

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
ON TRACK - UNDERGRADUATE AND POSTGRADUATE SPACE EDUCATION (2)

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THE SUMMER SCHOOL ALPBACH - FFG'S APPROACH FOR A SPECIALIZED TRAINING IN  
SPACE SCIENCE

**Abstract**

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60 young highly qualified European science and engineering students converge annually for stimulating 10 days of work in the Austrian Alps. 4 teams compete to design a space mission judged by a jury of experts. Students learn how to approach the design of a satellite mission and explore new and startling ideas supported by experts. The Summer School Alpbach enjoys 30 years of tradition in providing in-depth teaching on different topics of space science technology, featuring lectures and concentrated working sessions on mission studies in self-organised working groups.

The Summer School is organised by FFG and co-sponsored by the European Space Agency (ESA), and the national space authorities of its member and cooperating states as well as by the International Space Science Institute (ISSI). The Alpbach objectives are:

- motivating participants to seeing space as an exciting and challenging endeavour
- working in international, multi-disciplinary teams by posing challenging topics for designing space missions
- to teach a range of scientific topics relevant to possible science missions to design, and to teach about the different aspects of the complex interplay between scientific objectives and requirements, missions and spacecraft design as well as mission costing
- to develop the ability to work in teams for a common end, prepare presentations and reports under serious time constraints
- to enjoy the unique "Alpbach experience"

Each year, a new topic is offered that is scientifically and technologically challenging for the students. Students are formed into four teams, each of which designs a scientific space mission intended to answer some of the key questions relating to the Summer School topic. By the end of the workshop, the teams will have considered not only the instrumentation—having shown that it can meet the scientific requirements, but also the spacecraft orbit, its construction, its sub-systems, and its launch, together with a cost estimate. The results of the projects are delivered as short "mission studies" and presented to an expert review panel.

The Summer School is open each year to 60 selected young science and engineering students and graduates from among ESA member and cooperating states.

The Summer School Alpbach is a well tried formula which motivates the young generation to follow space careers and to see space as an exciting and challenging endeavour.