**Session ID:** TNM-6

**Title**
MULTI-HAZARDS IN THE FRAMEWORK OF TSUNAMI RISK MANAGEMENT

**Convenors**
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**Description**
Policies for risk management are commonly developed based on independent characterizations of perils and vulnerabilities. However, extreme natural events, such as tsunamis, have demonstrated major dependencies and interactions among cascading, concurrent and compounding multi-hazards.

Regional and local tsunamis induced by tectonic activity, such as 2011, the Tohoku-Oki Earthquake and Tsunami, showed that ground motion from a major tsunamigenic earthquake may affect the ability of geotechnical and structural systems to resist the incoming tsunami.

Characterizing tsunami hazards from non-seismic generation mechanisms, such as volcanic activity, aerial and submarine landslides, and meteorological disturbances, is challenging. In 2022, the eruption of a submarine volcano near Tonga showed that air-water coupling was essential to explain the recorded fast arrival of atmospheric-tsunami waves in unexpected coastal regions.

The 2023 sequence of earthquakes in Turkey and Syria demonstrated the damage potential posed by successive and intense ground motions. The first and largest earthquake was followed by a small and local tsunami of a still debated generation mechanism. Furthermore, successive ground displacements induced by shallow and strike-slip fault ruptures, soft soils amplifying ground motion and insufficient strength of structures and infrastructures contributed to this catastrophic societal crisis.

The technical session dedicated to tsunami multi-hazards aims at gathering scientists and engineers who wish to contribute to this key topic by presenting and discussing their work on interdependent natural hazards and their effects on communities.

- Multi-hazard assessment
- Non-seismic tsunamis
- Successive structural and geotechnical responses to cascading hazards
- Physical and numerical modeling of tsunami-related processes
- Fluid(s)-soil-structure interactions
- Multi-risk assessment and management
- DEI policies for multi-risk management.

**Invited Speakers**
A.R. Barbosa [1], M. Akiyama [4], A.B. Rabinovich [5]

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