



DLR – DAAD Fellowships

Fellowship No. 463

Research Area : Space

Research Topic: **Photonic integrated circuits for satellite communications**

DLR Institute: Institute of Communications and Navigation, DLR Oberpfaffenhofen

Position: Doctoral Fellow

Openings: 1

Job Specification:

Optical free-space communications enable high data throughput links to satellites, the so-called feeder-links. These links extend the terrestrial network to space, providing capacity that can reach multiple terabits-per-second. The limited capacity of the satellite platform require optimized solution for the optics and electronics in terms of size, weight, power and heat dissipation Photonic integrated circuits is a promising solution, which is already applied in terrestrial communications but require an adaptation to space applications.

The main task of this position will be to research different approaches to develop a photonic integrated circuit for space applications, supporting the requirements of optical feeder-links, in terms of data throughput and of the limitations of the satellite platform. The goal is to develop a prototype and test it in a relevant environment, as precursor of a future satellite mission. The position will require theoretical analysis, simulations and laboratory work.

Required Qualification: Degree in Mechanical Engineering / Electrical Engineering / Photonics / Micro-optoelectronics, or similar fields with superior qualification.

Advantageous Skills: Experience in the field of optical satellite communications and in the development of photonic integrated circuits

English competence: **Fluent** - See requirements on www.daad.de/dlr

Earliest Start Date: 01.12.2020

Application Deadline: 01.11.2020

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