Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft

Linder Höhe
D-51147 Köln
Telephone: +49 (0)2203 601-0
Internet: http://www.dlr.de

DAAD

**Deutscher Akademischer
Austausch Dienst
German Academic Exchange Service**

Kennedyallee 50 – D-53175 Bonn
Telephone: +49 (0)228 882-0
Telefax: +49 (0)228 882 448
E-mail: dlr-daad-program@daad.de.
Internet: http://www.daad.de

DLR – DAAD – Fellowships

Fellowship - No. 217

Research Area : Space

Research Topic: Interactive Techniques and Methods for the Spacecraft Design Process in Virtual Environments

DLR Institute: Simulation and Software Technology

Position: Postdoctoral Fellow

Openings: 1

Job Specification: The successful candidate will work on a software framework that aims at the analysis of spacecraft (particularly satellites) servicing on orbit. The goal is to design space systems which can be repaired by service satellites. Furthermore, metrics has to be determined to specify maintainability considering the whole design process and all sub-systems. This should become an important aspect for verification and validation for future systems. We are looking for new approaches in order to analyse and modify such design in immersive virtual environments. Gained knowledge should be organized by model-based architectures. For the evaluation and optimization of virtual prototypes, virtual reality techniques are to be used to visualize kinematic aspects interactively. Superimposed with scientific simulation results, the system is supposed to offer means to reveal the impact of individual modules on other parts of the spacecraft. The findings can then be used in collaborative environments for interdisciplinary discussions in order to reduce time and iterations for design studies and to avoid ignoring interdependencies.

Required Qualification: We are seeking strongly motivated and highly qualified candidates having profound analytical, programming and theoretical skills. The applicant should hold a **doctoral degree in Computer Science, Electrical Engineering, Mechanical Engineering, or similar discipline**. Applicants must be able to develop object-oriented software in C++ and are expected to have experience and interest in Software Engineering, interactive techniques for immersive environments, Scientific Visualization, and Computer Graphics.

Advantageous Skills: Experience in Scientific Visualization, preferably with the Visualization Toolkit VTK, virtual assembly processes, constraint-based computer aided modelling, and programming under LINUX would be advantageous.

English competence: Fluent in spoken and written English

Earliest Start Date: Immediately

Application Deadline: Open until filled

Further Information: http://www.dlr.de
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