



## 2019 Summer Undergraduate Research Fund (SURF) Awards

Congratulations to the forty-five undergraduate SURF Award recipients for Summer 2019! 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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**Patrick Adamczyk '20** (Chemical Engineering, ENG)

Project Title: *Construction of an RNA-Bicelle Composite*

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

**Lauren Alexandrescu '20** (Molecular and Cell Biology, CLAS; Structural Biology and Biophysics, CLAS)

Project Title: *Investigating the Roles of Long Non-Coding RNAs in Picornavirus Infections*

Faculty Mentor: Dr. Simon White, Molecular and Cell Biology

**Sarah Baker '20** (Ecology and Evolutionary Biology, CLAS)

Project Title: *The Impact of Distance from a Stream on Color Morph Distributions of Plethodon cinereus, the Eastern Red-Backed Salamander*

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

**Halle Barber '20** (Chemistry, CLAS; Molecular and Cell Biology, CLAS)

Project Title: *Development of a Novel DNA Crosslinked Nanocapsule for Diagnostic and Therapeutic Applications*

Faculty Mentor: Dr. Jessica Rouge, Chemistry

**Helen Bian '21** (Molecular and Cell Biology, CLAS; Spanish, CLAS)

Project Title: *Functional Classification of Known and Novel Single Nucleotide Polymorphisms Associated with Chronic Lymphocytic Leukemia Predisposition*

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

**Mackenzie Blanusa '20** (Marine Sciences, CLAS; Individualized Major: Atmospheric Science, CLAS)

Project Title: *The Effect of Storm Type and Source Region on the Chemical Composition of Precipitation along the Long Island Sound Coastline*

Faculty Mentor: Dr. Kelly Lombardo, Marine Sciences

**Victoria Bozhulich '21** (Chemistry, CLAS)

Project Title: *Increasing the Stability of Enzymes in the Confined Environment of Porous Hollow Nanocapsules*

Faculty Mentor: Dr. Evgueni Pinkhassik, Chemistry

**Adeline Bray, Dec. '19** (Physiology and Neurobiology, CLAS)

Project Title: *Measuring the Effect of the Ketogenic Diet on Seizure-Like Activity (SLA) through Genetic Control of the KATP Channel in Drosophila melanogaster*

Faculty Mentor: Dr. Geoffrey Tanner, Physiology and Neurobiology

**Joyce Caliendo '20** (Materials Science and Engineering, ENG)

Project Title: *A Closer Look into the Quenching of a Distant Compact Galaxy*

Faculty Mentor: Dr. Katherine Whitaker, Physics

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**Christian Connors '20** (Ecology and Evolutionary Biology, CLAS)

Project Title: *The Effect of Forest Fragmentation on Interactions between Insect Herbivores and their Parasitoids*

Faculty Mentor: Dr. Robert Bagchi, Ecology and Evolutionary Biology

**Celya Dahmani '21** (Physiology and Neurobiology, CLAS; French, CLAS)

Project Title: *Investigating the Behavioral and Genetic Effects of the Ketogenic Diet on Alzheimer's disease in *Drosophila melanogaster**

Faculty Mentor: Dr. Geoffrey Tanner, Physiology and Neurobiology

**Nathaniel Davino '21** (Ecology and Evolutionary Biology, CLAS)

Project Title: *Structural Modifications to Tidal Marsh Bird Eggs to Reduce Incubation Periods*

Faculty Mentor: Dr. Chris Elphick, Ecology and Evolutionary Biology

**Chenghong Deng '20** (Molecular and Cell Biology, CLAS; Psychological Sciences, CLAS)

Project Title: *The Genes Expressed in Frog Skin and their Role in Evolutionary Innovation*

Faculty Mentor: Dr. John Malone, Molecular and Cell Biology

**Isabella Ferrante, Dec. '19** (History, CLAS)

Project Title: *Treating Trauma: An Analysis of the Reactions to Shell Shock in Britain During and After World War I*

Faculty Mentor: Dr. Meredith Rusoff, History

**Alyssa Ferreira, Dec. '20** (Pathobiology, CAHNR)

Project Title: *Development of an Open-Source, Web-Based Database Module for the Tripal Framework to Improve Eukaryotic Genome Annotation*

Faculty Mentor: Dr. Jill Wegrzyn, Ecology and Evolutionary Biology

**Caitlin Foster '20** (Biological Sciences, CLAS)

Project Title: *The Genetic Architecture of Pollinator-Associated Floral Traits in Monkeyflowers*

Faculty Mentor: Dr. Yaowu Yuan, Ecology and Evolutionary Biology

**Kaleigh Frame '20** (Speech, Language and Hearing Sciences, CLAS; Spanish, CLAS)

Project Title: *Examining Self Perception of Language and Cognition in People with Aphasia*

Faculty Mentor: Dr. Jennifer Mozeiko, Speech, Language, and Hearing Sciences

**Madeleine Gastonguay '20** (Applied Mathematical Sciences, CLAS)

Project Title: *A Discrete Mathematical Model for Cancer Reversion in Triple Negative Breast Cancer*

Faculty Mentor: Dr. Paola Vera-Licona, Center for Quantitative Medicine

**Analyse Giordano '20** (Allied Health Sciences, CAHNR)

Project Title: *Increasing the Longevity of Fully Implantable Continuous Glucose Monitors Using Biocompatible Ceramic Nanoparticles and Nanotexturing*

Faculty Mentor: Dr. Steven Suib, Chemistry

**Jordana Graveley '21** (Ecology and Evolutionary Biology, CLAS; English, CLAS)

Project Title: *Differences in Feather Number and Feather Wear Cause Seasonal Variation in the Insulation of House Sparrows (*Passer domesticus*)*

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

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**James He '21** (Molecular and Cell Biology, CLAS)

Project Title: *LHX2 and LMX1B Regulation of Supratentorial Ependymoma Tumor Growth*

Faculty Mentor: Dr. Joseph LoTurco, Physiology and Neurobiology

**Kelsey Hebert '20** (Molecular and Cell Biology, CLAS)

Project Title: *Investigating WDR73 and Fmn1 in the Microtubule Cytoskeleton and Disease*

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

**Anneliese Lapides '20** (Biological Sciences, CLAS; Human Development and Family Studies, CLAS)

Project Title: *Relationships between Auditory Brainstem Response and Sentence Comprehension*

Faculty Mentor: Dr. Letitia Naigles, Psychological Sciences

**Maria Latta '20** (Pharmacy Studies, PHR)

Project Title: *Evaluating University Support in the Sustainability of Public Health Programs: A Study of the Connecticut WISEWOMAN Medication Therapy Management (MTM)*

Faculty Mentor: Dr. Nathaniel Rickles, Pharmacy Practice

**Emmalyn Lecky '20** (Psychological Sciences, CLAS; Biological Sciences, CLAS)

Project Title: *Optimizing a Method of Blast-Induced Traumatic Brain Injury in Mice*

Faculty Mentor: Dr. Feliks Trakhtenberg, Neuroscience

**Michael Li '20** (Exercise Science, CAHNR)

Project Title: *The Effects of Late-Life Caloric Restriction on Aging*

Faculty Mentor: Dr. Blanka Rogina, Genetics and Genome Sciences

**Victoria Li '20** (Biological Sciences, CLAS)

Project Title: *Gamma Delta T Cell Activation Using Novel Compounds and Natural Product Extracts*

Faculty Mentor: Dr. Andrew Wiemer, Pharmaceutical Sciences

**Timothy Mason '20** (Molecular and Cell Biology, CLAS)

Project Title: *Investigating the Regulation of Centromere Size in *D. melanogaster**

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

**Jacob McCoy '20** (Physiology and Neurobiology, CLAS)

Project Title: *Investigating the Effects of Background Noise on Cognitive Function in College Students with Variable Noise Exposure Histories*

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

**Annalee Mears '20** (Marine Sciences, CLAS)

Project Title: *Stoichiometry of Fear: Do Predators Affect the Balance of Carbon and Nitrogen in their Prey?*

Faculty Mentor: Dr. Catherine Matassa, Marine Sciences

**Mia Nahom '20** (Ecology and Evolutionary Biology, CLAS)

Project Title: *Effect of Gut Microbiota on Developmental Immunity and Parasite Load in Tree Swallows (*Tachycineta bicolor*)*

Faculty Mentor: Dr. Sarah Knutie, Ecology and Evolutionary Biology

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**Aryan Naik '21** (Physiology and Neurobiology, CLAS)

Project Title: *Investigating the role of Pgbd5 in the Differentiation of Neocortical Neurons*

Faculty Mentor: Dr. Joseph LoTurco, Physiology and Neurobiology

**Taryn Nguyen '20** (Nursing, NUR)

Project Title: *The Forgotten Experience: Recounting the Lives of Vietnamese Immigrants*

Faculty Mentor: Dr. Juliette Shellman, Nursing

**Grace Nichols '20** (Molecular and Cell Biology, CLAS)

Project Title: *Evaluating the Effectivity of Tinnitus Induction in Mice through Behavioral Screenings*

Faculty Mentor: Dr. Douglas Oliver, Neuroscience

**Amanda Pastore '20** (Ecology and Evolutionary Biology, CLAS)

Project Title: *Increasing Levels of Carbon Dioxide in Freshwater may Mediate the Predation of the Keystone Species *Daphnia magna**

Faculty Mentor: Dr. Mark Urban, Ecology and Evolutionary Biology

**Fabio Saccomanno '20** (Molecular and Cell Biology, CLAS)

Project Title: *Proving the Relationship between Wdr73 and Asymmetric Organogenesis in Zebrafish*

Faculty Mentor: Dr. David Daggett, Molecular and Cell Biology

**Ian Sands '20** (Biomedical Engineering, ENG)

Project Title: *Novel siRNA Tissue Delivery System via Biomimetic Nonmaterial for Treatment of Post-Traumatic Arthritis*

Faculty Mentor: Dr. Yupeng Chen, Biomedical Engineering

**Madelyn Severson '20** (Biological Sciences, CLAS)

Project Title: *Investigation of the Role of Retroelement Transcription in Neocentromere Formation*

Faculty Mentor: Dr. Rachel O'Neill, Molecular and Cell Biology

**Thomas Shao '20** (Physiology and Neurobiology, CLAS)

Project Title: *Developing a Paradigm to Test for Observational Learning*

Faculty Mentor: Dr. Etan Markus, Psychological Sciences

**Inglis Tucker '20** (Molecular and Cell Biology, CLAS)

Project Title: *Characterizing the Virome of Two Species of Wild Migratory Birds*

Faculty Mentor: Dr. Sarah Hird, Molecular and Cell Biology

**Jason Vailionis '21** (Ecology and Evolutionary Biology, CLAS)

Project Title: *Symbiont Replacement by Pathogenic Fungus in North American Dog-Day Cicadas*

Faculty Mentor: Dr. Chris Simon, Ecology and Evolutionary Biology

**Samson Weiner '20** (Computer Science, ENG)

Project Title: *Extinct Species Lineages in the Reconciliation Problem with Gene Duplication, Transfer, and Loss*

Faculty Mentor: Dr. Mukul Bansal, Computer Science and Engineering

**John Wohl '21** (Computer Science, ENG; Cognitive Science, CLAS)

Project Title: *Wearable Food Intake Monitoring*

Faculty Mentor: Dr. Song Han, Computer Science and Engineering

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**Daniel Yu '20** (Exercise Science, CAHNR)

Project Title: *Role of Mevalonate Pathway Components on Statin-Induced Muscle and Neuronal Damage*

Faculty Mentor: Dr. Elaine Lee, Kinesiology

**Lily Zhong '21** (Physiology and Neurobiology, CLAS)

Project Title: *Defining a Tachykininergic Projection to the Lateral Hypothalamic Area and its Role in Stress and Anxiety*

Faculty Mentor: Dr. Alexander Jackson, Physiology and Neurobiology