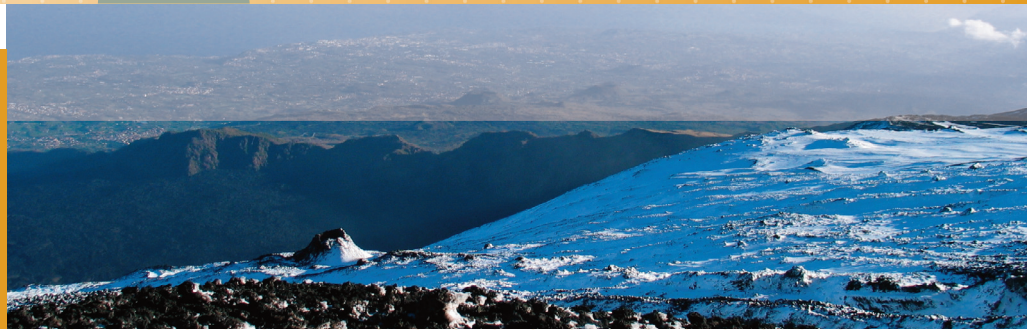


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## NEWS

- **NERA Joint Research Activities (JRA) 2nd meeting**, 11-12 December 2012, Zurich, Switzerland. On December 11 and 12 the NERA/JRA2 work package (WP) (Tools for real-time seismology acquisition and mining) meeting was held in Zurich. This WP concerns development and implementation of methodologies of use for real- and near real-time seismological analysis. The meeting addressed the status of the development of the various packages and a timeline was decided for the testing and implementation of the software by the contributing institutions.
- **EIDA TECHNICAL workshop**, 17-18 December 2012, Potsdam, Germany. On December 17-18 at GFZ in Potsdam the EIDA technical meeting was held. Among the topics discussed were EIDA - the European Integrated Data Archive, the Seattle version of the Seiscomp3 seismic monitoring program, the NAGIOS EIDA monitoring software and the strategies so far adopted for data encryption and authorization in EIDA.
- **ASPERA 2-day workshop**, 18-19 December 2012, Durham, UK. On the 18th and 19th of December 2012, ASPERA-2 (Astroparticle Physics ERANET) has funded a 2-day workshop *Underground Synergies with Astroparticle Physics*, in the historic city of Durham in the North East of the UK, reviewing current and future studies and opportunities in multi-disciplinary deep underground science. [www.aspera-eu.org](http://www.aspera-eu.org)



Board of Governmental Representatives (BGR) meeting and EPOS Inter-Activity Preparatory Council, 28-29 November 2012, CNRS, Paris (France)

Massimo Cocco | EPOS PP Coordinator - EPOS Project Development Board

### Governmental support towards EPOS construction phase

EPOS being presently mid-way through its preparatory phase and achieved all the objectives, milestones and deliverables planned in its roadmap towards construction, the first meeting of the Board of Governmental Representatives (BGR) was held in Paris on 29th November 2012. The objective of the meeting was to get feedback from the governmental representatives on the achievements so far and to start to involve them in the decision-making process towards the EPOS construction phase. This first BGR meeting was particularly successful. First it gathered a broad participation, i.e. 17 out of the 23 participating countries to the EPOS initiative as well as the project officer representing the European Commission, and second, the relevance of the issues discussed allowed us to delineate a shared pathway towards the EPOS construction. The large participation resulted in highly qualified and motivated discussions. The EPOS team gave particular emphasis to presenting and discussing the EPOS socio-economic impact to convince European governments and funding agencies that EPOS will provide a crucial added value to innovation in science and disseminating scientific results to society. The BGR meeting consisted of two half day sessions. The morning session focussed on presentations and brief dedicated discussions, mostly focused on the socio-economic impacts, the legal and governance models, the financial plan and the technical design of the ICS and TCS. The afternoon session was dedicated to a panel discussion chaired by the EPOS work package leaders in which the governmental representatives provided comments, suggestions and identified critical issues for their countries. Being the first meeting of the BGR, it was necessary to delineate a working procedure and a timeline for the next two years in order to tackle the upcoming challenges and critical issues in an effective way.

The issues discussed at the BGR had been also addressed the day before during the fifth meeting of the EPOS Inter-Activity

Preparatory Council (hereinafter the Council). The outcomes of these two meetings are very important steps towards the construction phase.

**EPOS legal and governance model.** The ERIC (European Research Infrastructure Consortium) has been officially considered to be the most appropriate choice of legal model for EPOS and thus accepted as the chosen legal structure for EPOS. The governance scheme seems appropriate as well but different issues, especially regarding voting rights, need to be further investigated.

**EPOS financial plan.** At this stage the financial plan describes the cost assessment of the EPOS-ERIC Executive and Coordination Office (ECO) and the Integrated Core Services (ICS). The costs for implementing the Thematic Core Services (TCS) will be assessed in the near future and different funding scenarios have to be worked out.

A first estimate shows though that the global costs for constructing EPOS (both the ECO and ICS) and for implementing the TCS are relatively small (less than 10%) compared to the total amount of previous national investments and current operational costs of national RIs. The financial plan has thus been considered reasonable compared to the high added value resulting from the creation of novel multidisciplinary integrated services provided to scientists and stakeholders.

**Roadmap and timeline for the next six months.** The Council further set up a roadmap/timeline for a) expressing interest for hosting the EPOS ECO and b) strategies for hosting Integrated and Thematic Core Services. This roadmap/timeline represent one of the larger challenges of the EPOS Preparatory Phase work plan for the next months and will certainly be an important element of future discussions and decisions within the BGR. The Council also identified a clear approach to the EPOS Science Plan. This Science Plan will be essential to interact with, and involve effectively the scientific user community and other stakeholders. The Council meeting consequently tackled key challenges and agreed on the most effective approach to proceed towards construction.

## HIGHLIGHTS

• The second EPOS regional conference will take place in Bergen, Norway on 25 - 26 February 2013.

The purpose of this regional conference is to promote EPOS in the Nordic region (including also countries surrounding the North Sea and the Baltic Sea) involving with current and possible Arctic future stakeholders (science community and governments). In particular this conference aims to further stimulate interactions between EPOS partners, the Nordic government representatives and in particular the industry stakeholders:

Oil industries • Geothermal industries • Mining industries

Construction industries • Nuclear industries • Aviation Industries

In addition to these 2 dates, there will be ad hoc internal meetings on 27 - 28 February 2013 to discuss the EPOS science plan. The EPOS website will be updated soon with further information and announcements on this event.

[www.epos-eu.org/meetings/second-epos-pp-regional-conference,-25-26-february-2013,-bergen,-norway.html](http://www.epos-eu.org/meetings/second-epos-pp-regional-conference,-25-26-february-2013,-bergen,-norway.html)



## ANNOUNCEMENTS

• The 1st NEMOH Network School in Munich, 17-24 February 2013. The 1st NEMOH Network School will take place at Munich, Germany, at the Department of Earth and Environmental Sciences of LMU. The school deals with lab activities and experimental volcanology, and aims at Early Stage Researchers and PhD students. More information in the NEMOH website: [www.nemoh-itn.eu](http://www.nemoh-itn.eu)

• The 3rd Munich Earth Science School (MESS), 10-15 March, 2013. This year the winter school MESS will focus on Python/Obspy tools for seismic data access and processing, combined with a novel archiving scheme (seishub) for Earth science data. It will walk through such a complete cycle with data access, processing, storage and visualization tools based on the python language. This will be complemented by training on the use of a 3-D spectral element solver (ses3d) for the generation of synthetic seismograms. MESS 2013 addresses researchers who deal with large seismological or seismic data sets on all scales and seek new ways of solving the data deluge problem. More information and registration details can be found here: [www.geophysik.uni-muenchen.de/MESS/2013](http://www.geophysik.uni-muenchen.de/MESS/2013)



Locations of INTERMAGNET observatories (red) and other prominent observatories (black)

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Jeffrey J. Love U.S. Geological Survey - Arnaud Chulliat | Institut de Physique du Globe de Paris

## INTERMAGNET and Magnetic Observatories

A magnetic observatory is a specially designed ground-based facility that supports time-series measurement of the Earth's magnetic field. Observatory data record a superposition of time-dependent signals related to a fantastic diversity of physical processes in the Earth's core, mantle, lithosphere, ocean, ionosphere, magnetosphere, and, even, the Sun and solar wind. Magnetic observatories around the world are operated by a variety of government and academic institutions, sometimes in collaboration with private companies. INTERMAGNET is a voluntary international consortium that is dedicated to promoting the coordinated operation of magnetic observatories according to modern standards and facilitating the dissemination of observatory data. In some respects, this mission has certain parallels with that of EPOS and their objective for promoting geophysical observation infrastructure in Europe and managing related data issues. Of the approximately 120 observatories that are presently supported by INTERMAGNET member institutes, 35 are in Europe. Data from magnetic observatories are used to derive products and to support services that are important for a wide range of scientific communities. For example, the International Geomagnetic Reference Field (IGRF) is used for orientation, navigation, and research. It is updated every 5 years using a combination of observatory, surface survey, aerial survey, and satellite datasets. Magnetic indices, such as the magnetospheric ring-current Dst, the ionospheric auroral-electrojet AE, and the global mid-latitude Kp, are derived from time-dependent variation recorded in 1-min and 1-hr magnetic-observatory data. Magnetic indices are used in coordination with satellite-based measurements for space-weather monitoring. Detailed analyses, especially for fundamental research, exploit the qualities of high accuracy and resolution that characterize many observatory magnetometer time series,

including those available through INTERMAGNET.

Magnetic-observatory data already support EPOS-relevant solid-Earth science. For example, in mapping geological and tectonic structures, aeromagnetic surveys utilize simultaneous ground-based measurement of magnetic activity to correct for temporal-spatial aliasing. This can be accomplished conveniently and in detail using data from the geographically dense distribution of European magnetic observatories. Separation of externally-generated and internally-induced magnetic fields permits estimates of the electrical conductivity of the Earth's interior. Thus, given the density of observatories, the situation is ideal in Europe for pursuing such analyses. More elaborate inversions for depth-dependent electrical conductivity can be made using magnetotelluric measurement of both the magnetic field and the electric field in the crust. There is opportunity, here, for coordinating operations of the magnetotelluric and magnetic-observatory communities.

Acting in response to the changing demands of the geomagnetic scientific community, INTERMAGNET has recently been encouraging its member institutes to support three new data-product services: 1-Hz data that are of much higher resolution than traditional 1-min observatory data; real-time delivery of unprocessed "preliminary" data; and calibrated "quasi-definitive" data to be reported within a few months of acquisition. These services will lead to improved space-weather monitoring, such as those being coordinated by the European Space Agency (ESA), and which are needed for mitigating hazards posed to electric-power grids by geomagnetically-induced currents. Oil and gas companies will use these products to support their directional drilling operations. Geomagnetic-field models and maps of high accuracy will be produced promptly using data from INTERMAGNET and the ESA Swarm satellite mission. Additional information and data can be found at [www.intermagnet.org](http://www.intermagnet.org).