



**INTERNATIONAL**

## INVITED SESSION SUMMARY

**Title of Session:**

Conservation-compatible retrofit solutions in built heritage

**Name, Title and Affiliation of Chair:**

Dr Alessandro Lo Faro, prof. Francesco Nocera, DICAR, University of Catania (Italy).

**Details of Session (including aim and scope):**

According to the United Nations Environment Programme (UNEP) Annual Report (2019), existing European buildings are responsible of the consumption of about 40% of the energy available. For this reason, in the last decades several energy policies have been directed to deep retrofitting the existing building.

About 30% of European existing buildings are "historic" buildings (built before 1945 according to the European definition) and are in part protected or listed, considering their historical or aesthetic value.

Consequently, retrofitting historic buildings is urgent for the reduction of energy consumption across Europe.

Nevertheless, energy-saving solutions in the field of conservation are not so easily implementable as in new buildings. There are intrinsic constrains related to technical, regulative and economic barriers. As a result, the definition of optimal retrofit solutions in terms of either maximum economic and environmental performance, energy consumption minimization, architectural conservation and maximum achievable internal comfort is severely far to be reached in the historic buildings.

These elements in the field of building retrofitting still require considerable research: The European standard "Conservation of cultural heritage - Guidelines for improving the energy performance of historic buildings" (EN 16883:2017) has developed, i.e., a suitable procedure for improving the energy performance of historical buildings.

This session aims to disseminate knowledge about these issues, with the aim of finding the best strategies that facilitate, balance and accommodate both heritage and energy conservation. Original papers are invited for consideration on a range of topics concerning historic building retrofitting and the several related aspects (i.e.: energy efficiency, internal comfort, architectural conservation, sustainability, energy behaviour of historic buildings, etc...).

**Main Contributing Researchers / Research Centres (tentative, if known at this stage):****Website URL of Call for Papers (if any):****Email & Contact Details:**

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