

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Open Space: Participatory Space Education and Outreach (8)

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THE LUNAR INITIATIVES

Abstract

The goal of the Lunar Initiatives sponsored by Flexure Engineering are to extend beyond LEO the highly successful CubeSat Paradigm, an architecture and collaborative mission development and management paradigm based on open source hardware and software evolved by participant communities who develop robust standardized buses with innovative payloads 'tested by flying' at low cost. Hands on Collaborative Workshops: In support of this goal, we sponsor combined in-person/virtual events: the LunarCubes Workshop (lunarcubes.com, next scheduled November 13-15 2013, Palo Alto) and Lunar Science and technology Applications Workshop (LSA2013.com, next scheduled April 10-12 2014, Cocoa Beach) to bring together scientist and engineer designers and developers of science-driven advanced cubesat concepts, providers of innovative compact hardware and software components, and investors, enabling productive collaboration. Through these collaborations, we are promoting the development of open source/open standards model that will allow for the rapid adoption of successful ideas and methods while allowing individuals and companies to control their key inventions that will be the foundation of their success. Through use of internet and social media tools, we provide opportunities and vehicles for collaboration. We are also in the process of supporting the development of and providing online tools to support such collaborations. Updatable Payloads and Technologies Database: We have created SPACE (Small Payloads and Advanced Concepts for Exploration), an extensive interactive spreadsheet representing development history, design, applications, and requirements, and operating characteristics of potential payloads and supporting components at various stages of development to support a broad range of applications (resource utilization, field geology, monitoring packages, observatories). Inputs are meant to reflect a broad constituency reflecting national and international interests. The spreadsheet will be hosted at the LunarCubes.com website (by Flexure Engineering), with a mirror site at the National Space Society, and will be continuously updated and maintained as an open source directory. Special Interest Groups: Flexure sponsors cubesat-related special interest groups (SIGs) that interact during monthly telecons. These include: Lunar-Cubes Small Payloads and Advanced Concepts, Lunar-Cubes Space Coast Initiative, Deep Space Networks and Communication, and Cryogenic Applications. Collaborative websites are provided to act as clearing-houses for the work of participants or their collaborators. A primary goal is to identify challenges and potential solutions in each of these areas and form collaborative teams to work in these areas of research and development.