Providing Power in Uganda

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Two life-changing experiences guide Earth and Environmental Engineering senior Janelle Heslop to her May graduation date.

The first happened nearly a decade ago, when she attended the summer science program in her hometown of Yonkers, N.Y., after her sixth- and seventh-grade years in that city’s public school system. The experience triggered her interest—and the attention of program advisers, who saw her potential—and led to scholarships at the exclusive Riverdale Country School in the Riverdale section of the Bronx.

The second life-changing event happened here at Columbia, shortly after she joined the University’s chapter of Engineers Without Borders (EWB). “It changed my career path,” she says.

While Heslop knew she wanted to study some kind of engineering, her experiences with EWB helped focus her attention on wanting to find sustainable solutions as a career. “I really want to serve communities,” she says.

Heslop is the technical lead for the water team on EWB’s Uganda project, which seeks to supply power for agricultural machines via an engine that runs on jatropha oil obtained from seeds of a native tree. The Environmental Protection Agency awarded the project a $75,000 grant last fall.

Last summer, she was a member of one of two teams that went to Uganda. Her team continued work on diesel engines that power generators, pumps, and other equipment. The team also assessed community needs, like water access and reliability at the local school, and is continuing work back on campus designing the needed water systems for later installation.

Heslop says the experience has opened her eyes to injustice on a global scale, while helping prepare her for finding ways to contribute something positive. “It’s a great opportunity to serve an underserved community and apply some of the engineering skills I’ve learned in my academics,” she says. “I use my engineering skills all the time (on the project). I’ve been applying just everything I’ve learned.”

Heslop plans to take a year off before graduate school, in part because she’s exploring which path to pursue. She is confident the past four years have prepared her well to arrive at her decision. “Columbia Engineering has given me a set of problem-solving skills I apply in all sorts of areas—the computational, quantitative, and qualitative skills you need to succeed.”