

Words from

*Working Across Vocations
Everywhere through Service*

WAVES

Alumni Holiday Newsletter



Happy Holidays Alumni!

We at the WAVES Alumni Association Board wanted to take the opportunity to extend season's greetings and introduce ourselves as an executive board. Our mission is to connect alumni to help mentor students in WAVES at Valpo with their ongoing humanitarian projects and also provide mentorship using their experience and professional knowledge from life after Valpo.

Greetings from the Executive Board



President

Jacob Yager – Class of '17

Season's greetings, alumni! I would like to wish you a happy and healthy holiday season on behalf of the WAVES Alumni Association Board. The year 2020 looks exciting with new opportunities on the horizon, such as becoming a legal entity, new projects and trips to Guatemala, and the completion of our first mentoring program. I joined the alumni board as a way to give back to the undergrads and connect the WAVES alumni. My undergrad experience in WAVES was an integral part of my development and start of my career. I struggled to find my humanitarian outlet post-graduation and hope as the president of the board, I can help all in or out of college find theirs. I hope you will consider joining our team this next year. The alumni board is looking for a treasurer. With the goal to become a legal entity, we will need someone to manage our financial accounts. If you know of someone or would like to learn more, please contact wavesvalpo.alumni@gmail.com.

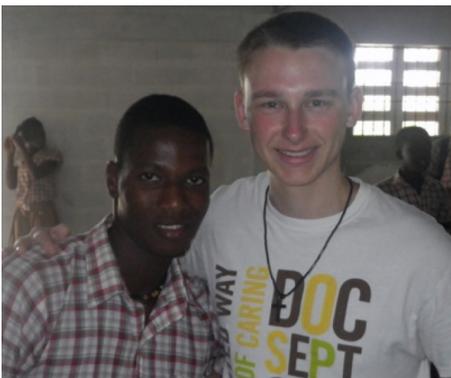


Alumni Communication Officer

Rima Miller – Class of '15

Project Designer at Inovateus Solar (South Bend, IN)

Hello to the Valpo alumni family! 2019 has seen productive and fun reconnections among EWB-Valpo and WAVES alumni, and with the board as a new bridge between alumni and current students, we hope that more of you will enjoy reconnecting as well. WAVES (EWB in my day) taught me that there are always creative ways to serve in the world and that having a great team to do it with is key. The WAVES team is as wonderful as ever, so I jumped at the chance to join the alumni board and re-access a unique way to learn new skills and use them for a worthy cause.



Mentor Lead

Lars Anderson – Class of '16

Holiday greetings, fellow alumni! I wrote this from Guatemala City where I had just arrived for a WAVES trip! I'm really excited to join WAVES undergrads and a fellow alumna on this trip to install solar infrastructure and visit a potential organization partner in country. I arrived in the evening via Austin, Texas where I've fostered a post-grad career and felt a sense of home since graduating over three years ago. My day job involves managing and engineering more and safer options of urban mobility throughout a city which is topping charts in terms of migration, and thus commuters and congestion. As much as I've enjoyed this day-to-day work, I've greatly missed the international humanitarian aspect of engineering. Thus, I'm happy to have reconnected as a connector of alumni mentors in the organization! Please contact me (lars.anderson@valpo.edu) or Jacob Rinda (jacob.rinda@valpo.edu) if you want to reconnect to WAVES as well if we don't reach out first.

Greetings from the Executive Board



Mentor Lead

Jake Rinda – Class of ‘18

Hello, fellow alumni! Almost six years ago, I joined Engineers Without Borders to be part of something greater than myself and to share some part of the blessings I have received. While I was an undergrad, the organization grew and rebranded, and was of the most fulfilling, grounding, and gratifying experiences of my college career. The opportunity to give back and remain engaged in humanitarian work post-graduation was too good to pass up, and I know many of you will agree. In 2020, I will be working with Lars Anderson to connect alumni as mentors across all of the student teams in WAVES. If you also have the bug to give back, regardless of major or career, let us know - we'd love to speak with you!



Secretary

Seth Strelow – Class of ‘16

Structural Engineer at Barr Engineering (Minneapolis, MN)

Greetings, alumni! I want to wish everyone a happy and warm holiday season from the freezer here in Minneapolis. I have enjoyed this first semester as secretary and have definitely increased my typing speed by a few words a minute. Joining the Alumni Association Board was an easy decision for me since I really valued my time in EWB/WAVES while I was at Valpo. It made me want to work in a way that would make a difference in the world and is part of what drove me to my career working in the wind energy sector. I look forward to continuing the humanitarian work of WAVES in whatever way I can and to more alumni joining us!

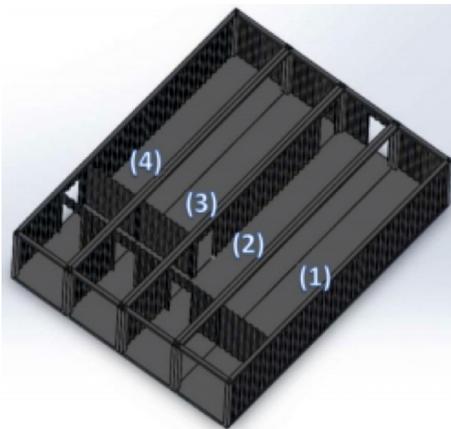


Mentorship

This semester, we were excited to have our first project mentor, Anthony Dary, begin to work with the students. He has been working on the Shipping Container School project and wanted to share his experience.

Anthony Dary – Shipping Container School Project Mentor

Hi everyone! I'm Anthony Dary, and I'm serving as an alumni mentor on the Shipping Container School. I'm a member of the Valpo Civil Engineering Class of 2014, and I helped lead the Projects Team from 2012-2013, back when we were a smaller organization with a different name. EWB/WAVES was my favorite part of the engineering program at Valpo. The people I met were wonderful, and it was the first opportunity I had for a hands-on experience working on an engineering project that really helped people. I've always felt proud of our work, and since I graduated, I've been inspired by the growth of the organization and the completion of some of the work I started as an undergrad. Now that I've worked as a structural engineer for a few years, I look back at my time in WAVES and think, "Wow, that would have been so much easier if I had known what I know now!" So, I'm really excited by this opportunity to share my knowledge for a humanitarian cause...and also to make the lives of Valpo engineering students a little less hectic.



Container School Layout

The Shipping Container School is a great project for bringing together different areas of expertise. We're essentially turning the shells of four 10' high shipping containers into a functional building with roof-mounted solar panels. Right now, my focus has been on getting up to speed with the project thus far and asking the big picture structural questions to get the design process started. How can we make this building resist the hurricane-level wind loads that make Haiti so vulnerable to property damage? What kind of wind uplift forces is this roof going to see? What options do we have for framing out and panelizing the roof trusses? It's odd for an engineer to say this, but we need to make architectural decisions on this one too: I've been asking the students to decide on a roof profile and a concept for how the roof will be enclosed. That's about settled now, so the next step is to start calculating wind loads and get a sense of how ballasted this building really is. This is a subject I revisit often in my job, so I'm looking forward to helping guide it along. It's been satisfying being back on a WAVES project with a much better understanding of how engineering is done in practice.



Example Container Building

Mentorship Opportunities

In addition to the container school project, we have other opportunities available to mentor students. The anticipated commitment for a project mentor is one to three hours a week during the academic year.



Solar System Installation in Haiti and Guatemala

We are looking for a mentor to help the students prepare for the installation trips and ensure all necessary equipment is accounted for. To anyone interested in utility solar power, this is the project for you.

Off-Grid Table Education Curriculum

Most developing countries struggle to implement technology into their classroom because of the lack of power, electronics, and internet. WAVES created a portable technology lab that uses either apps or wifi networks to access educational content. One system is currently in Haiti, and WAVES is looking for feedback to improve the system and design a curriculum for the school. Education mentors are needed to create training material for the Haitian educators and WAVES engineers.



UV-C Water Sterilization Tanks in Haiti

Most houses in Haiti have large black plastic water tanks on the roof that sit in the warm, humid environment – a perfect breeding ground for bacteria. Small, solar powered (no battery) water tanks can be added into the system and emit UV-C sterilizing light into the tank while the sun is out. This project requires some knowledge of solar panels, electrical design/controls, and structural design for mounting the panel.



Low-Cost Refrigeration Powered by Solar Panels

We would like to simplify a refrigeration system to only require a solar panel(s) that is plugged directly into a high-efficiency cooler and remove expensive inverters and/or generators to operate. The project requires researching some of the different options (specifically peltier coolers) to find the most cost-effective solution. Mentors should know how to conduct a thermal analysis and some basic electrical analysis.

Contact us if you are looking to be a project mentor or volunteer!

Email us: wavesvalpo.alumni@gmail.com

Visit us at: www.valpo.edu/waves/

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