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SS-34: Advances in Nature-Based Solutions for Sustainable Infrastructure Systems

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Description

As climate-related events become more unpredictable and intense, making infrastructure more reliable and risk-aware is no longer optional, it's essential. Roads, bridges, water systems, and energy networks are all exposed to growing environmental stress, and traditional design approaches often fall short in dealing with these uncertainties. This session brings together engineers, researchers, and decision-makers to explore how Nature-Based Solutions (NBS) can help improve the structural reliability and long-term performance of infrastructure. The focus is on practical methods that combine natural systems with engineering principles to reduce risk and increase resilience.

The session aims to share hands-on experience, technical insights, and lessons learned from applying NBS in real projects. The goal is to understand how natural elements can be integrated into infrastructure systems to improve reliability, manage uncertainty, and reduce long-term risks.

Topics of Interest

- Modeling and evaluating nature-based measures for risk reduction
- Using ecosystem services to support infrastructure planning and maintenance
- Natural approaches to water management, green corridors, and urban cooling
- AI and remote sensing tools for monitoring combined ecological-technical systems
- Policy and funding strategies for implementing NBS effectively
- Real-world examples from transport, water, energy, and coastal infrastructure