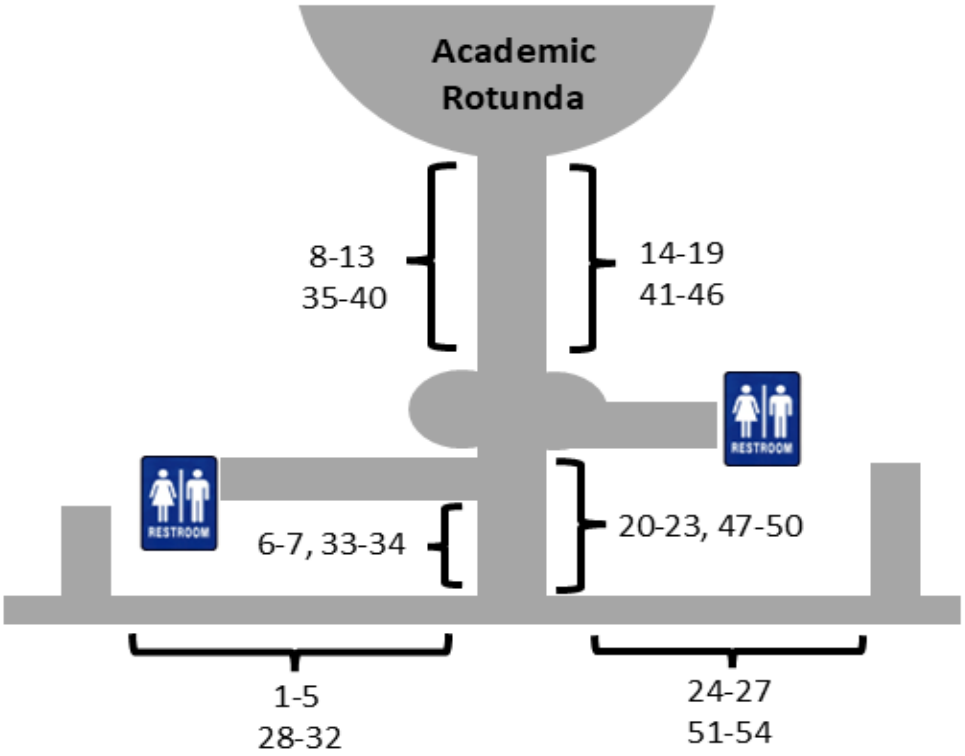

UCONN
SUMMER RESEARCH DAY
JULY 22, 2026
Academic Rotunda, UConn Health

AGENDA

10:00 am -10:15 am	**Welcome** (Academic Rotunda Room) **Micah Heumann**, Director, Office of Undergraduate Research; Director, Barbara C. Setlow Health Research Program **Caroline Dealy**, Caroline Dealy, Director, TIP Innovation Fellows Program; Professor, Depts. Orthodontics, Orthopedic Surgery, Biomedical Engineering, Cell Biology, UConn Health; Faculty lead, UConn NSF i-corps program (Accelerate UConn)
10:15 am - 11:30 am	**Poster Session 1** (#1-27, Academic Rotunda Hallways; see map below)
11:30 am - 12:15 pm	**Lunch** (provided for presenters) and Poster Swap
12:15 pm - 1:30 pm	**Poster Session 2** (#28-53, Academic Rotunda Hallways; see map below)
1:30 pm - 2:30 pm	**Short Talks Session** (Academic Rotunda Room)
2:30 pm	**Closing** (Academic Rotunda Room) and Group Photo

POSTER SESSION MAP



Poster Session 1 (#1-27) 10:15-11:30 am
Poster Session 2 (#28-54) 12:15 – 1:30 pm

WELCOME

10:00 am - 10:15 am

Academic Rotunda Room

Micah Heumann, Director, Office of Undergraduate Research; Director, Barbara C. Setlow Health Research Program

Caroline Dealy, Director, TIP Innovation Fellows Program; Professor, Depts. Orthodontics, Orthopedic Surgery, Biomedical Engineering, Cell Biology, UConn Health; Faculty Lead, UConn NSF i-corps program (Accelerate UConn)

POSTER SESSION 1

10:15 -11:30 am (#1 - 27)

Academic Rotunda Room Hallways

1.*POCUS in Family Medicine: Gauging Readiness and Shaping Future Training*
Catherine Campos '29 (Biological Sciences, CLAS), UConn Storrs
BCSHRP Mentor: Thomas Agresta, Professor, Family Medicine

2. *Do Drugs That Alter Microtubule Stability and the Expansion of the Microtubule Lattice Affect the Curvature of Microtubules?*
Martin Castro-Salazar '29 (Molecular & Cell Biology, CLAS), UConn Storrs
BCSHRP Mentor: Abhijit Deb Roy, Assistant Professor, Cell Biology

3. *DOT1L Activity in Fatigue Loading Stress Fracture Model*
Karina Chan '29 (Molecular & Cell Biology, CLAS), UConn Storrs
BCSHRP Mentor: Benjamin Sinder, Assistant Professor, Orthopedic Surgery

4. *Self-Directed Management Strategies and Responsible Gambling (RG) Tools: Relation to Adherence to Lower-Risk Gambling Guidelines*
Naomi Cortes '27 (Psychological Sciences, CLAS), UConn Hartford
BCSHRP Mentor: Carla J. Rash, Associate Professor, Department of Medicine

5. *Optimizing Seaweed-Derived Coatings for Sustainable Packaging*
Sanjana Sitaram '28 (Healthcare Management and Insurance Studies, BUS)
Host UConn-TIP Company: SeaSol Tec, UConn TIP (Technology Incubation Program)

6. *Myeloid-specific Deletion of Smoothened Aggravates Cisplatin-induced Acute Kidney Injury*
Jimmy Dong '29 (Analytics & Information Management, BUS), UConn Storrs
BCSHRP Mentor: Dong Zhou, Assistant Professor, Nephrology

7. *Predictors of Somatic Symptom Severity among Emerging Adults with Substance Use Disorder*
Luciana D'Orio '27 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Kristyn Zajac, Associate Professor, Calhoun Cardiology Center and Medicine

8. *Embedded Systems and PCB Design for Sensitive Analog Signals from Biometric Smart-Clothing*
Hansen Cao '29 (Electrical Engineering, ENG), UConn Storrs
Host UConn-TIP Company: Zemi Labs, UConn TIP (Technology Incubation Program)

9. *Raman Spectroscopic Characterization of Bone Formed by Cell Therapy in Osteogenesis Imferpecta*
Shelby Dubitsky '27 (Biomedical Engineering, ENG), UConn Storrs
BCSHRP Mentor: Benjamin Sinder, Assistant Professor, Orthopedic Surgery

10. *Meningeal Structural and Vascular Architecture Following Experimental Diffuse Traumatic Brain Injury*
Jonathan He '28 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Brian J. Kelley, Assistant Professor, Neurosurgery

11. *Working Title: Development of an Integrated Multi-Scale Computational Model of Iron Homeostasis*
Neha Konatham '29 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Pedro Mendes, Professor, Cell Biology

12. *Validation of Efficiency in Training Paradigm for Assessing Spatial Memory in Mice*
Eva Lacey '28 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Andres Grosmark, Assistant Professor, Neuroscience

13. *Examining the Impact Of NAA10 3'UTR Mutations on Cleavage and Polyadenylation*
Rohith Lanka '29 (Molecular and Cell Biology, CLAS), UConn Storrs
BCSHRP Mentor: Pedro E.T. Miura, Associate Professor, Genetics & Genome Sciences

14. *Biophysical Characterization of NS4a-BRIL for Structural Determination of an Essential Orthoflavivirus Membrane Protein*
Ellie Lee '28 (Molecular and Cell Biology, CLAS), UConn Storrs
BCSHRP Mentor: Joana Paulino, Assistant Professor, Molecular Biology & Biophysics

15. *Bridging the Gap Between Research and Real-World Impact*
Harshit Yadav '26 (Computer Science, ENG) UConn Storrs
Host: UConn Technology Commercialization Services (UConn TIP Technology Incubation Program)

16. *Biosymmetrix Breast Prosthetic Project*
Patrick Lonergan '27 (Biomedical Engineering, ENG), UConn Storrs
BCSHRP Mentor: Liisa Kuhn, Professor, Biomedical Engineering

17. *Testing and Troubleshooting Mathematical Models of Biological Systems*
Nabil Mardhy '28 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Michael L. Blinov, Associate Professor, Genetics and Genome Sciences

18. *AI-Enhanced Temporal Envelope Reconstruction for Improved Speech Intelligibility in Hearing Protection Devices*
Emily Martinez '27 (Molecular & Cell Biology, CLAS and Health Care Management & Insurance Studies, BUS minor), UConn Storrs
BCSHRP Mentor: Insoo Kim, Assistant Professor, Biomedical Engineering

19. *CK1α Protects Against Renal Fibrosis and Interacts with UBR5*
Andre Ohanyan '27 (Philosophy and Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Baihai Jiao, Instructor, Nephrology

20. *Engineering a tRNAtrp Suppressor to Translate Disease-Causing Ptcs and Restore Protein Synthesis*
Lakshmi Parankusham '29 (Molecular & Cell Biology, CLAS), UConn Storrs

BCSHRP Mentor: Oscar Vargas-Rodriguez, Assistant Professor, Molecular Biology and Biophysics

21. *Earlier Insights, Lifelong Impact*
Daniel Jia '27 (Analytics and Information Management, BUS) UConn Storrs
Host UConn-TIP Company: Miora Health, UConn TIP (Technology Incubation Program)

22. *AI-Accelerated Histopathological Analysis Reveals How Cancer-Associated Fibroblasts Shape Metastasis*
Ved Bathula '28 (Molecular & Cell Biology, CLAS and Pathobiology, CAHNR), UConn Storrs
BCSHRP Mentor: Kshitiz, Assistant Professor, Biomedical Engineering

23. *Transcriptomic analysis of Warburg's aerobic glycolysis effect in neurogenesis of Danio rerio and Mus musculus*
Sean Reddy '28 (Physiology & Neurobiology, CLAS and Computer Science, ENG), UConn Storrs
BCSHRP Mentor: Feliks Trakhtenberg, Assistant Professor, Neuroscience

24. *Characterization of the Retention and Splicing Complex in the Lethal Parasite Trypanosoma Brucei*
Aparna Sitaram '28 (Pathobiology, CAHNR), UConn Storrs
BCSHRP Mentor: Arthur Günzl, Professor, Genetics and Genome Sciences

25. *Developing an In Vitro Competitive Fitness Assay to Model Clonal Hematopoiesis Driver Genes in Mouse Hematopoietic Stem Cells*
Owen Kilkelly '27 (Economics with Bioinformatics minor, CLAS), UConn Storrs
BCSHRP Mentor: Hideyuki Oguro, Assistant Professor, Cell Biology

26. *Quality Measurement of Medicaid Certified Nursing Homes in Connecticut using CoreQ, a Nursing Home Resident and Family Member Satisfaction Survey*
Leonel Vasquez-Cruz '27 (Psychological Sciences), UConn Storrs
BCSHRP Mentor: Ellis Dillon, Associate Professor, Public Health Sciences, UConn Center on Aging

27. *Recombinant Human Proteoglycan 4 (rhPRG4) Reduces Systemic Inflammation Pathological Bone Remodeling in a Murine Proteoglycan Induced Ankylosing Spondylitis Model*
Mackinsey Wilson '28 (Biomedical Engineering, ENG), UConn Storrs
BCSHRP Mentor: Tannin A. Schmidt, Associate Professor, Biomedical Engineering Department

LUNCH

11:30– 12:15 pm

Academic Rotunda Room or Courtyard, weather permitting

Boxed Lunch Provided for Presenters

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 (#28-53)

Academic Rotunda Hallways

28. *Differential Expression of Chrna4 and Chrna5 Across Layer 6 Corticothalamic Neurons*
Assiata Ayinla ’28 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Timothy J. Spellman, Professor, Neuroscience

29. *SeaSolTec: Market Research*
Kevin Arante ’26 (Dual BS/BA, Management, Entrepreneurship and Economics, BUS) UConn Storrs
Host UConn-TIP Company: SeaSol Tec, UConn TIP (Technology Incubation Program)

30. *Method for Molecular Detection of Alexandrium Catenella Associated with Paralytic Shellfish Poisoning*
Anastasia Savic ’29 (Computer Science Engineering, ENG); **Jane Sajan** ’29 (Pathobiology, CAHNR); **Navya Sabu** ’26 (Molecular & Cell Biology, CLAS); **Zohar Rosenberg** ’28 (Molecular & Cell Biology, CLAS), UConn Storrs
Guest program: UConn iGEM (International Genetically Engineering Machine) program
iGEM mentor: Kate Castellano, Professor, Institute for Systems Genomics, Dept. of Molecular and Cell Biology,

31. *Biologic Approach to Reverse Cartilage Damage in a Large Animal Model of TMJ Osteoarthritis*
Gwen Religa ’28 (Biology), Amherst College (guest student)
UCH Mentor: Caroline Dealy, Professor, Orthodontics, Biomedical Engineering, Orthopedic Surgery, Cell Biology

32. *CD13 Dependent Osteoclastogenesis: Uncovering Links to Ischemic Stroke*
Ketan Badrinath ’29 (Physiology & Neurobiology, CLAS)
BCSHRP Mentor: Mallika Ghosh, Assistant Professor, Cell Biology

33. *Research Poster (Title Pending)*
Martin Castaneda ’28 (Pathobiology, CAHNR), UConn Avery Point
BCSHRP Mentor: Abhijit Deb Roy, Assistant Professor, Cell Biology

34. *Role of UBXN1 in Cisplatin-Induced AKI*
Taylor Chevalier ’27 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Melanie Tran, Instructor, Nephrology

35. *Research Poster (Title Pending)*
Katherine Geist ’28 (Chemical Engineering, ENG), UConn Storrs
BCSHRP Mentor: Alix Deymier, Associate Professor, Biomedical Engineering Department

36. *Histological Evaluation of Recombinant Proteoglycan 4 Therapy in a Mouse Model of Inflammatory Arthritis*
Daniel Gorenbeyn ’28 (Molecular & Cell Biology, CLAS), UConn Hartford
BCSHRP Mentor: Caroline Dealy, Professor, Orthodontics, Biomedical Engineering, Orthopedic Surgery, and Cell Biology

37. *Workplace-Reentry Stigma as a Predictor of Mental Health and Viral Load Suppression among Unemployed PLWHA*
Rishabh Allade ’29 (Biological Sciences, CLAS), UConn Storrs
BCSHRP Mentor: Carla J. Rash, Associate Professor, Department of Medicine

38. *Automated Colorimetric Readout for CRISPR Based HPV Detection*
Charli Hughes '28 (Computer Science, ENG and Molecular & Cell Biology, CLAS), UConn Storrs
BCSHRP Mentor: Changchun Liu, Professor, Biomedical Engineering

39. *Development of a Bio-Signal Analysis Platform for Health Monitoring and Insights*
Jarod Zizza '25 (MS, Biomedical Engineering, ENG) UConn Storrs
Host UConn-TIP Company: Zemi Labs, UConn TIP (Technology Incubation Program)

40. *Investigating the Role of DNAJA1 in Mitochondrial Protein Import*
Ananya Mathur '29 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Xiaoyan Guo, Assistant Professor, Genetics and Genome Science

41. *Dissecting Tyrosine Phosphorylation Pathways in Glioblastoma Using Multiplex SH2 Imaging*
Kayleigh Murray '28 (Math, Molecular & Cell Biology, IMJR, CLAS), UConn Storrs
BCSHRP Mentor: Ji Yu, Associate Professor, Genetics and Genome Sciences

42. *A Computational Model of EGF Receptor Dimerization & Trafficking Dynamics in Epithelial Cells*
Kevin Ryu '26 (Physiology & Neurobiology, CLAS), UConn Storrs
BCSHRP Mentor: Sarvenaz Sarabipour, Assistant Professor, Cell Biology

43. *UConn TCS: Harnessing Innovation to Capture Industry Opportunities*
Brooke Nelson '27 (Pathobiology, CAHNR), UConn Storrs
Host: UConn TCS (Technology Commercialization Services), UConn TIP (Technology Incubation Program)

44. *Phenotyping Behavioral Responses to Iron Chelation in Western Diet-Fed Mice*
Luke Simon '29 (Molecular & Cell Biology and Economics, CLAS), UConn Storrs
BCSHRP Mentor: Samantha Fortin, Assistant Professor, Medicine

45. *The State of Contingency Management Implementation for Substance Use Disorders in the United States*
Anulekha Sahu '27 (Physiology & Neurobiology and Psychological Sciences CLAS), UConn Storrs
BCSHRP Mentor: Sheila Alessi, Associate Professor, Psychiatry

46. *Loss of Trim28 Attenuates Acute Kidney Injury*
Qiwei Song '29 (Pathobiology, CAHNR), UConn Storrs
BCSHRP Mentor: Yanlin Wang, Professor, Nephrology

47. *Co-Expression and Purification of Potential Binding Partners for Human Natriuretic Peptide Receptor 3 (hNPR3)*
Abhirami Srivel '28 (Chemistry, CLAS), UConn Storrs
BCSHRP Mentor: Steven Chou, Professor, Molecular Biology and Biophysics

48. *Mapping Postnatal Hedgehog Signaling in Maturing Articular Cartilage of the Knee*
Sarah Stuhlmiller '27 (Biological Sciences with Molecular & Cell Biology minor) UConn, Storrs
BCSHRP Mentor: Danielle R. Rux, Assistant Professor, Orthopedic Surgery

49. *Articular Cartilage Growth Responses During Injury Healing in a Human Ex-Vivo Model*
Hope Chokshi '28 (Molecular and Cell Biology, CLAS) UConn Storrs
UCH Mentor: Caroline Dealy, Orthodontics, Biomedical Engineering, Orthopedic Surgery and Cell Biology

50. *Comparison of Systemic and Intratumoral Administration to Optimize BaTiO3 Nanoparticle Delivery to Pancreatic*

and Head and Neck Tumors
Aditi Thaker '27 (Molecular & Cell Biology, CLAS), UConn Storrs
BCSHRP Mentor: Henry Smilowitz, Associate Professor, Cell Biology

51. *Postnatal Activation and Patterning of Hedgehog Signaling in Developing Hip Articular Cartilage*
Annie Vincent '29 (Molecular & Cell Biology, CLAS), UConn Storrs
BCSHRP Mentor: Danielle R. Rux, Assistant Professor, Orthopedic Surgery

52. *Research Poster (Title Pending)*
Qasim Virk '29 (Molecular & Cell Biology, CLAS), UConn Storrs
BCSHRP Mentor: Yanjiao Zhou, Associate Professor, Medicine

53. *Coronin 1A Deficiency Alleviates Kidney Fibrosis*
Yuqi Zhou '28 (Biological Sciences, CLAS), UConn Storrs
BCSHRP Mentor: Yuan Gui, Instructor, Nephrology

SHORT TALKS SESSION 2

1:30 – 2:30 pm

Academic Rotunda Room

1:30 - 1:45 pm *Lyme Disease post-exposure prophylaxis: Test the Tick, Treat the Bite!*
Valentina Gutierrez '27 (Allied Health, CAHNR) UConn Storrs
Adonis Smith '27 (Digital Media Design, FINE ARTS), UConn Stamford
Host UConn-TIP Company: Therapeutic Bandage Products, UConn (Technology Incubation Program)

1:45 – 2:00 pm *Mud Rat - New Product Customer Discovery*
Pamela Gerardo '26 (MS, Energy and Environmental Management; CANHR, CLAS & LAW)
Host UConn-TIP Company: Mud Rat, UConn TIP (Technology Incubation Program)

2:00 – 2:15 pm Trial to Product: Biomaterial Development
Jacob Balikian '28 (Mechanical Engineering and Materials Science, ENG), UConn Storrs
Host UConn-TIP Company: Mud Rat, UConn TIP (Technology Incubation Program)

2:15 – 2:30 pm *Using Data Science to Predict Strawberry Shelf Life and Reduce Food Waste*
Jeremiah Tshinyama '26 (Applied Mathematical Sciences, CLAS) UConn Storrs
Host UConn-TIP Company: Atlas, UConn TIP (Technology Incubation Program)

CLOSING

2:30 pm

Academic Rotunda Room

Group Photo

ACKNOWLEDGEMENTS

On behalf of the Barbara C. Setlow 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 Barbara C. Setlow Health Research Program:

- Provost Pamir Alpay, Vice Provost Amy Gorin, and Office of the Provost
- Interim Vice President for Research, Innovation, and Entrepreneurship 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
- Dean Indrajeet Chaubey and the College of Agriculture, Health, and Natural Resources
- Dean Kazem Kazerounian and the School of Engineering
- Dean Philip Hritcko and the School of Pharmacy
- Dean Steven Lepowsky and the School of Dental Medicine
- Dean Alain Frogley and the School of Fine Arts
- Dean Deborah Chyun and the School of Nursing
- Executive Director David Ouimette and the Office of First Year Programs and Learning Communities
- Executive Director for Access & Postsecondary Success (CAPS) Herman Shelton
- Director Renee Trueman and the McNair Scholars program
- Director Michael Petro, STEM-PLUS program
- 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 (ST.) Please refer to the program for the timing of specific sessions.

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