



ENRICHMENT PROGRAMS  
OFFICE OF  
UNDERGRADUATE RESEARCH

## 2017 Summer Undergraduate Research Fund (SURF) Awards

Congratulations to the fifty-four undergraduate SURF Award recipients for Summer 2017! These UConn students were selected from an exceptionally strong group of applicants representing diverse areas of academic inquiry.

Thank you to the research advisors and other faculty members who supported SURF applicants, to the faculty who served on the selection committee, and to the many generous supporters who make this program possible.

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- 1. Aditi Agrawal, Physiology and Neurobiology & Psychological Sciences (2018)**  
Project Title: *Measuring Observational Learning in Rats*  
Faculty Mentor: Dr. Etan Markus, Department of Psychological Sciences
- 2. Audrey Apanovitch, Nursing (2019)**  
Project Title: *Neonatal Admission Temperatures: Are We Doing Enough?*  
Faculty Mentor: Dr. Jacqueline McGrath, School of Nursing
- 3. Helen Belato, Molecular and Cell Biology (2018)**  
Project Title: *Function of the Phage L Decorator Protein, and Its Interactions with Bacteriophage P22*  
Faculty Mentor: Dr. Andrei Alexandrescu, Department of Molecular and Cell Biology
- 4. Eric Beltrami, Physiology and Neurobiology (2019)**  
Project Title: *Understanding the Neuroanatomy of an Inhibitory Projection from the Lateral Hypothalamus to the Pontine Brainstem and its Role in Behavior*  
Faculty Mentor: Dr. Alexander Jackson, Department of Physiology and Neurobiology
- 5. Jessica Bertenshaw, Physiology and Neurobiology & Molecular and Cell Biology (2018)**  
Project Title: *Symbiotic Benefits of the Hawaiian Bobtail Squid Accessory Nidamental Gland Bacterial Consortium in Egg Protection Against Algae*  
Faculty Mentor: Dr. Spencer Nyholm, Department of Molecular and Cell Biology
- 6. Audra Blewitt, Speech, Language, and Hearing Sciences & Psychological Sciences (Dec. 2017)**  
Project Title: *The Impact of Language Impairment on the Perception of Guilt*  
Faculty Mentor: Dr. Tammie Spaulding, Department of Speech, Language, and Hearing Sciences
- 7. Marisa Boch, Chemical and Biomolecular Engineering & Molecular and Cell Biology (2018)**  
Project Title: *Effect of Silk-Based Hydrogel Topography on Intestinal Epithelial Cell Wound Healing In Vitro*  
Faculty Mentor: Dr. Kelly Burke, Department of Chemical and Biomolecular Engineering
- 8. Megan Boyer, Molecular and Cell Biology (2018)**  
Project Title: *Investigating the Evolution of Centromeric DNA within Drosophila Species*  
Faculty Mentor: Dr. Barbara Mellone, Department of Molecular and Cell Biology
- 9. Benjamin Breslau, Ecology and Evolutionary Biology (2018)**  
Project Title: *Juvenile Amphibian Response to Changing Connecticut Forest Composition*  
Faculty Mentor: Dr. Tracy Rittenhouse, Department of Natural Resources and the Environment

**10. Ganna Brych, Biological Sciences (2018)**

Project Title: *Characterizing the New Actin Assembly Factor WHIMP*

Faculty Mentor: Dr. Kenneth Campellone, Department of Molecular and Cell Biology

**11. Adam Chiu, Biological Sciences (2018)**

Project Title: *Parametrization of RNA Interference Variables in *Oncopeltus fasciatus*, an Emerging Model Hemipteran*

Faculty Mentor: Dr. Elizabeth Jockusch, Department of Ecology and Evolutionary Biology

**12. Christopher Choi, Materials Science and Engineering & History (2020)**

Project Title: *Accurate High-Throughput Characterization of Synthesized Materials' Thermoelectric Properties at High Temperatures*

Faculty Mentor: Dr. Michael Pettes, Department of Mechanical Engineering

**13. Mary Donato, Natural Resources (2018)**

Project Title: *The Effect of Salt Water Intrusion on Wetland Carbon Emissions*

Faculty Mentor: Dr. Beth Lawrence, Department of Natural Resources and the Environment

**14. Kyle Drake, Physiology and Neurobiology (2018)**

Project Title: *Understanding the Role of Minor Splicing in Motor Neuron Function and ALS Disease Pathogenesis*

Faculty Mentor: Dr. Rahul Kanadia, Department of Physiology and Neurobiology

**15. Brian Dunn, Physics & Mathematics (Dec. 2017)**

Project Title: *Growth of Scandium Fluoride and the Study of Negative Thermal Expansion Under Strain*

Faculty Mentor: Dr. Barrett Wells, Department of Physics

**16. Alexis Dziubek, Molecular and Cell Biology (2018)**

Project Title: *Exploring a Transcriptional Termination Defect in HeLa Cells*

Faculty Mentor: Dr. Leighton Core, Department of Molecular and Cell Biology

**17. Christiana Field, Psychological Sciences & Spanish (2018)**

Project Title: *BioCHIP Study on Type II Diabetes Health Behaviors: Human Subjects Phase I*

Faculty Mentor: Dr. Amy Gorin, Department of Psychological Sciences

**18. Kayla Fobian, Psychological Sciences & Human Development and Family Studies (2018)**

Project Title: *Novelty and Familiarity Preferences in Toddlers*

Faculty Mentor: Dr. Deborah Fein, Department of Psychological Sciences

**19. Elizabeth Gernert, Cognitive Science (2018)**

Project Title: *Is That Me? Neural Attenuation of Self-Generated Sounds*

Faculty Mentor: Dr. Erika Skoe, Department of Speech, Language, and Hearing Sciences

**20. Kathrine Grant, Secondary English Education & English (2019)**

Project Title: *Assessing Public Perception of K-12 Public Schools Using Anchoring Vignettes*

Faculty Mentor: Dr. Shaun Dougherty, Department of Educational Leadership

**21. Abhishek Gupta, Biological Sciences (2020)**

Project Title: *Paper-Enzymes: Universal Method of Enzyme Stabilization with Synthetic Polymers on Ordinary Paper*

Faculty Mentor: Dr. Challa Kumar, Department of Chemistry

**22. Weston Henry, Ecology and Evolutionary Biology & Landscape Architecture (2019)**

Project Title: *Conservation and Habitat Restoration of the Globally Imperiled Northern Metalmark Butterfly (*Calephelis borealis*) (Lepidoptera: Riodinidae)*

Faculty Mentor: Dr. David Wagner, Department of Ecology and Evolutionary Biology

**23. Jessica Hinckley, Marine Sciences (2019)**

Project Title: *Investigating Dissolved Gas Concentrations in Long Island Sound*

Faculty Mentor: Dr. Penny Vlahos, Department of Marine Sciences

**24. Emma Hungaski, Cognitive Science & Speech, Language, and Hearing Sciences (2019)**

Project Title: *Neural Determinants of Phonetic Category Structure in Children*

Faculty Mentor: Dr. Rachel Theodore, Department of Speech, Language, and Hearing Sciences

**25. Sara Islam, Molecular and Cell Biology (2018)**

Project Title: *Single-Cell Characterization of Bipotent Neuromesodermal Progenitor Cells and their Niche in the Developing Mouse Embryo*

Faculty Mentor: Dr. Craig Nelson, Department of Molecular and Cell Biology

**26. Sricharan Kadimi, Chemical Engineering (2019)**

Project Title: *Development of Lipid Bicelles as Self-Assembling siRNA Delivery Vehicles*

Faculty Mentor: Dr. Mu-Ping Nieh, Department of Chemical and Biomolecular Engineering

**27. Maneesh Koneru, Structural Biology and Biophysics & Chemistry (2018)**

Project Title: *Computational Analysis of Structural Transitions of the Poliovirus Capsid in its Cell Entry Pathway*

Faculty Mentor: Dr. Eric May, Department of Molecular and Cell Biology

**28. Daniel Kovner, Physics (2018)**

Project Title: *Causal Dynamical Triangulations: Low-Poly Gravity*

Faculty Mentor: Dr. Thomas Blum, Department of Physics

**29. Grace Lee, Molecular and Cell Biology (2019)**

Project Title: *The Mechanism Behind Minimal Lipid Accumulation in Whole Body MicroRNA-200c Knockout Mice After an Alcoholic Binge Diet*

Faculty Mentor: Dr. Li Wang, Department of Physiology and Neurobiology

**30. Eric Lepowsky, Mechanical Engineering (2019)**

Project Title: *Advancements in Paper-Based Microfluidics*

Faculty Mentor: Dr. Savas Tasoglu, Department of Mechanical Engineering

**31. Xuan Liu, Molecular and Cell Biology (2018)**

Project Title: *Analysis of Chromosome Segregation in Meiosis following Ectopic Centromere Assembly in Drosophila*

Faculty Mentor: Dr. Barbara Mellone, Department of Molecular and Cell Biology

**32. Michaela Matos, Mathematics (2018)**

Project Title: *SysTematic REsearch about Shootings (STRES)*

Faculty Mentor: Dr. Blair Johnson, Department of Psychological Sciences

**33. Sarah McCart, Marine Sciences (2018)**

Project Title: *Sea Level Driven Ocean Ridge Magmatism Inducing Glacial Terminations*

Faculty Mentor: Dr. David Lund, Department of Marine Sciences

**34. Jennifer Messina, Molecular and Cell Biology (2019)**

Project Title: *The Chemotactic Signaling Pathway of Metallothionein Induced Chemotaxis*

Faculty Mentor: Dr. Michael Lynes, Department of Molecular and Cell Biology

**35. Emma Mills, Physiology and Neurobiology (2018)**

Project Title: *Neuroanatomical Effects of Hypoxic Ischemia in P6 rats and Therapeutic Benefits of Treatment with EPO*

Faculty Mentor: Dr. R. Holly Fitch, Department of Psychological Sciences

**36. Joshua Moskow, Biomedical Engineering & Materials Science and Engineering (2019)**

Project Title: *Electrical Stimulation Mediated Mesenchymal Stem Cell Differentiation for Nerve Regeneration*

Faculty Mentor: Dr. Sangamesh Kumbar, Department of Orthopaedic Surgery, UConn Health

**37. Angelika Muter, Allied Health Sciences (2018)**

Project Title: *The Role of CD36 on VLDL Secretion and its Relation to Cardiovascular Disease*

Faculty Mentor: Dr. Alison Kohan, Department of Nutritional Sciences

**38. Jacob Naparstek, Physiology and Neurobiology (2018)**

Project Title: *Neuroanatomical Organization of Lateral Hypothalamic Somatostatin Neurons*

Faculty Mentor: Dr. Alexander Jackson, Department of Physiology and Neurobiology

**39. Avish Patel, Molecular and Cell Biology (2019)**

Project Title: *Epigenetics in Phenobarbital Induced Cytochrome P450*

Faculty Mentor: Dr. Xiaobo Zhong, Department of Pharmaceutical Sciences

**40. Benjamin Redenti, Molecular and Cell Biology (2018)**

Project Title: *Modulation of Synaptic Transmission in Layer 2/3 Pyramidal Neurons of the Rat Prefrontal Cortex by Ethanol*

Faculty Mentor: Dr. Maxim Volgushev, Department of Psychological Sciences

**41. Adam Reinhold, Chemistry (2019)**

Project Title: *Investigation into Structural Cause of Photoluminescence Quenching Due to Partial Charge Sharing of Flavin Mononucleotide Wrapped (8,6) Single Walled Carbon Nanotubes*

Faculty Mentor: Dr. Fotios Papadimitrakopoulos, Department of Chemistry

**42. Nicholas Russo, Ecology and Evolutionary Biology (2018)**

Project Title: *Avian Spring Migration as a Dispersal Mechanism for an Invasive Insect Pest*

Faculty Mentor: Dr. Morgan Tingley, Department of Ecology and Evolutionary Biology

**43. Emily Saccuzzo, Chemistry (2018)**

Project Title: *Enzymatic Ligation of Transferrin Aptamer to Nanoparticle Surface*

Faculty Mentor: Dr. Jessica Rouge, Department of Chemistry

**44. Michael Schneider, Physiology and Neurobiology (Dec. 2017)**

Project Title: *Determination of the Clonal Relationships in Fibrodysplasia ossificans progressiva Lesions*

Faculty Mentor: Dr. David Goldhamer, Department of Molecular and Cell Biology

**45. Rebecca Schwartz, Biological Sciences & Psychological Sciences (2018)**

Project Title: *Depression, Dopamine, and Drug Treatments: Examining the Effect of Novel Dopamine Transport Blockers on Effort-Related Motivational Behaviors in Rats*

Faculty Mentor: Dr. John Salamone, Department of Psychological Sciences

**46. Dhruv Shah, Molecular and Cell Biology (2019)**

Project Title: *Investigating the Regeneration of Colorectal Excitatory Neurons in TNBS-Induced Visceral Hypersensitivity Using Optical Clearing for Deep Tissue Imaging*

Faculty Mentor: Dr. Bin Feng, Department of Biomedical Engineering

**47. Sailesh Simhadri, Computer Science and Engineering (2018)**

Project Title: *Information Theory for Numeration Systems Generated By Linear Recurrences*

Faculty Mentor: Dr. Iddo Ben-Ari, Department of Mathematics

**48. Deepinder Singh, Molecular and Cell Biology (2018)**

Project Title: *Mapping the Stem Cell Niche of the Lateral Ventricles in the Developing Brain*

Faculty Mentor: Dr. Joanne Conover, Department of Physiology and Neurobiology

**49. Kavita Sinha, Molecular and Cell Biology & Psychological Sciences (2018)**

Project Title: *Modulation of the Immune Response to Neo-Antigens through PD-1 Checkpoint Receptor Blockade*

Faculty Mentor: Dr. Pramod Srivastava, Department of Immunology, UConn Health

**50. Brendan Stewart, Molecular and Cell Biology (2018)**

Project Title: *Identification of Novel Secondary Metabolites from the Trachymyrmex septentrionalis Symbiotic Community*

Faculty Mentor: Dr. Marcy Balunas, Department of Pharmaceutical Sciences

**51. Emily Taylor, Dietetics (2018)**

Project Title: *Examining Food Insecurity, Depression, and Weight-Related Attitudes of Low-Income Mothers and Fathers*

Faculty Mentor: Dr. Amy Mobley, Department of Nutritional Sciences

**52. Mackenzie Watkins, Ecology and Evolutionary Biology (2018)**

Project Title: *Hiding in Plain Sight: Do Brown Trout Engage in Background Matching in Simple Environments?*

Faculty Mentor: Dr. Margaret Rubega, Department of Ecology and Evolutionary Biology

**53. Hope Whitelock, Physics (2018)**

Project Title: *What's So Super(conducting) about Strontium Titanate?*

Faculty Mentor: Dr. Barrett Wells, Department of Physics

**54. Monica Zhang, Chemical Engineering (2019)**

Project Title: *Nanocoatings with Outstanding Thermal Insulation and Flame Retardancy for Aerospace Applications*

Faculty Mentor: Dr. Luyi Sun, Department of Chemical and Biomolecular Engineering