CALL FOR AWARDING RESEARCH FELLOWSHIPS WITHIN PROJECT GRANTS AND R&D INSTITUTIONS

Two Master fellowship grant in Seismology

Two Fellowships for Master are open at the **Fundação da Faculdade de Ciências da Universidade de Lisboa**, for the project NERA "Network of European Research Infrastructures for Earthquake Risk Assessment and Mitigation", Grant Agreement number 262330, co-financed by the European Commission under the Seventh Framework Programme, under the following conditions:

1. **Scientific Area**: Seismology

2. **Requirements for admission:** Academic degree: Master in seismology/geophysics. Other required skills: Solid background in computation, physics and mathematics; Experience in SAC – Seismic Analysis Code and SEISAN – Earthquake Analysis Software.

3. **Work plan**: NERA NA2 aims foster the integration of the permanent and temporary networks recording broad-band seismic data in the larger Euro-Mediterranean region, and expand the collection, storage and access to data for the whole region. One of NA2 objectives is to optimize technical interoperability of distributed mobile BB instrumentation and permanent networks, by standardizing data collection, format and archive procedures, and quality control standards.

The accuracy of the horizontal components orientation is one of the most important parameters that should be part of a data quality control protocol. It is well known that seismic sensor orientation during deployment can be an extremely difficult task. In volcanic environments the compass doesn't work properly due to local magnetic anomalies; in other situations where the use of a compass is acceptable, the local correction for the magnetic declination is not available or accurate; sometimes the orientation need to be "transported" inside vaults, etc. The correct way of performing the best measurements requires very expensive equipment and the low cost possibilities are sometimes difficult or even impossible to be used due to the site geographical conditions.

Why are those measurements so important? The seismic methods, which enable to measure seismic anisotropy via SKS splitting or Love/Rayleigh incompatibility, critically rely on the accuracy of the horizontal components orientation as most of these methods require the analysis of the radial and transverse components. Ps and Sp receiver functions, a widely method used to map the inner earth discontinuities, are based on a comparison between the vertical and radial components. Recently, on the following of the important advances on ambient noise tomography, several authors started retrieving also Love waves from noise cross-correlation. But, once again, we must know sensors orientation accurately.

Portugal has been recently involved in several temporary deployments (Cape Verde, Madeira, OBSs, Portugal mainland and Mozambique). Regarding data quality control, we have tested some of the available methods to measure the horizontal components orientation, but this work must be performed in an exhaustive way. We propose in this scholarship the exhaustive analysis of the existing dataset, the computation of the correct orientation angles of the horizontal components. As output, the definition of a protocol as well as an OBSPY tool to be made available to the community. Considering the enormous quantity of data (more than 150 stations) two masters at full working-time are necessary.

4. **Legislation framework**: A fellowship contract will be celebrated according to the regulations defined by FCT "Regulations for Advanced Training and Qualification of Human Resources", in accordance with Law 40/2004, of 18 August, as amended and republished by Decree-Law No. 202/2012 of 27 August, and as amended by Decree-Law No. 233/2012 of 29 October and by Law No. 12/2013, of January 29, and Decree-Law No. 89/2013 of 9 July. And also by the FCT, I.P.

CALL FOR AWARDING RESEARCH FELLOWSHIPS WITHIN PROJECT GRANTS AND R&D INSTITUTIONS

Fellowships Regulation of 2013 approved by Regulation No. 234/2012, of June 25, as amended by Regulation No 326/2013 of 27 August 2013, in force (www.fct.pt/apoios/bolsas/regulamento.phtml.pt)

5. **Place of work**: The work will be developed at Instituto Dom Luiz/Associated Laboratory, University of Lisbon, Portugal, under the scientific supervision of Graça Silveira, Susana Custódio and Luis Matias.

6. **Fellowship duration**: These position are opened for 5 months and will begin on June/2014 until the end of the project, without renewal possibility, in accordance with the provisions of Regulation of Research Fellowships from the Foundation for Science and Technology, I.P. – 2013..

7. **Monthly allowance**: The fellowship amounts to € 980, according to table values of the fellowships awarded directly by the FCT, IP. (http://www.fct.pt/apoios/bolsas/valores).
The fellowship holder will have a personal accident insurance and, if not covered by any social protection scheme can ensure the right to social security through adherence to the voluntary social insurance scheme, pursuant to Código dos Regimes Contributivos do Sistema Previdencial de Segurança Social.
The fellowship will be paid monthly by bank transfer.

8. **Selection method**: Candidates will be assessed by the quality of their CV (40%) especially scientific merit, publications and research experience, the motivation letter (20%) and an interview (40%). If none of the candidates fulfils the above criteria, the grant will not be opened.

9. **Selection Committee**: Prof. Graça Silveira (President), Prof. Luís Matias (member), Prof. Susana Custódio (member). Eng. Fernando Carrilho (alternate member).

10. **Publication/notification of results**: The final results of the evaluation will become public, through final grade ordered list which will be posted at the entrance hall of the **Fundação da Faculdade de Ciências da Universidade de Lisboa**, located at the Faculdade de Ciências da Universidade de Lisboa, C1 bdg – 3rd floor, Campo Grande, 1749-016 Lisboa, and the selected candidate will be notified by e-mail.

11. **Deadlines: This** call for applications is open from 13/May to 23/May 2014.

12. **Application:** Applications may be sent via e-mail to Graça Silveira (mdsilveira@fc.ul.pt), by attaching the following documents: Curriculum vitae, with reference to ISI publications and indication of email; copies of degrees certificates and a Cover Letter indicating the candidate's motivation for this position. All documents must be in pdf format.
Applications may also be sent by mail to Graça Silveira, IDL-Instituto Dom Luiz, Campo Grande, Ed. C8, 3rd floor, 1749-016 Lisbon, Portugal.