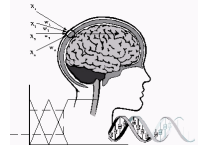




International

Innovation in Knowledge Based and Intelligent
Engineering Systems



INVITED SESSION SUMMARY

Title of Session:

Data-driven approaches and IT systems for the energy management of buildings and districts

Name, Title and Affiliation of Chair:

Dr. Roberto Garay-Martinez, PhD.
Principal Investigator
Deusto Sustainable Research Group
Institute of Technology, Faculty of Engineering
University of Deusto

Details of Session (including aim and scope):

Data is the new Petrol. In the context of building energy design and management, it allows to know a lot about its performance, so that advanced building controls and/or informed buildings retrofits are enabled.

Building design and operation has been largely based on prescriptive design criteria and simple, rule-based controls. These approaches have been proven robust to deploy energy efficiency and conservation at scale, with reduced knowledge on the actual performance and dynamics of buildings.

Digital and interconnected IT systems are being generalized in buildings in the last decades. Smart meters, advanced SCADA systems, and edge-cloud interactions. Altogether, these allow to perform very detailed building energy use profiles, optimize building & building services retrofits, track energy improvement roadmaps, develop predictive control strategies, etc.

Energy Engineers in the 21st century need to be fully performant in the domains of Energy Engineering, Data-driven modelling and Building Controls.

Main Contributing Researchers / Research Centres (tentative, if known at this stage):

University of Deusto
Tecnalia
CARTIF
University of the Basque Country
IREC
CIEMAT
IEA EBC Annex 81 & 83 members

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