

THEMED SESSION

Community-Centric Decision Support for Infrastructure Resilience

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DESCRIPTION



Infrastructure systems are increasingly challenged by compounding risks due to climate change, urbanization, and socio-economic pressures. Current approaches to infrastructure resilience often prioritize technical efficiency over important societal aspects. For example, most optimization tools for infrastructure recovery focus on the cost-efficient restoration trajectory, which does not guarantee equitable outcomes across different societal groups.

This session focuses on community-centric approaches to decision support for infrastructure resilience. We aim to bring together researchers and practitioners to explore how infrastructure resilience methods can incorporate various community perspectives with the objective of making resilience solutions more equitable, needs orientated, and just.

The session invites methodological contributions, interdisciplinary research, and practical applications that advance the integration of community aspects in infrastructure resilience and post-disaster recovery.

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- Frameworks, models, and case studies for equity-based approaches to infrastructure recovery
- Fairness and justice principles in infrastructure resilience planning and investment decisions
- Resilience planning methods that incorporate societal risk tolerance and public acceptability
- Modeling and simulation of interdependent infrastructure systems which include societal groups (households, businesses, etc.) as a central element
- Development of new community-centric indicators and metrics for infrastructure performance and resilience
- Participatory modeling and stakeholder engagement for resilience in infrastructure planning