

APPLICATION OF NEW MATERIALS AND STRUCTURES IN IMPROVING PERFORMANCE OF ARCH BRIDGES

ABSTRACT:

The session aims to address the critical role of innovative materials and structural designs in enhancing the durability, resilience, and overall performance of arch bridges. With growing infrastructure demands and the need for more sustainable and resilient bridge designs, the incorporation of advanced materials like ultra-high-performance concrete (UHPC), fibre-reinforced composites, and new structural techniques is becoming increasingly essential. This special session will bring together leading experts, researchers, and engineers to explore the latest developments in material science, structural optimization, and construction methods aimed at improving the long-term performance of arch bridges under various loading conditions. Topics will include the application of novel materials for better load distribution, techniques to mitigate structural fatigue, and the integration of eco-friendly solutions to extend the lifespan of these critical infrastructures. By fostering knowledge exchange and collaboration, this session aims to contribute significantly to the advancement of modern arch bridge construction and maintenance practices, ensuring safer and more efficient infrastructure solutions.

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