



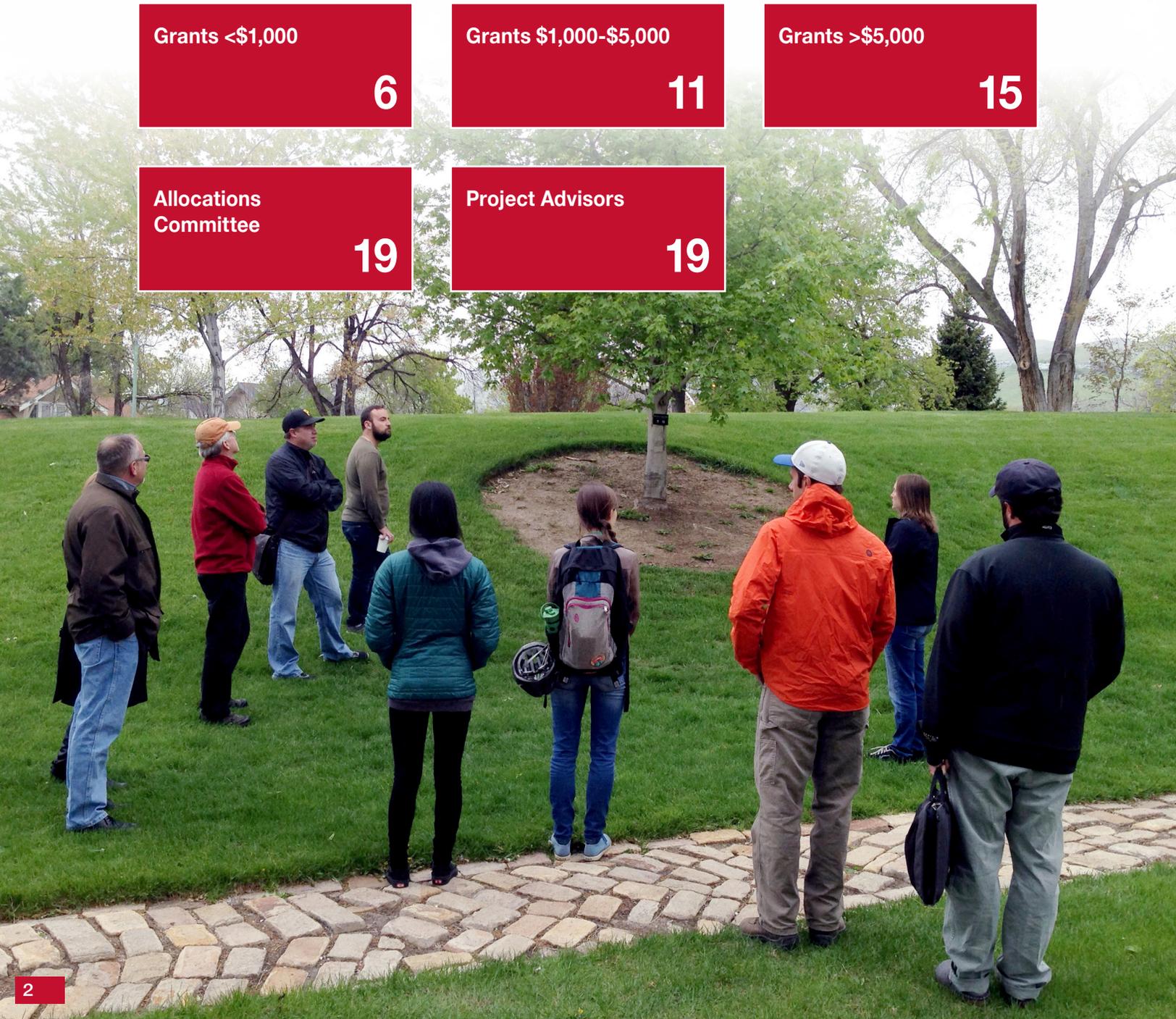
Sustainable Campus
Initiative Fund

SUSTAINABLE CAMPUS INITIATIVE FUND

2015-2016 Annual Report

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What is the Sustainable Campus Initiative Fund?

The Sustainable Campus Initiative Fund (SCIF) oversees competitive grants for student projects focused on sustainability education, environmental issues, energy efficiency, and more at the University of Utah. SCIF's mission is to provide funding for real-world projects that improve the U's environmental quality and make the campus more sustainable. The Associated Students of the University of Utah voted overwhelmingly in favor of the student campaign to pay \$2.50 of their student fees each semester into SCIF. Since the program's inception in January 2010, SCIF has funded 149 innovative projects.

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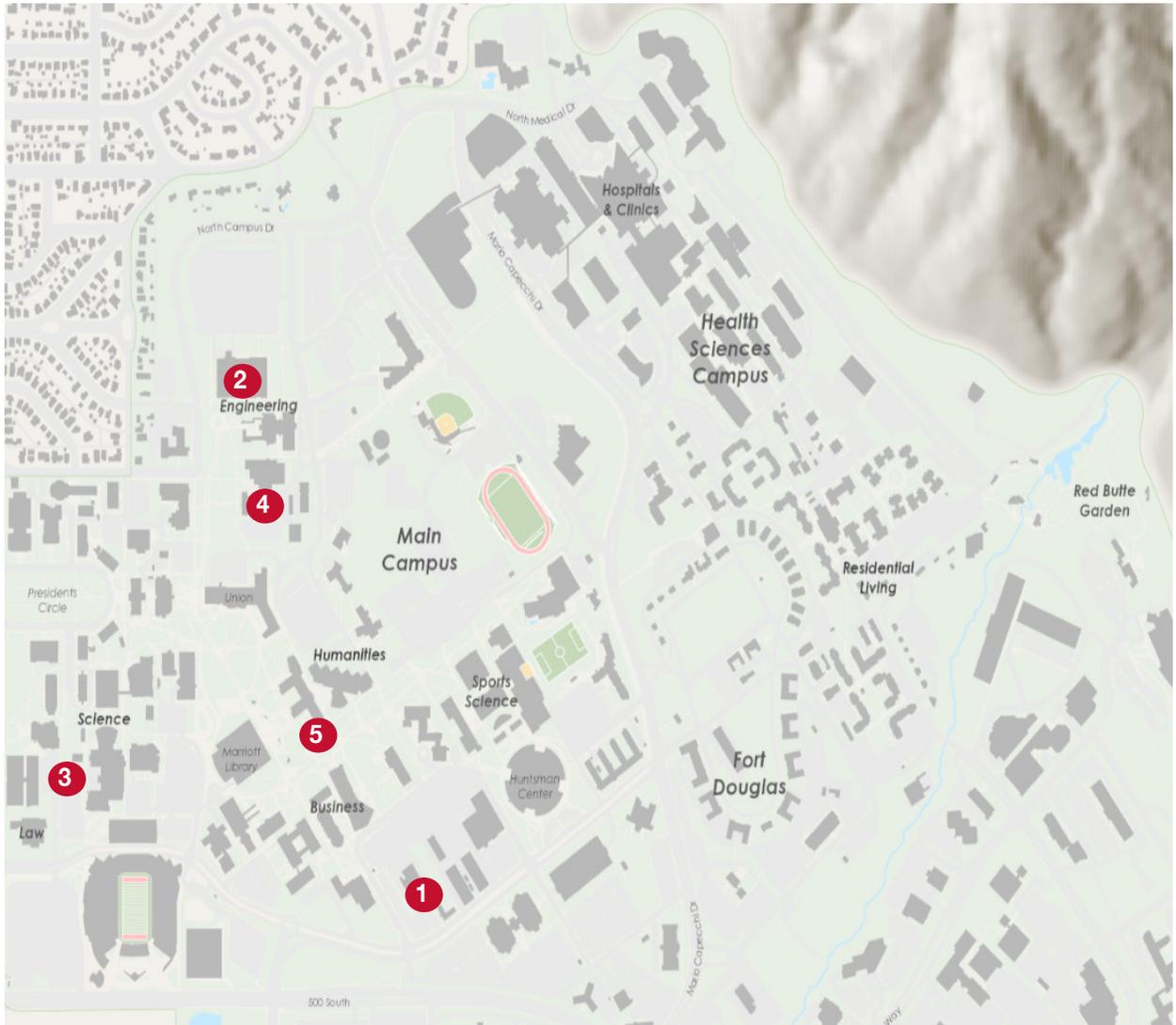
Left: Students and community members learn more about the State Arboretum of Utah.

Cover photo: View of the Legacy Bridge.

IMPACTS



LOCATIONS



- 1 Open space corridor
- 2 Distributed Energy Project
- 3 Garden Enclosure
- 4 Air Quality Monitoring Center
- 5 Rainwater Harvesting Garden

Small Grants <\$1,000

“This Changes Everything” Screening

Grant: \$570
Executive: Emily Nicolosi
Advisor: Andrea Brunelle
Location: Gould Auditorium

The screening of the documentary “This Changes Everything” at the University of Utah is another in a group of projects that use film to spark conversation. In addition to the screening event, the project executive also purchased the rights to make “This Changes Everything” available at the Marriott Library in both DVD and streaming format. The acquisition of environmentally-focused films helps to expand the resources available to all students at the university.

Sustainable Business Lunch and Learn

Grant: \$1,000
Executive: Karen Ellis
Advisor: Stormy Sweitzer
Location: SFEBB

Lunch and learns are a great way to create a productive environment for professional idea exchange. The Sustainable Business Lunch and Learn series focused on connecting sustainable business faculty and professionals with business school students – particularly MBA and graduate students – in a casual and interactive environment. Each event was a catered lunch hosted at the David Eccles School of Business. Each of the events featured a faculty member or local executive that came to speak for a short period of time (30-45 minutes) followed by a discussion.

Water Resiliency Survey

Grant: \$180
Executive: Carly Hansen
Advisor: Steve Burian

Water resiliency refers to the ability of a government or enterprise to anticipate, absorb, adapt to, and/or rapidly recover from a disruptive event. In an attempt to understand local water resilience, the Water Resiliency Survey project evaluated attitudes and current awareness of risks associated with loss of access to water systems in the event of intense disruption. The students paired their survey results with GIS analysis to evaluate the social resiliency of the campus community in the event of a catastrophic water system failure.

Real People, Real Stories @ Publik

Grant: \$400
Executive: Kailey Luzbetak
Advisor: Brenda Bowen
Location: Publik Coffee House

The purpose of this micro-grant was to produce two tangible outcomes as an addition to the larger Real People, Real Stories project. One outcome was a formally bound printed booklet of the top 10 essays, as well as select photographs and art pieces regarding local air quality. The purpose was to both legitimize the project and, of course, share valuable insights about living with variable air quality in the valley. The second outcome was an essay-reading event, hosted at Publik Coffee House. The winning essayists read their pieces aloud at the catered event.



An example of the updated placards that were a result of the Discovering Our Campus Arboretum project

Discovering Our Campus Arboretum

Grant: \$995

Executive: Alexis Kaili

Advisor: Sue Pope

Location: Campus trees

Urban forests are important resources that provide benefits for the campus and the people moving through it. In an effort to bring awareness to the university's urban forest, Alexis Kaili standardized and updated the tree plaques on campus, which houses the State Arboretum of Utah. The improved placards, which included a digitally accessible QR code, replaced the original tree identification signs that were old and in need of maintenance.

These updated signs create a visual gateway to more information by connecting to a tree tour that people can experience both virtually and physically. The main goal is to connect students to the campus trees via interactive maps. The project presented the opportunity to bridge the gap between higher education and the local ecology.

<\$1,000

Landscape & Open Space Corridor Plan

Grant: \$1,000

Executive: Troy Bennett

Advisor: Kelly Bricker

Location: South Campus Drive

The Parks, Recreation, & Tourism department teamed up with Facilities Management to develop a plan for a much-needed corridor on the south end of campus. The project developed a landscape plan that created a corridor to enter the heart of campus from the South Campus TRAX stop. Collaborations like this demonstrate how students can help to improve campus by understanding needs and listening to stakeholders.

LCA Analysis: Hand Dryers

Grant: \$900

Executive: Mark Koopman

Advisor: Mark Koopman

Life Cycle Analysis (LCA) is the technical way of dissecting and understanding all the energy and materials that go into the stuff we use every day. In this small project, students aimed the lens of LCA at the hand dryers used on campus. The students analyzed three hand-drying options: a Dyson Air Blade, an enMotion paper towel dispenser, and a manual paper towel dispenser. The grant funded student labor necessary for the project. This analysis determined that the Dyson Airblade is the most energy conserving, and consequently, cost minimization model for the university.

Annex Waste Audit

Grant: \$988

Executive: Lisa Meerts-Brandsma

Advisor: Kelly Bricker

Location: Annex Building

The students from the Parks Recreation & Tourism department audited waste in the Annex. The goal was to get detailed data regarding: a) how much waste is produced in the Annex, b) how much waste is recyclable, and c) how much recyclable waste is being recycled. The results of the audit helped to inform strategy that involved a) increasing recycling options by adding recycling containers in different locations and/or increasing the types of recycling available to students, faculty, and staff; b) possible decrease in the sales of non-recyclable plastics in the Annex Cafe.

Praxis Lab: Sustainable Design Education

Grant: \$115

Executive: Michael Gibbons

Advisor: Brett Clark

Location: Glendale Library

The Environment and Energy Praxis Lab is a learning community that conducted a group of projects focused on bringing environmental education to Salt Lake libraries. The sustainable design portion of the Praxis Lab was an effort to educate schoolchildren in the Salt Lake Valley about energy use and its impact on the environment. The lessons focused on energy generation and efficiency. The courses, hosted by the Glendale Library, provided an opportunity to teach sustainability issues to students from diverse socio-economic backgrounds.

Praxis Lab: Wind Education

Grant: \$810
Executive: Samuel Anderson
Advisor: Brett Clark
Location: Glendale & Sprague Libraries

The wind education portion of the Praxis Lab conducted courses focused on energy systems, environmental concerns, and renewable energy for elementary and middle school students. The project consisted of weekly interactive presentations and demonstrations after school, at either the Sprague or Glendale Library branches. For energy and environment lesson plans, students from various backgrounds worked together to build a vertical axis wind turbine. Each turbine that the class built generated enough power to light a light bulb.

Real Food Labels

Grant: \$176.20
Executive: Eva Grimmer
Advisor: Adrienne Cachelin
Location: Student Union

In order to fulfill the Real Food Challenge commitment made in 2015, students designed labels indicating what foods are local, ecologically sound, humane, and fair. In cooperation with University Dining Services, the students drafted a plan to place the labels on all real food sold in the Student Union building. The purpose of the labeling system is to inform consumers on campus about the food systems they interact with through their food choices.

U of U Commuter Challenge 2016

Grant: \$1,000
Executive: Rob Kent De Grey
Advisor: Carol Werner

The U of U commuter challenge was research that conducted surveys regarding participation in the annual Clean Air for U challenge. The student used this grant to provide gift cards as a means of incentivizing participants to take the survey. The results of the challenge research analyzed the effectiveness of two interventions designed to create or strengthen internal motivations for driving less. These included making an electronic commitment to drive less as well as making the same commitment on Facebook.

U of U Cup Project

Grant: \$275
Executive: Sarah Martinez
Advisor: Jennifer Watt
Location: Participating coffee shops

The goal of the U of U Cup Project was to mobilize students to engage in more sustainable behaviors by encouraging students to use a reusable mug. The students used Instagram as a platform to leverage more sustainable behavior among students by creating a friendly competition between students to reduce waste with a prize incentive. Every time a student purchased a cup of coffee/tea/etc. from an on-campus or local coffee shop with their own reusable container, they snapped a photo, posted it on Instagram, tagged the project and added the hashtag.

<\$1,000



Student Kurtis Prewett collecting runoff after a large storm.

Urban Stormwater: Testing for Re-use

Grant: \$960

Executive: Kurtis Prewett

Advisor: Michael Brehm

For this project, students used SCIF to investigate the feasibility of reusing greywater on campus. The testing of stormwater runoff around the University of Utah campus was the first step in understanding how the university could reuse greywater. The main goal was to determine what water is usable without filtration and where it is usable. Eight different locations were chosen for sample collection, including the new hospital parking structure, two existing water vaults, the Marriott Library, the Student Union, the Turpin University Services Building, the Business Classroom Building, and the S.J. Quinney College of Law Building. This project included testing the water for nitrogen, phosphorous, metals, hydrocarbons, suspended solids, and organic pollutants.

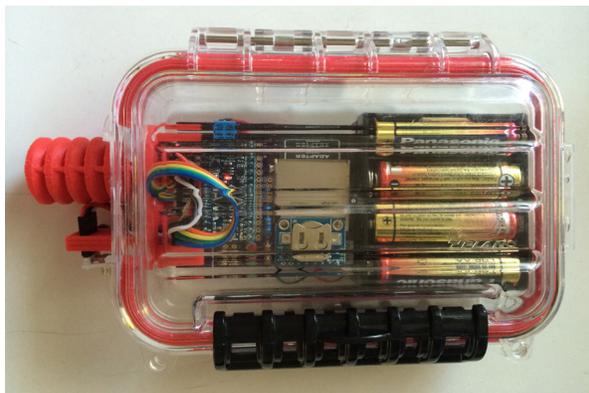


Project Executives: Kurtis Prewett (left) and Brandon Niebel (right).

Medium Grants \$1,000-\$5,000



Above: Students installing B-TEM Sensors on Merrill Engineering Building. Right: A complete B-TEM Sensor.



Distributed Energy Project: B-TEMS

Grant: \$4,000

Executive: Richard Didier

Advisor: Eric Pardyjak

Location: Merrill Engineering Building

For this SCIF proposal, the Localized Distributed Power Generation group built and implemented Building Thermal Energy Monitoring Systems (B-TEMS). The students used these B-TEMS, or small sensing devices, to understand how much energy is lost to the environment through building walls and windows and how that loss affects the energy demand and usage of the building. The project's goal was to understand how the microclimate immediately surrounding a building affects the energy demands of that building. Through this understanding, the project aimed to develop energy-demand reduction strategies for campus buildings.

Community Energy Dashboard

Grant: \$4,943.70

Executive: Kaden Plewe

Advisor: Brenda Bowen

Location: Glendale Library

The Community Energy Dashboard is another part of the Energy and Environment Praxis Lab suite of projects. Because communities are often unaware of how their activities and choices link to energy systems they use, the students felt that it was important to provide the tools that bring transparency to this aspect of everyday life. The dashboard is the tool they chose. The students used SCIF funds to install an interactive touch screen that connected building occupants to energy use data. The physical dashboard is a 42-inch touch screen monitor mounted vertically in an open space in the Salt Lake City Public Library (SLCPL) Glendale Branch for all visitors to see and use.

West entrance to the Pioneer Edible Campus Gardens displaying the new fence.



Edible Campus Gardens Enclosure

Grant: \$3,920.69
Executive: Danielle Errett
Advisor: Jennifer Watt
Location: Pioneer Garden

The Gardens Enclosure project built an 180-foot fence around the perimeter of Pioneer Garden, one of the locations of the Edible Campus Gardens. The installation of the fence defined the garden space and provided a means for vertical farming on campus. The garden stewards and University of Utah Facilities Management used this fence to make the Edible Campus Gardens a permanent space while minimizing maintenance work. This collaboration is a great example of how SCIF can help to forge lasting relationships through sustainable work.

Early Childcare Center Upgrades

Grant: \$1,900
Executive: Aspynn Oliekan
Advisor: Shalome Orton
Location: Early Childhood Education Center

The objective of the Early Childhood Education Center Upgrades project was to make the center a more eco-friendly space for young children. The students used the funds to purchase a high-quality vacuum cleaner that removes toxins from the air as it cleans. By using sustainable, safe, and toxin-free equipment, the ECEC will be able to improve the quality and safety of care for thousands of children.

\$1,000-\$5,000



Glass Recycling Pilot

Grant: \$5,000

Executive: Jennifer Lair

Advisor: Brenda Bowen

Location: Main Campus

The current national average for glass recycling is 33%. Unfortunately, the state of Utah only averages 6%. It was with this statistic in mind that students used SCIF to create glass recycling pilot program to make it easier for the University of Utah community to recycle glass products. Unlike any other manufactured consumer product, glass is 100% recyclable; it can be ground into cullet and recycled infinitely. The students designed this pilot program to build a foundation towards permanent glass recycling within Facilities Management. This project encouraged responsible waste management on campus with the hope that the university's actions can influence the broader Salt Lake community.

Above: SCIF Coordinator Emerson Andrews uses glass recycling bins at the Marriott Library. Right: A close up of the glass recycling bin .



Kestrels Expansion

Grant: \$6,693

Executive: Colter Dye

Advisor: Amy Sibul

Location: Main Campus

The Kestrels Expansion project was the second installment of the successful Kestrels on campus project. The students purchased an electric cart to aid in student research projects on campus. These projects include the Beekeeper's Association at the University of Utah, research and classes within the Department of Biology, and the Kestrel project. The electric cart enables the easy transport of materials such as research equipment from different locations on campus. The purchase of the cart will ease the research process and help contribute to the success and efficiency of campus-based research projects. The cart will also ensure student safety in moving heavy, fragile, or bulky equipment.

\$1,000-\$5,000



Mikael Colville-Andersen leads students, faculty, and staff in a campus ride-along

Point B Bike Event

Grant: \$1,500

Executive: Michael Christensen

Advisor: Keith Bartholomew

The Point B Bike Event encouraged attendance to the 2016 Utah Bike Summit in two ways. First, the project subsidized entry fees for University of Utah students. Second, Point B collaborated with Bike Utah to bring an international keynote speaker to the 2016 Utah Bike Summit. The selected keynote was Mikael Colville-Andersen, the founder and CEO of Copenhagenize Design Company. In addition to the summit, Mikael Colville-Andersen made a special visit to campus for a ride-along while offering specific critiques for the University of Utah campus. This project was multifaceted in how it encouraged students, faculty, and staff to create a more bike-friendly campus.

Project Youth: Reusable Pie Tins

Grant: \$1,525.65

Executive: Lee Petek

Advisor: Bryce Williams

Location: Bennion Center

Project Youth is an event sponsored by the Bennion Center that takes place in April (on Reading Day) annually. This robust event requires more than 200 volunteers from the university, as well as presentations across 15-20 college departments. The event takes from 8 a.m.- 2 p.m. and includes a lunch for the children and volunteers. This SCIF grant purchased reusable pie tins and cups for the Project Youth event to reduce their waste. The pie tins are available for Project Youth as well as other events in order to eliminate unnecessary waste.

Large Grants >\$5,000



Student Jack Egan wearing one of the SCIF branded masks

Air-Filter Mask Distribution Program

Grant: \$11,900

Executive: Warren Beecroft

Advisor: Jennifer Watt

Every year, air pollution presents a challenge to the sustainability and vitality of both the greater Salt Lake Valley, as well as the University of Utah community. Due to its unique geography, the population centers of the Salt Lake Valley are subject to intensified exposure to air pollution during the winter months because of the occurrence of a thermal inversion.

Because of this common

experience, Warren Beecroft, a student in the Environmental & Sustainability Studies program, decided to take action and help his community breathe cleaner during unhealthy air days.

Beecroft secured \$11,900 from the Sustainable Campus Initiative Fund to purchase 1,000 University of Utah-branded reusable filtration masks from Vogmask. He sold them on campus at an extremely subsidized cost. This project focused on mitigating the health effects of poor air quality while raising awareness through the sale of these branded masks.



Warren Beecroft

Beecroft wanted the program to work as an action item in connection with other university efforts regarding air quality, such as the Air

Quality Task Force Report, the Program for Air Quality, Health, and Society, the Clean Air for U Challenge, and the Air Quality Monitoring Center.

The masks are important to the campus community because they might serve as a catalyst in bringing about more long-term solutions.

>\$5,000

Clean Air at The U: Monitoring Campus Ozone

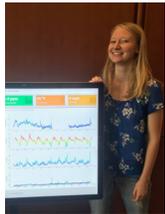
Grant: \$9,146

Executive: Erin Likins

Advisor: John Lin

Location: William Browning Building

The Clean Air at the U project purchased the equipment necessary to monitor on-campus ozone concentrations. Deploying a long-term high precision ozone monitor allows the University Atmospheric Trace Gas & Air

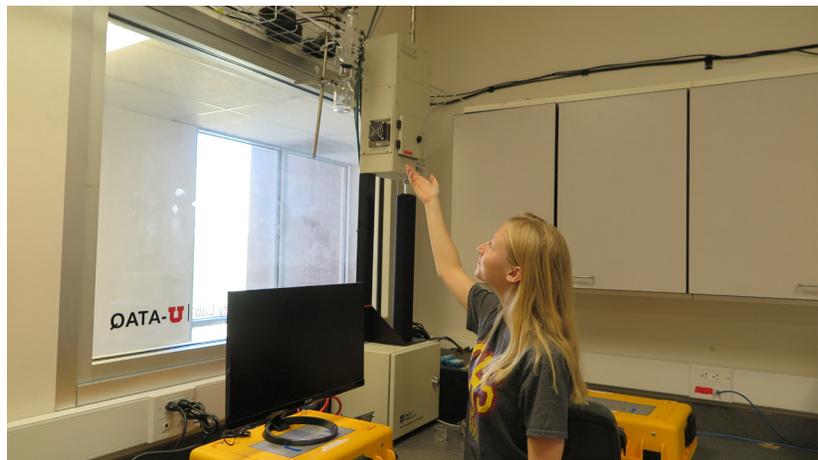


Erin Likins

Quality (U-ATAQ) Lab to quantify the exposure of students and faculty on the University of Utah campus. By providing real-time measurements

of a harmful pollutant, U-ATAQ will be educating the University of Utah community and could serve to reduce unnecessary exposure, increasing the health and wellbeing of the community at large.

Additionally, U-ATAQ offers significant teaching and outreach opportunities. Over 150 undergraduate students from multiple classes tour the William Browning Building lab every year. Members of the lab are also involved in local K-12 outreach, including hosting a science and weather presentation at the Taylorsville library, serving on a science panel for high school honors students at the Salt Lake



Center for Science Education, and giving lab tours to students from the McGillis School in Salt Lake City.

The U-ATAQ lab has been able to raise awareness of the poor air quality affecting the Salt Lake Valley as well as promote sustainable practices across the University of Utah campus.

Top: Ozone sensor on top of the William Browning Building.
Bottom: Student Erin Likins shows off the instrumentation in the lab.

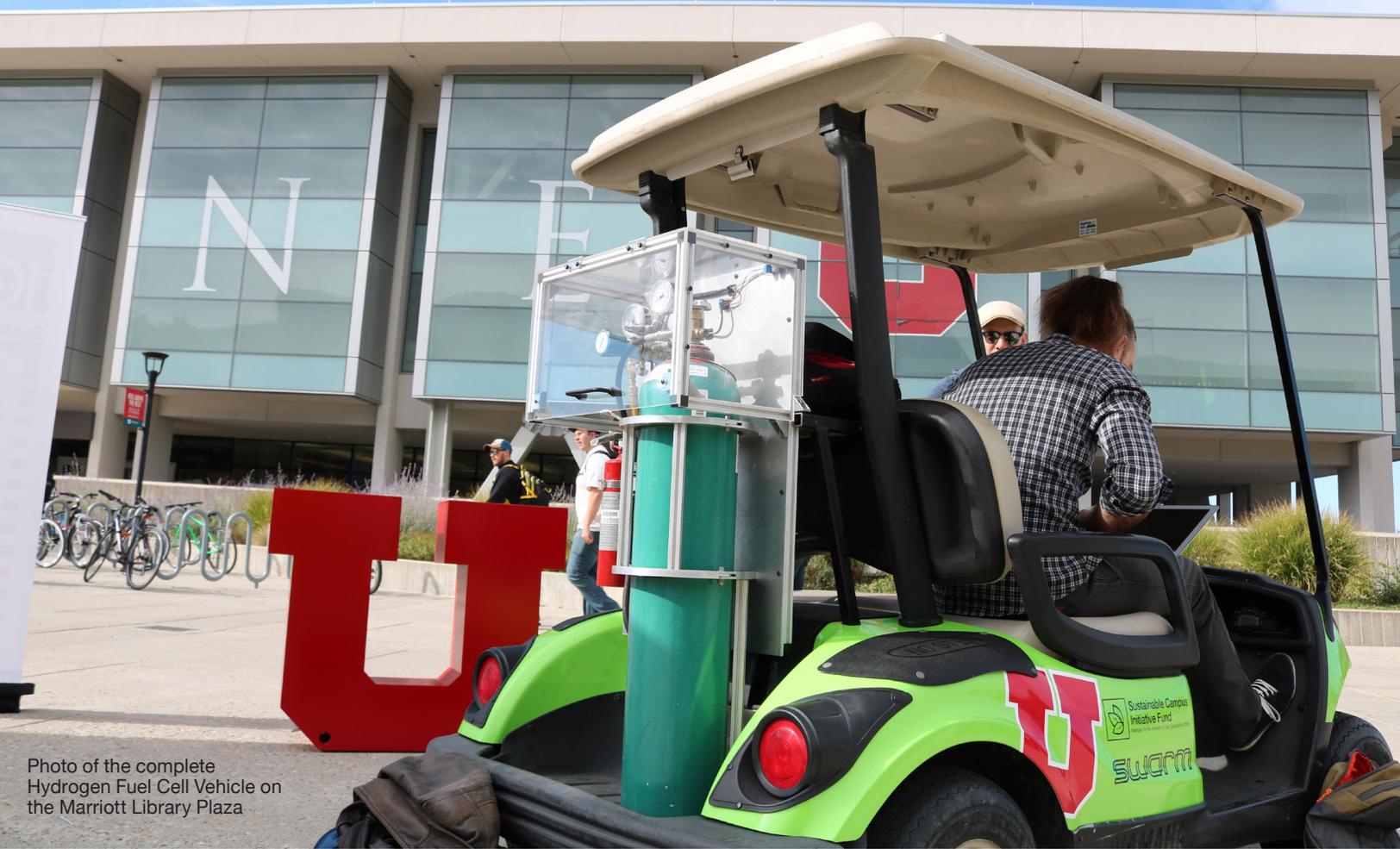


Photo of the complete Hydrogen Fuel Cell Vehicle on the Marriott Library Plaza

Hydrogen Fuel Cell Vehicle

Grant: \$20,000

Executive: Jeremy Villata

Advisor: Mathieu Francor

The Hydrogen Fuel Cell Vehicle project was an experiment to see what is possible in terms of alternatively-powered fleet vehicles at the University of Utah. The students retrofitted a gasoline-powered golf cart with a hydrogen power source and electric motor. The goal of the project was to lower local campus emissions while providing a pathway for campus vehicles to use clean energy. Ultimately, the

students wanted the hydrogen-powered vehicle to serve as a pilot for Fleet Services.

The work of retrofitting a Fleet Services' golf cart was difficult. While the students were able to complete the build of the vehicle, the project had limited success. Overall, the students were able to retrofit the cart, quantify the emissions reductions, establish a repeatable process, and involve many students along the way, but they were unable to perfect the hydrogen-based charging system. Because the hydrogen system is unable to charge the



Jeremy Villata

vehicle batteries as needed, the vehicle is only partially functional and therefore requires extra work.

The students shared their work at many public events and donated the car to the Mechanical Engineering department for further study. Projects like this investigate future possibilities while setting the groundwork for others to follow.

Projects like this investigate future possibilities while setting the groundwork for others to follow.

>\$5,000



Concept drawing of the Water Conservation Garden.

Kem Gardner Rainwater Harvesting Garden

Grant: \$80,000
Executive: Hunter Klingensmith
Advisor: Jennifer Watt
Location: Kem Gardner Building

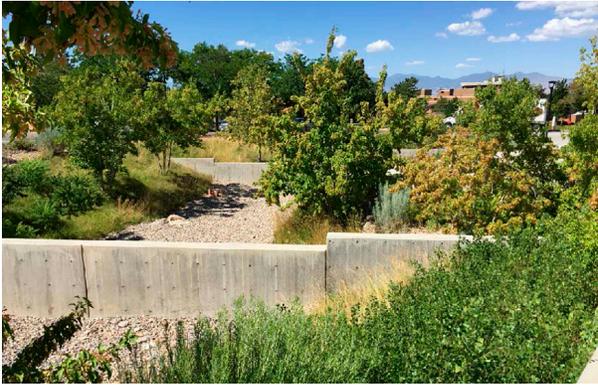
The University of Utah is building the brand new Carolyn & Kem Gardner Commons to replace Orson Spencer Hall (OSH). This update provided the



Hunter Klingensmith

the new building. The harvested rainwater will feed into a low-water-use garden that, when completed, will function as a classroom and a green space.

opportunity for Hunter Klingensmith and her team to assist in the design and implementation of a rainwater-harvesting component on



Left: Landscape concept for the garden.

It is important that students have an impact on the design of a building on the University of Utah campus. It allows those who use the space to influence what that space will become. Because of the privilege to sit down with architects and engineers, students felt empowered to voice their opinions for a sustainable space that reflected sustainable values.

Better yet, the most impressive

aspect of this project is the fact that Hunter Klingensmith's ideas were the catalyst for a multi-partner reimagining of the HPER corridor. The secured funding of the rain garden inspired other organizations like Red Butte Garden to take advantage of this opportunity to make the campus a more resilient, water-conscious space. This project is proof of the true power of SCIF, and more importantly, of student ideas.

Allocations Committee & Project Advisors

Allocations Committee

Andrea Brunelle - Faculty	Geography	Jewell Lund - Student	Geology
Robert Armstrong - Staff	Health Sciences	Hannah Stinson - Student	Environmental & Sustainability Studies
Steve Hoskins - Staff	Facilities Management	Chris Zajchowski - Student	Parks, Recreation, & Tourism
Annalisa Purser - Staff	University Marketing & Communications		
Myron Willson - Staff	Sustainability Office		
Zach Clegg - Student	Environmental & Sustainability Studies		
Matt Kirkegaard - Student	Political Science		

Project Advisors

Keith Bartholomew	City & Metropolitan Planning	Amy Sibul	Biology
Brenda Bowen	Geology & Geophysics	Stormy Sweitzer	Business
Michael Brehm	Environmental Health & Safety	Jennifer Watt	Environmental & Sustainability Studies
Kelly Bricker	Parks, Recreation, & Tourism	Carol Werner	Psychology
Andrea Brunelle	Geography	Bryce Williams	Bennion Center
Steve Burian	Civil & Environmental Engineering		
Adrienne Cachelin	Environmental & Sustainability Studies		
Brett Clark	Environmental & Sustainability Studies		
Mathieu Francor	Mechanical Engineering		
Mark Koopman	Metallurgical Engineering		
John Lin	Atmospheric Sciences		
Shalome Orton	Child Care & Family Resources		
Eric Pardyjak	Mechanical Engineering		
Sue Pope	Facilities Management		





SUSTAINABILITY

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