IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
On Track - Undergraduate Space Education (3)

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GETTING STUDENTS CLOSER TO UNIVERSITY RESEARCH – LIFE SUPPORT SYSTEM
TRAINING AT THE UNIVERSITY OF STUTTGART

Abstract

The Life Support Systems (LSS) group at the Institute of Space Systems (IRS) – University of Stuttgart has been working on the last two decades investigating potential future solutions for long duration missions. An important focus has been on system analysis through LSS simulations and on the use of microalgae, especially *Chlorella vulgaris*, for space applications. In 2017, the knowledge gain in the working group was used to provide the students a hands-on training, allowing them to apply the theoretical knowledge in a LSS design and simulation task and an algae cultivation laboratory experiment. The development and the results obtained were very successful, and the teaching staff decided to repeat the experience in 2018, and adapt it to the current research project. In November 2018, the experiment PBR@LSR (*Photobioreactor at the Life Support Rack*) will be launched to the International Space Station. The experiment and development of the g adapted photobioreactor was initiated in 2014 by DLR and the Institute of Space Systems (IRS) of the University of Stuttgart with Airbus Defence and Space as prime for the flight hardware. As part of this project, several experiments have been carried out at the IRS, to select/design the hardware required for the project and the cultivation parameters. In 2018 LSS hands-on training, the students will get as close as possible to the institute experience in the flight experiment. This paper will explain the organization of the workshop, the results obtained and the lessons learned for future editions.