Session Title: New Perspectives in Supplementary Energy Dissipation for Vibration Control of Structures

Conveners:
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Session abstract:
Supplementary energy dissipation has extensively proven, through research studies and practical applications, to be a viable strategy for protecting new and existing structures against non-structural and structural damage for low-to-high seismic intensity levels, so avoiding devastating economic and social consequences in the aftermath of an earthquake. Significant developments have been made in the last few decades to provide more reliable structures equipped with energy dissipation systems. Numerical methods and design procedures have played a major role in these advances. Moreover, innovative supplementary energy dissipation devices have been proposed and tested as well, demonstrating their suitability to meet the target performance. Nevertheless, the remarkable potential of this strategy should be broadened and improved, in order to satisfy the needs of a more resilient society. Thus, the pursuit of enhanced solutions and/or more effective design procedures is the object of ongoing cutting-edge research.
This Special Session will offer an opportunity for the presentation and discussion on new trends and advances in the implementation of supplementary energy dissipation for earthquake engineering. All those involved with design and analysis in the field of vibration control of structures based on this strategy are welcome to present their recent experience and research findings. Contributions related to analytical, experimental as well as hybrid methods in the field are also welcome.

This Special Session aims to attract academic staff, researchers, post-graduate students and professional engineers dealing with advanced topics, which include but are not limited to:
• Advanced design and assessment procedures;
• Holistic multidisciplinary design approaches within a multi-hazard and multi-risk context;
• Innovative devices and technologies;
• Experimental tests: testing protocols and qualification procedures;
• Codes and standards: existing provisions and urgent needs;
• Semi-active control;
• Advances in numerical modelling;
• Case studies or emblematic examples of implemented dissipation technologies;
• Monitoring of existing structures equipped with passive control systems.