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SS-22: Concepts, Methods and Models for NaTech Risk Analysis and Management

Karine Adam[1], Irene Korsakissok[2], Jean-Marc Tacnet[3], and Christophe Berenguer[4]
[1] INERIS, France
[2] ASNR, France
[3] INRAE – IGE, France
[4] GIPSA-lab, Université Grenoble Alpes, Grenoble INP, CNRS, France
karine.adam@Ineris.fr; irene.korsakissok@asnr.fr; jean-marc.tacnet@inrae.fr; christophe.berenguer@grenoble-inp.fr

Description

NaTech events, ie natural hazards triggering technological accidents, are increasingly significant and lead result in aggravated risks in a context of climate change, expanding urbanization, and industrial interdependencies. This special session aims to gather contributions addressing innovative concepts, methodologies, and models to better understand, assess, and manage NaTech risks. We aim to cover the full spectrum of topics — from risk scenario building and stakeholders involvement to probabilistic modeling, simulation quantitative risk assessment and related decision-making issues.

Papers may address advances in scenario-based approaches, participatory modeling, and co-construction of risk narratives involving industry operators, emergency services, local authorities, and communities. Contributions focusing e.g. on multi-hazard interactions, vulnerability analysis, cascading effects, and resilience-based strategies are also encouraged.

We invite submissions both quantitative and qualitative approaches from a wide range of disciplines and with a cross-disciplinary perspective, probabilistic models, data-driven tools, simulation frameworks, and decision-support systems for risk governance. Case studies, lessons learned from real events, and insights into policy development or regulatory innovation are welcome.

By bringing together researchers and practitioners from academia, industry, and public institutions, this session aims to foster interdisciplinary dialogue and promote integrated, participatory strategies for NaTech risk management. Join us to advance the state of knowledge and practice in NaTech risk analysis within the ESREL community.