

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

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## ÜBERFLIEGER - A STUDENT COMPETITION FOR ISS EXPERIMENTS

### Abstract

Motivating the next generation of space explorers is one important task of a space agency. In order to maintain a skillful workforce in the field of aerospace engineering and related natural sciences, it is essential to get in contact with young people of all ages and to show them what the fields of Science, Technology, Engineering and Mathematics (STEM) can offer to them. The German Aerospace Center (DLR), Germany's national space agency, is doing exactly this. With activities like DLR\_next, the DLR\_School\_Labs or the STERN and REXUS/BEXUS programs, it is engaging potential future engineers and scientists of all ages. Astronaut missions give these educational activities a special boost. The public attention they generate greatly enhances the impact of existing STEM programs and offers a special opportunity to attract student interest in unique ways. For example, German Astronaut Alexander Gerst's 2014 Blue Dot mission with the European Space Agency (ESA) included programs like Beschützer der Erde and Columbus Eye to leverage International Space Station (ISS) capabilities for educational purposes. Astronaut Gerst will be flying to the ISS again in 2018. In preparation for his mission, last December DLR and the German Physical Society (DPG) launched Überflieger, a competition for university students (undergraduate and graduate) to develop and build their own microgravity experiment. In a stepwise process, experts will select three teams of students whose research will be launched to the ISS during Astronaut Gerst's 2018 mission. Überflieger is a first-of-its-kind program open to students from all German universities. During a period of about 15 months, the students will undergo a full project cycle involving premier hands-on experience in developing and building space hardware. They will be supported by technical experts and receive partial funding from DLR. Members of the three winning teams will also have the opportunity to witness their payloads blast off to space at the rocket launch site, an inspiring and

motivational experience. Überflieger is made possible through a partnership with DreamUp, working in conjunction with NanoRacks, LLC and its Space Act Agreement with NASA. It is funded by the Federal Ministry for Economic Affairs and Energy based on a resolution by the German Bundestag. This paper describes the current status of the program.