SESSION 19- Automated Approaches in Seismic Event Detection, Phase Identification and Characterization

Conveners
Thomas Garth, International Seismological Centre (ISC), UK
Natalia Poiata, National Institute for Earth Physics (NIEP), Romania
Miguel Neves, University of Bergen, Norway

Session Description

The continuous growth in the number of high-quality seismic instruments reporting openly available data, together with increasing availability of the computational resources is enabling major improvements in seismic event detection and characterization. Most of the new approaches tackle the issues of processing large volumes of recorded waveform data in a fully automated, efficient, and robust manner. Machine learning techniques are becoming an increasingly important tool for augmenting and improving seismic event catalogues on various scales.

In this session we invite presentations that are focused on automated seismic waveform processing tools based on a wide range of techniques from advanced signal processing to machine learning particularly targeting routine data analysis, such as seismic phase detection and identification, event location and characterization. We encourage contributions that demonstrate how new advanced methods can help to build uniform and comprehensive seismic event catalogues and improve our understanding of natural and anthropogenic seismic events, including but not limited to tectonic earthquakes, volcanic seismicity, slow slip earthquakes, tremor and explosions.