



## **DLR – DAAD Fellowships**

### **Fellowship No. 559**

**Research Area :** Space

**Research Topic:** **Comparative Study of Regolith Sintering Techniques**

**DLR Institute:** Institute of Materials Physics in Space, DLR Cologne

**Position:** Doctoral Fellow

**Openings:** 1

**Job Specification:** Sintering of regolith, the dust blanket on the Moon and other planetary objects, has been investigated using multiple techniques in the past. Thereby, different advantages and disadvantages have been identified in those individual investigations. As a next step, the following sintering techniques shall be combined in a comparative study in the same environment: Solar sintering from a mobile reflector, laser sintering from a CO<sub>2</sub>-source, as well as microwave sintering utilizing a technical-grad source. The processes shall be optimized for all methods and characterized by in-depth investigations using both regolith simulants as well as technical and model powders for 3D printing. Results shall be published in international journals and presented at international conferences.

**Required Qualification:** Master in engineering or related field, experience in ISRU techniques

**Advantageous Skills:** laboratory experience; experiments in low and zero gravity; programming and data analysis; experiments on granular matter

**English competence:** See requirements on [www.daad.de/dlr](http://www.daad.de/dlr)

**Fluent in speaking and writing**

**Earliest Start Date:** November 1<sup>st</sup> 2022

**Application Deadline:** September 30<sup>th</sup> 2022 or until position is filled

**Further Information:** [matthias.sperl@dlr.de](mailto:matthias.sperl@dlr.de)  
[www.dlr.de/mp](http://www.dlr.de/mp)

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