

Session ID: BCI-11

Title

SEISMIC REHABILITATION AND RETROFITTING OF BRIDGES

Convenors

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Description

A seismic rehabilitation and retrofit session specific to bridges is proposed on behalf of two active members in the global seismic bridge community: the EAEE (European Association of Earthquake Engineering) Working Group 11 and the ACI (American Concrete Institute) Committee 341 Earthquake-Resistant Concrete Bridges. This session will focus on innovative materials and systems for rehabilitation and retrofit of existing bridges. The technical session will follow the format of research presentations followed by questions and answers, and abstracts will be open to all participants (not just EAEE and ACI members). The session will contribute to the advancement of the state-of-the-art in this field and promote the development of effective mitigation measures for improving the safety and resilience of bridge infrastructure.

The focus areas of the technical session are on application of advanced materials to retrofit of bridge components and performance-based methods for prioritizing and evaluating repair and rehabilitation options. On the material side, some recent experimental and analytical developments have utilized engineered cementitious composites, high performance fiber reinforced cementitious materials, shape memory alloys, and energy dissipation devices or systems to improve bridge columns, piers, or walls. Improvements in component -and system-level modelling of retrofit options are coupled with uncertainty quantification for improving bridge fragility estimates or performance-based acceptance criteria for retrofit. The technical session will serve as a forum for sharing experimental, analytical, and numerical research studies, as well as case studies of such systems being deployed in global retrofit projects.

Invited Speakers

S. Pantazopoulou ³, P. Delgado ⁴, A. Arede ⁴, S. Alam ⁵

Affiliations

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