SEISMIC PERFORMANCE AND DESIGN CHALLENGES OF TIMBER STRUCTURES

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The growing developments of engineered wood products and connection systems have expanded the potential for timber as a structural material in seismic-prone regions. In addition to its recognized role as green material, timber offers promising applications for earthquake-resistant buildings. However, for this use, timber structures still face technical and regulatory challenges.

Furthermore, with regards to existing constructions, timber structures are widely diffused in historical buildings and the need for seismic vulnerability assessment and consequent retrofitting is apparent.

This special session aims to foster discussions on the research outcomes in the seismic performance of timber structures. Bringing together experts in the field, a platform to exchange ideas will be provided, presenting experimental, numerical and analytical studies, and exploring solutions for enhancing the seismic resilience of timber buildings. The session will particularly focus on facilitating the broader adoption of timber in mid-rise and taller buildings in earthquake-prone regions.

Contributions are also invited on the development and application of seismic-resistant timber-based structural systems for the retrofit of existing buildings through innovative repairing and strengthening strategies, integrating when required also energetic efficiency, complying with principles of conservation and historical preservation.

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