UConn IDEA Grant
imagine / develop / engage / apply

Spring 2015 UConn IDEA Grant Award Recipients

Congratulations to the thirty-seven UConn undergraduates who have been awarded UConn IDEA Grants! Twenty-five of the award recipients will be completing individual projects, and twelve will be working on collaborative group projects.

The award recipients represent a variety of disciplines, from music education to civil engineering, environmental science to molecular and cell biology, and campus affiliations, including one recipient from the Stamford campus.

Special thanks to the faculty and staff that supported student applications to the UConn IDEA Grant and to those who will be mentoring the award recipients as they complete their projects.

Individual Projects

Omar Allam '16 (Chemistry, CLAS)
Self-Healing Double Network Hydrogel

- Omar will attempt to synthesize a new hydrogel structure which will "heal" via hydrophobic interactions. If this structure exhibits superior mechanical properties, it will provide 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

- Tyler will analyze the recent trend in the use of advanced analytics in scouting and signing of players and assess how they impact various sports.

Hailey Bendar '16 (Puppet Arts, SFA)
Small Pond

- Hailey will produce "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 (Computer Science and Engineering, ENG)
3D Imaging Flora

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

Scott Butler '16 (Business Data Analytics, BUS) *(Withdrawn)*

Xueyao (Julie) Chen '16 (Physiology and Neurobiology, CLAS)
Cash for Blood: HIV/AIDS Pandemic in China

- Julie plans to investigate the role of corruption of education, media, and economics, in response to the rising HIV/AIDS epidemic in the Henan Provence, China and the HIV/AIDS villages in the surrounding area.

Emily Cole '17 (English, CLAS; Education, ED)
These Violent Delights: An Exploration of Love in Mixed Media

- Emily will create 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

- Christina will engage community members in creating murals within a community garden and she will create a series of paintings inspired by the gardening and collaborative experience she observes at the community garden.

Lia Goncalves '16 (Anthropology, CLAS)
Cultural Risk Assessment and Earthquake Engineering

- Lia will investigate 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

- Jessica will investigate feeding selection in marine copepods when presented with varying abundances of toxic and nontoxic prey to explore their prey switching behavior. She aims to increase knowledge of 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

- Asahi will travel 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

- Shaan will employ 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

- Ryan will create and exhibit 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

- Lucy will investigate 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

- John will demonstrate an artificial form of high-temperature superconductivity in a non-cuprate material, using graphene and barium titanate, to show that high temperature superconductivity can be demonstrated in a non-cuprate macromolecular construct.

Abigail Moore '16 (Allied Health Sciences, CAHNR)
An Investigation into Pediatric Staff Nurses' Attitudes towards their Institution's Clinical Ladder System

- Abigail will investigate 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

- Giorgina will create an independently curated, multimedia research exhibition that focuses 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

- Miles will 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

- Alexandra will demonstrate the mechanisms by which granulocyte-macrophage colony-stimulating factor (GMCSF) 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

- Summit will encourage future production of highly efficient biofuels by converting 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

- Rachel will develop a visual body condition index that will make it possible to evaluate the health of mule deer from photographs or in person without having to come in contact 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 & Physics, CLAS)
Product Development and Market Research for a New Restroom Seat Cover

- Young will develop 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

- Rex will direct a performance of Steve Reich's minimalist masterpiece, *Music for 18 Musicians*, with the University of Connecticut music department.

Nikita Sturrock '16 (Physiology and Neurobiology, CLAS)
The Minor Spliceosome's Role in the Metabolic Stress Response

- Nikita will use 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

- Alyssa will look at 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)
Daniel Foth '16 (Environmental Science, CAHNR) *(Withdrawn)*
Carl Underwood '16 (Exercise Science, CAHNR; Ecology and Evolutionary Biology, CLAS)
Sustainable and Organic Agriculture through a Greenhouse Utilizing Aquaponic Technology

- The team will create 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)
College Llama iOS Application

- The team will launch 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

- The team will design and build 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

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

The UConn IDEA Grant program awards funding to support self-designed projects including artistic endeavors, community service initiatives, entrepreneurial ventures, traditional research projects, and other creative and innovative projects. Undergraduates in all majors at all campuses can apply. Applications are accepted from individuals and from small groups who plan to work collaboratively on a project.

More information on the UConn IDEA Grant program
can be found at http://ugradresearch.uconn.edu/IDEA.