ISSUE #4 | APRIL 2010

IAOE newsletter

ADDRESSING THE NEEDS OF THE ONLINE ENGINEERING COMMUNITY

REV2010: 7th IAOE annual event

An invitation to enjoy the Swedish summer!

All our regular newsletter readers will by now be aware that the IAOE 7th annual conference REV2010 will be held at Kungliga Tekniska Högskolan (Royal Institute of Technology, KTH) in Stockholm from June 29 to July 2. Besides proposing an exciting scientific program and offering a stage to strengthen your network of contacts in the online engineering world, this event gives you an opportunity to enjoy the Swedish summer at its best! Our conference activities will start with a boat trip on Tuesday, either in the Baltic sea archipelago or to an historic place at lake Mälaren.

The International Program Committee has done a tremendous job and deserves all thanks for their good work. All full papers and posters have been evaluated by at least two reviewers, and many by three or four. This committee analysed the 65 submitted contributions and proposed the acceptance of 54 full papers, 4 posters, and one demonstration. Two workshops are already confirmed, and others are being organized by online engineering companies. The conference program includes two thematic workshops, bringing together presentations and participants interested in their specific scientific domains. The total number of authors is roughly twice the number of papers, i.e. around 130, and the total number of countries represented is 27. Most contributions come from Australia, Austria, Sweden, Spain, USA, Germany, Czech Republic, Romania, and India. There are also contributions from Brazil, Ireland, Italy, Greece, UK, Malaysia, Mexico, Holland, Norway, Pakistan, Portugal, Serbia, Slovakia, Slovenia, Turkey, Iran, Saudi Arabia, and Uganda.

The conference program will be available at the conference web site from the beginning of May. Early-bird registration fees are available until May 10.

The scientific program is complemented by a social boat event on June 29, a reception at the City Council at the Stockholm City Hall on June 30, and the conference dinner on July 1.

We cordially invite all our readers to browse through the conference server at http://www.rev-conference.org/REV2010 and to register for our main IAOE event. I look forward to meeting you all in our Swedish summer!

Göran Karlsson

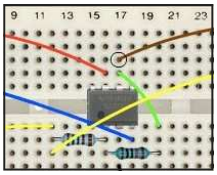
A wonderful summer evening: Sunset over Mysingen in the Stockholm archipelago [Anders Larsson, CC licensed]

MORE IAOE CO-SPONSORED EVENTS:
(reduced fees for IAOE members)

ICELW: New York, USA, (9-11 June 2010)
BTH Summer School, Bleking, Sweden (4-10 July 2010)
ICL: Hasselt, Belgium (15-17 September 2010)

IAOE JOURNAL PARTNERSHIPS:
(reduced publishing fees for IAOE members)

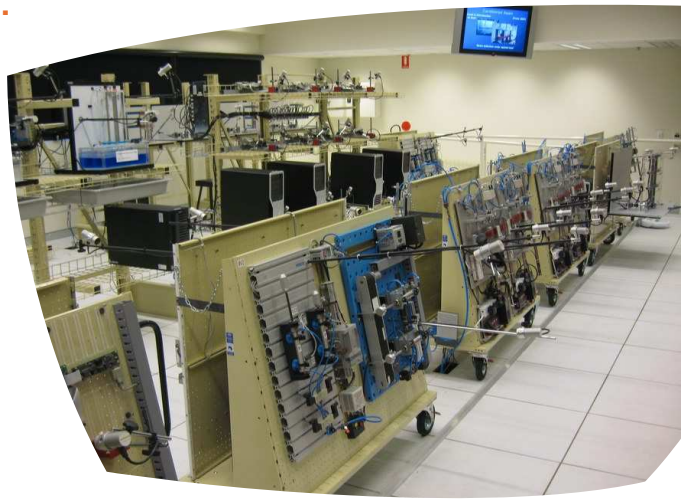
www.i-joe.org (International Journal of Online Engineering)
www.i-jet.org (International Journal of Emerging Technologies in Learning)
www.i-jim.org (International Journal of Interactive Mobile Technologies)



Integrating VISIR into Moodle

Most online learning today uses a learning management system (LMS), containing all the course material and exercises. The VISIR project has now begun research in how to provide access to its electrical experiments directly from the LMS. The integration between the VISIR and the LMS system is done by HTML embedding, much like as embedding YouTube video clips. This solution is not tied to any special technology, as long as the system supports HTML input (e.g. Moodle). The HTML code is automatically generated by the VISIR website and can be cut and pasted into the external system. Currently there are two types of embedding, one that requires students to authenticate against the VISIR system (more secure) and another one that doesn't. This is done by handing out a shared password, which is required to gain access to the experiment. Security concerns dictate that the shared password is only valid for one week. Shared password embedding is the simplest way of providing electronic experiments to an external system without any further integration between the systems, but other ways are also being investigated. For further information please contact johan.zackrisson@bth.se. *Ingvar Gustavsson (BTH)*

Featured project: LabShare



Australian Universities spend an estimated Au$400m on engineering teaching and research laboratories each year (around $5,500 per student). When seen in the light of typical laboratory utilisation levels well below 10%, this clearly represents a enormous opportunity for improvement. If students were to access laboratories hosted in other institutions, it would be possible to improve both the quality and quantity of the experimental component of their education while reducing costs. The primary aim of Labshare is to establish an Australian consortium focused on providing access to shared laboratories across the tertiary and secondary education sectors. The project is funded primarily by the Australian Federal Government (through a Au$2.1m grant from the Diversity and Structural Adjustment Fund). The initial project is led by the University of Technology, Sydney (UTS), and involves four other universities (Curtin, RMIT, UniSA and QUT), though ultimately Labshare should engage with all major tertiary institutions, either as developers, laboratory hosting providers, or as consumer institutions. In the longer term, international sharing (to take advantage of time and seasonal differences in utilisation), high school outreach, and potentially research laboratories are under consideration.

SHARED LABORATORIES ACROSS THE AUSTRALIAN TERTIARY AND SECONDARY EDUCATION SECTORS

There are three main strands to the current Labshare activities.

Pedagogic: Labshare is close to completing a National Laboratory Survey of essentially all engineering institutions in Australia. Labshare is also developing a set of 'resource kits' to facilitate the development of remote enabled laboratories and their associated pedagogically sound usage.

Technical: LabShare is sponsoring the ongoing development of Sahara, an open source laboratory management system used for access management and sharing of labs. LabShare is also sponsoring the development of additional lab rigs, interoperability with other remote labs systems (such as iLabs) and other technical developments.

Operational: To identify the best means by which sharing can be achieved. This includes the operational model for national sharing of labs, as well as the underlying agreements and funding. It is expected that the formal consortium will be operational in the third quarter of 2010.

David Lowe

[http://www.labshare.edu.au/]

(IA)OE RESEARCH

This section presents recently concluded or on-going **PhD thesis** of interest to online engineering.

Aaron Mothar's thesis entitled *A remote laboratory for testing microelectronic circuits on silicon wafers* was approved in June 2009 at the University of South Australia (UniSA) in Adelaide. It included the evaluation of the developed microelectronics fabrication laboratory as a teaching tool. The PDF document can be downloaded from http://arrow.unisa.edu.au/vital/access/manager/Repository/unisa:38670.

Najima Daoudi defended her thesis in December 2009 at ENSIAS, Morocco. Her MADAR framework proposes a continuum from E-Learning to Mobile, avoiding the reproduction of pedagogical contents and scenarii, and available services. Further details about Najima's work can be found at i-JIM Vol. 2 No. 3 online journal (www.i-jim.org), and at the ICL 2008 proceedings.

Yuliya Lyalina's PhD work on *Mobile eReality by Smartphones* is under development at the University of Applied Sciences (UAS) in Düsseldorf. The objective of this research is to expand the functionality of complex technical systems of e-reality by application of smart phones, improvements in educational and advisory services, and in training and qualification of experts. The tree basic scenarios proposed comprise an advisory mode, interactive remote training, and a mobile lab. Further information can be obtained from yuliya.lyalina@fh-duesseldorf.de.

Oleg Makarov's PhD work, also under way at the UAS in Düsseldorf, addresses a *Web-focused Architecture for Distributed Automation Systems*. It uses web technologies to ensure expanded functionality of automation systems, failure and error tolerance, transparency, scalability and openness. For further information contact oleg.makarov@fh-duesseldorf.de.

International Association of Online Engineering IAOE.

The International Association of Online Engineering (IAOE) is a non-profit organization with the objective of encouraging the wider development, distribution and application of Online Engineering (OE) technologies and it's influence to the society.

President and CEO: Michael E. Auer [CTI :: Villach, Austria]. Newsletter editor: J. M. Martins Ferreira [FEUP :: Porto, Portugal].

For membership information, please visit http://www.online-engineering.org/.