UNIVERSITY OF ICELAND

Icelandic Met Office

Funded MS student opportunity

Formulation of dust and ash re-suspension sources in emission models

About the project

This student opportunity is a part of a collaborative research project, called "Changes in the health effects impact of aerosol particles and natural source material following volcanic eruptions", between the University of Iceland, the Icelandic Met Office (IMO), and the UK MetOffice.

The overall aim of this research project is to analyze sources of airborne particles from ash re-suspension events and dust storms with a view towards assessing the potential impacts of these events on air quality and human health. This project will allow for better modeling of these events, both the distribution in space and time and particle size distribution, which is important since different particle sizes can have different health impacts. Therefore, poor air quality can be forecasted and warnings issued.

Please note that MS study in Iceland is a two-year program. This MS project is funded for 12 months, with salaries according to the Icelandic Centre for Research (300 thousand isk, which includes all fees). This grant is therefore particularly suitable for students that are finishing their required course work and need a project. Or, for new students to work on this project as they would then work on the project along with coursework – for instance receiving 50% pay for the two years.

Role of the MS student

Formulating source term for dust and ash re-suspension for the NAME model.

The MS student will work on the implementation of an emission scheme particularly apt for Icelandic land coverage and climate, and to validate the code using a past event. The MS student will:

- Formulate code; working on selected test cases.
- Do backward numerical runs for quantifying the temporal changes of areal source from which re-suspension originates.

Required skills

- Experience in programming.
- Knowledge of general physics (even better with understanding of fluid dynamics).

About the University of Iceland, IMO and UK Met Office

Details of graduate studies at the University of Iceland, in Environment and Natural Resources can be found at http://environment.hi.is and Geophysics http://english.hi.is/von/faculty_of_earth_sciences/main_menu/home

Information about the IMO can be found at http://en.vedur.is

Information about the UK Met Office can be found at http://www.metoffice.gov.uk/

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Additional benefit is the spectacular natural environment of Iceland.

A visit to UK MetOffice may be part of the project.

Interested students should contact

For more information, please e-mail Sara (sara@vedur.is) and Throstur (ThrosturTh@hi.is).

Contacts

Sara Barsotti (sara@vedur.is; http://www.vedur.is/um-vi/starfsfolk/persona/226/fyrirtaeki/1), and Throstur Thorsteinsson (ThrosturTh@hi.is; http://starfsfolk.hi.is/en/simaskra/560).

The application must include the following

1. A cover letter including
    a. Your name.
    b. Academic status – please note the admission requirements.
    c. Contact details.
    d. The names and contact details of two faculty advisers from whom confidential letters may be sought.
2. A statement of interest in the project, and include long-term academic plans and research interests.
3. A short resume (CV), including a list of courses taken, and grades.
4. A self-evaluation of strong and weak research skills, along with likes and dislikes associated with research and modelling.

Send the application and material to sara@vedur.is and ThrosturTh@hi.is

Deadline for applications is 15 June 2017.

Sincerely,

Sara and Throstur.