



Cohort 5 / Spring 2015 UConn IDEA Grant Award Recipients

Individual Projects

Omar Allam '16 (Chemistry, CLAS)

Self-Healing Double Network Hydrogel

Mentor: Thomas Seery, Chemistry, CLAS

- Omar experimented with synthesizing a new hydrogel structure that will “heal” via hydrophobic interactions. The structure exhibits superior mechanical properties and provides an opportunity to test possible applications including artificial cartilage, contact lenses, and drug scaffolds.

Tyler Axon '17 (Sports Management, ED)

Modern Advanced Statistics and their Effect on the Business of Sports

Mentors: Joseph Cooper, Sports Management, ED; Kathleen McLaughlin, Statistics, CLAS

- Tyler is analyzing the recent trend in the use of advanced analytics in scouting and signing of players and assessed how these advances measures of player value are impacting business decisions in baseball and basketball.

Hailey Bendar '16 (Puppet Arts, SFA)

Small Pond

Mentor: Bart Roccoberton, Puppet Arts, SFA

- Hailey produced “Small Pond,” a play telling the story of Tilikum, a captive orca responsible for three human fatalities that provides a look into the psyche of a tormented and powerful animal.

William Brown '18 (Electrical and Computer Engineering, ENG)

3D Imaging Flora

Mentor: Pamela Diggle, Ecology and Evolutionary Biology, CLAS

- William created 3D models of diverse plant life and implement these models on an intuitive website which serves as a template for modernizing online plant identification.

Emily Cole '17 (English, CLAS; Education, ED)

These Violent Delights: An Exploration of Love in Mixed Media

Mentor: Jason Courtmanche, English, CLAS

- Emily is creating a mixed media print book that juxtaposes her original poetry and photography, and uses a storyline, visual components in addition to the poetry, and a second-person narrative.

Christina Corey '16 (Art: Studio Art, SFA)

The Role of Art in the Local, Sustainable Food Movement

Mentors: Phoebe Godfrey, Sociology, CLAS; Cora Lynn Deibler, Art and Art History, CLAS

- Christina created a series of paintings inspired by the food movement, gardening and collaborative experience she observed at local community gardens and while experiencing the food culture in Florence, Italy.

Lia Goncalves '16 (Anthropology, CLAS)

Cultural Risk Assessment and Earthquake Engineering

Mentors: Richard Christenson, Civil and Environmental Engineering, ENG; Eleanor Shoreman-Ouimet, Anthropology, CLAS

- Lia investigated how cultural frameworks motivate societies to take preemptive structural action to increase the resiliency of the built environment, and to apply this to seismic engineering.

Jessica Griffin '17 (Environmental Science, CAHNR)

*Investigating the Influence of Red Tide Algae on Prey Selection of Marine Copepod *Acartia tonsa**

Mentor: Hans Dam, Marine Sciences, CLAS

- Jessica investigated feeding selection in marine copepods when presented with varying abundances of toxic and nontoxic prey. Exploring prey switching behavior revealed information about the red tide alga *Alexandrium fundyense* by investigating its trophic relationship with copepod *Acartia tonsa*.

Asahi Hoque '16 (Molecular and Cell Biology, CLAS; Human Rights, CLAS)

Why is Women's Health just Maternal Health? A View from NGO's & the State in Bangladesh

Mentor: Manisha Desai, Sociology, Women, Gender and Sexuality Studies, CLAS

- Asahi traveled to Dhaka, Bangladesh to conduct interviews with individuals and organizations involved in providing or creating policy or programs to provide women health care in order to identify how an international focus on women's reproductive capacity influences these groups.

Shaan Kamal '16 (Molecular and Cell Biology, CLAS)

Computational Investigations into the Molecular Underpinnings of Eyesight Signaling Pathways

Mentor: Eric May, Molecular and Cell Biology, CLAS

- Shaan employed a computational approach to studying PDE6, a key enzyme in the eyesight signaling pathway, to elucidate how the enzyme functions at the molecular level, and determine its relationship to diseases of the eye.

Ryan King '16 (Art: Painting Concentration, SFA)

Visual Meditation

Mentor: John O'Donnell, Art and Art History, SFA

- Ryan created and exhibited a body of artwork that explores the interactions between paintings and viewers using hard edge abstraction with an open-minded and meditative approach.

Lucy MacNaught '16 (Cognitive Science, CLAS)

The Lost Connection

Mentor: James Magnuson, Psychology, CLAS

- Lucy investigated the possibility of creating a category-specific semantic deficit in the McRae Semantic Attractor Network, a neural network model of human semantic memory.

John Mantese '18 (Chemical Engineering, ENG)

Macroscopically Formed Artificial High-Temperature Superconductor

Mentor: Pamir Alpay, Materials Science and Engineering, ENG

- John attempted to induce high-temperature superconductivity in a non-cuprate material, using graphene and strontium titanate, to show that high temperature superconductivity can be demonstrated in a macromolecular construct.

Abigail Moore '16 (Allied Health Sciences, CAHNR)

An Investigation into Pediatric Staff Nurses' Attitudes towards their Institution's Clinical Ladder System

Mentor: Jacqueline McGrath, Nursing, NUR

- Abigail investigated how the system for professional development at Connecticut Children's Medical Center can be improved with the goal of strengthening the Clinical Ladder system, increasing nurse satisfaction, and ultimately improving patient outcomes.

Giorgina Paiella '16 (English, CLAS)

Woman a Machine: Gender, Automation, and Created Beings

Mentor: Dwight Codr, English, CLAS

- Giorgina created an independently curated, multimedia research exhibition focused on the intersection between female created beings and treatments of human female embodiment.

Miles Radin '16 (Communications, CLAS; Philosophy, CLAS)

The Influence of Waste Signage on Motivation to Recycle

Mentor: David Atkin, Communications, CLAS

- Miles conducted research to determine if a simple change in signage can impact pedestrian behavior and result in a significant change in recycling behavior among UConn students.

Alexandra Rudolph '16 (Animal Science, CAHNR; Molecular and Cell Biology, CLAS)

Detecting the Effects of Bovine Granulocyte-macrophage Colony-stimulating Factor on the Milk Neutrophil Transcriptome

Mentor: Michael O'Neill, Molecular and Cell Biology, CLAS

- Alexandra demonstrated the mechanisms by which granulocyte-macrophage colony-stimulating factor (GM-CSF) delays neutrophil apoptosis during mastitis, which is one of the most serious diseases affecting the U.S. dairy industry.

Summit Singhaviranon '17 (Molecular and Cell Biology, CLAS; Chemical Engineering, ENG)

High Efficiency Production of 1,3-Propanediol through Recombinant Escherichia coli

Mentors: Jonathan Klassen, Molecular and Cell Biology; Richard Parnas, Chemical, Material and Biomolecular Engineering, ENG

- Summit encouraged future production of highly efficient biofuels by converting the glycerol, a side product of bioenergy production, into higher valued 1,3-Propanediol.

Rachel Smiley '17 (Natural Resources and the Environment, CAHNR)

Beyond Capture: A Visual Body Condition Index to Monitor Mule Deer Populations

Mentor: Chadwick Rittenhouse, Natural Resources and the Environment, CAHNR

- Rachel developed a visual body condition index that made it possible to evaluate the health of mule deer from photographs or in person without having to come in contact with or harm any individuals, allowing biologists to non-invasively assess the health of a large sample of the population while reducing cost and mortality.

Young Son '16 (Mathematics and Physics, CLAS)

Product Development for a New Restroom Seat Cover

Mentor: Richard Parnas, Chemical, Material and Biomolecular Engineering, ENG

- Young developed a prototype for a new disposable waterproof restroom seat cover that provides increased cleanliness and an element of design.

Rex Sturdevant '17 (Music Education, SFA)

A Performance of Music for 18 Musicians

Mentor: Eric Rice, Music, SFA

- Rex directed a performance of Steve Reich's minimalist masterpiece, *Music for 18 Musicians*, with the University of Connecticut Department of Music.

Nikita Sturrock '16 (Physiology and Neurobiology, CLAS)

The Minor Spliceosome's Role in the Metabolic Stress Response

Mentor: Rahul Kanadia, Physiology and Neurobiology, CLAS

- Nikita used the arcuate nucleus from the mouse as a model for eating behavior in an effort to understand how starvation and the addition of specific macronutrients to the diet affect the molecular makeup of the arcuate nucleus, the central regulator of eating behavior within the brain.

Alyssa Zabin '16 (Psychology, CLAS; Sociology, CLAS)

Occupational Stressors and Health Outcomes for Nurses Working in Correctional and Non-Correctional Settings

Mentor: Blair Johnson, Psychology, CLAS

- Alyssa examined the ways in which occupational and community stressors intersect to affect health outcomes and well-being for nurses working in correctional or non-correctional settings.

Group Projects

Gabriel DeRosa '17 (Horticulture, CAHNR)

Carl Underwood '16 (Exercise Science, CAHNR; Ecology and Evolutionary Biology, CLAS)

Sustainable and Organic Agriculture through a Greenhouse Utilizing Aquaponic Technology

Mentor: Julia Cartabiano, Spring Valley Student Farm

- Gabriel & Carl created an organic, energy efficient aquaponic crop production system at Spring Valley Student Farm to address the increasing demand for locally-grown, nutrient-rich produce.

Matthew Gagliano '18 (Management Information Systems, BUS)

Justin Hall '17 (Mechanical Engineering, ENG)

Case Polen '17 (Digital Media and Design, SFA)

FlipHop iOS Application

Mentor: Hadi Bozorgmanesh, UConn Entrepreneurship and Innovation Consortium and School of Engineering Dean's Office

- The team launched a geographically-based buying and selling platform of their own design that offers college students a go-to marketplace within the campus community.

Hyun Sung Kim '16 (Biomedical Engineering, ENG)

Hyun-Young Kim '16 (Mechanical Engineering, ENG)

Joel Kim '18 (Civil Engineering, ENG)

Joshua Park '16 (Civil Engineering, ENG)

Low Cost Self-Sustaining Space Heating Solution Using a Zeolite Adsorption System

Mentors: Sung Yeul Park, Electrical Engineering, ENG; Julia Valla, Chemical Engineering, ENG

- The team will designed an efficient and self-sustaining space heating system that uses zeolite, which is an inexpensive, clean, and reusable mineral that releases large amounts of heat when it reacts with water.

Julien Monick '16 (Music Composition, SFA; Instrumental Performance, SFA)

Michael O'Callaghan '16 (Jazz Studies, SFA)

Examining the Social Characteristics of the Creative Process through Collaborative Musical Performance and Composition

Mentor: Louis Hanzlik, Music, SFA

- Julien and Michael examined the social dynamics and creative process of a five person musical ensemble while producing a full length musical album.