



Field trip to Mile Square Health Center

Summer 2015 Sustainability Internship Program Poster Presentation Wednesday, August 5, 2015

The Summer 2015 Sustainability Internship Program (SIP) is primarily supported by the Office of Sustainability, the Office of Capital Programs, and the Energy Initiative. The Smart Grid Internship is supported by a grant from the Illinois Science and Energy Innovation Foundation (ISEIF).

If you or your organization are interested in supporting or participating in the SIP, please contact Cynthia Klein-Banai, Associate Chancellor for Sustainability, at 312-996-3968 or cindy@uic.edu.

**OFFICE OF
SUSTAINABILITY**



Jaden Cruz, Earth and Environmental Science 2017

UIC Children's Center

Mentors: Kim Kull, Melinda Young, Christener McCorey

Over the summer, Jaden continued his spring internship with the UIC Children's Center and worked with children from 3 to 5 years old on fostering an early interest in sustainability. Jaden chose to focus the children in recycling and led them in recycling education and projects in the classroom. Early in the summer, Jaden also completed a Butterfly Waystation which provides opportunities to teach the children about native plants and butterflies. Jaden also expanded a fundraising campaign to encourage ink cartridge recycling and gain support for the Center.

Oleksandr Gorobets, Mechanical Engineering 2018

Office for Capital Programs

Mentors: Shawn Riley, Waleed D'Keidek, David Moehring

The Energy Services Contract (ESCO) and the College of Dentistry (COD) Modernization program both serve to upgrade existing infrastructure to reduce operational costs and power consumption in several buildings across the UIC campus by improving the efficiency of Heating, Ventilating, and Air Conditioning (HVAC) systems. Updates to the HVAC system improves the systems efficiency meaning less energy is needed to heat and cool buildings which reduces the amount of carbon emissions UIC generates.

Brittni Pratt, Anthropology 2017

Center for Literacy

Mentors: Gail Fox Adams, Sharon Osinaike

The purpose of this project at the Center for Literacy (CFL) was to bring attention to sustainability on a social, economic, and environmental level. Brittni's primary focus at the CFL was to develop ways they could identify and further promote Social Sustainability. Social Sustainability is a positive condition within communities and characterized by a positive quality of life that enables each new generation to have the same or better opportunities than the previous generation in concert with economic and environmental sustainability. By helping the staff to recognize their involvement in this and other areas of sustainability, it caused them to be more conscience of how the programs help sustain other people lives in south and west side communities of Chicago.

Michael Papadakis, Civil Engineering 2015 and David Schulz, Chemical Engineering 2018

Stormwater Retention

Mentor: Dr. Benjamin O'Connor

Urban Flooding is largely due to the fact that the infrastructure of Chicago is built out of impermeable concrete. Whenever it rains, water that is not absorbed, remains on the surface of our concrete landscape as surface runoff. Because of Chicago's flat topography, the urban flooding we can potentially experience is increased. David and Michael used their internship to investigate the issue of stormwater retention using the EPA Storm Water Calculator. They collected data on soil infiltration, permeable, and impermeable pavement on campus to make calculations of the runoff potential of the campus as buildings are updated and retrofitted to be more sustainable.



Permeable pavement at UIC reduces stormwater runoff, meaning less flooding and less demand on the Metropolitan Water Reclamation District

Kendra Tate, History 2015

UIC Children's Center

Mentor: Melinda Young

Working with the UIC Children's Center this summer, Kendra's goal was to introduce 3-5 year olds to ways of utilizing recyclable items within art. Through art projects, Kendra and the children used three of the most common recyclable items: paper, plastic, and wood. Two of the exciting activities Kendra led the children in were making paper mache butterflies out of recovered media and an outdoor table set made of tree trunks. Kendra also created a fundraising campaign that collects ink cartridges in order to raise funds for the children's classroom materials.



Paper mache butterflies

Danielle Silva, Civil Engineering 2017

Grounds and Facilities Management

Mentor: Carly Rizor

In the first half of Danielle's internship she helped the UIC Grounds with grounds classification, which included marking every green space on campus accordingly, to what is planted in that area, and all around the entire campus. During that period she was also trying to help find a new location for the native garden expansion. The second half included a number of smaller project, such as working with Bartlett on their tree treatment recommendation, in particular the ones infected by insects. Danielle also carried out risk assessments, turf and beds maintenance, and helping with the planning of expansion of the trash cans around campus. One way Danielle helped document this process was through photography.

Mandy Carlson, Chemical Engineering 2018,
Gianna Carrozza, Public Health 2017,
Paula Debknowska Electrical Engineering 2017,
Divya Patel, Psychology 2017,
Sam Strader, Urban and Public Affairs 2015, and
Lee Zimmerman, Computer Science 2016

Smart Grid

Mentors: Cindy Klein-Banai, Lori Baptista, Elizabeth Schmidt

Smart Grid entails the updating of electric infrastructure through the installation of smart meters replacing old analog meters. These new digital meters provide accurate readings and wirelessly transmit usage to ComEd. ComEd offers energy savings programs which can allow people to save money if they participate. Over the summer the Smart Grid interns found creative ways to educate students and parents about the Smart Grid, energy reduction, and programs to incentivize conscious energy use.



Smart Grid Interns at EcoJam



Please join our cohort of on-campus Smart Grid interns for a round of Eco-Pong, a game invented to educate and activate awareness about the Smart Grid, energy reduction, and sustainability.

Frank Dalio, Urban Planning 2016 and Joey Liu, Electrical Engineering 2018

The Energy Initiative

Mentors: Elizabeth Kocs, Thomas Lipsmeyer, George Crabtree

The Energy Initiative program consists of a multitude of programs that all relate to innovation for energy and sustainability. These programs stress the importance of sustainability in a constantly changing society where the demand for energy constantly increases. Frank and Joey worked to broaden awareness of energy and sustainability in courses available at UIC and also create interest in the Energy Initiative's various programs. They researched energy and sustainability innovations and developed blogs, posters, and fliers for energy and sustainability events and courses.

Michelle Powers, Chemical Engineering 2017

Green Labs

Mentors: Joe Iosbaker, Lisa Sanzenbacher

Michelle's project involved the redistribution of laboratory glassware and equipment to the UIC community. The glassware was collected from old or closing laboratories in the UIC College of Medicine. The glassware was given out at "LabShare Fest '15" on August 4th, an event Michelle planned and carried out where UIC faculty, researchers, and students could pick it up for free for use on UIC's campus for academic or research purposes. The focus of the project was to save the glassware and equipment from being added to landfills and instead have it reused at UIC.



LabShare Fest '15

Jose Hernandez, Electrical Engineering 2018

Smart Grid at Center for New Horizons

Mentors: Johnnie Owens, Yahanna Diemer

Since February, Jose has been working with Center for New Horizons (CNH) located in Bronzeville. During his internship he used resources and established relationships in the community to educate community members about the Smart Grid, Smart Meters, and how to live more sustainably. In the beginning of Jose's internship he identified the resources and relationships that would later allow for a greater audience. He then developed a plan that best suited the resources available in order to effectively engage audiences in different environments, sizes, and age levels. Jose has spent the summer doing outreach and education in Bronzeville on this new energy technology and how to live more sustainably.

Neel Thakkar, Biological Sciences, Chemistry 2015,

Karima Patel, Biological Sciences 2018, and

Edder Antunez, Biological Sciences 2015

Tree Campus USA

Mentors: Cindy Klein-Banai, Radhika Venkatraman

UIC's trees have an accumulated value of \$4.8 million and sequester about 760 metric tons of carbon dioxide from the atmosphere. The Tree Campus USA interns spent time in our urban canopy to carry out a study on growth of UIC's trees on the West Campus. The collected diameter and height measurements on some of the most abundant tree species out of the 5,000 species present on UIC's campus. To further their project, they also compared the growth of native species and non-native species. Results were put through single variable t-test and single variance chi-square analysis to derive the significance of the data.

Rawan Alkhateeb, Neuroscience 2018

Green Labs

Mentor: Lisa Sanzenbacher

The Ultra Low Temperature (ULT) freezers (-80 degrees Celsius) energy project was implemented to educate and help UIC labs and research facilities reduce their energy usage and kilowatt-hours as much as possible.

Depending on age and how these ULT freezers are maintained they run at different efficiencies, but even new ULT freezers consume 18

kWh/day, which is equivalent to an entire house. As a research university we have several labs on campus, many of which have multiple ULT freezers. Rawan visited over 80 labs at UIC where she distributed an educational brochure she made, talked to principal investigators on how to make these freezers run at their optimum efficiency, and also measured kWh of some of the labs using a CT logger.



A ULT freezer in action

Zahra Ahsan, Bioengineering 2018

Smart Grid at Institute of Cultural Affairs

Mentor: Joseph Taylor

Zahra was located off campus at the Institute of Cultural Affairs (ICA) to assist them in carrying out initiative related to the Smart Grid and smart meters. Many initiative at the ICA are designed to promote concepts relating to sustainability. Zahra was involved in preparing materials about Smart Grid, energy reduction, and e-waste to educate community members. She led Smart Grid education at ICA events and connected it to multiple energy reduction strategies.

Min Wu, Public Administration 2016

Smart Grid at the Chinese American Service League

Mentor: Ben Lau

Min carried out her internship at the Chinese American Service League (CASL) in Chinatown. Min helped to create and prepare an educational workshop specifically for the Chinese Community about the Smart Grid and smart meters. When speaking to audiences, Min makes connection between sustainability and health, safety, equality, and the friendliness of a community. On campus Min also worked with other Smart Grid interns to promote energy reduction, education on smart meters, and engaged local businesses in supporting sustainable events.

Milton Chung, Engineering 2018,

Demetrios Galanos, Engineering 2018, and

Shahwaar Khan, Engineering

Water Assessment

Mentors: Cindy Klein-Banai, Katherine Yoshida, Joanne Moliski

The Water Assessment interns worked to measure water usage in facilities across campus in order to identify areas for improvement. Interns measured current flow rates of faucets, toilets, and urinals in high traffic UIC building and compared these rates against the newest EPA standards. With the data, interns were able to recommend cost and time efficient solutions that can be integrated into a long term plan that would reduce UIC's water consumption and save money.

Allan Tucker, Chemical Engineering, May 2016

Illinois EPA, Zero Waste

Mentors: Kate Yoshida, Richard Reese

Allan created two pilot projects to observe changes in human behavior related to recycling. In order to create these projects, Allan made numerous site visits to observe the recycling process and participated in a ride-along on a truck that collect cardboard, and bottles and cans. Based on current recycling trends and technology on campus, Allan was able to calculate savings and revenue for UIC on projects he recommends that have a payback of less than 1 year.

Lucia Whalen, English and Psychology 2016

Battery and Pen Recycling

Mentor: Frank Quinn

Lucia used her internship to develop a program for widespread battery and pen recycling throughout East and West campus. UIC currently has only one pen recycling receptacle in the Daley Library. Her goal was to provide more places for these uncommon recycling programs and to raise awareness of the ability to recycle batteries and pens. Besides bin distribution, of equal importance was advertising, which is the main focus of the latter half of her internship. People need to know that these bins exist around campus, as our ultimate goal is zero-waste. The first way to make people care is to make people aware! Lucia has created advertising materials to be distributed through flyers, UIC MassMail, the Office of Sustainability website, and messages in the clouds.



How TerraCycle works

Sara Kadhim, Public Health 2016

Center for Literacy, College of Education

Mentor: Shelley Maxwell

According to the EPA, preventing 1 ton of paper waste saves between 15 and 17 mature trees. The purpose of the Paper Reduction Project at the Center for Literacy (CFL) was to transfer existing hard copy backup data to an electronic format. The new process will allow the CFL data team to discontinue the practice of making several hard copy binders. The new process will mean the CFL will be using less paper, which will translate into less money being spent on the purchase of paper and ink, and less energy being used to print. This process will also recover valuable space that had been occupied by hard copy binders.

Notes

#Sustainability

Website: <https://sustainability.uic.edu/>

Greenlights: <https://sustainability.uic.edu/office-of-sustainability-mailing-list/>

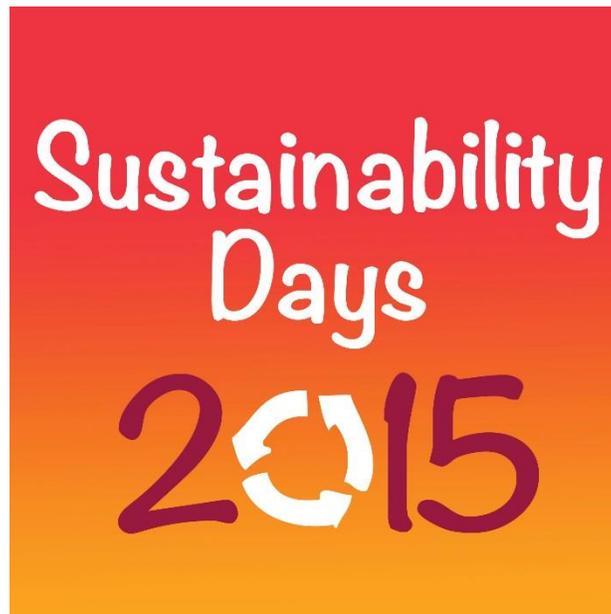
Facebook: www.facebook.com/SustainableUIC

Twitter: @SustainableUIC

Instagram: @SustainableUIC

YouTube: <https://www.youtube.com/user/UICSustainability>

Donate: <http://sustainability.uic.edu/donate/>



Monday 9/14 Recycle > CERC

Tuesday 9/15 Eat Local

Wednesday 9/16 Reuse > Great Stuff Exchange

Thursday 9/17 Conserve Energy

Friday 9/18 Walk Pedal Ride > Park(ing) Day