



Task Description Bachelor's Thesis

Research on state-of-the-art Life Support System laboratories

Motivation:

The next generation of crewed space missions will take astronauts further away from Earth than ever before. These missions will necessitate increasingly sophisticated Life Support Systems (LSS) to ensure astronauts stay alive, happy and healthy. High system autonomy and resilience are therefore critical to mission success.

In order to be able to simulate these complex LSS at the IRS a small-scale laboratory is going to be constructed. Apart from a central vacuum chamber the laboratory consists of various different modular LSS subsystems. The aim of this study is to investigate other LSS models to gain valuable insights for the construction of the laboratory. This thesis should identify similarities and differences between the various models, develop recommendations as well as best practices and outline possible synergies to other research groups.

Task Description:

- Familiarization with LSS technologies
- Research on LSS laboratories and research groups
- Identification of similarities and differences
- Development of recommendations and best practices for the IRS LSS laboratory
- Outline of possible synergies with other research groups
- Documentation

Internal advisor:

Felicitas Leese

felicitas.leese@irs.uni-stuttgart.de

Start date:

Choose Date

Professors and Associate Professors at IRS:

Prof. Dr.-Ing. Stefanos Fasoulas (Managing Director) · Prof. Dr.-Ing. Sabine Klinkner (Deputy Director) ·
Prof. Dr.-Ing. Claas Olthoff ·
Hon.-Prof. Dr.-Ing. Jens Eickhoff · apl. Prof. Dr.-Ing. Georg Herdrich · Hon.-Prof. Dr. Volker Liebig ·
Hon. Prof. Dr. rer. nat. Christoph Nöldeke · Prof. Dr.-Ing. Stefan Schlechtriem · apl. Prof. Dr.-Ing. Ralf Srama
BW-Bank Stuttgart · IBAN: DE51 6005 0101 7871 5216 87 · BIC: SOLADESTXXX · VAT-ID: DE 147794196