

EDUCON 2013

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Special Session Online Engineering

Co-Chairs:

- **Andrzej Rucinski**, University of New Hampshire NH, USA and Cypress Semiconductor
- **Michael E. Auer**, CTI Villach, Austria and International Association of Online Engineering (IAOE)

A special session on Online Engineering is calling for papers on Online Engineering defined as an education paradigm delivering courses over the Internet. A special interest is to address deficiencies of Online Engineering aimed at education over the Internet which does not adequately address a fundamental essence of engineering: laboratory, design, and project development.

When implemented these components include Engineering OnLine as part of Online Engineering. Engineering OnLine is an enabler for addressing critical challenges: accreditation, democratization, affordability.

The special session topics include, but they are not limited to the following:

- Online Engineering Solutions in Global Engineering Education
- Certification and Accreditation Issues
- Engineering OnLine Solutions
- Case studies
- Online Engineering in industry

The special session is organized as a two part event: the special session itself with a keynote followed by a model Engineering OnLine solution.

Paper submission deadline: 08 December 2012 (Notification of acceptance 17 December)

Keynote Paper, “Disruptive Education: WOO³ © Model, Infrastructure, and Global Engineering”

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Abstract

The model solution of OnLine Engineering is presented motivated by: (1) the search for Cost Effective and “Democratic” OnLine Engineering; (2) the definition of Global Engineering Solution. The approach is based on Disruptive Education, defined by Christensen, the author of disruptive innovation and disruptive technologies concepts. The technology under study is derived from the Internet of Things (IOT) defined as a Web of Objects (Rao). The Web of Objects (WOO) is a superset of the Internet of Things which enables worldwide interaction among objects without human intervention as well as the Internet, a classic medium facilitating communication among people. The presented OnLine Engineering platform, called **WOO³©**, is triple WOO based model and ecosystem (**WOO³©**) which includes: (1) IOT based eLearning; (2) IOT based subject matters; and (3) IOT based online engineering. The platform includes a Orthogonal Model Curriculum, one of many possible, which emphasizes: (1) the education roadmap “From the State of the Mind to the State of the World”; (2) the accreditation roadmap “From Introduction Through Certification Towards Accreditation. ” The WOO³ compatible development platform, called **GNAT-X©**, is also presented along with several Course Descriptions. Special attention is paid to the concept of the Home Laboratory/Development Kit based on disruptive technology of Programmable System On a Chip (PSOC) from Cypress Semiconductor.