



Meeting the Challenge of Earthquake Risk Globalisation: Towards the Global Earthquake Model GEM (Sergey Soloviev Medal Lecture)

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Earthquake risk, like natural risks in general, has become a highly dynamic and globally interdependent phenomenon. Due to the “urban explosion” in the Third World, an increasingly complex cross linking of critical infrastructure and lifelines in the industrial nations and a growing globalisation of the world’s economies, we are presently facing a dramatic increase of our society’s vulnerability to earthquakes in practically all seismic regions on our globe.

Such fast and global changes cannot be captured with conventional earthquake risk models anymore. The sciences in this field are, therefore, asked to come up with new solutions that are no longer exclusively aiming at the best possible quantification of the present risks but also keep an eye on their changes with time and allow to project these into the future. This does not apply to the vulnerability component of earthquake risk alone, but also to its hazard component which has been realized to be time-dependent, too.

The challenges of earthquake risk dynamics and –globalisation have recently been accepted by the Global Science Forum of the Organisation for Economic Co-operation and Development (OECD – GSF) who initiated the “Global Earthquake Model (GEM)”, a public-private partnership for establishing an independent standard to calculate, monitor and communicate earthquake risk globally, raise awareness and promote mitigation.