International Conference on Sustainability in Energy and Buildings

Invited Sessions

Title of Session:

Advanced Assessment Methods, Tools and Design Solutions for users' Well-Being in Buildings

Name of Chairs:

Dr. Ph.D. Arianna Latini, Università Politecnica delle Marche (Italy)
Prof. Elisa Di Giuseppe, Università Politecnica delle Marche (Italy)

Description:

As buildings account for 40% of total energy use and people in industrialized countries spend more than 90% of time indoors, there is a growing need to: i) properly assess the influence of indoor environmental conditions on individuals' living and working conditions; ii) and develop solutions to optimise people well-being while limiting environmental impacts and costs.
Several drivers related to building characteristics (e.g., building and systems design, layout and colours, Indoor Environmental Quality) strongly influence users' productivity, well-being, health and safety, comfort and behaviour, with huge social, environmental and economics consequences.
International policies push towards less energy-consuming buildings while creating more liveable spaces. This means develop suitable strategies to reach economic and environmental targets while increasing end-users' comfort, satisfaction, health and productivity in buildings.
Therefore, this session aims to disseminate significant contributions on methodologies, tools and design solutions to address and improve users' well-being, health and safety, behaviour and working efficiency in buildings.
Review, methodological, computational and experimental papers are invited for consideration on the following topics (but not limited to):

- Laboratory-based and real-case studies on human health and safety, comfort, behaviour, and work-efficiency: from short-term to long-term monitoring campaign;
- Interdisciplinary and multi-domain (cross-modal and combined effects) investigations;
- Innovative research tools to enhance «human factors» assessment in the built environment (e.g. Virtual Reality, Augmented Reality, etc.);
- Objective measurements (e.g. tasks, behavioural response) and subjective evaluations (e.g., longitudinal field-survey) of human responses in buildings;
- Physical (e.g. body temperature, heart rate, EEG, etc.) and psychological status (e.g. mood) investigations.

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

- Gabriele Bernardini, Università Politecnica delle Marche (Italy)
- Francesco Monni, Università Politecnica delle Marche (Italy)
- Qirui Huang, Aachen University (Germany)
- Ilaria Pigliautile, Università di Perugia (Italy)
- Alessandra Luna Navarro, Technische Universiteit Delft
- Alvaro Balderrama, Technische Universiteit Delft

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