

# Transfer of the Knowledge Gathered During the Mission of the skCUBE and the GRBAAlpha Satellites Into the Education Process

M. Šmelko<sup>1)</sup>, P. Hanák<sup>1)</sup>, P. Lipovský<sup>1)</sup>, M. Češkovič<sup>1)</sup>, K. Draganová<sup>1)</sup>, K. Semrád<sup>1)</sup>

<sup>1)</sup>Technical University of Košice - Slovak Republic

## Abstract:

The paper presents the knowledge transfer from missions of the first and the second Slovak satellites skCUBE and GRBAAlpha into the educational process at Faculty of Aeronautics, Technical University of Košice. The Faculty of Aeronautics is the successor of the Air Force Academy of Milan Rastislav Štefánik in Košice, which has been transformed from military academy into civil faculty in 2005. The tradition of aeronautical education in Košice began in 1959. We are proud that our faculty has been the key player in important historical steps. The first European astronaut and his backup were our students as well as the first Slovak astronaut and his backup and we were the important partner of first and second Slovak satellite development.

The transformation process from military into civil education system has been accomplished by the accreditation of several study programs. It was Avionics systems, Aircraft Engineering, Pilot, Air Traffic management and Air Traffic Control. At the time of our first satellite mission we began the transformation process with aim to consolidate our study programs with better known Aero Space Engineering. This process has been finalized in 2019 when we accredited new study programs Air and Space Technologies (Bc. degree), Air and Space Engineering (Ing. degree) and Air and Space Systems (PhD. degree).

During the satellite missions mentioned above, we gather the knowledge from sensor systems, navigation, passive and active stabilisation, electro-magnetic actuator design, antenna design and additive manufacturing. All these information were continuously integrated into actual education process and several satellite parts were developed directly by the students during their study. The knowledge transfer is described in details in article with all related subjects.