



*Let's do something real*

# Ghana Sustainable Change

**February 2016 Newsletter**

**INTERDISCIPLINARY | SERVICE LEARNING | STUDY ABROAD**

## ★ Engineering Service Learning Travels to Ghana ★

### IESL Winter Trip



Thirteen engineering students recently returned from Akomadan in the Ashanti region of Ghana after implementing projects that address drinking water and energy issues. The students were part of the International Engineering Service-Learning (IESL) Ghana program, a College of Engineering program that partners with the Knowlton School of Architecture City and Regional Planning program Ghana Sustainable Change (GSC) and the Offinso North District Assembly (ONDA) in Ghana. This was the inaugural year for the IESL Ghana program.

The program is designed to introduce and teach students the concepts of humanitarian engineering through a practical, meaningful, authentic, real-world, international engineering service-learning experience. Humanitarian Engineering is defined as the application of engineering and technology to directly improve the wellbeing of marginalized or under-served people, families and communities. In the IESL Ghana program, the students collaborate with GSC and ONDA to bring useful, sustainable technologies to the Ghanaian people. During the fall semester, students assess needs, and then research, design, develop, prototype and plan various engineering solutions to meet these needs. During a two-week in-country winter break trip, the students implement and evaluate these projects.

This past fall and winter, the students designed and implemented a sand filter (Fig. 1) that removes harmful microorganisms from drinking water. Contaminated drinking water is a major issue in many parts of the world. The students also built a biodigester (Fig. 2) in Ghana. The device turns cow manure and other organic wastes into methane, which is used for cooking. The byproduct from the biodigester can be used as fertilizer. Finally, the students constructed a bicycle-powered electric generator (fig. 3) that will be used to charge cell phones and other small rechargeable devices. The machine uses a common car alternator to generate electricity. It was installed in a Ghanaian village that does not have access to grid electric power.

Plans are underway for 2016 IESL Ghana. Interested students are encouraged to attend one of the information sessions scheduled to 22 February at 12PM in 122 Oxley Hall (Office of International Affairs) and 24 February at 5PM in 244G Hitchcock Hall (Department of Engineering Education).

More information for the IESL projects can be found here: <https://eedcourses.engineering.osu.edu/ghana>



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## **Proposal Submitted for 2016 Battelle Engineering, Technology and Human Affairs (BETHA) Endowment Competition**

GSC has submitted a proposal for the Battelle Engineering, Technology and Human Affairs (BETHA) Endowment Competition 2016. Our proposal asks for assistance for an outreach initiative with the Sunyani Regional Medical Center. BETHA's mission is to train and provide experiential learning opportunities for burgeoning engineers to merge their craft with their peers in the social sciences and humanities into an emerging interdisciplinary approach. Announcement of winners is mid-to-late March 2016.

## **2016 Ghana Spring Studio**

### **The program is holding its Spring Semester 2016 studio class this year to develop and continue work on projects for implementation in the Offinso North District of Ghana.**

The upcoming class will be a mixture of City and Regional Planning graduate and undergraduate students, as well as students from Public Health, International Studies, Acturaial Sciences, Biomedical Engineering, and Environmental Sciences.

## **New on the Team**

GSC would like to welcome Dr. Kareem Usher to the program!



Projects include a revitalization of the "Wellbox" program, GIS-based mapping of transportation and other assets, a feasibility study for the creation of a bypass road, sustainable housing, and women's empowerment/civic engagement.

## **CONTACT US**

**Kim Burton, [burton.90@osu.edu](mailto:burton.90@osu.edu)**

**Kareem Usher, [usher.21@osu.edu](mailto:usher.21@osu.edu)**

**Kevin Buettner, [buettner.18@osu.edu](mailto:buettner.18@osu.edu)**

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