

The VISIR Open Lab Platform

In this thematic session papers related to the VISIR Open Lab Platform will be presented. VISIR is an acronym for Virtual Instrument Systems in Reality. The platform is an open source software distribution supported by a Community organized by International Association of Online Engineering as a SIG (Special Interest Group). The platform enables universities, schools and other organizations to create online laboratories for physical experiments. Blekinge Institute of Technology (BTH) started a remote laboratory project in 1999. During some decades before, the number of laboratory sessions in engineering education had successively been reduced despite the fact that engineers need to learn to “speak” with nature i.e. to become true experimenters qualified to design goods and services for a sustainable society. In the late nineties, the Internet offered an opportunity to switch trend and do it without raising the costs per student significantly.

The VISIR vision is online replicas of real hands-on workbenches supplementing hands-on laboratories and providing more time for experiments for students. The idea is offering not only opportunities to perform real physical experiments without any risks 24/7 using a web browser only but the idea is also offering laboratory work training opportunities. Online workbenches that are replicas of hands-on ones represent a continuation of traditional hands-on education. They are not a final goal; they will rather be a starting point for further efforts aiming at new pedagogical tools that will be reported in future papers. So far, more than twenty person-years have been devoted to the platform and implementation of laboratories. At the end of 2006, a disseminating project known as VISIR was started in collaboration with National Instruments and Axiom EduTech inviting other universities, schools and other organizations to use the platform to set up online remote controlled laboratories for physical experiments and contribute to the further research and development. Today four VISIR laboratories for electrical experiments are online at European universities and the laboratories are used in regular courses. Apart from BTH the universities are FH Campus Wien in Austria, University of Deusto in Spain, and Carinthia University of Applied Sciences in Austria. At least two more VISIR laboratories will be set up before the end of 2010.