

**Job category**

Adjunct professor

**Hiring Institution**

Instituto Politécnico de Lisboa - Instituto Superior de Engenharia de Lisboa

**Additional host institution**

Universidade de Lisboa (UL) - Faculdade de Ciências da Universidade de Lisboa - Instituto Dom Luiz

**Call's publication date**

July 2025

**Scientific domain**

Natural Sciences

**Scientific area**

Earth and Related Environmental Sciences

**Scientific sub-area**

Geophysics

**Field(s) description**

Geophysics

**Position's alignment with SDGs of the United Nations 2030 Agenda**

SDG Goal 4: Quality Education

SDG Goal 8: Decent Work and Economic Growth

SDG Goal 9: Industry, Innovation and Infrastructures

**Research unit/Associate laboratory chair**

**Name of the Host Research Unit/Associate Laboratory**

Universidade de Lisboa (UL) - Faculdade de Ciências da Universidade de Lisboa - Instituto Dom Luiz

**Commitment Declaration**

[IDL-FCUL-ISEL-2-Applied Geophysics PT\\_signed.pdf](#)

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**Does it involve co-funding?**

33%

**Job description, scientific profile and rationale**

We propose hiring an Adjunct Professor in Physics/Geophysics with Potential Geophysical Fields or Applied Geophysics expertise. He/she will be integrated as a professor in the Physics Department (DF) (<https://www.isel.pt/departamento/fisica>) of ISEL and as a researcher at IDL as part of the Research Group Solid Earth Dynamics (<https://idl.ciencias.ulisboa.pt>). The successful candidate is expected to collaborate with the overall strategy of this research group by improving the practice of geophysical techniques for energy and environmental problems. We seek a candidate who can apply non-invasive ground-, aerial- or laboratory-based geophysical techniques such as potential fields or other sensors to topics such as natural resources and energy, assisting the most recent societal and industry demands for preserving a sustainable environment. He/she is expected to be able to undertake innovative, independent, and collaborative research and make proof of having the necessary initiative to promote professional and community links and explore the scope for interdisciplinary collaboration within and beyond academia. He/she is expected to secure competitive national and international projects and attract graduated students and young researchers. Therefore, the new employee should play an active role in career planning for early-career scientific staff and take responsibility for educating undergraduate and graduate students and postdoctoral researchers in collaboration with IDL. He/she should contribute to research planning and lively scientific atmospheres within ISEL and IDL. This will result in high-quality and innovative outputs in applied geophysics, in publications in peer-reviewed scientific literature, communications at leading international conferences, and seminars at

home and abroad that will contribute to the scientific achievements of both DF/ISEL and IDL. As part of his lecturing duties, he/she should be able to provide high-quality and engaging teaching across the portfolio of courses offered by the DF/ISEL. An ability and willingness to be involved in lab-based education and establish industry partnerships would also be desirable.

We require a candidate with a Geophysics/Physics background, a PhD in Geophysics/Physics, and postdoctoral experience. We are particularly interested in applicants with a strong geophysics background, expertise in geophysical potential fields or applied geophysics, and ability to model the Earth's subsurface physical parameters, demonstrated by a strong publication track record in international peer-reviewed indexed journals with high impact in

this research field. Experience leading research projects and supervising MSc and PhD students will also be valued.

The Geophysics group has been established at DF/ISEL for over 25 years. The group has a strong physics background, with most of its members studying the solid Earth. The DF/ISEL is currently seeking to expand its research activities, also in connection with our new 1st-cycle degree programme in Applied Physical Engineering (LEFA), which has the potential to attract students interested in pursuing academic research. We also aim to strengthen our ties with the IDL, which includes a research group in Solid Earth Dynamics, already involving six staff members of DF. The most recent technological advancements allow geophysicists to create more detailed and accurate models of the Earth's subsurface. The adoption of high-performance computing enables complex simulations and is essential for understanding geophysical processes, a key role in sustainable resource development and environmental stewardship. Other innovations include autonomous recording instruments and drones for data collection, which enhance the ability to survey and monitor geophysical phenomena, even in locations of difficult access and can collect large amounts of data. Handling those large amounts of data is challenging and requires a solid geophysics background and good computational seismology skills. The new hire would: (i) bring new skills, thereby enhancing our (ISEL and IDL) ability to tackle a broader range of problems and thus boost our research output; (ii) help consolidate physics of the earth studies and computational seismology, which at present relies to a large extent on temporary staff; (iii) help to recruit junior researchers and attract competitive funding.

#### **Benefits and resources offered to the selected candidate**

At DF/ISEL, the candidate will have access to the Microseismology and Rock Physics Laboratory with a uniaxial press, an 8-channel Acoustic Emission system, that complements IDL facilities. He/she will benefit from interdisciplinary expertise and solid collaboration with other engineering departments committed to development and innovation activities and projects aiming to provide better services to the community, allowing to development of research outside academia. To ease the candidate's teaching duties, he/she will benefit from a well-organized inter-departmental sharing of teaching and learning resources. All ISEL staff are assessed for research, teaching, service and personal development performance every three years. The outcome of this assessment may have an impact on remuneration.

At IDL he/she will benefit from a multidisciplinary scientific environment. IDL has been able to secure the top mark of Excellent in periodic evaluations by FCT, as well as the status of Associate Laboratory, attributed to only a few research units considered strategic by FCT. IDL promotes multi-disciplinary research in Earth Sciences, aiming at a holistic understanding of the Earth Systems dynamics, which allows to inform strategies to tackle important societal challenges, such as the Energy Transition, Natural Hazards, and Climate Change. IDL offers a range of facilities to its researchers, namely access to High-Performance Computing resources and various laboratories, namely the Seismology lab, the Applied Geophysics lab, the Geomagnetism lab, and the Fluid Mechanics lab. In addition, IDL supports various activities at the post-graduate level, having hosted two doctoral programs and maintaining a very successful yearly Earth Systems Summer School. IDL provides strong support to the management of scientific proposals and funds. A lump sum for research activities is attributed to DF/ISEL IDL members individually, under the terms of the IDL-ISEL partnership and management

#### **Context, expected impact, and relevance of the scientific profile**

The new positions would help to rejuvenate and re-energise DF/ISEL, increasing our competitiveness and, therefore, our ability to attract both funding and new talent, which are key to achieving ISEL's goals of becoming a more international and more inclusive forum for high-quality research and education in science and technology.

Over the last years, as an engineering school, ISEL has been increasing its research capabilities in its several areas, particularly those related to the societal impact of natural hazards or associated with Europe's re-industrialization efforts. Some of those impacts, like water scarcity or pollution, are connected with the environment or resources and are related to applied geophysics, requiring a specific background to be addressed.

IDL's core endeavour is to carry out excellent research in Earth Science, and to fully explore its impact on achieving viable solutions to some of human society's near future most dire challenges, namely: climate change, (resulting and unrelated) natural hazards, and the demand for a progressive change of paradigm on energy dependency (from fossil to renewable sources). Therefore, IDL faces a permanent demand to maintain and further develop scientific excellence in all Earth-Science research domains, particularly in Applied Geophysics whose knowledge is of critical importance for the aforementioned research priorities.

The new staff hire, thanks to his/her knowledge, skills and contacts, would be an invaluable contribution to attain the following objectives: (i) to consolidate its high-impact research activity; (ii) to foster a student-centred intellectually stimulating environment for advanced training; and (iii) to explore further collaborations with industry to promote knowledge transfer. This would also strengthen the ties between IDL and ISEL, established within the IDL-ISEL partnership and management agreement (<https://www.isel.pt/ecossistema-de-inovacao/unidades-de-ied/estruturas-e-unidades>): 6 ISEL Physics Department staff members are also members of IDL, most of them involved in Solid Earth Geophysics.