



# JOB OFFER

## Seismologist experienced in human-induced seismicity for a five-year position at the Royal Observatory of Belgium

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

Understanding and mitigating induced seismicity – earthquakes caused by human activities – is a key challenge for a range of industrial activities. We need to advance our scientific understanding of the causes of induced seismicity, the risks it poses, and potential mitigation methods. Furthermore, observation of induced seismicity could be used to investigate the mechanics of fault rupturing.

The candidate will investigate past and present induced earthquakes in Belgium and abroad using observational seismological methods. This includes using historical, instrumental and macroseismic data. These investigations will serve to provide answers to important questions: What geological and geomechanical factors influence induced seismicity? Is it possible to forecast induced seismic hazard during industrial operations? How does induced seismicity influence the natural seismic hazard? How can induced seismicity be prevented or mitigated? How can observations of induced seismicity be used to enhance our understanding of fault rupturing mechanics 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 :

- Studies of human-induced/triggered earthquakes, caused by geothermal exploration/exploitation, by water level changes in surface reservoirs or by mining activities;
- Investigating diffusion processes and mechanics of geothermal reservoirs;
- Performing routine or emergency earthquake measurements.

This position offers a contract of undetermined duration (salary level SW2) with a seed budget that will cover approximately 5 years of salary. To extend the position, the applicant will have to ensure his/her own financing through the introduction of projects.

The candidate must have a PhD in Geophysics, Geology, Engineering Geology or equivalent. Applications that include one or more of the following characteristics/qualities will be ranked as a priority:

1. Knowledge of human-induced/triggered earthquakes, caused by geothermal; exploration/exploitation, by water level changes in surface reservoirs or by mining activities;
2. Knowledge of diffusion processes and mechanics of geothermal reservoirs;
3. Knowledge of seismology, in particular, location and seismic source processes;
4. Knowledge of reservoir mechanics and diffusion processes;
5. Experience with data mining for data analysis;
6. Experience in fieldwork;
7. Proficiency in written and spoken English. Knowledge of French, Dutch or German is an added value.

The candidate is expected to be part of the Seismology-Gravimetry team of the ROB, to be able to work autonomously and to lead research projects and operational activities. He/she will work in close collaboration with the regional authorities and the industry.

The candidate is expected to be able to communicate easily with the media (radio, television, journalists, social networks).

The candidate will have to be ready to carry out missions in the field, in Belgium and abroad. As such, a driving license B is required.

**How to apply:**

- the candidate needs to send a cv and motivation letter to [michel.vancamp@seismology.be](mailto:michel.vancamp@seismology.be) + [hrrob@oma.be](mailto:hrrob@oma.be) at the latest on May 31, 2021.
- the candidate needs to demonstrate past activity in the desired fields
- the candidate needs to present a plan of action on how to fulfil this five-year position (max. 5 pages)
- The candidate must provide one recommendation letter