

News

UW Wins First Place in Environmental Competition



June 5, 2008 — A team of University of Wyoming students won the 2008 Disappearing Roads Competition.

No wonder. They developed a completely recyclable, roll-out road system that, well, disappears nearly without a trace.

The five-person UW presentation team from Professor Charles Dolan's multidisciplinary senior design class bested teams from 11 other universities to win the year-long competition, edging Texas A&M University for the \$20,000 grand prize.

The Disappearing Roads Competition is part of the Houston Advanced Research Center's Environmentally Friendly Drilling Systems Program, which aims to integrate advanced technologies into a drilling rig system that significantly reduces the environmental impact of petroleum drilling and production.

"These types of environmentally-friendly competitions are needed because we're able to take a problem, in our case, environmental drilling, and generate ideas for solving that problem," says Cody's Jacob Olenick, one of 20-plus students in Dolan's class. "I feel like the Disappearing Roads Competition is especially important because we, as a country, are going to be using oil and natural gas for a long time to come and we need to continue to explore ways to make the extraction process as effective and efficient as possible while also minimizing the impact on the environment."

Olenick, who graduated in May with a degree in mechanical engineering, was joined on the UW team by Kristen Beck (Laramie, mechanical engineering) and Nolan Bray (Riverton, mechanical engineering), Tyrel Hulet (Buffalo, civil engineering) and Alyssa Wechsler (Sheridan, environmental and natural resources).

The UW team developed a layered mat, roll-out road system and a modular frame design for temporary roads and drilling pads in environmentally-sensitive areas, such as Jonah Field and the Pinedale Anticline Production Area. The UW project would reduce ground and habitat disruption by up to 88 percent, Olenick says.

The roll-out road and mat drilling pad system were designed with synthetic boards developed by Heartland Biocomposites, a Wyoming start-up company. The boards have superior strength for direct loading as compared to the oak boards that are currently imported from Louisiana and used at Jonah Field. The synthetic boards are also more resistant to extreme weather conditions.

The students fabricated and tested both the mat and roll-out road concepts at the Mountain Cement quarry south of Laramie.

As part of the project, the UW team also met with representatives from the Bureau of Land Management, EnCana USA and Questar Exploration Inc., and briefed U.S. Sen. John Barrasso on the environmental, cost and production aspects of their design.

Barrasso was "very enthusiastic about the direction the project," says Olenick.

"We know that energy is important, but this is our state and we live here, so this project has a direct bearing on the activities and lifestyle of our citizens," Hulet says.

Adds Beck, "A lot of students did individual senior design projects, but this is a project that has the potential to make the state better for my 5-year-old daughter."

Each UW student receives a share of the prize money.

"It was a great experience working on an interdisciplinary team involving mechanical engineers, civil engineers and an environmental and natural resources major. I felt that this group dynamic much more reflects how a project would be conducted outside of the college setting," Olenick says. "The environmental aspect of this design project is what really interested me. I consider myself to be a very environmental person and being able to be a part of this project was a great way to help make an impact."

Photo

A team of University of Wyoming students presents their award-winning disappearing road project to U.S. Sen. John Barrasso. Clockwise from the senator are Jacob Olenick, Cody; Tyrel Hulet, Buffalo; Nolan Bray, Riverton; Kristen Beck, Laramie; and Alyssa Wechsler, Sheridan. (UW Photo)