



# Special Session on FLOOD RISK FOR BRIDGES AND TRANSPORT NETWORKS: MONITORING, MODELLING, AND ASSESSMENT

Photo: Dimitrios Zekkos



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Flooding is recognised as the most common cause of bridge failures. As a result of erosive water actions, scour undermines bridge foundations causing substantial structural damage and often abrupt collapse. To safeguard public safety and mobility, particularly in urban areas, where climate change and infrastructure ageing impacts are felt the most, network owners and operators need a reliable risk and resilience assessment framework and tools to enable prioritisation of restorations and rational deployment of resources. Hence, a comprehensive risk analysis approach is needed to consider the temporal and spatial variations in hazard, exposure, and vulnerability. This session urges the cooperation between academia, the industry, and the civil protection for exploitation of novel approaches in hazard mapping, monitoring, risk analysis, experimental modelling and numerical simulation, and assessment of cascading effects in view of network functionality, as well as societal and economic impacts. We invite contributions to a discussion that will include:

- Novel scour monitoring methods and techniques
- Learning from past events and case-studies
- Flood hazard mapping in view of climate change
- Fragility modelling
- Risk assessment for existing structures and networks
- Decision making tools for prioritization of critical assets
- Integration of scour risk in multi-hazard frameworks
- Prediction of capacity and functionality loss and operability

This session is intended as the first part of a pair of sessions. The companion Session on “[Restoration of transport infrastructure to natural hazards](#)” will address the prediction and quantification of post-event recovery processes to provide an integrated resilience assessment framework.

Submit your abstracts via [ICONHIC2022](#) before **01 October 2021**.