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DLR – DAAD Fellowships

Fellowship No. 349

Research Area : Space

Research Topic: **Level of Detail Processing and Management of Simulation Models for Interactive Earth System Analysis and Visualization**

DLR Institute: Simulation and Software Technology, DLR Braunschweig

Position: Postdoctoral Fellow

Openings: 1

Job Specification: The successful candidate will work on algorithms for Earth observation data and atmospheric simulation and measurement datasets. The main topic, however, will be on global time-dependent simulation datasets for weather forecasts and climate informatics. The goal is to process data for interactive visualization approaches. Arbitrary data sources are supposed to be combined and merged for immersive data analysis. The required Level-of-Detail model has to support view-dependent refinement and streaming from remote high-performance clusters. Topology-based techniques need to be developed to allow analysis and visualization at different levels of detail of multifield datasets. Besides mapping data on a 3D planet, extracted features from data products are to be processed in a view-dependent manner as well. Additionally to the investigation of appropriate and extended algorithms, collaborations with DLR institutes as well as external research facilities has to be initiated and strengthened. Proposal for further research grants has to be prepared. It is also expected that PhD students are supervised. The opportunity to create an own research group is supported.

Required Qualification: We are seeking strongly motivated and highly qualified candidates having profound analytical and theoretical skills. The applicant should hold a doctoral degree in Mathematics, Computer Science, Geoscience or similar discipline. Applicants should have profound knowledge in Computational Topology and Geometry and should be able to develop own prototypes for demonstrating the efficiency of appropriate data structure processing approaches.

Advantageous Skills: Experience in Scientific Visualization, Persistent Homology Computation, Discrete Morse Theory, Multivariate Segmentations in the field of Terrain Rendering and Atmospheric Physics would be advantageous.

English competence: Fluent in spoken and written English (see requirements on www.daad.de/dlr)

Earliest Start Date: Immediately

Application Deadline: Open until filled

Further Information: <http://www.dlr.de>
<http://www.daad.de/dlr>