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## Advancing multi-(hazard)risk science: embracing complexity and cross-disciplinary collaborations

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Recent disasters have demonstrated the growing challenges faced by society as a result of multi-hazards and compound events. The impacts of such disasters differ significantly from those caused by single hazard disasters: often the impacts of a multi-hazard disaster exceed those of the sum of the impacts of the individual hazards. Recognizing this complexity, the scientific community and international organizations, such as the UNDRR, have been advocating for a more integrated approach in multi-(hazard)risk research. This requires bridging across individual hazard types, but also learning from methodological advances made in neighbouring research fields such as the compound events community.

This talk aims to highlight recent advances in assessing the complexities of multi-(hazard)risk and discusses opportunities for further enhancing our modeling capabilities through multidisciplinary collaboration. A crucial challenge of modelling compound and multi-hazard risk, is that of the spatiotemporal dynamics of risk. This includes for example, an improved understanding of post-disaster recovery after multi-hazard disasters and the role of (changing) local contexts within which disasters take place such as the dynamics of socioeconomic vulnerability and the likelihood of post-disaster disease outbreaks. Embracing these challenges and opportunities can support more comprehensive and effective disaster risk management strategies in the future.