

24th SYMPOSIUM ON SPACE ACTIVITY AND SOCIETY (E5)
Moon, Mars and Beyond: Analogues, Habitation and Spin-Offs (2)

Author: Ms. Despoina Linaraki
Technical University of Crete, Greece

ARCHITECTURAL DESIGN OF A RESEARCH SPACE STATION IN THE VENUSIAN CLOUDS

Abstract

The proposed paper presents a research project for a research space station architectural design on the Venusian atmosphere. It is based on human psychology and sociology in enclosed spaces, the physiology of the human body, the technology that can occur from the chemical elements provided and the environmental conditions in the clouds of Venus.

The research follows a multidisciplinary approach in order to examine how architectural space can affect humans living in extreme environment. The main questions for the architectural design was: How architectural design is going to be if we design for people in isolation in outer space? How we design in the extreme environment of Venus? My main purpose was to elevate the participation of architectural design methodology in order to address complex humanistic issues in the creation of new space communities.

The choice of study area is based on the research of Geoffrey A. Landis, Colonization of Venus, Feb. 6.2 2003, in which he describes the possibility of a floating city in the Venusian atmosphere.

The design aims to create a beneficial biosphere, it is trying to transfer an earth-like environment in the clouds of Venus, with new approaches of architectural design. The community is designed for 40 people, (about 17.000sqm) but it can accommodate another 20 and it has the capability of future expansion. The design began with diagrams about new life experiences into the clouds. The operating plan includes private rooms for rest and research, public sites, cultivation areas, industrial areas and places of emergency.

The space station will incorporate the outcome of research and investigations that have been found to support a friendly and homey environment for the astronauts by creating an interplay habitat. The quality of the place that has been designed based on theories deriving from human psychology and sociology. The color, sound and light change whenever it is necessary to make them feel more intimate. New experiences are formatted according to environmental parameters and human feelings.