

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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“SATELLITE TECHNOLOGY” AND “SPACEMASTER”: TWO INTERNATIONAL,
INTERDISCIPLINARY MASTER PROGRAMS EMPHASIZING DATA PROCESSING ASPECTS

Abstract

University Würzburg offers a broad spectrum of spacecraft engineering programs at Bachelor, Master and PhD level. Those are hosted by the Computer Science Institute, emphasizing modern microelectronic and data processing systems onboard the satellites, as well as algorithmic aspects in the application sectors related to Earth observation, telecommunication and scientific exploration. Specific focus is placed on hands-on experiences by the design of FloatSats, CanSats and educational CubeSats in order to complement lectures by practical implementation aspects.

The significant demand for aerospace engineers led 2005 to the foundation of the interdisciplinary program “SpaceMaster”, established by six European Universities. It was established in the European elite-program “Erasmus Mundus” to train talented young people in the challenging subject of space science and technology. The universities cooperate and contribute their special expertise to the courses in order to cover the broad interdisciplinary area of spacecraft design and space environment. In particular system design techniques are emphasized, which are of interest for a broad spectrum of industrial applications well beyond aerospace. The students follow either the more scientific tracks on space physics (with an emphasis on instrumentation and astronomy, or atmospheric and planetary physics) or an engineering track emphasizing the design of spacecraft and mission realization.

Due to the significant student demand SpaceMaster is now complemented by “Satellite Technology” where 12 Bavarian partners (Universities, research institutes and industry) active in space applications cooperate within the Elitenetzwerk Bayern to offer to the students in English language a program addressing in addition to satellite design aspects also the most important application fields in Earth observation and in telecommunication. Here the students are also supported to perform at selected reputed international partner universities related study segments abroad.

In this contribution the international university cooperation, the contents of the curriculum, as well as the specific challenges and acquired experiences in this international program are addressed.