The **Computational Geosciences group at the University of Cologne** invites applications for a

Research Assistant / PhD position

CFD simulations of turbulent surface winds over complex topography

starting as soon as possible. The position is offered within the research project "Optimization of aeolian soil erosion control with sand fences", funded by the German Research Foundation, and is initially for 3 years with a weekly working time of 29.87 hours (75% position). The salary is based on the German TV-L E13 scale if terms and conditions under collective bargaining law are fulfilled.

Job description:

The candidate will apply CFD simulations to model turbulent surface winds over complex topographies, in particular dunes in presence of obstacles such as sand fences and other types of windbreaks. These simulations shall be coupled to an existing continuum sand transport model to predict the changes in topography due to wind-blown sand. This is an interdisciplinary project in which the candidate will collaborate closely with the Atmospheric Modeling group of the Institute of Geophysics and Meteorology, the Applied Geomorphology and GIS & Remote Sensing groups of the Institute of Geography and the Granular Matter group of the Physics Department and the DLR / Cologne. Moreover, the candidate will have the opportunity to actively participate in field experiments to validate the numerical simulations.

Requirements:

We expect excellent knowledge of Theoretical and Computational Fluid Dynamics, and strong interest in computational and physical modeling of turbulent surface wind flows over aeolian sediment landscapes. Applicants should have a Master-of-Science-equivalent university degree in geophysics, meteorology, physics, mathematics or computer sciences, preferentially in the field of CFD, and strong background in scientific programming. Preference will be given to candidates with very good knowledge of C++ and experience with OpenFOAM. Candidates must have excellent communication skills both in written and spoken English.

The University of Cologne is an equal opportunity, affirmative action and diversity supporting employer. Handicapped persons will be given preference to other equally qualified applicants. Applications from women are particularly welcome and will be preferred in case of equal qualification and capacity.

Applications:

Interested candidates should send a CV; a cover letter describing background, training and research interests; certificates; and the contact information of two referees **as a single PDF** to eric.parteli@uni-koeln.de. Please clearly indicate which position you apply for.

Review of applications will begin after **Nov 30, 2017** and continue until the position is filled.

For more information contact Dr. Eric Parteli: eric.parteli@uni-koeln.de

Web: http://www.geosciences.uni-koeln.de/parteli.html