

## ***Thesis / Interdisciplinary Project (IDP) / Research Practice / Study Project***

# **Enabling Access to Research Data via a Compute Cloud: A Case Study on Re-entry Flow Simulation Data (Apollo-like Space Capsule)**

for students within

## ***Informatics, Aerospace, Mechanical Engineering, Data Science, Computer Engineering or similar***

This research project aims to investigate the process of making large amounts of research data, obtained from a simulation of the re-entry flow of an Apollo-like space capsule, available to a restricted audience without Leibniz Supercomputing Centre (LRZ) credentials. The study will focus on developing new features for a compute cloud infrastructure to facilitate data access, storage, and sharing. The primary objective is to explore the implementation and configuration of a compute cloud to enable seamless data availability and collaboration.

### **Research Objectives & Tasks**

- Familiarization with sharing practices, cloud computing, and secure data access
- Close collaboration with the LRZ to obtain the necessary understanding of their data sharing policies and the LRZ Compute Cloud.
- Make data available through new features on the LRZ compute cloud.



[https://www.lrz.de/bilder/banner-small/banner\\_cloud.png](https://www.lrz.de/bilder/banner-small/banner_cloud.png)

### **Requirements**

- Basic Linux-CL skills
- Willingness to learn a server setup
- Self-initiative and ability to work independently
- Experience in Computational Fluid Dynamics (CFD) is **not required**



### **Benefits**

- Flexible working hours, remote work
- Recognition within your study program (thesis / internships / projects etc.)
- Insight into the implementation of a secure data storage and sharing solution
- Joint-mentoring by TUM and LRZ: exclusive experience with HPC-clusters

### **Links**

- Attended Cloud Housing: <https://doku.lrz.de/attended-cloud-housing-10745950.html>
- NFDI4Ing research group: <https://www.epc.ed.tum.de/en/aer/research-groups/nfdi4ing/>

### **Contact**

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