



ENRICHMENT PROGRAMS

OFFICE OF
UNDERGRADUATE RESEARCH

2014 Summer Undergraduate Research Fund (SURF) Awards

Congratulations to the fifty-nine UConn undergraduates offered SURF Awards for Summer 2014! These students were selected from an exceptionally strong group of applicants representing a wide range of 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. Briana Bardos, Political Science & Human Rights (2015)

Project Title: *How Social Entrepreneurship Affects Women's Political and Economic Participation in Guatemala*

Faculty Mentor: Dr. David Richards, Department of Political Science

2. Emily Behling, Biological Sciences (2015)

Project Title: *Exploring species composition of plant diaspores found in the feathers of amphitropical migratory shorebirds*

Faculty Mentor: Dr. Bernard Goffinet, Department of Ecology and Evolutionary Biology

3. Nellie Binder, International Relations (2015)

Project Title: *Photographs that Changed History: The Majdanek Liberation Narrative*

Faculty Mentor: Dr. Michael Orwicz, Department of Art and Art History

4. Michael Bond, Molecular and Cell Biology (2016)

Project Title: *The effects of microtubule disruption on TNF-R1 membrane trafficking in drug arrest colon cancer cells*

Faculty Mentor: Dr. Charles Giardina, Department of Molecular and Cell Biology

5. Lisa Brody, Speech, Language, and Hearing Sciences (2015)

Project Title: *Auditory Processing in the Brain and the Link to Reading Ability*

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

6. Antonio Campelli, Studio Art (2015)

Project Title: *Recording Remains: Reading the Book Format As Installation*

Faculty Mentor: Dr. Ray DiCapua, Department of Art and Art History

7. Michael Cantara, Engineering Physics (2016)

Project Title: *Formation of Ultracold Rb3 Molecules*

Faculty Mentor: Dr. William Stwalley, Department of Physics

8. Aliya Carter, Materials Science and Engineering (2016)

Project Title: *Nanoscale property mapping of VO2 thin films for Energy Efficient 'Smart Windows'*

Faculty Mentor: Dr. Bryan Huey, Department of Materials Science and Engineering

9. Yamini Chalikonda, Allied Health Sciences (2015)

Project Title: *Discovering an AMPK-UCP5 Link in Neuroprotective Effects in Dopaminergic Neurons Under Oxidative Stress*

Faculty Mentor: Dr. Yih-Woei Fridell, Department of Allied Health Sciences

2014 SURF Award Recipients

10. Kamil Charubin, Chemical Engineering (2015)

Project Title: *Differential Scanning Calorimetry Study on the Lipid Transfer between Lipid-Based Nanodiscs*
Faculty Mentor: Dr. Mu-Ping Nieh, Department of Chemical and Biomolecular Engineering

11. Rebecca Colby, Ecology and Evolutionary Biology (2015)

Project Title: *Investigating the evolutionary gain and loss of Na⁺, K⁺ - ATPase "isoform switching" in a euryhaline fish, the Alewife*
Faculty Mentor: Dr. Eric Schultz, Department of Ecology and Evolutionary Biology

12. Laura Dellalana, Biological Sciences (2015)

Project Title: *Characterization of Hist3H2a in Murine Retina*
Faculty Mentor: Dr. Rahul Kanadia, Department of Physiology and Neurobiology

13. Andrea DiVenere, Chemical Engineering & Molecular and Cell Biology (2015)

Project Title: *Rational Antisense Design*
Faculty Mentor: Dr. Ranjan Srivastava, Department of Chemical and Biomolecular Engineering

14. Kelsey Dutta, Physiology and Neurobiology & Electrical Engineering (2015)

Project Title: *Stimulation Coding for an Auditory Midbrain Implant*
Faculty Mentor: Dr. Monty Escabi, Department of Electrical and Computer Engineering

15. Gretchen Egan, Allied Health Sciences (2015)

Project Title: *Colon Cancer Prevention and the Diet*
Faculty Mentor: Dr. Valerie Duffy, Departments of Allied Health Sciences and Nutritional Sciences

16. Sherif Eldirany, Chemistry (2016)

Project Title: *Exploring DNA-binding in the PRC1 SCML-2 Domain*
Faculty Mentor: Dr. Irina Bezsonova, Department of Molecular Biology and Biophysics, UConn Health Center

17. Emily Errante, Psychology (2015)

Project Title: *Analysis of Jaw Muscle Activity During Drug-Induced Oral Tremors: Possible Relation to Parkinsonian Symptoms*
Faculty Mentor: Dr. John Salamone, Department of Psychology

18. Steven Graf, Healthcare Management (2015)

Project Title: *Allosteric Modulation of the Cannabinoid Receptor: A G Protein-Coupled Receptor*
Faculty Mentor: Dr. Debra Kendall, Department of Pharmaceutical Sciences

19. Matthew Greenwood, Physiology and Neurobiology & Molecular and Cell Biology (2015)

Project Title: *Investigation of the cardiolipin dependence of mitochondrial respiratory complex IV using nanoscale bilayers*
Faculty Mentor: Dr. Nathan Alder, Department of Molecular and Cell Biology

20. Aileen Haque, Physiology and Neurobiology (2015)

Project Title: *Oscillatory Activity in the Subthalamic Nucleus In A Pharmacological Rodent Model of Parkinsonian Tremor*
Faculty Mentor: Dr. John Salamone, Department of Psychology

21. Gregory Harris, Environmental Science (2015)

Project Title: *The Middle Eocene Climatic Optimum: An analogue for future climate change in North America*

Faculty Mentor: Dr. Michael Hren, Department of Chemistry and Center for Integrative Geosciences

22. Jessica Hockla, Biomedical Engineering & Chemical Engineering (2015)

Project Title: *Investigating the spatial distribution of native potassium channels in the HeLa cell membrane and their interaction with tetraethylammonium via single-molecule force spectroscopy.*

Faculty Mentor: Dr. George Lykotrafitis, Departments of Mechanical and Biomedical Engineering

23. Divya Iyer, Structural Biology/Biophysics (2015)

Project Title: *Squaraine Dyes as a Novel Labeling Technique for Cysteine in Polypeptides*

Faculty Mentor: Dr. Challa Kumar, Department of Chemistry

24. Kewa Jiang, Molecular and Cell Biology (2016)

Project Title: *Characterization of Novel Synthetic Vaccinia Virus Promoters*

Faculty Mentor: Dr. Paulo Verardi, Department of Pathobiology and Veterinary Science

25. Christopher Kegler, Psychology & Allied Health Sciences (2015)

Project Title: *The Process of Identifying as HIV Positive and its Health Outcomes*

Faculty Mentor: Dr. Lisa Eaton, Department of Human Development and Family Studies

26. Stephanie Knowlton, Biomedical Engineering (2015)

Project Title: *Spatiotemporal Monitoring of Oxygen and Reactive Oxygen Species for Tissue Engineering Applications*

Faculty Mentor: Dr. Pinar Zorlutuna, Departments of Mechanical Engineering and Biomedical Engineering

27. Faye Koenigsmark, Environmental Engineering (2015)

Project Title: *Iron Oxide – Organic Matter Coprecipitates and Controls on Cu Availability*

Faculty Mentor: Dr. Timothy Vadas, Department of Civil and Environmental Engineering

28. Jaron Kolek, Natural Resources and the Environment (2015)

Project Title: *Using Distance Sampling to Determine Impacts of Timber Harvest on Wood Frogs (*Lithobates sylvaticus*)*

Faculty Mentor: Dr. Tracy Rittenhouse, Department of Natural Resources and the Environment

29. Rubby Koomson, Nursing (2016)

Project Title: *Reminiscence Functions, Depressive Symptoms and Severity of Chronic Pain in Older Black Adults.*

Faculty Mentor: Dr. Juliette Shellman, School of Nursing

30. Sarah Kranz, Dietetics (2015)

Project Title: *Characterizing the basis for in vitro and in vivo antioxidant activity of aronia berries*

Faculty Mentor: Dr. Bradley Bolling, Department of Nutritional Sciences

31. Emma LaVigne, Animal Science & Pathobiology (2015)

Project Title: *The Effects of Cytokines and Growth Factors on Muscle Satellite Cells from Foals*

Faculty Mentor: Dr. Sarah Reed, Department of Animal Science

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- 32. Alexander Lawton, Molecular and Cell Biology & Spanish (2015)**
Project Title: *Analysis of Muscle Stem Cell Programming*
Faculty Mentor: Dr. David Goldhamer, Department of Molecular and Cell Biology
- 33. Patrick Lenehan, Molecular and Cell Biology (2015)**
Project Title: *The Role of RNA Transcripts in the Formation of Centromere Complexes in Drosophila*
Faculty Mentor: Dr. Barbara Mellone, Department of Molecular and Cell Biology
- 34. Richard Lin, Biomedical Engineering (2015)**
Project Title: *Cortical Neuron Discriminations of Shape and Rhythm Temporal Cues in Sound Sequences*
Faculty Mentor: Dr. Heather Read, Department of Psychology
- 35. Natana Mann, Physiology and Neurobiology (2015)**
Project Title: *Striatal morphology in a rat model of premature brain injury and associated attention deficit*
Faculty Mentor: Dr. R. Holly Fitch, Department of Psychology
- 36. Emily McInerney, Natural Resources (2015)**
Project Title: *How do water table fluctuations affect greenhouse gas emissions from created wetlands?*
Faculty Mentor: Dr. Ashley Helton, Department of Natural Resources and the Environment
- 37. Taylor Meegan, Nursing (2015)**
Project Title: *Can Different Procedures in the NICU with Varying Degrees of Stress on the Neonate be Organized into a "Stressor Scale"?*
Faculty Mentor: Dr. Xiaomei Cong, School of Nursing
- 38. Kaitlin O'Connell, Allied Health Sciences (2015)**
Project Title: *Behavioral evaluation of a Dyx1c1 conditional knock-out mouse*
Faculty Mentor: Dr. R. Holly Fitch, Department of Psychology
- 39. Paige Orlofsky, Chemical Engineering & German Studies (2017)**
Project Title: *Protist Information Cascades*
Faculty Mentor: Dr. Leslie Shor, Department of Chemical and Biomolecular Engineering
- 40. Giorgina Paiella, English (2016)**
Project Title: *Love in the Time of Technology: Cinematic, Literary, and Philosophical Analysis of Gender, Humanity, Intimacy, and Selfhood in Spike Jonze's Her*
Faculty Mentor: Dr. Sherry Zane, Women's, Gender, and Sexuality Studies
- 41. Shelja Patel, PNB; Human Rights (2015)**
Project Title: *The lived experience of nurses providing quality health care to inmates of CT prisons*
Faculty Mentor: Dr. Deborah Shelton, School of Nursing
- 42. Kayla Perkins, Psychology (2015)**
Project Title: *Consistency of Parent Report of Skills with Direct Observation in Children With Autism Spectrum Disorders*
Faculty Mentor: Dr. Deborah Fein, Department of Psychology

2014 SURF Award Recipients

43. Nicole Piscopo, Biomedical Engineering (2015)*

Project Title: *Application of Acoustic Radiation Force to Biomaterials*

Faculty Mentor: Yusuf Khan, Department of Orthopaedic Surgery, UConn Health Center

**award declined*

44. Martina Powell, Women's, Gender, and Sexuality Studies & American Studies (2015)

Project Title: *A Memory, A History, and A Haunting: Hip Hop in the American Imagination and Conscience*

Faculty Mentor: Dr. Heather Turcotte, Department of Political Science and Women's, Gender, and Sexuality Studies

45. Kimberly Rebello, Chemistry (2015)

Project Title: *Synthesis of C8 and N2 Deoxyguanosine Adducts of 6-Nitrochrysene, A Cancer-Causing Agent*

Faculty Mentor: Dr. Ashis Basu, Department of Chemistry

46. Molly Rockett, Political Science (2015)

Project Title: *Expectations and Confidence: Assessing Trial Court Legitimacy in a Politicized Era*

Faculty Mentor: Dr. Virginia Hettinger, Department of Political Science

47. Peter Ruffino, Marine Sciences (2015)

Project Title: *Reconstructing Recent Black Carbon Inputs to the New River Estuary using Terrestrial Biomarkers*

Faculty Mentor: Dr. Craig Tobias, Department of Marine Sciences

48. Katlyn Salvador, Speech, Language and Hearing Sciences & Psychology (2015)

Project Title: *Effects of talker familiarity on word recognition in adults with dyslexia*

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

49. Rebecca Smith, Nursing (2015)

Project Title: *Evaluation of Nursing Knowledge of Early Initiation of Breastfeeding in Preterm Infants in a Hospital Setting*

Faculty Mentor: Dr. Jacqueline McGrath, School of Nursing

50. Meaghan Sullivan, Nursing (2016)

Project Title: *The Relationship between Feeding Intolerance and Necrotizing Enterocolitis: A Retrospective Cohort Study with Low Birth Weight Preterm Infants*

Faculty Mentor: Dr. Katherine Gregory, Boston College School of Nursing, Brigham and Women's Hospital Department of Neonatology

UConn Mentor: Dr. Jacqueline McGrath, School of Nursing

51. Emily Thompson, Speech, Language and Hearing Sciences & Psychology (2015)

Project Title: *Perceptual Learning in Adults with Dyslexia*

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

52. Elizabeth Tripp, Mathematics & Statistics (2015)

Project Title: *Problems on Efficient Coupling of Non-Symmetric Markov Chains*

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

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53. Kimberly Valerio, Psychology (2014)

Project Title: *Correlations Between Expressive Language and Mu Suppression in Early Childhood*
Faculty Mentor: Dr. Kimberly Cuevas, Department of Psychology

54. Sarah Warack, Pre-Pharmacy (2016)

Project Title: *Nanoparticle delivery of oxygenated perfluorocarbon as a method of tumor hypoxia reduction in mice bearing human lung cancer xenografts*

Faculty Mentor: Dr. Xiuling Lu, Department of Pharmaceutical Sciences

55. Samantha Wesoly, Molecular and Cell Biology (2015)

Project Title: *Early Intervention Rate and Autism Spectrum Severity Improvement*
Faculty Mentor: Dr. Deborah Fein, Department of Psychology

56. Victoria Wickenheisser, Physiology and Neurobiology (2016)

Project Title: *Circadian Rhythms and Cognitive Function in Rats*
Faculty Mentor: Dr. Etan Markus, Department of Psychology

57. Richard Wolferz, Jr., Biological Sciences (2015)

Project Title: *Lateral Ventricle Damage and Expansion due to Repetitive Mild Traumatic Brain Injury.*
Faculty Mentor: Dr. Joanne Conover, Department of Physiology and Neurobiology

58. Deric Zhang, Physiology and Neurobiology (2015)

Project Title: *Discrimination of Temporal Cues in Rat Call Sequences*
Faculty Mentor: Dr. Heather Read, Department of Psychology

59. Bingyao Zhou, Physiology and Neurobiology (2015)

Project Title: *Changes in Early Spontaneous Neural Activity in Learning Disorder*
Faculty Mentor: Dr. Joseph LoTurco, Department of Physiology and Neurobiology