Upcoming Events

January 30-31, 2012
Annual Industry Review
The McKimmon Center
Raleigh, NC

February 2, 2012
NC State University Engineering Career Fair
9:30 am - 4:00 pm
The McKimmon Center
Raleigh, NC

February 15, 2012
FREEDM Systems Center Open House
Keystone Science Center
Raleigh, NC

May 24-25, 2012
Year 4 NSF Site Visit
Keystone Science Center
Raleigh, NC

September 16-20, 2012
ECCE 2012
Raleigh Convention Center
Raleigh, NC

FREEDM ENGAGES WITH INDUSTRY PARTNERS THANKS TO INNOVATIVE PROGRAMS

As the FREEDM Systems Center enters its fourth year, the Industry Champions Program and Working Groups are gaining traction and notice by students, staff and industry partners.

Industry champions are individual representatives from center industry partners who work to enhance the success of FREEDM projects. Working groups provide guidance to researchers and administrators on individual FREEDM research areas. They discuss the group's mission, project priorities and industry needs.

Through personal discussions, emails and project meetings, industry champions provide additional value to members and mentor students about real-world industry needs. Although not required, many champions are also part of the working groups and report project progress. FREEDM has three working groups:

1. Green Energy Hub Working Group
This group, chaired by Paul Gregory of Green Energy Corp., is working closely with the new systems engineering process being developed at the center and helping to define and develop relevant use cases.

This group provides experienced advisory support to the center's research team in the implementation of the Green Energy Hub, which will serve as a demonstration and test center for FREEDM research projects as well as industry's innovative technologies related to modernization of the power grid.

“\[I\] believe that to take advantage of and get the most benefit out of their memberships, it is imperative that members get involved with a working group,” Gregory said. “Obvious membership benefits include direct input to and influence on FREEDM smart grid research projects, terrific networking opportunities among smart grid vendors and smart grid users, the opportunity to facilitate getting your product into the Green Energy Hub presentation and testbed for product evaluation, and the opportunity for members to have some input and direct influence on smart grid product evolution.”

2. Transportation Working Group
Although predominantly focused on projects for the Advanced Transportation Energy Center (ATEC), the group provides valuable feedback for projects that overlap with FREEDM. The chair is Ken Dulaney of Advanced Energy.

3. Education Working Group
This newly formed working group, chaired by Mike Creed of McKim & Creed, is discussing ways to improve mentorship between students and industry and increase awareness of center educational programs.

Want more information on working groups or projects? Contact Hillary Meredith, industry and innovation specialist, at hillary_meredith@ncsu.edu.
ABB OPENED SMART GRID CENTER ON CENTENNIAL CAMPUS

ABB hosted the grand opening of its Smart Grid Center of Excellence on Nov. 10 on North Carolina State University’s Centennial Campus. ABB greeted visitors with a short video about the advantages of the smart grid, and opened the center for tours of ABB’s smart grid distribution automation technology.

The center was created to showcase the interoperability of ABB smart grid equipment that maintains power quality and optimizes power distribution and reliability. The center is outfitted to conduct lab tests and run diagnostics on the compatibility of ABB technology with customer requirements.

The center also includes a demonstration area for ABB smart grid technologies. ABB will also be working closely with the FREEDM Systems Center on this project.

“This is a very important development,” said Dr. Alex Huang, director of the FREEDM Systems Center. “This new initiative by ABB will further enhance our collaboration. We are excited that ABB has initiated this new Smart Grid Center of Excellence and we look forward to collaborating with ABB right here in our own backyard.”

The FREEDM Systems Center relies on strong industrial partnerships and an attractive place to work for those who want to be involved in the next generation of high voltage and smart grid innovation. We look forward to creating more ways in which Siemens can be involved with all that is going on at NC State.”

FREEDM students competed in an Elevator Pitch Contest in October. The competitors were given up to 90 seconds to pitch their research to the business community, and the winners were announced at the FREEDM Systems Center Elevator Pitch Contest in October.

The inaugural contest is designed to allow engineers to quickly join the workforce after completing their degree. MS-EPSE is the first program in the U.S. to address the critical workforce need for power systems engineers. It is an innovative and interdisciplinary program for FREEDM and the private sector, the partnership between Siemens and the center will foster additional career opportunities available at the center. Many students, faculty and industry members visited the center’s booth to find out more about education programs and networking opportunities available at the center.

The FREEDM also promoted the recent addition of the new Masters of Science in Electrical Power Systems Engineering (MS-EPSE)—a 10-month intensive program designed to allow engineers to quickly join the workforce after completing their degree. MS-EPSE is the first program in the U.S. to address the critical workforce need for power systems engineers.

CONGRATULATIONS TO THE ELEVATOR PITCH CONTEST WINNERS!

Tom Nudell, a current North Carolina State University graduate student researching power system network sensitivity, won the FREEDM Systems Center Elevator Pitch Contest in October. Nudell’s work focuses on a larger project of using a [synchrophasor] sensor network to monitor the power system. The benefits of synchrophasors are that they are relatively inexpensive devices and can take measurements of orders of magnitude faster than the current SCADA system, this means faster, more accurate responses from system operators and a more secure, stable power grid.

FREEDM students competed in an Elevator Pitch Contest for prizes to the students who most effectively delivered a 90-second overview of their research. The first place prize was $200 and the chance to compete nationally for a grand prize of $5,000. Second and third place winners received $100 and $50, respectively.

Graduate student second and third place award winners were Joel Stenius (second place), Arizona State University; and Hesam Mirzaei (third place), NC State. As the winner, Nudell competed for the grand prize at the National Science Foundation Engineering Research Center Annual Meeting in Washington, DC, that was held from Nov. 29 to Dec. 1.

“We know this is a difficult assignment, but there is significant upside for any student who can effectively pitch their research to the business community,” said Chad Eckhardt of TE Connectivity.

The competitors were given up to 90 seconds to deliver an engaging presentation that provided an overview of their research. A team of judges selected the winners based on several criteria, including how engaging the students’ delivery was, whether they effectively explained the broader impact of their research, and if they made clear the potential benefit of their research.

Prior to the competition, center staff hosted several webinars on competition rules and tips on how to create a winning elevator pitch. Students were encouraged to compete not only for the possibility of winning a prize, but also to develop their skills in speaking with industry members about the importance of their projects.

The judges for the contest were Dr. David Coxington, NC State; Dr. Pam Carpenter, NC State; Mike Liggett, formerly with Progress Energy, and Eckhardt, TE Connectivity. The judges were chosen to provide balanced feedback from academic and industrial standpoints. ■
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The ABB center will also offer a systems verification center to test technologies that will work together in the smart grid.

“As the world’s largest supplier of power transmission and distribution systems, ABB has always been on the leading edge of power technology,” said Enrique Santacana, ABB region manager for North America. “This initiative reenforces ABB’s commitment to the smart grid and positions us to play an even larger leadership role in its development and implementation.”

ABB opens smart grid center on Centennial Campus

ABB joins Smart Grid Center as newest full Industry Partner

Siemens AG, an electronics and electrical engineering company that operates in the industry, energy and healthcare sectors, joined the FREEDM Systems Center in September as a full industry partner.

To join FREEDM as an industry partner, Siemens has committed to a long-term industrial partnership. Partnership between the organizations will promote their collaboration on identifying technological gaps in the smart grid industry and researching solutions.

“The FREEDM Systems Center relies on strong relationships with industry partners to set the stage for researching and developing technology that is well suited for the smart grid marketplace,” said Dr. Ewan Fitchard, director of industry, collaboration and innovation at FREEDM. “We welcome Siemens as an industry partner and look forward to a fruitful relationship for both organizations.”

Industry partner benefits at FREEDM include access to not-yet-published center research, direct contact with the center’s faculty and students and other industrial partners, and early access to intellectual property developed at the center. Siemens will also serve on FREEDM’s Industry Advisory Board, which guides the center’s strategic project selection process.

“Siemens understands the need to partner with top universities like NC State,” said Alex Marrero, university relations business development manager with Siemens. “The work the FREEDM Systems Center is doing and the students who are involved are what makes this great. We know that this partnership will increase Siemens’ presence as a company of thought leadership and an attractive place to work for those who want to be involved in the next generation of high voltage and smart grid innovation. We look forward to creating more ways in which Siemens can be involved with all that is going on at NC State.”

As well as creating more research opportunities for FREEDM and the private sector, the partnership between Siemens and the center will foster additional career opportunities for graduating students.

Siemens joins Smart Grid Center as newest full Industry Partner

The College of Engineering at North Carolina State University held its bi-annual career fair in October. The event, one of the nation’s largest career fairs for engineering students, was held at the McKimmon Center and co-hosted by the College of Engineering and the Engineers’ Council.

A wide range of companies met with engineering students to discuss part-time and full-time jobs and internships. The fair also gave students the opportunity to network with key industry members.

“The Engineering Career Fair at NC State connects some of the nation’s brightest engineering students with innovative companies and government organizations,” said Dr. Luis Martin-Vega, dean of the College of Engineering. “There is no better place for employers to meet the leaders who will engineer a better tomorrow.”

The Wall Street Journal ranked the NC State College of Engineering 15th in the U.S. via a survey of corporate recruiters.

The FREEDM Systems Center was one of the academic and research organizations represented at the career fair. Many students, faculty and industry members visited the center’s booth to find out more about education programs and networking opportunities available at the center.

FREEDM also promoted the recent addition of the new Masters of Science in Electrical Power Systems Engineering (MS-EPS)—a 10-month intensive program designed to allow engineers to quickly join the workforce after completing their degree. MS-EPS is the first program in the U.S. to address the critical workforce need for power systems engineers.

It is an innovative and interdisciplinary program that prepares engineers not only in technical areas, but also in communications, business and project management.

The Engineering Career Fair began in 1998 and initially brought in 60 companies and 1,000 students. This fall, 3,000 students and job seekers and 265 employers attended the career fair over two days.

The next career fair will be held on Feb. 2, 2012.

Engineering career fair at NC State attracts thousands of job seekers

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FREEDM SYSTEMS CENTER WEBSITE GETS OVERHAUL

The FREEDM Systems Center is revamping its website. Check out the latest improvements:

1. Advanced student CV database
   Students have always been able to upload their resumes to the website, but now the list is more comprehensive and intuitive. Industry members can search by “interests” to browse the list of CVs, as well as peruse students’ research interests and thesis titles. The list can be found under “Members Only” and then “Student CV Database.”

2. New systems engineering section
   Under the “Members Only” tab, website visitors will find a new “Systems Engineering Resources” page. This page builds on information presented at this fall’s Systems Engineering Training webinar series. Site visitors will find PowerPoint slide decks and recordings from presentations, the latest integrated schedule, and more.

3. Expansion of webinar list
   Click on “News, Events & Media” and then “Webinars” to see the expanded list of FREEDM webinars. The list now stretches from archived webinars in 2009 to incoming webinars in 2012. This page not only provides information about how to join a webinar, but also gives visitors background information on presenters and access to archived recordings.

4. Updated education page
   The education page on the website recently received a face lift to make important information more visible and easy to access. One main new feature is the revamped “Graduate Students” link on the “Education” page; this new feature makes accessing important graduate and education program information simpler.

5. New press kit and logo standards
   Center staff have put together a press kit and set of logo standards that can be accessed under the “News, Events, & Media” tab, and “Press Kit & Logos.” The new link currently provides valuable information about use of the FREEDM Systems Center logo. The complete press kit will be coming soon.

FREEDM SYSTEMS CENTER ATTENDEES DISCUSS ENERGY CONVERSION SYSTEMS AT ECCE 2011

FREEDM Systems Center students, faculty and staff attended the third IEEE Energy Conversion Congress & Exposition® in Phoenix, Ariz., in September. The event, which focused on energy conversion systems, drew more than 1,100 attendees and 41 exhibitors.

The conference was an opportunity for experts in industry and academia to network and engage in informational sessions about the energy conversion field. Topics included energy conversion systems, components and subsystems for energy conversion, lighting, energy storage and electrified transportation systems.

“Going to conferences like this one is valuable to see what problems researchers from across the world are focusing on in power,” said Daniel Fregosi, a graduate student at the center who attended the conference. “Attending a conference like ECCE exposes you to a wide variety of research in a short period of time.”

FREEDM was an exhibitor at the conference. Center officials and students engaged with industry member attendees and partnering universities.

“We were able to provide greater awareness of the center’s mission and goals by discussing research projects, industry membership and educational opportunities,” said Penny Jeffrey, director of education at FREEDM.

A private meeting was held between representatives from FREEDM partner schools Arizona State University, Florida State University and North Carolina State University to discuss how to encourage better collaboration between the universities and address recent program changes.

ECCE 2012 will be held in Raleigh, N.C., on Sept. 15-20. It will focus on smart grid, electric vehicle, and other energy conversion-related topics.