

Leveraging High-Performance Computing for Physics-Based Ground Motion Modelling: Applications in Seismic Hazard

Thursday 15 May 2025 11:30 (30 minutes)

This talk presents a framework for ground motion modelling based on physics-based simulations of seismic wave propagation using GPU-based numerical methods. I will highlight efforts to incorporate complex site properties, such as topography and near-surface geotechnical layers, into advanced earthquake simulations. These simulations enable the development of digital twins for Swiss sites to better inform both countrywide and local hazard estimates and further contribute to probabilistic seismic hazard assessment (PSHA).

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