

## Lecture: Energy Efficient Buildings

**Monday, 18.10.2010, 11:00 am, BPI\_Seminarroom**

Reduction of the energy use in the buildings is the objective, that the European community aimed already at the beginning of this millennium in the framework of Energy Performance of Buildings Directive (EPBD 91/2002). In 2010 was issued a Directive recast (2010/31/EU) modifying the original EPBD from 2002 and defining new means of improving the energy performance of buildings – including building energy performance certification and the concept of "building with almost zero energy consumption", which should be implemented on all new buildings latest in 2020. Building energy performance certification approach as a tool for rating of the buildings is presented on the Czech national calculation tool. New requirements to the building materials, technologies and concepts related the nearly zero energy buildings will impact to the building industry – mainly in the field of intelligent buildings, new high efficient building services system, new building materials. Examples of technologies and building concepts used in low energy houses in Central Europe will be presented.

### **Prof.Ing. Karel Kabele,CSc.**



Karel Kabele, born 1960, is full-time professor and head of the Department of Microenvironment and Building Services Engineering at the Faculty of Civil engineering of Czech Technical University in Prague. He is professionally focused on intelligent building energy systems, interaction of energy systems with the building, modelling and simulation of energy and environmental building performance and energy auditing, Until 2010 he supervised 7 successful PhD students and more than 102 MSc thesis, author and co-author of more than 120 international and national conference papers, journal articles and book chapters. His team developed National calculation tool for building certification in the Czech Republic. In the 2007 he was appointed as visiting professor at National University of Singapore, School of Design and Environment, Department of Building. In 2008 he was elected as REHVA vice-president (European federation of HVAC engineers associations). He is also member of editorial board of the international journal Energy and buildings, president of the Czech Society for Environmental Technology, member of Czech Chamber of Authorised Engineers and Technicians, founding board member of IBPSA-CZ (International building performance simulation association) and ASHRAE member.