

Retrofitting and upgrading of masonry arch bridges: from analysis to practice

ABSTRACT:

As part of several historical transport networks, masonry arch bridges continue to serve as critical infrastructure components worldwide. Despite their resilience, these structures often require not only periodic maintenance, but also retrofitting and upgrading to withstand extreme events and meet modern demands, including seismic risks, increased traffic loads, and the impacts of climate change. Preserving their historical value and integrity while ensuring structural safety presents significant engineering challenges to both researchers and professionals.

This special session focuses on the scientific and practical aspects of analysis, retrofitting and upgrading masonry arch bridges. It aims to explore advanced methods of material characterisation, structural analysis, and innovative engineering solutions that balance preservation with safety. The session welcomes contributions covering analytical, numerical, and experimental approaches, as well as case studies that bridge the gap between research and practical application.

We invite researchers and practitioners to submit abstracts that push the boundaries of knowledge and practice in this field, providing insights into safeguarding the legacy of masonry arch bridges while adapting them to future needs.

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