

Industrial Blueprint

- The IOE Student Newsletter -



February 2016

From the Editor

Hey IOE,

I hope your semester is going well! If you're feeling overwhelmed about what extracurricular activities to take up or which student groups to get involved with, this issue is just for you! This Blueprint contains articles written by IOE students describing the clubs, student groups and organisations they are involved with and what they love about them.

Hope you enjoy it, happy reading!

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BLUElab Hagley Gap

By Julia Clark

BLUElab Hagley Gap is a student organization on campus whose goal is to provide sustainable solutions to problems in Hagley Gap, Jamaica. The team is currently working on constructing a solar dehydrator that will dry and prepare mangoes to be preserved. The rural village has a surplus of mangoes every year that the community members cannot consume themselves. Instead of letting those go to waste, BLUElab Hagley Gap is providing a sustainable solution that will allow the community members to dry and preserve the fruit in order to be sold at a farmers' market in the city or even exported to the United States.

In order to build the solar dehydrator, the team uses a gate process that follows from a needs assessment to prototyping and implementation and beyond. The team has just finished going through design iterations with the solar dehydrator and is currently working on making final CAD designs before prototyping in the Wilson Center. The team is looking forward to implementing the solar dehydrator in the village this coming May!

I have contributed as the Travel Coordinator for the team this past year. I was given the amazing opportunity to travel to the village this past summer and build and test prototypes and learn more about Jamaican culture, the village, and how BLUElab is making an impact. I have gained an international engineering experience, learned about sustainability and how it affects our world today, and met great people through this organization! I highly encourage anyone interested in engineering and service to join our team.

BLUElab - Living Building Challenge Team

By Terry Chairul

In the Fall semester of 2015, I was involved in the BLUElab club, Living Building Challenge team. Our team worked with the Grocoff family in Washtenaw County to help them attain net-positive water usage. We achieved this by assigning four different sub-teams: supply and distribution, purification, greywater management, and engineering wetlands. Each sub-team plays specific and significant roles for the Living Building Challenge team. I chose the greywater management sub-team because I thought that it is the most relatable to IOE. As an active member of the club, I attended the weekly team and sub-team meetings. At the beginning of the semester, we discussed and set goals we wanted to achieve for the team and sub-teams. The greywater management sub-team focused on the path of collecting, containing, and recycling the greywater in the Grocoff family house. Although the technical parts of the design were tricky, we encountered several other problems that were difficult for us to resolve. For instance, getting the permission to implement the design was difficult because we had to make sure that our design met the legal standards set by the government. Additionally, since there were many new members (including myself) coming in, it was difficult for both sides to catch up with each other. However, with the numerous number of people on the team, we managed to solve the problems, thus achieving our goal for the semester. In the team meetings, each sub-team will update everyone about what they achieved for that week, so that we can easily connect the dots of how that will progress the team as a whole. Being a new transfer student in the university, joining the BLUElab club was a very good experience for me as I had the opportunity to interact with new people and make friends. Sometimes it can become very easy to get caught up with school and neglect social life. I think that joining BLUElab club provides me with this good balance of social, creative-thinking, teamwork, and problem solving skills that I cannot always obtain from only classes.

BLUElab India

By Praneet Gogireddy

One of the organizations that I am involved in is called BLUElab India. In this club, we are working on creating a compost toilet and a stove for a village in Gujarat, India. I'm currently on the toilet sub-team and we are working on creating the design of the toilet right now so that members of our group can begin construction of the toilet when they visit the village this spring break. Our toilet sub-team consists of both a research team and a design team. I'm on the design team and we have been using Solidworks to create multiple designs for our toilet so that we can ultimately chose a final design to implement in the village. Our research team currently focuses on the health side of the toilet to ensure that the device is sanitary and effectively composts the village's waste. Overall, our BLUElab India team is working to improve the lives of those in Gujarat, India.

BLUElab India is a multidisciplinary club that involves the entire engineering design process. Our members come from diverse majors that range from Art and Design to Economics. For me, it has been very interesting to apply the knowledge I have learned from the engineering classes I have taken to the compost toilet we are working on. I never thought I would enjoy joining a club, but BLUElab India has been a rewarding experience. I truly cannot wait to see our final compost toilet in action in India.

Overall, students should join BLUElab India or any BLUElab team because it will give them an opportunity to impact the world for the better. By joining a BLUElab team, an individual can impact people from South American all the way to India. Trust me, joining a BLUElab team will be one of the most satisfying experiences of your college career.

Supermileage Team

By Morgan Freeby

Freshman year I wanted to join two types of student organizations: one that was athletic and one that would be more academic. I signed up for Triathlon Club at the Rec Sports Expo, and then headed to NorthFest to find a design team. The search for a design team was daunting. There were tons of design teams all working on projects that were way above my head. I didn't feel like I had the technical experience to be able to join one. While my mind was spinning in circles my eyes rested on a sign that said "UM Supermileage". I had always been interested in sustainability so I decided to check it out. One of the leads was super outgoing and stepped out in front of the table to introduce himself. He said he had joined his freshman year without experience and still managed to get a leadership position early on. One of the questions on the sign-up sheet read: "If you could be any kind of sandwich, what kind of sandwich would you be?" I had found a group that I could learn from and laugh with.

When I first joined, the quest to find a suitable subteam proved to be a rocky one. I tried a couple of different subteams, but none of them fit quite right. Then the Public Relations Chair left unexpectedly, so I decided to take initiative and take on the role. I began publishing monthly newsletters, tweeting weekly, and sharing stories on the Facebook page. I was properly elected to be PR Chair in February of my Freshman year and traveled to Detroit for our competition in late April: the Shell Eco-Marathon. Looking back on it now, I don't think there was a better design team for me to join. Everyone on the team is close, so going to Sunday workdays in the Wilson Center feels like going to hang out with friends. The team is small too, which means there are plenty of opportunities to get experience as a Freshman. This in turn means that you will have plenty of examples to give in an interview, and plenty of projects to add to your resume.

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Apex Consulting Group

By Sarah Park

One of the organizations I am involved in on campus is Apex Consulting Group. This club takes on clients such as business groups, startups, and nonprofits. Each semester Apex takes on new clients and provides them with pro-bono consulting work. I have been involved in this club as a business analyst. I have been a part of three different project teams and have worked with my teammates to construct final deliverables for our clients. These final deliverables are the end goal of the semester. Each team starts with defining the problem they need to solve and outlines the steps needed to get there such as market research or conducting a focus group. Once all information has been gathered we form a conclusion and use our data to support it and present these findings to the client.

This group is a great way to practice skills learned in IOE classes that can be applied to the industry of consulting. I have been able to apply many of the concepts I have learned in my IOE classes to my work with Apex. The leadership at Apex also spends a lot of time ensuring that all members receive proper training in consulting. This has been one of the most valuable parts of the experience for me. Each week a new topic is covered during new member training and these can range from learning how to think like a consultant to learning how to give a clear presentation. I was able to learn a lot about the consulting industry and was then able to apply it directly to a real world situation. Apex has been a great experience and has really enriched my education as an IOE student and I would definitely recommend others to get involved.

MECC Consulting Club

By Sarah Finley

This semester, I joined MECC Consulting Club, an extra-curricular activity which I have really enjoyed so far. MECC has a great sense of community – all of the people I have met have been welcoming, helpful, and friendly. Some of MECC’s members are in the Industrial and Operations Engineering Department, but there are also members from other disciplines of engineering as well as other colleges within the University.

As a part of MECC, I will be working with a team on a real-world project for a company, and helping them to solve a problem they are facing within their organization. This process relates very directly to IOE, as it deals with efficiency, optimization, and methods of maximizing revenue while minimizing cost. Through this organization, members will also gain experience in thinking logically about how to approach a problem, presenting recommendations clearly and concisely, and communicating with a client in a professional manner that will be very applicable in the corporate world.

MECC is a very multi-faceted organization. They put a great emphasis on creating a sense of community by sponsoring social events that help members to get to know each other better. Furthermore, MECC aids in professional development, by offering programs such as resume critiques and case interview workshops. Based on my experience in the organization so far, I would certainly recommend this club to other IOE students.

MECC Consulting Group

By Michael Brown

MECC is a student organization of 40+ students that works with local Ann Arbor companies to address and solve various business challenges. Our consultant teams work closely with clients to create impactful solutions informed by careful analysis and research. All projects are pro-bono and are typically completed over the course of a semester, and there are a wide variety of projects from working with a gelato company to a drone software company.

I have been a part of MECC for two semesters. For my first semester, I was a consultant for a data analytics solutions provider. We analyzed retailers' and manufacturers' inventory and shipment processes to create blueprints of a collaborative portal for our client's new software package. This semester, I am the Project Manager for a non-profit that handles over 4 million pounds of food yearly. We are helping our client decrease food wastage by determining the most effective process of dealing with prepared foods that come into their warehouse. Also, I am a mentor for a new consultant this semester.

This organization is related to IOE because it gives you valuable real life application of what you learn in class. My projects have utilized supply chain knowledge, process mapping, and various other IOE and business related topics.

In addition, I have gained experience working with the executives of companies and working with teams. MECC allows you to explore what the consulting field is like, and you get the opportunity to work alongside students that have experience interning at some of the top consulting firms. You also get professional development as a part of MECC, which is very useful when going through the recruiting process.

Phi Sigma Rho

By Somya Gupta

After deciding not to partake in formal rush my first semester freshman year, I began my search for another similar organization where I could find my fit. This search led me to my sorority, Phi Sigma Rho. Phi Sigma Rho is a national panhellenic, social sorority for women in engineering. I joined my second semester at Michigan and have never looked back. Suddenly, North Campus went from a sea of unfamiliar faces to familiar ones everywhere I went. There were a dozen girls within the IOE department itself and about sixty more throughout CoE. Joining Phi Sigma Rho not only made the IOE department feel smaller, but the entire college as well.

I dove right in and served as my Pledge Class President, later serving on the chapter's Executive Board as the Vice President of External Programming. It wasn't always easy taking several dozen opinions into consideration, but I wouldn't trade anything for the experience. Over the past four years, these girls have truly become my sisters as we did homework together, complained about classes, and bumped into each other during endless nights at the library. I know that long after we leave Michigan, our sisterhood will continue to remain with us.



Michigan Electronic Dance Music Association (MEDMA)

By Ilkka Kovanen

My favorite student organization here at Michigan is MEDMA, the Michigan Electronic Dance Music Association. MEDMA brings together a diverse group of people with interests in all forms of electronic music. I am primarily a fan of house music, but we have people who enjoy house, techno, trap, trance, EDM, dubstep, drum and bass, and anything and everything in between. The wide variety of music that people in MEDMA listen to is one of my favorite parts of the group - there's always some new and interesting music that I haven't heard before.

One of MEDMA's big focuses at the moment is DJing. We have a lot of members who DJ, and we have some DJ equipment, lights, and several sets of speakers and subwoofers. We provide DJing services around campus, and also hold our own events. Every month or two we have a club night (called "Impulse") at Necto, which is a nightclub that's about a block away from State St. and the Michigan Theater. We take over their downstairs area, and spend the night playing whatever music we want. Usually there's some sort of theme - January was "jungle", and in the Fall we had a "90's-theme" night. Additionally we'll have some smaller get-togethers throughout the semester.

I have been involved in MEDMA since freshman year, and over that time have gone to plenty of meetings, events, and workshops. Two of my favorite events were last winter. For our Impulse night in March 2015, we booked an actual well-know DJ named Lancelot, who is from Australia and makes some very groovy deep house. Being able to experience Lancelot (a guy who routinely plays in big venues and festivals all over the world) in such a small, intimate space was a real treat, and I hope we can arrange something similar in the future.

Another favorite was Relay for Life last April. For those who don't know, Relay for Life is a 24-hour fundraising event for the American Cancer Society that is held around the country. Michigan's MRelay is held on Palmer Field. MEDMA has a booth at MRelay, and we provide music for the entire 24 hours of the event - from 10am on Saturday to 10am on Sunday. At last year's event, I ended up staying through the night. Being able to DJ as the sun was rising, with the light reflected off Palmer Commons, was an incredible experience. I am really looking forward to playing at MRelay again this year.

Why should you join MEDMA? If you want to DJ, if you want to make and listen to all sorts of electronic music, or if you just love going to club nights and festivals, MEDMA is the perfect group for you.

Intramural Sports Program

By Jacob Homan

Here on campus I'm involved with the Intramural Sports Program. I began as an official my Freshman year, and have since also worked as a Supervisor and a Coordinator. Through this position I've gained experience with leading a group of diverse officials, acting calmly under pressure in a leadership role, and conflict management skills. This year as a coordinator I'm in charge of scheduling teams for divisions and leading trainings for our officials.

I believe the skills I've learned through this job are directly applicable to my future career in IOE. I've learned about scheduling and the challenges that come with it, as well as how to lead a successful staff. An emphasis is placed on effective communication, which is something I can apply to any job in my future, and I've also gained experience defusing tense situations and dealing with strong personalities. Finally, there is a lot of new software I've had to learn for this job, and seeing the advantages and disadvantages of each one will also hopefully help me in the future in determining which software would be best for a certain application.

Through this job I've learned how to effectively lead, how to manage a staff, and how to deal with conflict. In addition I've gotten experience with scheduling and other software. And through all of this, I've been paid to watch intramural sports as a job. I've developed great relationships with my co-workers, and met participants that I'm still friends with. I truly believe it's the best job on campus, and would recommend anyone looking for a campus job check it out.

Financial Investments Group

By Alexander Copp

In Financial Investments Group, we follow the stock market and try to predict where it's going. I am in the Industrials sector, which can be broadly defined as the category of stocks that relate to producing goods used in construction and manufacturing. At our weekly meeting, the team I am on gives a report to the rest of the club on how our sector is performing compared to the rest of the market, as well as anything noteworthy going on in the sector. Throughout the semester, we create and present stock pitches to the rest of the club on a specific stock, educating them more on the company, where we think it's headed, important factors to consider when evaluating the stock, and finally our recommendation on whether or not we should invest in the stock.

Obviously, this club is comprised mostly of Business and Economics majors (to my knowledge, I am the only engineering student in the club), but I think that this club provides valuable experience, regardless of major, but especially for IOE. You gain valuable analytic skills, as well as experience with preparing and giving presentations. In addition, I think that finance, and specifically personal finance, is an essential skill that absolutely everyone should have. Regardless of what field you go in to after college, and even if you have someone else take care of your finances, you should know at least the basics about where your money is going!

The Society of Women Engineers

By Emily Smith

My favorite position I have held in SWE has been as the Elementary Outreach Officer. While I held this position, I had the opportunity to organize events bringing elementary students to campus to learn more about engineering. This is my favorite position because I love introducing younger students to engineering, especially younger girls who might be intimidated to enter a male-dominated profession. It is also amazing to see the intelligence the kids have as they work through the projects we present them, often making a design better and more quickly than I would have expected them to. I have also served as the Membership Officer, have volunteered for various SWE events, and am participating in the SWE Overseas trip this upcoming summer.

Within outreach, it is possible to run activities that introduce students at a young age to IOE, something they aren't usually exposed to until later in their education if at all.

I've really enjoyed being a part of an organization full of people who are passionate about what they do. It is an extremely well run organization, which is why our section is able to accomplish so many of our goals. I have also appreciated experiencing what I have, especially the outreach visits, and I look forward to new once-in-a-lifetime experiences as well, like traveling to India this summer through SWE Overseas.

Lean Thinking



Thanks for reading!