Session 12

Physics of earthquake preparation process: From laboratory experiments to earthquake forecast

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On this Session we invite researchers to discuss the results and directions for further studies on the physics of the seismic process – from experiments in laboratory conditions, to rock bursts in mines and seismically active regions during the preparation phase of strong earthquakes.
Contributions are invited on all aspects of models designed to forecast earthquake occurrence in time and/or space. The development of earthquake forecasting models is being facilitated by the improvement of data and modelling inputs. Some modelling efforts are focused on short-term clustering of earthquakes, others on the time-varying probability of rupture of major fault sources, and others on the space-time-magnitude variation of the rate of earthquake occurrence in extended regions. Models can be statistical or physics based. Data inputs include the past earthquake catalogue, known or inferred dates of previous fault ruptures, modeled physical variables such as stress accumulation and strain rates, and proposed precursory phenomena. Improved methods to test the performance of forecasting models are encouraged. Reports on the application of forecasts to inform the public or in support of earthquake counter measures planning are welcome.