

International Conference on Sustainability in Energy and Buildings

Invited Sessions

Title of Session:

Sustainable Solutions for Resilience and Safety in the Built Environment

Name of Chair:

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Description:

The Built Environment (both in indoor and outdoor scenarios) has to constantly face natural and anthropogenic emergencies due to Sudden Onset Disasters (SUODs, like earthquakes, terrorist acts and floods), Slow Onset Disasters (SLODs, like air pollution, heat waves, and other climate-change-related disasters) and, additionally, pandemics.

Tools and methods to design a Sustainable Built Environment against disasters should be developed to increase the resilience of spaces and communities to manage emergency conditions quickly. Among all, they should be Sustainable because: 1) based on **assessment methods** which should consider the significant interactions between man-kind, Built Environment and disaster-related effects, to avoid significant differences between expected, designed and real performances; 2) founded on a **holistic, multi-risk and multi-scale perspective**, linking single buildings, building aggregates, parts of the urban layout and open spaces, up to the whole urban scale; 3) able to actively **promote best practices and "correct" behaviours** from the perspective of users and stakeholders, before and during the different phases of the disaster life cycle.

Advances in investigating and modelling disaster conditions in Built Environments have been developed, and user-centred and "intelligent" tools have been designed according to interdisciplinary approaches. Some of these results were presented at the last ISO6 at SEB-20 and IS-08 at SEB-21, demonstrating how progress in research is moving towards implementing such criteria in operative guidelines, practices, decision support tools, and physical interventions. Nevertheless, such themes still require additional effort to effectively make the Built Environment more resilient and ensure a high engagement of end-users and stakeholders.

Following the previous SEB experiences, this session aims to continue the dissemination of resilience knowledge, **tracing a current state of the art on such themes, showing results of recent research 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 against disasters, at the different scales and also oriented towards outdoor spaces, such as human factor modelling in emergency and evacuation, as well as on health and safety issues; simulation tools development and application for resilience purposes; sustainable methods for risk/resilience assessment, including typological approaches to the Built Environment at risk (from a micro-building to a macro urban scale); sustainable solutions and strategies to increase the resilience of spaces and communities; planning strategies and building devices/components/technologies to move towards a more sustainable and resilient Built Environment. In this sense, the session will also connect different national and international approaches to the themes of the researches.

Deadlines: see general deadlines on the SEB website

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