



# JOB OFFER

## **Seismologist for a long-term contractual research position at the Royal Observatory of Belgium**

The Operational Directorate (OD) “Seismology-Gravimetry” of the Royal Observatory of Belgium (ROB) is looking for an experienced seismologist to strengthen its team on the topic of intraplate and induced seismicity, and to contribute to fulfilling its tasks and missions. The research themes of this OD consist of preserving, studying and developing seismological knowledge, oriented towards the study of earthquakes in Belgium and worldwide. The OD is also in charge of gravimetry, focusing on time-variable gravity.

Although they are less frequent and lower in magnitude compared to plate-boundary earthquakes, intraplate earthquakes pose significant risks, given the high vulnerability of unprepared societies. Understanding intraplate seismicity – among which earthquakes due to human activities – and mitigating its hazard, are key challenges for highly populated and industrialised areas. We need to advance our scientific understanding of the causes of intraplate seismicity, the risks it poses, and potential hazard mitigation methods. Furthermore, we want to increase our understanding of the mechanics of fault rupturing and of the crustal properties, which may be complemented by observations of man-induced seismicity.

The candidate will investigate past and present earthquakes in Belgium and abroad using observational seismological methods applied to historical, instrumental and macroseismic data, but also using innovative geophysical methods to image the Earth’s crust. These investigations will serve to provide answers to important questions: What geological and geomechanical factors influence natural and induced seismicity? Is it possible to forecast induced seismic hazards during industrial operations? How does induced seismicity influence the natural seismic hazard? How can induced seismicity be prevented or mitigated? How can observations of natural and induced seismicity be used to detect hidden faults and to improve our understanding of the mechanics of fault rupturing and the state of stress at depth?

The successful candidate must be able to contribute substantially to the activities of the Operational Directorate “Seismology-Gravimetry” in the following thematics:



- Cause of the seismic activity in intraplate Europe: this includes natural, man-induced and possibly climate-induced seismicity;
- Application and/or development of innovative geophysical methods to image the Earth's crust and to investigate its structure, state of stress and dynamics;
- Performing routine or emergency earthquake measurements.

#### WE ARE LOOKING FOR

The candidate must have a PhD in Physics, Mathematics, Geophysics, Geology, Engineering Geology or equivalent. The candidate must be proficient in written and spoken English.

The following skills will be considered assets:

- Knowledge of seismology, in particular, location methods and seismic source processes;
- Knowledge of human-induced/triggered earthquakes, caused by geothermal exploration/exploitation, water level changes in surface reservoirs or by mining activities, etc.;
- Familiarity with geophysical methods to image the deep crust;
- Experience with data mining for data analysis;
- Knowledge of French, Dutch or German.
- Ability to communicate with the media (journalists, social networks).

The candidate is expected to be part of the Seismology-Gravimetry team of the ROB, to be able to work autonomously and lead research projects and operational activities.

The candidate will carry out missions in the field, in Belgium and abroad. As such, a driving licence B is required.

#### HOW TO APPLY

- The candidate needs to send a cv, publication list and motivation letter to [michel.vancamp@seismology.be](mailto:michel.vancamp@seismology.be) with a copy to [hrrob@oma.be](mailto:hrrob@oma.be) at the latest on **August 31, 2022**.
- The candidate needs to demonstrate past activity in the desired fields.
- Besides the motivation letter, the candidate needs to submit a plan of action including which ongoing projects he/she may bring to ROB and which new fields he/she likes to cover to fulfil the requirements of this five-year position (max. 5 pages).
- The candidate must provide at least one recommendation letter and the names of two other reference persons who could be contacted.

This position offers a contract of undetermined duration with a seed budget that will cover approximately 5 years of salary. By complementing this seed budget with supplementary funding through the submission and award of research projects, the candidate can extend the position.

Taking office: January 2, 2023.