



ANNUAL REPORT

2016-2017

“You come for the name and stay for the community.”

Upon reflecting over the last year with Engineers for a Sustainable World, these words have never been truer.

ESW began out of our strong community. In 2012 the organization was re-formed by a rag tag group of passionate members.

Since then, with your help, we’ve grown from 5 volunteers to 30, from a handful of chapters to over 50 (with some professional chapters as well!), and a network of over 1,500 like-minded problem solvers.

This year, we celebrated many major milestones. We raised the highest amount of revenue ever for our Annual Conference. Thanks to your support, over 200 students and professionals gathered to explore what it means to truly build a better world.

We welcomed several new chapters into our community, including a chapter in Canada at the University of Guleph. We are excited to expand outside the United States and into other countries to truly become Engineers for a Sustainable World.

One of the most rewarding projects this year was our partnership with GreatChina International flagship program, CommUnity, overseas. We had over 10 high school and undergraduate teams participate and pitch their project ideas.

We’ve come so far, but we have big dreams ahead for ESW. I look forward to bringing ESW to the forefront of the sustainability industry in 2017-2018.



All my best,
Brittany Bennett
Executive Director

ESWcon2017 at The University of Texas at Austin



Each year, the annual conference brings together students, industry professionals, and faculty from across the country focused on solving the world’s messy, sustainability problems. We gather each year in a different city to explore how we can create more sustainable communities through hands-on engineering projects.

This year, ESW was fortunate enough to have ESWcon17 at the University of Texas at Austin. Over the course of two days, over 200 people came together to dive into best practices for solar projects, hear from top experts in the field of sustainability, and compete in on-site design challenges.

The conference explored the theme of *Accelerate*: how can we accelerate projects to their full potential?

At the conference, workshops and speakers covered topics such as accelerating project development, and cutting through red tape and incorporating diversity into every facet of our lives. Session tracks included sustainability, leadership, project management and professional development.

We had 25 different speakers join us from companies, including Covestro, Autodesk, Urban Mining, and GRID Alternatives.

The conference had the largest amount of sponsors in its 12-year history with 14 generous companies and independent donors. The increase in funding sponsored more opportunities for professionals, more collaborative opportunities for students, and travel funding for 5 teams to attend the conference.

Our traditional in-person design competition was taken to the next level with not one, but two interchapter challenges. Students were asked to create a sustainable Olympic Village for the 2032 games in various cities across the world. The first challenge tasked students with designing a sustainable lunch tray using Autodesk Fusion360. For their second taste of collaboration,

students teamed up to design a sustainable Olympic Village. Both challenges had teams pitch their design to a panel of judges to put their presentation and communication skills to the test under a 2 minute time trial.

We will be hosting our 13th annual conference this year in Atlanta and we're expecting record numbers. Based on previous trends, we're expecting to grow above 300 total attendees. This year, our conference theme is *Building Blocks*. In order to engineer change, we have to have a strong foundation. Join us as we discuss the food-water-energy nexus, agriculture, transportation and more at the Georgia Institute of Technology!



Illinois Institute of Technology has an extremely successful and active chapter. Based in Chicago, they use their favorable location to address the three tenets of Engineers for a Sustainable World: design, educate, build. The Illinois Tech Chapter has had incredible growth this past year and was selected to receive the Outstanding Student Organization award out of over one hundred organizations at their university.

Illinois Tech has five projects currently: Solar Energy, Tiny House, U-Farm, a Biodigester, Education Committee, and Aquaponics. Solar Energy involves USB charging stations around campus and building a solar-powered smoothie cart. Tiny House encompasses a vertical garden for a campus building. The U-Farm is a community garden on campus that grows seasonal produce to share with students, faculty and the surrounding neighborhood. Illinois Tech also has two aquaponics units, one focused on research with a professor and the Shedd Aquarium. For the Biodigester, they won a project grant from their university engineering college.

Lastly the Education Committee focuses on improving campus sustainability and awareness

with projects such as a petition for campus fossil fuel divestment and measuring campus building energy usage.

In October 2016, Illinois Tech hosted the Midwest Regional Conference where five non-profits, including a representative from the Environmental Protection Agency, and various other companies spoke. The chapter also attended the Loyola Climate Change Conference, creating relationships with local universities and learning about current environmental issues and activism. They also presented three abstracts at the National Conference for their projects with the U-Farm, Education Committee and the Biodigester!

This chapter also takes full advantage of the various volunteering opportunities around the city. They often work with Working Bikes Chicago, which repairs old bikes and sends them to places in need; the Rebuilding Exchange, which repurposes old building materials; FreeGeek Chicago, which recycles e-waste; and the Chicago Park District. The chapter also engages in volunteer opportunities through their on-campus farm, including general maintenance.

1,500 person network.
 70+ active projects.
 50 total chapters.
 4 new chapters.
 3 regional conferences.
 1 annual conference.

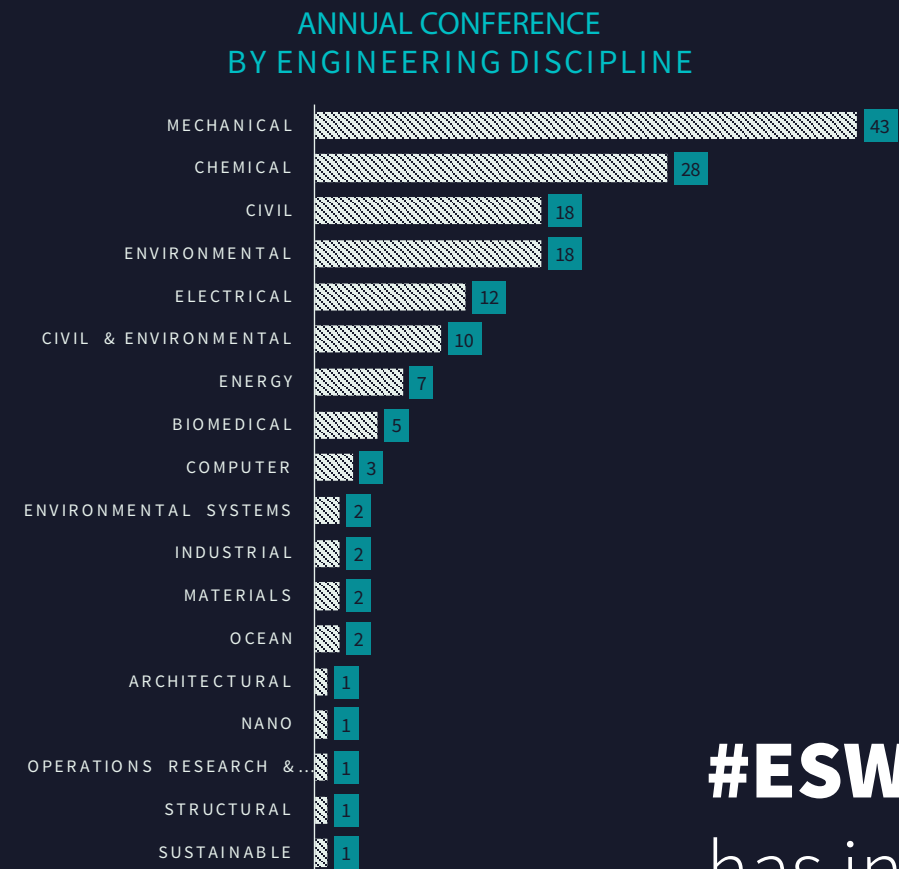
Welcome to the ESW Community



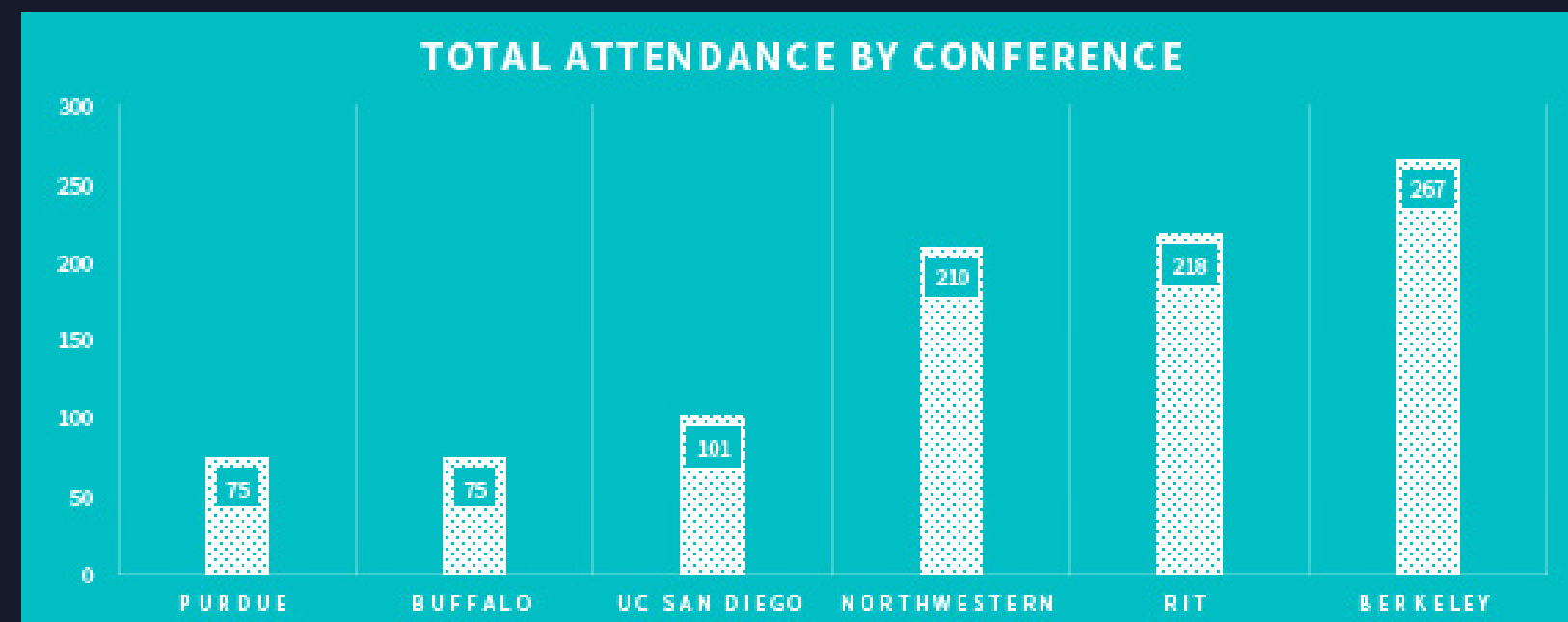
- > University of Guelph
- > University of California, Irvine
- > University of Texas at El Paso
- > University of Connecticut, Bridgeport



ESW Annual Conference by the numbers.



#**ESWcon** attendance
has increased by a factor
of **FOUR** since 2010



projects that inspire

According to the International Energy Agency in 2016, it is estimated that 16% of the people worldwide do not have access to electricity. Factors include lack of energy infrastructure and financial resources. The Engineers for a Sustainable World (ESW) chapter at California State University Los Angeles (CSULA) developed a low-cost wind turbine. The project's scope and objective was to engineer a wind turbine for any rural location a low cost with using common materials.

The team consisted of four mechanical engineers and of carying backgrounds. The team began by testing a variety of generators to determine which type would be best suit their wind turbine. The team prioritized cost and chose a car alrternator.

They confidently went with a horizontal wind turbine design with a striaghtforward low-cost design. The team wanted a design that used as few parts and materials as possible while still upholding their requirements.

Even though their testing and selection of a generator was time consuming, CSULA successfully completed wind turbine design and fabrication. The wind turbine met all their requirements that were initially set forth while operating at a cut in wind speed of 3 m/s. Since the team chose durable materials, the life expectancy is estimated at several years.

One of the outstanding requirements that was met was the cost. The team spent no money on the project, as all the components and materials were sourced locally on their campus and households.



professional membership



ESW is committed to professional membership development because we realize that professionals who have been positively impacted by ESW across the world. We want to hear their stories and help them inspire and collaborate with each other so they can maximize their impact on the world.

Our vision with professional members and chapters is to give professionals a platform to become local agents of change. Our student members are the backbone of this organization and we are continuously blown away by their level of technical understanding, passion for sustainability and ability to lead. We have no doubt those same members are doing amazing work as working professionals. Our goal is to discover them, connect them, and elevate their work however we can.

We are already making progress! Over the past year, ESW HQ has begun a grassroots campaign to find professionals who are currently involved with ESW to hear their stories and develop programming for professional members and chapters. We are currently

planning a professional mentorship program, and an immersive excursions program. Additionally, we are facilitating network opportunities with like minded professionals from complementary/related disciplines and geographic locations. In addition, we are supporting new professional chapters.

For instance, our New York City professional chapter has been growing and implementing projects for 2 years! In addition, we are seeing interest in professional chapters in Denver, Los Angeles, and Austin to name a few. We are extremely excited to grow our professional chapter and member offerings because we realize this is an area that is both strategically beneficial to ESW and our member base. ESW professional offerings helps our members in their careers and allows them to stay involved in the ESW community.

By further supporting our professional community, ESW is one step closer to creating a more sustainable word

our financials

Revenue

Dues:	\$19,850
Registration:	\$14,560
Sponsorships:	\$20,990
Donations:	\$14,840
Net from Merchandise:	\$580
TOTAL:	\$70,240

Expenses

Travel:	\$9,460
Event Costs:	\$23,800
Grants:	\$9,950
Payroll &	
Professional Services:	\$4,240
Insurance:	\$1,900
Office Expenses:	\$2,510
Technology:	\$1,860
Development:	\$2,630
Other Expenses:	\$570
TOTAL:	\$56,920

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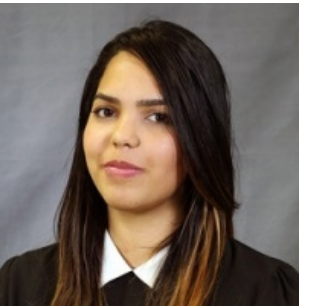
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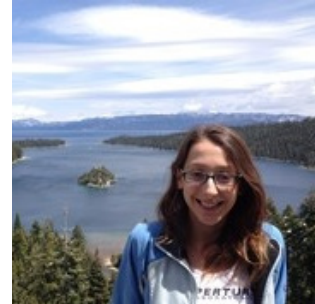
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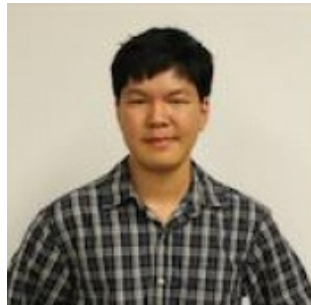
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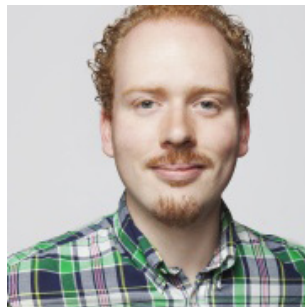
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