

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Calling Planet Earth - Space Outreach to the General Public (6)

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KEYNOTE: USING DESIGN COMPETITION PROJECTS FOR A SPACECRAFT DESIGN
CAPSTONE**Abstract**

In the search for realistic design projects for a spacecraft design capstone course, an excellent source of project ideas comes from various design competitions. At Penn State University, we have used this source of design projects successfully for nearly two decades in our senior Spacecraft Design courses. In recent years, we have used three sources of these projects: The American Institute of Aeronautics and Astronautics Space Design and Space Transportation competitions, the NASA-sponsored RASCAL (Revolutionary Aerospace Systems Concepts – Academic Linkage) projects and the Mars Society's design competitions provide detailed ideas for realistic projects. Because of the well-conceived projects, the students appreciate the realism of the projects, which inspires them to perform at a high level. Additionally, many students use this as an entry point into the world of systems engineering, whether it is designing space missions to Pluto or designing a drone aircraft to deliver packages.