



CHARLES UNIVERSITY
Faculty of Science



INSTITUTE OF GEOPHYSICS
OF THE CZECH ACADEMY OF SCIENCES

Dear Colleagues,

We invite applicants for a 4-year fully funded PhD position based at the Czech Academy of Sciences Geophysical Institute and the Department of Physical Geography & Geoecology, Charles University, Prague.

The project: Unveiling the First Great Eurasian Ice Sheets will set out to apply a newly developed cosmogenic nuclide-based burial dating method to reveal the history of the first major glaciations in Eurasia.

Cosmogenic nuclides are produced by cosmic rays bombarding Earth's surface. Measurement of these rare nuclides in rock and sediment has revolutionised the study of how climate and tectonics have shaped landscapes through time. Earth's climate has changed dramatically over geologic time, and knowledge of what drives those changes is fundamental to understanding our planet and its future. It is well known that vast ice sheets have advanced and retreated across northern Eurasia many times over the past few million years. For instance, ~20,000 years ago the maximum extent of the last ice sheet covered the northern parts of Germany and Poland. Prior to that, however, the glaciations are poorly understood, and geologists have spent the past century trying to resolve how the distribution of ice sheets has varied over time. This research project will set out to apply a newly developed set of dating and modelling tools to unveil the history of the Early to Middle Pleistocene glaciations in Eurasia (i.e. before 130,000 years ago).

The advisory team will comprise: John Jansen (Czech Academy of Sciences), Martin Margold (Charles University), and Mads Faurischou Knudsen (Aarhus University).

The candidate will be involved with 1) collecting field samples at sites stretching from NW to NE Europe, 2) laboratory analysis, 3) mathematical modelling with cosmogenic nuclides, and 4) presentation of results at international conferences. A significant period will be spent at Aarhus University, where candidates will develop skills in modelling and the art of preparing samples for cosmogenic nuclide analysis.

Applications are invited from those with interests in mathematical modelling, glacial geomorphology and Quaternary sciences. Applicants should hold a Master's degree or be in the final year of their studies and be able to present their Master's degree at the beginning of their PhD candidature. Applications will be viewed in light of principles of equity, diversity and inclusion.

The starting date is 1st Oct 2021, and remuneration will be competitive, allowing for a good standard of living in Prague.

For more information about the PhD project and instructions on how to apply, please follow the link:

<https://stars-natur.cz/phd-positions/geography/unveiling-the-first-great-eurasian-ice-sheets?back=nmzq4>

Applications should include:

- 1) A cover letter including your name, academic status and contact details, as well as the names and contact details of two faculty advisors from whom confidential letters may be sought.
- 2) A statement of interest including research interests and long-term academic ambitions.
- 3) A short resume/CV, including a list of courses taken, and grades.
- 4) A self evaluation of your research strengths and weaknesses; skills you particularly want to develop, and likes and dislikes associated with research and modelling.

For informal inquiries please contact:

John Jansen

Czech Academy of Sciences Geophysical Institute, Prague

jdj@ig.cas.cz

Learn more about the Department of Physical Geography & Geoecology, and the Institute of Geophysics at

<https://www.ig.cas.cz/en/>

<https://www.natur.cuni.cz/geography/physgeo>

Date for applications is 11th March 2021.

John Jansen

GFU Institute of Geophysics, Prague

<https://johnjansen1.blogspot.com>