

Session ID: CMS-3

Title

RESEARCH DEVELOPMENTS AND DESIGN IMPLICATIONS FOR EARTHQUAKE-RESISTANT TIMBER BUILDINGS

Convenors

D. Casagrande ¹, G. Doudak ², M. Sciomenta ³

Description

The strong development of innovative engineered wood products and connections systems in the past two decades have greatly increased the possibility to use timber as structural material capable of resisting extreme loading such as earthquakes. This is in addition to the incentives to develop a greener building sector and improve energy efficient and seismically sound buildings.

Despite a revival of popularity and positive trend of the entire wood sector in several countries, timber structures still face constraints and limitations, especially in seismic prone areas. These include limiting timber structures to low- and mid-rise buildings; technical issues related to the seismic performance of traditional connections; lack of appropriate seismic design expressions in timber design Standards.

These topics have been extensively researched lately and providing a technical session within an important forum like the WCEE will allow for beneficial exchange of ideas and discussions on the most recent results in the field of earthquake engineering of timber buildings. This will also facilitate greater development of timber in mid-rise and taller buildings in seismic prone areas. Studies based on experimental, numerical or analytical approaches, conducted with the aim to enhance the earthquake resistance of timber structures will be part of the call for submission to this technical session.

Invited Speakers

S. Pei ⁴, J. van de Lindt ⁵, J.W. Berman ⁶, W. Seim ⁷, T. Tannert ⁸, B. Azionovic ⁹, T. Hutchinson ¹⁰, L. Pozza ¹¹, W. Dong ¹², C. Loss ¹³

Affiliations

¹ National Research Council of Italy, San Michele all'Adige, Italy, ² University of Ottawa, Ottawa, Canada, ³ University of L'Aquila, L'Aquila, Italy, ⁴ Colorado School of Mines, Golden, USA, ⁵ Colorado State University, Fort Collins, USA, ⁶ University of Washington, Seattle, USA, ⁷ University of Kassel, Kassel, Germany, ⁸ University of Northern British Columbia, Prince George, Canada, ⁹ Slovenian National Building and Civil Engineering Institute, Ljubljana, Slovenia, ¹⁰ UC San Diego, San Diego, USA, ¹¹ University of Bologna, Bologna, Italy, ¹² Fraunhofer Institute for Wood Research, Brunswick, Germany, ¹³ University of British Columbia, Vancouver, Canada