

Post Doc on Seismicity on the Western Flank of Katla Volcano

Applications are invited for a Post Doc fellowship at the Nordic Volcanological Center (NordVulk), University of Iceland, in collaboration with Uppsala University, Sweden and The Icelandic Meteorological Office, Iceland. The position is available from June 1st 2021, and no later than August 1st, 2021.

Title:

Seismicity on the Western Flank of Katla Volcano

Research area:

Seismology

Project description:

Katla is one of the most active volcanoes in Iceland. It is situated near the tip of the southward propagating eastern volcanic zone in southern Iceland and in large part covered by Mýrdalsjökull glacier. It erupts mostly transalkaline FeTi basalts, but rhyolitic activity has also been abundant on its flanks (Lacasse et al, 2007, Sgattoni et al, 2019). This may constitute a significant, but poorly known, volcanic hazard. Microseismicity has been ongoing within the volcano's caldera and near Goðabunga on its western flank for decades with clear seasonal variation (Einarsson and Brandsdóttir, 2000). Several hypotheses have been put forward to explain the Goðabunga activity, e.g. relating it to the slow ascent of a cryptodome (Soosalu et al. 2006) or seasonally varying glacial movements (Jónsdóttir et al. 2009).

A major slow rock slide was discovered on the western flank of Katla in 2019. A 2 km² area has been shown to have slid by hundreds meters over several decades (Sæmundsson et al., 2019). This raises new questions about the seismicity on the western flank of Katla and its potential relation to the rock slide.

The seismicity in the area has been monitored by the relatively sparse seismic network of Veðurstofa Íslands and occasionally by denser temporal networks. The Goðabunga seismicity has mostly been characterized by crude absolute locations. More geometrical detail may be extracted from the seismicity by locations constrained by more precise differential measurements, in particular during dense deployments, and this may in turn tell more about its underlying processes.

The objective of the project is to apply relative-location techniques to data from past temporal deployments around the western flank of Katla as well as new observations to characterize the seismicity in the area with enhanced detail in order to reveal more about the underlying cause of seismicity in the area.

Qualifications and specific competences:

PhD degree in geophysics or geology. Expertise in seismology is required, and proficiency in methods used to relocate earthquakes preferred. Mobility of the selected candidate for this position is required.

Place of employment and place of work:

The candidate will join the NordVulk team within the Institute of Earth Sciences, University of Iceland for a period of two years. During the project short periods may be required to be spent at Uppsala University, Sweden.

Collaborators:

Bryndís Brandsdóttir and Páll Einarsson, NordVulk, Institute of Earth Sciences, University of Iceland, Iceland.

Ólafur Guðmundsson, Uppsala University, Sweden

Kristín Jónsdóttir, Icelandic Meteorological Office (IMO), Iceland

Application procedures

All information in the application must be in English or a Scandinavian (i.e. Norwegian, Swedish or Danish) language, preferably English. A certified English translation is required for documents written in languages other than English or one of the Scandinavian languages.

The application must contain the following information:

As a minimum all applications must include (pdf-files only, max. 10 MB, no zip):

- Personal information
- Academic background
- Names on two references. The reference letters may be sent directly to rikke@hi.is
- Curriculum vitae of applicant, including list of publications
- Motivation letter (max. 2 pages)
- PhD diploma.
- Transcripts, grade point averages and diploma(s) for both Bachelor's and Master's degree. If the original documents are not in English or one of the Scandinavian languages then copies of the original documents as well as a certified English translation must be attached.

After submission of the application, you will receive a confirmation e-mail.

Please be aware that you must scan/merge all documents into one large PDF file and send as an attachment to rikke@hi.is. If you wish to refer to scientific papers, large reports, theses and the likes, please indicate a URL where the information is available.

NordVulk reserves the right to verify the authenticity of your educational diploma and transcripts:

- Request additional information to verify an application.
- Reject the application if it is proven, or if the Programme Committee has reasonable belief, that the information provided is false or if the applicant refuses to provide the requested information, whether or not an offer has already been made.

Please note:

- The Programme Committee may request further information or invite the applicant to attend an interview.

All interested candidates are encouraged to apply, regardless of their personal background.

Applicants seeking further information are invited to contact:

NordVulk leader Rikke Pedersen, phone +354 525 5483 , e-mail: rikke@hi.is.