



INTERNATIONAL

INVITED SESSION SUMMARY

Title of Session:

Super Insulating Materials for Energy Efficient Buildings

Name, Title and Affiliation of Chair:

Jannis Wernery, Dr. – Empa - Swiss Federal Laboratories for Materials Science and Technology
Stefano Fantucci, Dr. – Politecnico di Torino – Department of Energy

Details of Session (including aim and scope):

The increasing demand for new energy efficient buildings and for deep energy retrofit interventions on the existing building stock has determined a growing interest in super insulating materials (SIMs). These materials (i.e. advanced nano-porous materials, vacuum insulation panels and gas filled panels) are characterised by an extremely low thermal conductivity (usually less than 20 mW/(m·K)). This makes them very attractive when (i) only a thin layer of insulation is desired while still keeping a high thermal performance and (ii) when for varying reasons usual insulation techniques cannot be easily applied (i.e. space saving, insulation of critical nodes, technological and historical compatibility etc.)

Unfortunately, the building sector is a conservative market, and as a consequence, despite the great potentials of SIMs, they are still poorly adopted, because of their high cost, the lack of knowledge on their actual thermal performance and on proper installation.

Therefore, the aim of this special session is to disseminate the knowledge on super insulating materials for buildings by collecting a comprehensive set of the latest research on this topic.

Original papers are invited for consideration on a range of topics related to this special session's theme, that is, *Super Insulating Materials for Energy Efficient Buildings*. These original papers can focus on: novel solutions, applications, case studies, critical literature review, frameworks, methodologies; etc.

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

<https://www.researchgate.net/project/Super-Insulating-Materials-for-Energy-Efficient-Buildings-SEB-19-special-session>

Email & Contact Details:

jannis.wernery@empa.ch
stefano.fantucci@polito.it