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NIATT-Sponsored Senior Design Team Captures Two Awards at 2006 Expo

A senior design team of four undergraduates who called themselves "The LiteBright Team," along with support from a graduate student, developed a working prototype of a pedestrian countdown timer, the pedestrian crosswalk signal, and the pedestrian button with a wireless module. Each of these devices uses a microcontroller to allow network communication.

At the University of Idaho's Engineering Expo in spring 2006, the student team demonstrated that their plug-and-play pedestrian countdown timer performed better and more accurately than the standard pedestrian countdown timer.



Dustin DeVoe (light blue shirt), Steven Allen, Tyson Rallens and Michael Busby (pictured above, left to right with Charles

Peterson, Interim Dean of Engineering and Keith Prisby, Expo Chairperson) and received both the Expo's Award for Excellence for their technical presentation and the Idaho Research Foundation's Innovation Award for their UTC-funded project, "Full-Scale Implementation of Plug-and-Play Smart Traffic Signal Pedestrian Wait/Walk Display with Pedestrian Button." The team worked with graduate student Sanjeev Giri and professors Richard Wall and Brian Johnson.

The senior design work was proof-of-concept for work initiated in 2004 to demonstrate the benefits of using a plug-and-play network to improve traffic signal performance, reliability and functionality. The first year's work produced a prototype traffic controller system using a simplified model of a traffic controller. Graduate student Andy Huska and advisor Richard Wall made a presentation of their work at the annual TRB meeting at Washington, DC, in January 2006.

Read about the senior design team at their website, http://seniordesign.engr.uidaho.edu/2005_2006/litebright/index.html

Read more about the Plug-n-Play projects: [N06-01 \(pdf\)](#) and [KLK122](#).

Clean Snowmobile Team

In March 2006, this year's clean snowmobile team braved 24 inches of snow and winds from 30 to 50 miles/hour to compete in the Society of Automotive Engineer's Clean Snowmobile Challenge in

Houghton, Michigan.

This year's snowmobile was a direct-injection, two-stroke sled. Two-stroke engines are powerful with low maintenance but traditionally loud, dirty and fuel-inefficient. The team's goal was to re-engineer a clean and quiet sled using a direct injection system to decrease exhaust emissions and improve fuel economy without reducing the power output of the engine.



The team the first place in the static display (shown on the left) and oral presentation categories. For the static display, the team prepared posters describing their engineering efforts and were available for judges who asked questions about the sled.

Two senior design teams worked on different aspects of the snowmobile during the 2005-06 academic year. You can view their final reports at the following websites:

http://seniordesign.engr.uidaho.edu/2005_2006/directsolution/

http://seniordesign.engr.uidaho.edu/2005_2006/quietriot/



ITE Student Chapter Members Visit Washington DC

With support from NIATT, the Civil Engineering Department and the Associated Students organization, six members of the Institute of Transportation Engineers visited Washington, DC, for their field trip in April 2006.

The students toured the Woodrow Wilson Bridge, the Washington DC Traffic Management Center, ITE headquarters, and the National Society of Professional Engineers office.

Pictured from left to right (Nick Taylor, Dennis Ownby, Danielle Sebring, Kristyn Scott, Guillermo Madrigal, and David Watkins), the group was impressed by the Woodrow Wilson bridge, constructed at a cost of over \$2.4 billion, which spans the Potomac from DC to Virginia. They were able to walk under the bridge on the maintenance section.



Another highlight of the trip was a visit to the Shell station that was the first hydrogen refueling station in America. The station has a visitor center featuring hydrogen technology. A representative from GM met them with a hydrogen car, which the students were able to drive.

Undergraduate Civil Engineering Students Receive Scholarships

Coral Sales/Douglas P. Daniels Scholarships: Rachel Chipman & Vern Malensky



Rachel and Vern received \$1000 each from the Coral Sales representative for their outstanding leadership qualities and participation in extracurricular activities. Both intend to pursue careers in transportation.

Congratulations also to David Watkins, recipient of the ITE Scholarship, and to Guillermo Madrigal, recipient of the Road Builders' Scholarship.

NIATT Research Assistants Receive Advanced Degrees

Congratulations to the following students who received their Master's Degrees during the 2005-2006 academic year.

Binu Abraham--now working for DKS Associates
Manoj Annaji, now working for DKS Associates
Matt Benke--now working for the Department of Defense
Seyla Berrio-Gonzales--now working for Kimley-Horn & Associates
Jesse Birchman--now working for the Transpo Group
Nathan Bradbury--now working for Western Trailers
Mario Candia-Martinez--now working for Kittelson & Associates
Andy Huska--now working for Advanced Input Systems
Wassim Kebab--now working for the Transpo Group
Sajeev Kumar Keecheril--now working for CLC Consultants
Min Lu--now working for Washington DOT
Eresh Suwal Singh--now working for Dallas Semi-Conductor

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