International Conference on Sustainability in Energy and Buildings

Invited Sessions

Title of Session:
Towards Sustainable Solutions to increase Built Environment Resilience and Safety

Name of Chair:
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Dr. Gabriele Bernardini, Università Politecnica delle Marche (Italy)

Description:
The Built Environment (defined as a network of buildings, infrastructures and open spaces) has to constantly face natural and man-made emergencies due to both SUdden Onset Disasters (SUODs), like earthquakes, terrorist acts and floods, but also SLow Onset Disasters (SLODs), like air pollution and heat wave.

Tools and methods to design a Sustainable Built Environment against disasters should be developed to increase the resilience of spaces and communities to quickly manage emergency conditions. Among all, they should be Sustainable because: 1) based on **assessment methods** which should consider the significant interactions between man, Built Environment and disaster-related effects, which can lead to significant differences between expected (and designed) and real performances; 2) founded on a **holistic, multi-risk and multi-scale perspective** ("macro to micro to macro" approach in solutions implementation, that involve issues related to single building scale and urban scale); 3) able to actively **promote good practices and "correct" behaviours** from the perspective of users and stakeholders, before and during the emergency.

In last decade, many advances in investigating and modelling disaster conditions in built environments have been developed, and user-centred and "intelligent" tolls have been designed, according to interdisciplinary approaches. Although this progress in research, common built environment design practices seem to generally adopt simplifications in emergency representations. As also remarked by recent European research programmes, such themes still require urgent and considerable researches to define operative guidelines, practices and solutions to make the built environment more resilient.

This session aims at disseminating knowledge about these issues, with the main target of **tracing a current state of the art on such themes, showing results of recent researches and outlining future aspects to be faced.** Original papers are invited for consideration on a range of topics concerning the Built Environment safety and resilience again disasters, at the different scales and mainly oriented towards outdoor spaces, such as: human factor modelling in emergency and evacuation; sustainable methods for risk/resilience assessment, including the ones based on typological studies of the elements composing the Built Environment; simulation-based methods; sustainable solutions and strategies to increase resilience of spaces and communities; planning strategies and building devices/components/technologies to move towards a more sustainable and resilient Built Environment.

The section will also contain the first results of the BE S^2ECURe project - "(make) Built Environment Safer in Slow and Emergency Conditions through behavioUral assessed/designed Resilient solutions" funded by MIUR (2019-2022), which investigates such aspects. This will allow a comparison of different national and international approaches to the themes of the session.

Deadlines (please check them also at http://seb-20.kesinternational.org/deadlines.php)**:**

- **Submission of papers:** ~~10 February 2020~~ **20 April 2020**
- **Notification of Acceptance:** ~~24 February 2020~~ **10 May 2020**
- **Final Camera-Ready Publication File Upload:** ~~13 March~~ 2020 **22 May 2020**
- **Early / Authors Registration Deadline: EXTENDED! 01 May 2020**

Website URL (if any):
The BE S^2ECURe project website: https://en.bes2ecure.net/

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