

Corporate Sponsor Technical Session and Product Demonstration Schedule

Monday, June 27, 2011

**Noon – 12:50 p.m. M462B: System Link International Product Demo: BSI – Standards, Research and Innovation
Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C**

Standards and the student

Standards forge a link to the real world. The continued success and development of the world economy requires that students understand the significance of standards within it. Standards form a common language; an ongoing dialogue in which all can participate and from which all can benefit.

As students gain knowledge and skills and move into employment, involvement in standardization will prove essential. Goal-based regulation, whereby business develops standards to meet regulatory criteria, and an increasing understanding of the benefits standardization offers the business world, open doors internationally to those students equipped to engage in the process.

Speaker: Stuart V. Radcliffe, Vice President Business Development

**12:30 p.m. - 2:00 p.m. M462A: NCEES Technical Session: Effective and Efficient Use of the Fundamentals of Engineering (FE) Exam Results for Outcomes Assessment
Vancouver Convention Centre, Room 109**

This example-focused session provides graphical and statistical methods for using data from the NCEES Fundamentals of Engineering (FE) exam as an effective and efficient means of assessing program educational outcomes. Examples are presented for both the morning portion of the exam (common for all engineering disciplines) and for the seven discipline-specific afternoon examination modules (civil engineering, electrical engineering, etc.). This session provides methods for developing objective and quantitative outcomes assessment requiring minimum faculty time and effort. Join us for lunch and an informative discussion on applying the results of the FE.

Speakers: Steven Barrett, Ph.D., P.E., University of Wyoming, John Steadman, Ph.D., P.E., University of South Alabama, and David Whitman, Ph.D., P.E., University of Wyoming

**1:00 p.m. – 1:50 p.m. M462C: HP Product Demo: HP Mobile Technologies are the Engineer's Portable Tool Box
Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C**

HP offers a wide selection of high tech devices that support engineering research and teaching in any environment. Learn more about our graphing calculators, mobile lab equipment, mobile workstations, and the new Touchpad. If you're in the market for new classroom technology, come see how we can enhance your user experience, simplify up your calculations, and speed up your processing.

Speakers: Laura Harich & Brian Allen

**2:00 p.m. – 2:50 p.m. M562B: Transamerica Product Demo: The Formula for Predicting a Successful Retirement
Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C**

In today's tough economic times, it's imperative to build a plan for retirement that will stand the test of time. So let the professionals help you get started. This session explores a new approach to retirement that can deliver simple steps to help you prepare for retirement, while reducing risk and uncertainty.

Speaker: Bob Regenfuss, Chartered Retirement Planning Counselor, Transamerica Retirement Management

2:15 p.m. – 3:45 p.m. M562A: Purdue University's College of Engineering Technical Session I: Curriculum Change: How are we doing?

Vancouver Convention Centre, East Building - Room 7

Integrating New Competencies, Busting Down Barriers, Discovering Key Success Factors, Finding the Right Champions, Effectively Managing Change – twin sessions will explore these topics about what works and what doesn't in the worldwide transformation of engineering curriculum. Results from pre-conference survey will be shared and roundtable topics fueled by survey feedback.

**3:00 p.m. – 3:50 p.m. M562C: Dassault Systèmes Product Demo: Dassault Systèmes – SolidWorks Sustainability
Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C**

Sustainable engineering, like quality, time to market, and cost, will soon dictate how engineering students approach their future projects. Choosing materials based on their carbon footprint will be equally as important design validation. See in this hands-on demonstration how you can empower your students to make the right decisions www.solidworks.com/sustainability.

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4:00 p.m. – 4:50 p.m. M662B: National Instruments Product Demo: Students Personal Laboratory with NI myDAQ Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C

Today's students want to solve problems and 'do engineering' regardless of where they are – in lecture, in the laboratory, or the dorm room. Learn how you can provide a hands-on learning experience in your course to empower students who want to tinker, experiment, and explore concepts. Designed for hands-on experimentation outside the lab, NI myDAQ is a portable student lab with a suite of eight instruments, including a DMM, oscilloscope and function generator. Through affordable, low-cost technology combined with LabVIEW graphical programming, a student can learn concepts in measurements, circuits, and controls in their preferred environments and reinforce the lecture and lab.

Join us and learn how universities are integrating NI myDAQ into their courses to engage students and reinforce concepts.

Speaker: Mark Walters, Academic Product Manager, National Instruments

5:00 p.m. – 5:50 p.m. M662C: National Instruments Product Demo: LabVIEW, the USRP and their Implications on Software Defined Radio

Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C

The universal software radio peripheral (USRP) is a low-cost, computer-hosted RF transceiver gaining popularity in use for hardware-based research and test bed validations conducted by universities in software defined radio (SDR) and cognitive radio (CR) fields.

With new support from Microsoft Windows and National Instruments LabVIEW, the USRP now offers a scalable, simplified and easier-to-use platform. This new software support broadens the accessibility for teaching applications and will spur further adoption within university communication systems classrooms, teaching laboratories and coursework. This presentation considers the application of virtual instrumentation with the NI USRP and LabVIEW to rapidly create real-time communication systems demonstrations for the classroom and laboratory.

Speakers: Thad B. Welch, Ph.D., P.E., Professor, Boise State University and Sam Shearman, Senior Product Manager, National Instruments

4:00 p.m. – 5:30 p.m. M662A: Purdue University's College of Engineering Technical Session II: Curriculum Change: How are we doing?

Vancouver Convention Centre, East Building - Room 7

Integrating New Competencies, Busting Down Barriers, Discovering Key Success Factors, Finding the Right Champions, Effectively Managing Change – twin sessions will explore these topics about what works and what doesn't in the worldwide transformation of engineering curriculum. Results from pre-conference survey will be shared and roundtable topics fueled by survey feedback.

Tuesday, June 28, 2011

7:00 a.m. – 8:30 a.m. T162B: DyKnow Technical Session I: Using Technology for Simultaneous Teaching of Traditional and Virtual Students

Vancouver Convention Centre, Rooms 107 - 108

This session will demonstrate how tablet PCs and various other technologies provide a good foundation for teaching both virtual and traditional students. Attendees will experience how to closely replicate face-to-face interactions using interactive teaching software like DyKnow Vision. They will also experience how a high-tech classroom can enhance individualize attention and collaboration.

Speaker: Dr. Leigh McCue-Weil, Virginia Tech

8:45 a.m. – 10:15 a.m. T262A: Bentley Systems Technical Session: Academic & Business Partnerships: Working Together to Accelerate Success

Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C

In this joint session, we discuss how the curriculum and outreach goals of University of Connecticut's department of Civil & Environmental Engineering benefit from partnerships with companies like Bentley. From solutions for the challenge of integrating technology in the curriculum, to joint investment in support of initiatives both on campus and beyond, partnerships can help leverage resources and elevate relationships—to achieve amazing results. Come hear about examples (including a project to help Ethiopia develop and sustain water infrastructure) and discover methods for building powerful partnerships between businesses and your school.

Speakers: Amvrossios (Ross) Bagtzoglou, University of Connecticut, and Shar Govindan, Bentley Systems, Incorporated

8:45 a.m. – 10:15 a.m. T262B: Texas Instruments Technical Session: Learn to Teach the Next Generation of Embedded Systems Using TI MCU

Vancouver Convention Centre, Room 109

Come to see Professor Steve Barrett (U Wyoming) and Daniel Pack (Air Force Academy) conduct a workshop on teaching modern Microcontrollers on Tuesday June 28, at 8:45 a.m. at the American Society of Engineering Education Annual Conference. This innovative 90 minute workshop using the Texas Instruments MSP430™ MCU as a simple platform for teaching modern embedded

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system design leads into their new book *Microcontroller Programming and Interfacing: Texas Instruments MSP430*. Contact us for registration details!

8:45 a.m. – 10:15 a.m. T262C: DyKnow Technical Session II: Using Tablet PCS and Interactive Teaching Software in Engineering Education

Vancouver Convention Centre, Rooms 107 - 108

This session will provide attendees hands-on experience using tablet PCs and interactive teaching software DyKnow Vision in a mock-classroom setting. Attendees will experience various pedagogical approaches to engage engineering students, including:

- Gathering quick and immediate feedback with students response tools like Polling and Status Request in DyKnow Vision.
- Interactive and collaborative note-taking using answer boxes and inking animation.
- Administering and grading class preparation quizzes using DyKnow Vision and the DPX Grader created by one the University of Louisville's engineering students.
- Embedding simulation and animation applets to improve classroom learning and collaboration in engineering education.

Speaker: Dr. Jeffrey L. Hieb, University of Louisville

10:30 a.m. - Noon T362A: Diligent Technologies Technical Session: Electronics Explorer (EE Board) for Analog Electronics Education

Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C

The EE Board is an inexpensive professional grade hardware and software system designed to teach students about the basic principles of analog and digital circuits through hands-on design projects. It provides students with the critical knowledge and skills for college and future success in science, technology, and engineering and shows them the value of science as they translate their knowledge into real products and solutions. Participants will receive hands on instruction on the use of the EE Board and its integration into technology or general science curricula.

Speaker: Clint Cole, President, Diligent

10:30 a.m. – Noon T362B: DyKnow Technical Session III

Vancouver Convention Centre, Rooms 107 – 108

Open Lab

12:30 p.m. – 2:00 p.m. T462A: PTC Technical Session: Short on Class Time? Enable Your CAD, CAM, and CAE Students with PTC PLMS and eLearning Libraries

Vancouver Convention Centre, Room 109

Today's educators spend too much time teaching students CAD and too little time engaging them in fundamental engineering theory and concepts. PTC University's eLearning Libraries enable students to arrive in class prepared to engineer with CAD. Instructors can choose from over 3,000 hours of eLearning content, integrate their own content and use industry recognized assessments to enable students to become expert CAD users with no impact on class time. With PTC PLMS, students can learn advanced functionality while you replace expensive text books, configure your own courses by choosing from best practice tutorials, and monitor student progress with assessments recognized by 25,000 companies worldwide.

12:30 p.m. – 2:00 p.m. T462B: DyKnow Technical Session IV

Vancouver Convention Centre, Rooms 107 - 108

12:30 p.m. – 2:00 p.m. T462C: Heliocentris Technical Session: Hydrogen Economy and Engineering Education

Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C

Session covering the growing hydrogen and fuel cell economy and the education systems needed to teach the necessary concepts. Learn the importance of the growing Hydrogen & Fuel Cell economy as it relates to engineering education. Understand our technical training equipment and how it can help meet the demand of this industry. Heliocentris will provide a technical overview of the New Energy Lab, that combines Hydrogen & Fuel Cell technology with Solar, Wind, Batteries and Energy Management.

Topics covered include hydrogen generation using wind, solar, and other renewable power inputs, natural gas reform technology and benefits, hydrogen and fuel cells, energy management market uptake, and the need for engineers and technical personal to work with these technologies.

Speaker: Steve Voysey of Heliocentris Energy Systems

2:15 p.m. – 3:45 p.m. T562A: NetApp Technical Session: Transforming Computer Science/Technology Curricula with Storage & Data Management Teaching Resources: A Collaboration Case Study with Ball State University and NetApp

Vancouver Convention Centre, Room 109

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There is a data explosion underway that is fundamentally changing how data is stored, managed and preserved. It is also changing the skills and technologies compute-savvy graduates need to understand, and the topics and technologies that leading computer science and information systems programs need to cover.

Driven by digitization, booming user storage demands, new shared -service computing models like cloud and virtualization, and even the advent of “Big Data”, CIOs & IT Departments are routinely faced with managing multiple Petabytes of data much more efficiently. They are using a new generation of storage and data management technologies such as deduplication, compression, storage tiering, intelligent caching, thin provisioning and replication to manage an increasingly complex and strategic storage environment. While these technologies are being widely deployed in IT infrastructures world-wide, many computer science and MIS programs have been slow to update their course content to prepare students for today’s storage-intensive computing environment.

As part of NetApp’s new Academic Alliance Program, Ball State University is one of the first schools to explore how to refresh and transform its Computer Technology curricula with some of these storage concepts and systems. Join this session to learn about the NetApp Academic Alliances Program, and how Ball State University faculty are working to update their courses and teaching tools.

Speakers: Professor David Hua, Ball State University, and Mark Conway, NetApp Academic Alliances

2:15 p.m. – 3:45 p.m. T562B: DyKnow Technical Session V: Using Tablet PCS and Interactive Teaching Software in Engineering Education

Vancouver Convention Centre, Rooms 107 - 108

This session will provide attendees hands-on experience using tablet PCs and interactive teaching software DyKnow Vision in a mock-classroom setting. Attendees will experience various pedagogical approaches to engage engineering students, including:

- Gathering quick and immediate feedback with students response tools like Polling and Status Request in DyKnow Vision.
- Interactive and collaborative note-taking using answer boxes and inking animation.
- Administering and grading class preparation quizzes using DyKnow Vision and the DPX Grader created by one the University of Louisville’s engineering students.
- Embedding simulation and animation applets to improve classroom learning and collaboration in engineering education.

Speaker: Dr. Jeffrey L. Hieb, University of Louisville

2:15 p.m. – 3:45 p.m. T562C: Agilent Technologies Technical Session: New Oscilloscope Capabilities for Upper-level EE Labs

Vancouver Convention Centre, Mobile Classroom - Exhibit Hall C

Today’s Electrical Engineering teaching labs consist of a variety of test equipment that students use to help bring the theoretical classroom world of engineering into the practical world. The portfolio of test equipment used in university EE teaching labs typically includes multimeters, power supplies, function/arbitrary waveform generators, and oscilloscopes. Upper-level specialty labs often include additional special-purpose test equipment. But the core/central instrument that students use to test and verify electrical experiments in all EE labs is usually the oscilloscope.

When it comes to selecting oscilloscopes for basic entry-level teaching labs, price is often the primary consideration. But when it comes to selecting oscilloscopes for upper-level digital design labs, such as lab courses focused on FPGA design, microprocessor/microcontroller-based designs, as well as labs for senior design projects, more advanced oscilloscope capabilities should also be considered. It is important that students learn that testing higher-speed digital designs requires more than just verifying the presence of 1’s and 0’s.

Many of today’s newer benchtop scopes have measurement capabilities that can help students test and debug the analog parametric characteristics of higher-speed digital designs. Using these more advanced measurement capabilities can help students understand that even in the world of digital design; dynamic analog characteristics can’t be ignored.

This presentation will show a variety of newer oscilloscope capabilities/tools that students can use to test the analog characteristics of digital designs. Oscilloscope features/capabilities shown during this webcast include post-acquisition Search & Navigation, pass/fail mask testing, fast waveform update rates to capture infrequent signal anomalies, serial bus triggering and decoding, as well as advanced parametric triggering such as device setup & hold time violation triggering, runt/pulse amplitude violation triggering, and edge transition time violation triggering.