Postdoc Position

The new Priority Program 2017 of the German Science Foundation (DFG) “Mountain-Building Processes in 4-Dimensions” (http://www.spp-mountainbuilding.de/) will explore how processes of the mantle, crust and surface interact to form mountains during the collision of tectonic plates. It is linked with the European research in AlpArray. You will work in a consortium of 22 interdisciplinary projects that encompass the fields of Seismology, Tectonics, Thermochronology, Petrology, Sedimentology, Basin Dynamics and Gravity.

The Research Group “Geophysics and Geoinformation” (https://www.ifg.uni-kiel.de/31.html) of the Institute of Geosciences at the Christian–Albrechts-University in Kiel (Germany) invites applications for a

Postdoc Position in the subproject „INTEGRATE: 3D integrated model of the Alps and their forelands"

Reference: INTEGRATE-Kiel

The overall goal of the joint project which is conducted in close cooperation with colleagues from the GFZ (Session 6.1 “Basin Modelling”) is to develop a consistent 3D lithospheric model for the Alpine orogeny and both foreland basin systems by integrating constraints from geophysical geological and petrological observations. This data-based 3D structural model resolving the first-order contrasts in physical properties of the crust and the underlying mantle will be the basis to derive conclusions on the rheological state of the system.

To achieve these goals a crucial prerequisite is the creation of a unified database that implies (1) a collection of existing potential field data (both gravity and gradients), but also (2) petrophysical parameters (surface densities) and (3) and fault patterns at the surface. The control of outliers and systematic datum shift errors of the gravity field and its gradients can be done by integrating new GOCE observations. They provide a unified and consistent database for the long wavelengths (80 km resolution) and can be also used to control terrestrial observations in the Alps.

Tasks:

- Create a unified database for the Alps and beyond from terrestrial and GOCE satellite data.
- Compilation of surface density database and detailed information on near-surface structure for gravity processing and isostatic investigations.
- Identification of Alpine fault patterns on different scales, investigation of basement of Alpine valleys and fault characteristics through constrained gravity/magnetic field inversion.

Qualifications:

- Master's degree (or equivalent) in Geophysics, Geosciences or Geodesy
- sound background in geophysics, potential field methods, data integration
- good background in data processing
- basic knowledge in 3D geophysical modelling
- good command of spoken and written English

Starting date	1 November 2017 (or later)
Fixed term	1 year
Salary	EG 13 TVöD (http://www.dfg.de/formulare/60_12/60_12_en.pdf) , Full time 100 % (currently 38.7 h/month)
Working hours	The position is, in principle, suitable for part-time employment.

Please submit your application by **01 October 2017** quoting the reference (INTEGRATE-Kiel) via email to joerg.ebbing@ifg.uni-kiel.de and hajo.goetze@ifg.uni-kiel.de; please, combine your application documents into a single PDF file.

If you have any questions regarding this job offer, please feel free to call us at +49 (0) 341-880 -2823 or +49 (0) 341-880 -3805.

Jörg Ebbing Hans-Jürgen Götze