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.

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

   - 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

   - 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

    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

    Project Title: Growth of Scandium Fluoride and the Study of Negative Thermal Expansion Under Strain
    Faculty Mentor: Dr. Barrett Wells, Department of Physics

    Project Title: Exploring a Transcriptional Termination Defect in HeLa Cells
    Faculty Mentor: Dr. Leighton Core, Department of Molecular and Cell Biology

    Project Title: BioCHIP Study on Type II Diabetes Health Behaviors: Human Subjects Phase I
    Faculty Mentor: Dr. Amy Gorin, Department of Psychological Sciences

    Project Title: Novelty and Familiarity Preferences in Toddlers
    Faculty Mentor: Dr. Deborah Fein, Department of Psychological Sciences

    Project Title: Is That Me? Neural Attenuation of Self-Generated Sounds
    Faculty Mentor: Dr. Erika Skoe, Department of Speech, Language, and Hearing Sciences

    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

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

Project Title: Investigating Dissolved Gas Concentrations in Long Island Sound
Faculty Mentor: Dr. Penny Vlahos, Department of Marine Sciences

Project Title: Neural Determinants of Phonetic Category Structure in Children
Faculty Mentor: Dr. Rachel Theodore, Department of Speech, Language, and Hearing Sciences

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

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

Project Title: Causal Dynamical Triangulations: Low-Poly Gravity
Faculty Mentor: Dr. Thomas Blum, Department of Physics

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

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

   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

   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

   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

   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

   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