

Engineers Without Borders

Rose-Hulman Institute of Technology



This issue

- Ecuador Summer Trip [P.2](#)
- Ecuador Photo Spread [P.3](#)
- Student Spotlight: [P.3](#)
- Brush Up for Homecoming [P.4](#)
- SAWs 9/15/2018 [P.4](#)
- Meals on Wheels [P.4](#)



What is Engineers Without Borders?

EWB-RHIT is part of the national Engineers Without Borders USA organization. EWB-USA is a non-profit humanitarian organization established to partner with developing communities worldwide in order to improve their quality of life. Since its founding in 2000, EWB-USA has run more than 80 projects in 35 countries. The projects we work on are initiated by and completed with contributions from the host community, which helps ensure that our work will be maintained after we leave.

Our **VISION** is a world in which the communities we serve have the capacity to sustainably meet their basic human needs and that our members have enriched global perspectives.

Our **MISSION** is to support community-driven development programs worldwide by collaborating with local partners to design and implement sustainable engineering projects, while creating transformative experiences and responsible leaders.



Our 2017-2018 Members of the Year:
Peter Householter and Emily Haussmann

In this Issue

We completed our first trip to Chaguarloma, Ecuador this summer! The team went to Ecuador to complete the first phase of surveying. A water delivery and filtration system will be designed and implemented in the near future. The article is accompanied by a photo spread showcasing the trip. We have also had a very successful quarter of outreach. The club helped to clean up campus for homecoming, participated in another SAWs build, and also helped a program called Meals on Wheels.



The EWB-RHIT Team

President

Louis Campbell

Sr., Civil Engineering

Hometown: Phoenix, AZ

Engineering Team Manager

Jemesia Jefferson

Jr., Civil Engineering

Hometown: Richmond, VA

Jackie Miller

Jr., Civil Engineering

Hometown: Des Plaines, IL

Fundraising and Marketing Team Managers

Cyrus Luczkow

Soph., Biomedical Engineering

Hometown: Hastings-on-Hudson, NY

Kaylee Pate

Soph., Chemical Engineering

Hometown: Vincent, OH

Treasurer

Namuunaa Nadmid

Jr., Biomedical Engineering

Hometown: Louisville, KY

Secretary

Amy Metz

Sr., Civil Engineering

Hometown: Ferdinand, IN

Local Outreach Chair

Katlynn Bussett

Soph., Biomedical Engineering

Hometown: Pocahtontas, IL

Ecuador Summer Trip

At the end of August, a team consisting of eight individuals traveled to the community of Chaguarloma to complete an assessment trip. Of the eight travel team members, five were students-- Joe Hubach, Emily Haussmann, Peter Householder, Josh Krsek, and Amy Metz. The other three travel team members were Jed Holt, the technical mentor; Liam Sawyer, the traveling mentor; and Dr. John Gardner, the faculty mentor. Upon arriving in Ecuador, the team met with the NGO, Engineers in Action (EIA), to discuss logistics and plans of action, before heading to the community the next day. After meeting the community members and attending the fiesta the community hosted on the first day which featured traditional dancers and food, the travel team split into two groups, one focused on the social side of the project and the other on the technical.

The social team conducted a survey to gauge the knowledge base of the community, their current access to water, the health of the community, and how willing community members were to work with Rose-Hulman's chapter of Engineers Without Borders. In total, the social team met with approximately thirty-three families and inspected upwards of 70 homes and parcels of the land. At each home and parcel, a GPS point was taken to help create a tentative map of the community. Throughout the course of these surveys, the team members were able to form personal connections with each community member, while also brushing up on their Spanish. After the social surveys were completed, the social team members worked on completing a presentation for the community to explain the data gathered, give tips to stay healthy in the time before a water system is implemented, and explain the community agreement.

The technical team focused on two different areas, the quality of water sources available and land surveying. The first few days of the trip focused on viewing and testing the water sources, many of which were hard to access. While at each spring, the team tested for coliforms, anaerobic bacteria, and the overall flow rate of the springs. Overall, approximately twenty-two were tested and all were found to have varying levels of contamination. After completing the preliminary water testing, the team determined which sources would be most viable and began a surveying circuit to the lowest and highest point of the community. Along this route the

team also surveyed back to one of the more viable springs. GPS points were taken at each turning point, foresight, and backsight along the route to gather elevation data that will be used to start designing the water distribution system for the community.

On the last day of the trip, both the travel team and social team met with the community to present the presentation the social team compiled after completing their surveys. During the course of this meeting, the team members answered any questions the community of Chaguarloma had and presented both EIA and the Chaguarloma water board with the community agreement, a document that outlines the responsibilities of each party involved in the project--Rose-Hulman Engineers Without Borders, EIA, and Chaguarloma. Following the signing of the document, the community hosted another fiesta to send off the travel team members and thank them for their work in the community for the week they were there.



The information gathered on this trip is now being compiled and assessed by the club. Once the data gathered has been assessed, it will be determined if another assessment trip is needed to complete a full system design. The information gathered from this trip will form the foundation for the design of the water distribution system that will ultimately provide all residents of the community of Chaguarloma with clean drinking water in their homes.





Professor John Gardner, Joseph Hubach, and EIA engineer Pamela Castillo surveying the main road



Joseph Hubach, Peter Householter, Amy Metz, and EIA engineer Pamela Castillo surveying near a water source



Emily Haussmann testing a potential water source in the community

Josh Krsek, two Chaguarloma women, and Joseph Hubach dance in the welcoming ceremony



Student Spotlight: Peter Householter

Peter is a sophomore engineering student that hopes to go into either Structural Engineering or Site Development and he may stay involved with EWB in the future. He is a Sophomore Advisor in Deming Hall and works for AskRose to help answer homework questions for middle and high school students. Peter had never really heard of organizations like EWB before coming to Rose, but after attending meetings and experiencing the friendly atmosphere, he became extremely involved. He went on the Ecuador trip this summer, something he didn't initially plan on doing, but which turned out to be one of the most fun things he did all year. He got to apply his skills to a real project and experience a different culture.



Peter Householter and Jed Holt had fun balancing eggs along the equator

EWB-RHIT Mentors

Technical Mentor Roger Ward

Professional Engineer
EWB-Indianapolis

Technical Mentor Jed Holt

P.E. (retired)
President Emeritus, Bowen Construction

Faculty Mentor Dr. John Gardner

Spanish Professor
Rose-Hulman Inst. of Tech.

Faculty Mentor Dr. John Aidoo

Civil Engineering Professor
Rose-Hulman Inst. of Tech.

Fundraising

Fundraising is vital to our ability to continue using our Rose-Hulman education to impact developing communities worldwide. The cost of travel and construction materials is extremely high, but both are necessary for our chapter.

Through school organizations, such as the Student Government Association, we are able to raise some funds for our projects. This only covers a fraction of the total amount needed to complete our projects—especially for international air travel. We rely on private donors like you to support our projects and make a difference in third-world communities.

Donating to EWB

Contributions can be made to “Rose-Hulman Institute of Technology”, directed to “Engineers Without Borders” in the memo.

For more information, contact Kaylee Pate at: patekm@rose-hulman.edu

Contact Us

Please contact us at campbela@rose-hulman.edu if you have any questions or would like to become more involved.

More information can also be found on our website at: www.rose-hulman.edu/ewb



Rose-Hulman Institute of Technology
5500 Wabash Ave
Terre Haute, IN 47803

Brush Up for Homecoming

EWB participated in Brushing Up for Homecoming this past weekend on September 19th. Eight members from EWB met at BSB lawn and waited until RHIT introduced the event and expressed their gratitude. EWB went to the Japanese garden behind Olin and picked up litter and pulled weeds that plagued the garden. The garden had not had any upkeep for an extended amount of time, so weeds, moss, and detritus had spread through most the garden. The garden also had some wild growing vines that covered the pebbled path, so the vines were trimmed to clear the path and to make the garden more visually pleasing. The whole event took over an hour, and RHIT was very happy to have our help in correcting the lack of upkeep in the garden.

Meals on Wheels

Last weekend on October 20th EWB helped reorganize a local Meals on Wheels located downtown on Ohio street. The organization strives to support the elderly and disabled by providing nutritional meals to these people. The building that the organization uses to deliver food needed EWB to help clear out any unwanted detritus, relocate heavy furniture, move clothing, and reorganize cooking utensils. Before we started, the two women who ran the building were the only people working and they could not move the heavy couches, shelves, and tables up and down the three floors in the building by themselves. EWB helped turn a possible week of work for the organization into a two hour investment. At the end of the two hours, EWB reorganized four rooms by moving furniture and electronic equipment to the basement for the organization to sell later. Prior to EWB's help, the kitchen drawers and utensils were completely disorganized and filthy. At the end of the day EWB helped replace the old drawers with a new cabinet and the utensils were organized into the the drawers. The organization clearly expressed their gratitude toward our hard work by handing EWB some left over cake for our efforts.



SAWs 9/15/2018

EWB-RHIT participated in their first Servants at Work (SAWs) build on September 15th of the 2018-19 school year. 5 students met with the SAWs coordinators at their garage to help load the prefabricated sections for the wheelchair ramp. Students and SAWs members worked for 8 hours to construct the ramp after running into some complications with an existing structure and adjusting the ramp design on the fly. Originally two metal ramps with no railings that were ineffective in the winter were the only way to get up to the house. The new ramp proved to be much sturdier and safer than the original. The owner, after a couple test runs on his wheelchair, was very pleased with the work. EWB-RHIT would like to thank SAWs for allowing us to participate in their builds and for the hands-on experience.



ENGINEERING A MORE SUSTAINABLE WORLD—ONE COMMUNITY AT A TIME

