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EPOS-WP16: A coherent and collaborative network of Solid Earth Multi-scale laboratories

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Laboratory facilities are an integral part of Earth Science research. The diversity of methods employed in such infrastructures reflects the multi-scale nature of the Earth system and is essential for the understanding of its evolution, for the assessment of geo-hazards and for the sustainable exploitation of geo-resources.
In the frame of EPOS (European Plate Observing System), the Working Package 16 represents a developing community of European Geoscience Multi-scale laboratories.
The participant and collaborating institutions (Utrecht University, GFZ, RomaTre University, INGV, NERC, CSIC-ICTJA, CNRS, LMU, C4G-UBI, ETH, CNR*) embody several types of laboratory infrastructures, engaged in different fields of interest of Earth Science: from high temperature and pressure experimental facilities, to electron microscopy, micro-beam analysis, analogue tectonic and geodynamic modelling and paleomagnetic laboratories.
The length scales encompassed by these infrastructures range from the nano- and micrometre levels (electron microscopy and micro-beam analysis) to the scale of experiments on centimetres-sized samples, and to analogue model experiments simulating the reservoir scale, the basin scale and the plate scale.
The aim of WP16 is to provide two services by the year 2019: first, providing virtual access to data from laboratories (data service) and, second, providing physical access to laboratories (transnational access, TNA).
Regarding the development of a data service, the current status is such that most data produced by the various laboratory centres and networks are available only in limited “final form” in publications, many data remain inaccessible and/or poorly preserved.
Within EPOS the TCS Multi-scale laboratories is collecting and harmonizing available and emerging laboratory data on the properties and process controlling rock system behaviour at all relevant scales, in order to generate products accessible and interoperable through services for supporting research activities into Geo-resources and Geo-storage, Geo-hazards and Earth System Evolution.
Regarding the provision of physical access to laboratories the current situation is such that access to WP16’s laboratories is often based on professional relations, available budgets, shared interests and other constraints. In WP16 we aim at reducing the present diversity and non-transparency of access rules and replace ad-hoc procedures for access by a streamlined mechanisms, objective rules and a transparent policy. We work on procedures and mechanisms regulating application, negotiation, evaluation, feedback, selection, admission, approval, feasibility check, setting-up, use, monitoring and dismantling. In the end laboratories should each have a single point providing clear and transparent information on the facility itself, its services, access policy, data management policy and the legal terms and conditions for use of equipment. Through its role as an intermediary and information broker, EPOS will acquire a wealth of information from Research Infrastructures and users on the establishment of efficient collaboration agreements.