



UConn

SUMMER RESEARCH DAY

JULY 24, 2025
Academic Rotunda, UConn Health

AGENDA

9:30 – 9:45 am **Welcome** (Academic Rotunda Room)

Amy Gorin, Vice Provost for Health Sciences and Interdisciplinary Initiatives

Micah Heumann, Director, Office of Undergraduate Research

Director, [Health Research Program](#)

Caroline Dealy, [TIP Innovation Fellows Program](#), Founding Director

9:45 am - 10:30 am Short Talks Session 1 (Academic Rotunda Room)

10:30 am - 11:45 am **Poster Session 1 (#1-24, Academic Rotunda Hallways; see map below)**

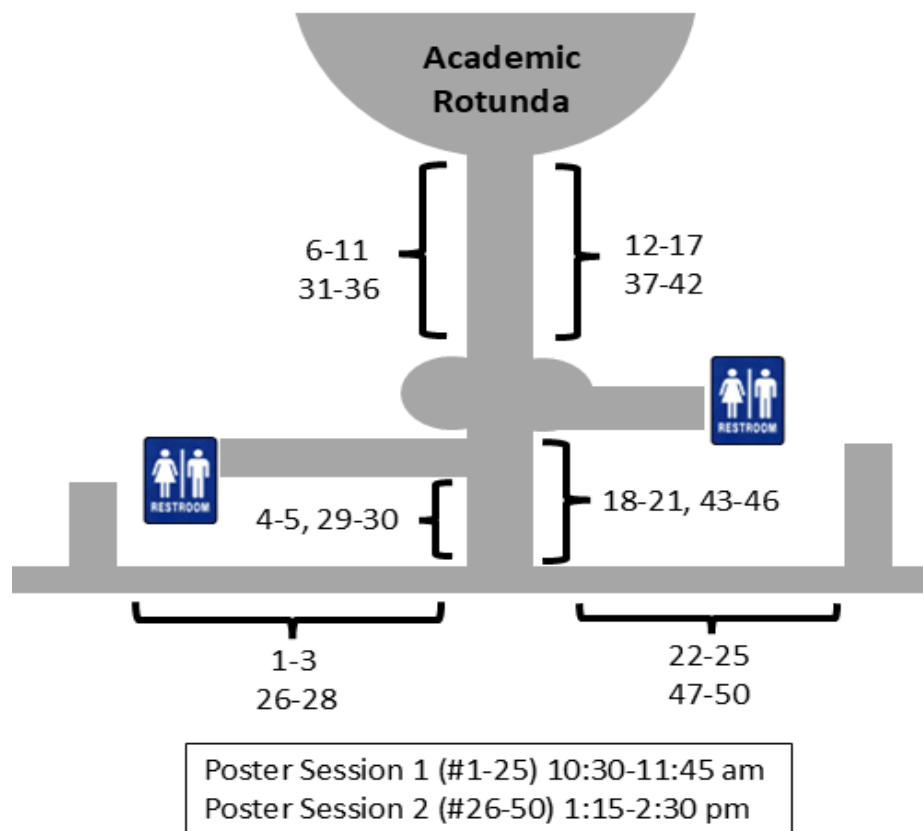
11:45 am - 12:15 pm **Lunch** (provided for presenters) and Poster Swap

12:15 pm - 1:30 pm **Poster Session 2** (#24-50, Academic Rotunda Hallways; see map below)

1:30 pm - 2:30 pm **Short Talks Session 2** (Academic Rotunda Room)
 Eric Bernstein, Associate Dean for Academic Affairs, School of Dental Medicine
 Paul Parker, Director, TIP (Technology Incubation Program)

2:30 pm **Closing** (Academic Rotunda Room) and Group Photo

POSTER SESSION MAP



SHORT TALKS SESSION 1

9:45-10:30 am

Academic Rotunda Room

9:45 - 10:00 am *Cancer Treatment and Drug Delivery*

Ondrea Kerr '25 (Professional Science Masters Program in Applied Genomics, CLAS), UConn, Storrs

Hubert Sliwka '25 (Master of Science in Mechanical Engineering, ENG), UConn Storrs

Adeline Richard '26 (Biomedical Engineering, ENG), UConn, Storrs

Host TIP Company: [Encapsulate](#), UConn TIP (Technology Incubation Program), Farmington

10:00 - 10:15 am *Patient-Facing AI Applications in Men's Health*

Chiamaka Atuegbu '26 (Master of Business Administration, BUS), UConn Hartford

Host TIP Company: [Bastion Health](#), UConn TIP (Technology Incubation Program), Farmington

10:15 - 10:30 am *Revolutionizing Drug Delivery: Single-Use Microneedle Systems*

Wenhui Yan '25 (Doctor of Pharmacy, PHARM), UConn Storrs

Host TIP Company: [Single Time Microneedles](#), UConn TIP (Technology Incubation Program) Storrs

POSTER SESSION 1

10:30-11:45 am (#1 - 25)

Academic Rotunda Room Hallways

1. *Processing Bodies Inhibit the Non-Canonical Inflammasome*

Jack Wang '28 (Allied Health Sciences, CAHNR), UConn Storrs

HRP Mentor: Yanlin Wang, Professor, Nephrology

2. *Natural Relief Meets Personalized Nutrition*

Kaan Ozoulomez '27 (Finance, School of Business) UConn, Storrs

Alex Vereen '26 (Graphic Design, SFA), UConn Storrs

Host TIP Company: [The Feel Good Lab](#), UConn TIP (Technology Incubation Program), Farmington

3. *Biomimetic Cadmium Uptake During Apatite Formation and Exposure*

Lauren McCarroll '28 (Biomedical Engineering, ENG), UConn Storrs

HRP Mentor: Alix Deymier, Associate Professor, Biomedical Engineering

4. *Assessing Nutrition Knowledge, Food Insecurity, and Food Habits among Children from Hartford: Insights from a UConn JUMP Community-Based Nutrition Education Program*

Sneha Rath '27 (Allied Health Sciences, CAHNR), UConn Storrs

HRP Mentor: Helen Wu, Associate Professor, Psychiatry

5. *SAXOPHONE: Developing a Field Detection Device for Harmful Algal Blooms (HABs)*

Suma Dendi '28, (Biomedical Engineering, ENG), UConn Storrs

Jay Podziewski '27 (Molecular and Cell Biology, CLAS), UConn Storrs

Anna Shoemaker '27 (Molecular and Cell Biology, CLAS), UConn Storrs

Guest program: UConn [iGEM](#) (International Genetically Engineering Machine) program

6. *Turning Innovation into Impact*

Dhwani Anand '28 (Allied Health Sciences, CAHNR), UConn Storrs

Host TIP program: UConn Technology Commercialization Services [TCS Fellowship](#)

7. *Changes in Meningeal Cytoarchitecture following Experimental Diffuse Traumatic Brain Injury*

Sharanya Chatterjee '28 (Molecular & Cell Biology and Human Rights, CLAS), UConn Storrs

HRP Mentor: Brian Kelley, Assistant Professor, Neurosurgery

8. *Development of a Microneedle Bandage to Prevent MRSA Growth and Biofilm Formation*

Faryal Akbar '27 (Physiology and Neurobiology, CLAS), UConn Storrs

Host TIP Company: [Therapeutic Bandage Products](#), UConn TIP (Technology Incubation Program), Storrs

9. *Measuring Quality in Medicaid-Certified Nursing Homes in Connecticut using CoreQ, a Nursing Home Resident and Family Member Satisfaction Survey*

Eyad Kamel '28 (Psychological Sciences, CLAS), UConn Stamford

HRP Mentor: Ellis Dillon, Assistant Professor, Center on Aging

10. *Rules Railroad: A Tool to Visualize Site-Specific Molecular Interactions*

Reesha Patel '28 (Pre-Statistical Data Science, CLAS), UConn Storrs

HRP Mentor: Michael Blinov, Associate Professor, Center for Cell Analysis and Modeling

11. *Exploring the Role of PU.1 in Chronic Kidney Disease to Disrupt NLRP3 Inflammasome Signaling*

Chandler McHale '26 (Allied Health Sciences, CAHNR), UConn Storrs

HRP Mentor: Baihai Jiao, Instructor, Nephrology

12. *Matrix Microenvironment and AKI: MFAP2 in Renal Injury and Repair*

Anshul Patel '28 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Dong Zhou, Assistant Professor, Nephrology

13. *Summer Fellowship at UConn Technology Commercialization Services*

Haseeb Chaudhry '28 (Physiology & Neurobiology, CLAS and Finance, BUS), UConn Storrs

Host TIP program: UConn Technology Commercialization Services [TCS Fellowship](#)

14. *Enhancing Scalability of a Computationally Efficient Model for Single-Cell Multi-Mix Data*

Aya Amoudi '26 (Biomedical Engineering, ENG), UConn Storrs

HRP Mentor: Dongyuan Song, Assistant Professor, Genetics and Genome Science

15. *Identification of Retinal Ganglion Cell Survival in Myelin Deficient Mice*

Harthik Parankusham '28 (Physiology & Neurobiology, CLAS), UConn Storrs

HRP Mentor: Ephraim Trakhtenberg, Assistant Professor, Neuroscience

16. *Neuronal Membrane Excitability and Spontaneous Synaptic Inputs in Mouse Model of Alzheimer's Disease Prior to Formation of Amyloid Plaques*

Gowri Chandran '28 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Srdjan Antic, Professor, Neuroscience

17. *Doxycycline-inducible CRISPR-interference system to identify genes in Tet2-deficient clonal hematopoiesis*

Tuyet Nhung Phan '28 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Hideyuki Oguro, Assistant Professor, Cell Biology

18. *A Computational Model of Tropomyosin Receptor Kinase A and B Dimerization and Trafficking*

Hudson Hu '27 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Sarvenaz Sarabipour, Assistant Professor, Cell Biology

19. *Transcriptomic Profiling of Healing: Pediatric Normal Meniscus vs. Discoid Meniscus*

Akshaj Ganta '27 (Physiology & Neurobiology, CLAS), UConn Storrs

HRP Mentor: Caroline Dealy, Professor, Orthodontics, Biomedical Engineering, Orthopedic Surgery, and Cell Biology

20. *Zemi Core Prototype: Miniaturizing ECG Hardware for Smart Clothing*

Tirth Thakar '25 (Master of Science in Mechanical Engineering, ENG), UConn Storrs

Host TIP Company: [Zemi Labs](#), UConn TIP (Technology Incubation Program), Farmington

21. *Portable Point of Care Diagnostic System*

Gabrielle Brocki '26 (Electrical Engineering, ENG), UConn Storrs

HRP Mentor: Changchun Liu, Professor, Biomedical Engineering

22. *Anatomical Characterization of Prefrontal Corticothalamic Neurons Targeting the Reunions and the Mediodorsal Thalamus*

Ademide Ogunsina '26 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: John Stout, Postdoctoral Fellow, Spellman Lab, Neuroscience

23. *Subcellular Distribution of P2X4 Receptors After Ischemic Stroke*

Nitya Tarala '28 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Rajkumar Verma, Assistant Professor, Neuroscience

24. *Towards Streamlined Dataflow in the Parameterization Pipeline of an E. Coli whole-cell model*

Christopher Rauch '28 (Computer Science, ENG; Jazz, SFA), UConn Storrs

HRP Mentor: Eran Agmon, Assistant Professor, Center for Cell Analysis and Modeling, Molecular Biology and Biophysics, and Biomedical Engineering

25. *Microbiome Profiling Through Nanopore Sequencing for Early Detection of Gestational Diabetes Mellitus*

Yousuf Almamoury '27 (Molecular and Cell Biology, CLAS), UConn Hartford and Storrs

Host TIP Company: [MIORA Health](#), UConn TIP (Technology Incubation Program), Farmington

LUNCH

11:45– 12:15 pm

Academic Rotunda Room or Courtyard, weather permitting

Boxed Lunch Provided for Presenters: Turkey, Ham & Cheese, Veggie

Lunch for guests is available for purchase at the UCH cafeteria, Main floor

Poster Session 1 presenters: take down your posters

Poster Session 2 presenters: hang your posters

POSTER SESSION 2

12:15-1:30 pm (#25-50)

Academic Rotunda Hallways

26. *Recovery Capital and Identity within Emerging Adults in Recovery from Substance Use Disorder*

Sharbagya Bista '27 (Allied Health Sciences, CAHNR), UConn Storrs

HRP Mentor: Kristyn Zajac, Associate Professor, Calhoun Cardiology Center and Medicine

27. *Evaluating Substance Misuse/Use Prevention Impact: Connecticut Healthy Campus Initiative*

Sage Reinhardt '26 (Physiology & Neurobiology, CLAS), UConn Storrs

HRP Mentor: Megan O'Grady, Associate Professor, Public Health Sciences; Director, Center for Prevention, Evaluation, and Statistics

28. *Impacts of Inflammation*

Elizabeth DiBlasi '27 (Physiology & Neurobiology, CLAS), UConn Storrs

Host TIP Company: [The Feel Good Lab](#) and [Arome Sciences](#), UConn TIP (Technology Incubation Program), Farmington

29. *Reinforcement Rewired: A Review of Contingency Management Tech-Enabled Interfaces*

Gabriel Lee '26 (Biological Sciences, CLAS), UConn Storrs

HRP Mentor: Carla J. Rash, Associate Professor, Department of Medicine

30. *Isolation of the native NPR1 Transmembrane Signaling Complex using the anti-NPR1 Single Chain Fragment Vector*

Andrew Kim '28 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Steven Chou, Assistant Professor, Molecular Biology and Biophysics

31. *Turning Research Into Reality*

Nicole Santos '27 (Civil Engineering, College of Engineering) UConn, Storrs

Richard Ackom-Brew, Jr. '28 (Biomedical Engineering, ENG), UConn Storrs

Host TIP program: UConn Technology Commercialization Services [TCS Fellowship](#)

32. *Role of UBXL1 in TGF β 1-induced Epithelial Cell De-Differentiation*

Olivia Eshoo '26 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Yanlin Wang, Professor, Melanie Tran, Instructor, Nephrology

33. *The Impacts of Hyperpalatable Food Addiction on Physical and Mental Health Outcomes Across Varying Socioeconomic Statuses*

Akhila Komma '27 (Nutritional Sciences, CAHNR; Psychological Sciences, CLAS), UConn Storrs

HRP Mentor: Carla J. Rash, Associate Professor, Department of Medicine

34. *Advancing Precision Oncology Through Circulating Tumor Cell (CTC) Liquid Biopsy*

Michelle Antony '26 (Biomedical Engineering, ENG), UConn Storrs

Host TIP Company: [QCDX](#), UConn TIP (Technology Incubation Program), Farmington

35. *Microtubule Acetylation Biosensor Development*

Andrew Hohenstein '27 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Abhijit Deb Roy, Assistant Professor, Cell Biology

36. *Role Of CD13 in Thioglycolate Elicited Peritoneal Macrophage Fusion and Multinucleated Giant Cell Formation*
Nikhil Thimma '26 (Physiology & Neurobiology, CLAS), UConn Storrs
 HRP Mentor: Mallika Ghosh, Assistant Professor, Cell Biology
37. *Evaluating embedding schemes for modeling protein phosphorylation in human*
Justin Li '26 (Mathematics & Statistics, CLAS), UConn Storrs
 HRP Mentor: Ji Yu, Associate Professor, Genetics and Genome Sciences
38. *Synapse-specific Manipulations of Norepinephrine Transmission in Awake Behaving Mice*
Dimitrios Koloutsos '26 (Physiology & Neurobiology, CLAS), UConn Storrs
 HRP Mentor: Andres Grosmark, Assistant Professor, Neuroscience
39. *The Role of Parvalbumin-Interneuron COP1 in Social Interaction Behavior in Mice*
Sudiksha Gadiraju '28 (Molecular & Cell Biology, CLAS), UConn Storrs
 HRP Mentor: Xin-Ming Ma, Associate Professor, Neuroscience
40. *Investigating the Role of DDX3X in the Mitochondrial Stress Response*
Morgan Cook '28 (Physiology & Neurobiology, CLAS), UConn Storrs
 HRP Mentor: Xiaoyan Guo, Assistant Professor, Genetics and Genome Science
41. *Surface Modification of Various Substrates with Covalently Bound Antimicrobial Polymers*
Branlee Dimas Garcia '27 (Electrical Engineering, College of Engineering) UConn, Storrs
Nahyun Kim '29 (Doctor of Pharmacy, PHARM), UConn Storrs
 Host TIP Company: [DeBogy Molecular](#), UConn TIP (Technology Incubation Program), Farmington
42. *BaTiO₃ Nanoparticles for Radiation Enhancement of Tumors*
Melinda Frost '26 (Physiology & Neurobiology, CLAS), UConn Storrs
 HRP Mentor: Henry Smilowitz, Associate Professor, Cell Biology
43. *Tubular Trim28 deficiency attenuates chronic kidney disease progression by suppressing senescence-driven epithelial dedifferentiation*
Kevin Dong '27 (Molecular & Cell Biology, CLAS), UConn Storrs
 HRP Mentor: Yanlin Wang, Professor, Nephrology
44. *Zemi Gear: Functional Design of Biometric Smart Clothing*
ThuanY Marielle de Carvalho Lachos '25 (Biomedical Engineering, ENG), UConn Storrs
 Host TIP Company: [Zemi Labs](#), UConn TIP (Technology Incubation Program), Farmington
45. *Market Analysis and Technological Innovations: How Market Needs Dictate and Inspire Tech Innovations*
Richard Ackom-Brew Jr. '28 (Biomedical Engineering, ENG), UConn Storrs
 Host TIP program: UConn Technology Commercialization Services [TCS Fellowship](#)
46. *Exploring the Role of Aminoacyl tRNA-deacylases in Bacterial Response to Antibiotics*
Anushree Ajgaonkar '28 (Physiology & Neurobiology, CLAS), UConn Storrs
 HRP Mentor: Oscar Vargas-Rodriguez, Assistant Professor, Molecular Biology and Biophysics
47. *Psychiatric Severity and Sex as Predictors of HIV Risk Behaviors Among People Living With HIV*
Pam Win '27 (Psychological Sciences, CLAS), UConn Storrs
 HRP Mentor: Carla Rash, Associate Professor, Department of Medicine

48. *Elucidating the role of somatic support cells during de-differentiation in Drosophila testes*

Adheena Roy '26 (Molecular & Cell Biology), IISER Pune, India

Research Mentor: Mayu Inaba-Oguro, Assistant Professor, Cell Biology

49. *Effects of Intermittent Fasting on Naïve T Cells and Cellular Senescence in Aged Mice*

Joanna Lin '27 (Molecular & Cell Biology, CLAS), UConn Storrs

HRP Mentor: Yanjiao Zhou, Associate Professor, Medicine

50. *Dissecting the hippocampal inputs contributing to aversive context generalization*

Brady Cheneski '28 (Molecular & Cell Biology; Physiology & Neurobiology; Psychological Sciences, CLAS), UConn Storrs

HRP Mentor: Sebnem Tuncdemir, Assistant Professor, Neuroscience

SHORT TALKS SESSION 2

1:30 – 2:30 pm

Academic Rotunda Room

1:30 - 1:45 pm *Rapid at Home Detection for Lyme Disease from Tick Samples*

Alexis Bates '26 (Professional Science Masters Program in Applied Biochemistry and Cell Biology, CLAS), UConn Storrs

Alexander Shepard '25 (Professional Science Masters Program in Applied Genomics, CLAS), UConn Storrs

Host TIP Company: [Therapeutic Bandage Products](#), UConn TIP (Technology Incubation Program)

1:45 – 2:00 pm *Digital Marketing Strategies*

Rodly Bonhomme '26 (Communications and Digital Media Business Strategies, BUS), UConn Storrs

Host TIP program: UConn Technology Commercialization Services [TCS Fellowship](#)

2:00 – 2:15 pm *Search Engine Optimization at Bastion Health*

Tanisi Patel '28 (Computer Science, ENG), UConn Storrs

Host TIP Company: [Bastion Health](#), UConn TIP (Technology Incubation Program) Farmington

2:15 – 2:30 pm *Innovative Antimicrobial Surface Modification*

Michael Casanova '27 (Physiology and Neurobiology, CLAS; Diagnostic Genetic Science, CAHNR), UConn Storrs

Host TIP Company: [DeBogy Molecular](#), UConn TIP (Technology Incubation Program), Farmington

CLOSING

2:30 pm

Academic Rotunda Room

Group Photo

ACKNOWLEDGEMENTS

On behalf of the [Health Research Program](#) and the [TIP Innovation Fellows Program](#), we thank all who have advised and mentored the participating students this summer. This community of mentors includes faculty, staff, postdoctoral scholars, and graduate students in the research groups and TIP companies that have hosted students; guest speakers and presenters who have shared their expertise and insights; and the numerous advocates for these programs who encouraged students to apply and participate. We also thank the members of the UConn community who have supported operations of these programs, making it possible for students to engage in these summer learning opportunities at UConn Health and at TIP locations across Connecticut.

We thank the University's President, Radenka Maric, for her sustained commitment to developing experiential learning opportunities for our students and to fostering creativity, innovation, and entrepreneurship in education and research.

The Office of Undergraduate Research wishes to thank the sponsors of the Health Research Program:

- Provost Anne D'Alleva, Vice Provost Gladis Kersaint, Vice Provost Amy Gorin, and Office of the Provost
- Vice President for Research, Innovation, and Entrepreneurship Pamir Alpay, Associate Vice President Lindsay DiStefano, Associate Vice President Julie Schwager, and Office of the Vice President for Research
- Dean Bruce Liang and the School of Medicine
- Dean Steven Lepowsky and the School of Dental Medicine
- Associate Vice Provost Jennifer Lease Butts and Enrichment Programs

The TIP Innovation Fellows Program wishes to thank its sponsors and partners:

- Associate Vice President for Research, Innovation, and Entrepreneurship Abhijit Banerjee, and Technology Commercialization Services
- The Technology Incubation Program (TIP) and Paul Parker, Director
- Vice President for Research, Innovation, and Entrepreneurship Pamir Alpay, and the Office of the Vice President for Research
- Associate Vice Provost Jennifer Lease Butts and Enrichment Programs
- Dean Ofer Harel and the College of Liberal Arts and Sciences
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- Executive Director Herman Shelton and Access & Postsecondary Success (CAPS)
- Director Renee Trueman and the McNair Scholars program
- Program Coordinator Michael Petro and STEM Preparation and Leadership for Undergraduate Success (PLUS)
- Director Stephany Santos and the Vergnano Institute for Inclusion
- UConn Professional Sciences Masters Programs in Applied Biochemistry and Cell Biology, Applied Genomics, and Applied Microbial Systems Analysis

Finally, we thank the student participants for their curiosity, enthusiasm, and commitment to deep engagement with their summer projects.

ALPHABETICAL PRESENTER INDEX

Poster presenters are listed with their poster session number (PS1 for session 1 or PS2 for session 2) followed by their poster number. Short talk presenters are listed with their short talk session (ST1 for session 1 or ST2 for session 2). Please refer to the program for the timing of specific sessions.

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