

Engineering & Geoscience

Advertising Feature

U of A engineering graduates make a difference globally

Engineering students and graduates from the University of Alberta are making a difference where help is needed most, participating in development projects in Third World countries.

Student Brett Kotelko and alumna Carolyn Skoworodko both embody the ethic of service to others that has been a hallmark of the U of A Engineering education for 100 years.

Last September, shortly after graduating with a degree in civil (environmental) engineering, Skoworodko, a native of Sherwood Park, used her engineering education to help create a 25-year master plan for a boy's home and school in Dehra Dun, in northern India. The current facility is a permanent home for about 50 orphaned boys between the ages of four and 18, and hosts a school that serves 500 students from the local community. A farm supplements the organization's income.

Expansion plans include an additional school to double enrollment capacity, an auditorium, additional homes to house more boys, hostels to serve older boys, volunteer and staff housing, a retreat centre, and a home for AIDS widows and their children.

As a volunteer with Engineering Ministries International Canada, a non-profit Christian development agency that provides non-profit design services to organizations making a difference in the developing world, Skoworodko conducted a site survey, sized and placed underground water lines, and sized a water tower storage tank and septic field.

"It's your basic third-year engineering skills but really, that's what they need," said Skoworodko, who now works for ATCO Electric in Edmonton.

"In a Western context the things you learn in class sometimes don't seem important because everything has already been designed. But over there, you're thinking about how many students they have, and if they want to have two days worth of water stored, how big does the storage tank need to be. And then you need to be practical – can they build a tank that size? Do they have the funding for it?"

The reward, she says, comes from seeing the looks on the faces of children as they learn about their new home. The excitement of the children and of the missionary couple who run the home "got me through the moments when I couldn't remember why I thought coming to India so I could do fluid mechanics questions was a good idea."

Brett Kotelko, a third-year chemical and materials engineering student, saw the way his engineering education had similar effects during a four-month stint in Livingstone, Zambia in 2008.

A volunteer with the international non-profit group Engineers Without Borders, one of Kotelko's duties was to manage a greenhouse used to test new crops for a non-profit organization called Agribusiness in Sustainable Natural African Plant Products.

What's most exciting for Kotelko is "seeing the impact that I'm having



U of A Faculty of Engineering alumna Carolyn Skoworodko volunteered to help develop plans for an orphanage in India.

on the ground," not just in terms of improved crop yields but in terms of making a difference in the lives of others.

The project Kotelko was involved in supports families and allows children who might otherwise be forced to sacrifice their education in order to support disabled parents and grandparents to go to school.

Engineering, he observes, "can improve people's lives, versus concentrating solely on technical change."

INSIDE ENERPLUS: Geologists on the hunt for elusive and hard-to-reach oil and gas reserves

by ALEX FRAZER-HARRISON

It takes the latest and best technologies as well as talent and teamwork to overcome the complex challenges of accessing hard-to-reach oil and gas reserves. At Enerplus, geologists not only have the technology of a big organization but also the feeling that each individual on the team is impacting the process and is helping to drive the company's success.

"I came to Enerplus knowing they have a great respect for



given me a lot of latitude."

In addition to working at Enerplus, Collom also teaches his craft at the University of Calgary and says the hope is budding geologists can enter the field directly from graduation — although hopefully with some summer-student experience under their belts. A strength at Enerplus, he says, is the company belief in mentorship.

"You want to come into the industry (via) a company that's willing to mentor you and lead you along a path that allows you to develop



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G.I.T.
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