



## Session 32

---

### Development of unconventional sensors for cutting-edge research in observational seismology

**Conveners:**

**Valerio Poggi<sup>1</sup>, Juan José Galiana-Merino<sup>2</sup>, Jacopo Boaga<sup>3</sup>, Philippe Gueguen<sup>4</sup>, Stefano Parolai<sup>5</sup>**

<sup>1</sup> *National Institute of Oceanography and Applied Geophysics, Italy*

<sup>2</sup> *Universidad de Alicante, Spain*

<sup>3</sup> *Università di Padova, Italy*

<sup>4</sup> *ISTerre/ Université Grenoble Alpes, France*

<sup>5</sup> *National Institute of Oceanography and Applied Geophysics, Italy*

Being seismology a deeply observational discipline, its main advancements have often been paired to the implementation of innovative technological solutions, such as the early introduction of digital acquisition devices, the development of broadband sensors or the establishment of regional low-latency seismic networks. Such developments are still presently ongoing, as far as new, cutting-edge technology is made progressively available. This is the case for instance of the Distributed Acoustic Sensing (DAS), where the use of optical fiber interrogation allows for continuous strain measurements over very long distances, breaking the old inertial-reference paradigm in seismology. As well, considerable efforts have been spent in the last decade in the development of sensors for unconventional motion detection, as for the case of the differential measurements in rotational sensors and vector hydrophones. Complementarily, the very recent rush to planetary exploration has highlighted the need of new technological solutions to perform effective seismological acquisition in rather adverse and problematic environments.

In this section we thus invite contribution from research related to all aspects of sensor development using any type of exotic and unconventional approaches. Possible topics might include, but are not limited to, opto-mechanical sensing, MEMS technology, acoustic interferometry etc. Presentations are also encouraged on the integration of mixed techniques for seismological analysis, such as geodetic GNSS and InSAR measurements.