

SYMPOSIUM ON VISIONS AND STRATEGIES FOR THE FAR FUTURE (D4)
Novel Concepts and Technologies (1)

Author: Dr. James Burke
The Planetary Society, United States, jdburke@caltech.edu

Mr. Marcin Bujar
International Space University (ISU), United Kingdom, marcin.bujar@community.isunet.edu

Mr. Ales Nohel
Slovak Republic, ales.nohel@community.isunet.edu

Mr. Sireesh Pallikonda
France, Sireesh.Pallikonda@community.isunet.edu

Ms. Danijela Ignjatovic Stupar
International Space University (ISU), France, danielaignj@yahoo.com

ARCHITECTURAL CONCEPTS FOR A LUNAR CAMPUS OF THE INTERNATIONAL SPACE
UNIVERSITY

Abstract

The founders of the International Space University visualized a three-stage development: first, summer sessions, second, a permanent campus, third, a campus off Earth. The goal of this paper is to begin discussion of the third stage, assuming it to include a campus hosted within a large settlement on the Moon. While it is now impossible to predict the reasoning that could lead to establishing such a settlement, enough is known about human needs and lunar environments that some required characteristics of the lunar installation can be confidently imagined. Here we intend to focus on the physical and psychological features of a lunar campus as they are driven by the university's curriculum and the well-being of its staff. The future architect will be constrained by the need to minimize mass transport from Earth to Moon but will be free to take full advantage of information transfer. This enables us to visualize what could be done even with today's technologies, and then to sketch out some possible future technology needs. One of those will surely be improved, robust long-term information storage in the lunar environment, enabling the ISU lunar campus to host a backup archive of critical data for recovery from any global catastrophe on Earth. In previous work, including a paper at the 2013 symposium of ISU, the authors have described some precursor demonstrations that could begin now to build credibility. Here we intend to address the next logical steps toward readiness for ISU's third development stage.