – 52 (S4)
 Tudor, Rebecca – 51 (S2)
 Twillie, Autumn – 26 (S4)
 Tyburski, Madison – 6 (S1)
 Udell, Alexa – 1 (S2)
 Velasquez, Angelica – 35 (S4)
 Vincens, Giuliana – 12 (S4)
 Wagner, Lianna – 26 (S2)
 Westcott, Katherine – 18 (S1)
 Wexler, Caroline – 41 (S2)
 Wicko, Ethan – 36 (S2)
 Widmer, Devenny – 48 (S1)
 Wilkinson, Kathryn – 18 (S4)
 Wnuk, Stefan – 44 (S3)
 Xiong, Grace – 13 (S2)
 You, Vicki – 48 (S4)
 Yuan, Hayden – 24 (S2)
 Zhang, Laura – 29 (S3)
 Zhu, Crystal – 46 (S3)
 Zuo, Anthony – 27 (S2)

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