



UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE of ENGINEERING

Industrial Solutions Laboratory **Senior Design**

SAVE THE DATE!
SPRING 2014 Expo
Thursday May 1, 2014

Senior Design Success at Social Entrepreneurship Conference



The Solar Traffic Light team recently won second place in the undergraduate division of the University of North Carolina Social Entrepreneurship Conference. There were 40 teams in the competition.

The Solar Traffic Light team was made up of students Alex Esposito, Ben Godsell, Thomas McGukin, Kashif Subhan and Nathan Smith, and project mentors Dr. Nan BouSaba and Dr. Aba Ebong.

Now in its second year, the UNC Social Entrepreneurship Conference engages students, faculty and entrepreneurs from across the state to identify North Carolina's social problems, and take a business-oriented approach to solving them. The UNC General Administration, the central office of the UNC system, hosted the 2014 conference at NC A&T State University in Greensboro.

The Solar Traffic Light project addressed the problem of cities being left without power for weeks in the aftermath of natural disasters, and of under-developed countries lacking reliable power grids to support traffic order. The team's solution was to design and develop portable, solar-powered traffic lights that can be easily integrated into any environment. The solution is economical, and can be easily implemented and customized for performance.

The idea of the project was first generated by Dr. Ebong in the fall 2011 for a senior design project. A first prototype of the solar traffic light was built by the 2011-2012 team. In the spring 2013, the business aspects of the project were developed by a team in the course Technology Innovation and Entrepreneurship ECGR4090/5090. Two students from this course continued the project as their senior design project, building a second prototype in the fall of 2013.



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Master Project

Our first ever Master project is currently underway. Our students are working with URS to develop a user friendly design calculation worksheet in Mathcad that is capable of evaluating reinforced concrete walls for in-plane and out-of plan force effects in accordance with the ACI 349-06 code.

Senior Design Collaboration with Industry Supporters

As we begin the new semester a glance at the new projects reveals an increased collaboration with industry supporters. Our industry supporters represent a wide array of local industries. We have many long time industry supporters that we are working with this semester as well as several that we are collaborating with for the first time. The students are learning valuable skills while helping solve issues for our industry supporters.

Our new projects range from stream lining production operations to improving instrumentation, to new inspection techniques, to consumer product redesign and improvement, to impact of renewable energy on the distribution and transmission grids.

A look back at recently completed projects shows that the results of many projects are currently being implemented by their industry supporters.

THANK YOU TO OUR INDUSTRY SUPPORTERS

A special thank you is extended to the following companies who are supporting senior design projects in spring 2014. Without our industry supporters, this program would not be possible.

SENIOR DESIGN 1 INDUSTRY SUPPORTERS

Our supporters for Senior Design 1 are busy working with our students as they develop the design solution for their project.



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Highland Industries, Inc. Husqvarna

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SENIOR DESIGN 2 INDUSTRY SUPPORTERS

Our supporters for Senior Design 2 are working with their students as they finish work on their prototypes and begin prototype testing.



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SIEMENS



THE LIGHTFACTORY
CONTEMPORARY MUSEUM OF PHOTOGRAPHY AND FILM



Thank you also to the industry supporters for our second semester Senior Design 2 projects that will finish this semester and be displayed at the May Expo.



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MASTER PROJECT INDUSTRY SUPPORTER

Thank you to URS for becoming our first industry supporter of our first ever Master Project.



FALL 2014 SENIOR DESIGN

Although we have just started the spring 2014 semester, it already time to start thinking about projects for the fall 2014 semester. Details of project requirements are available at <http://srdesign.uncc.edu/company-information.html>.

2014 SCHEDULE OF EVENTS

Mark your calendars for the following key events in the upcoming 2013-2014 school year.

- May 1 Spring Expo, Student Activity Center, OPEN TO PUBLIC at 11 AM
- August 29 Kickoff breakfast for spring 2013 industrial supporters, project mentors, and student teams
- December 5 Fall 2014 Expo, Student Activity Center, OPEN TO PUBLIC at 11 AM

CONTACT US

For information or questions, visit www.srdesign.uncc.edu or contact Terry Jordan at 704-687-5029 or tdjordan@uncc.edu.

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