

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)

Living In Space - Education And Outreach In Space Life Sciences and infrastructure development for capacity building (7.-A1.8)

Author: Mr. Antonio Eduardo GUTIÉRREZ NAVA
Red de Talentos Mexicanos en Exterior, Capítulo Alemania e.V., Germany,
Antonio.Gutierrez@redtalentos.de

Mr. Octavio Ponce
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, octavio.ponce@dlr.de
Mr. Irvin Arteaga
Mexico, irvin.artega@hotmail.com

SPACE: EDUCATION FOR EVERYBODY: EVERYWHERE

Abstract

The early-involvement of students with space science increases the chances to begin a career in the field or converge into another passionate branch in the study of the universe on the course. This study assesses a nanosatellite network as a tool for tele-education in space science for developing countries. This illustrates the structure of universities and research institutes, the involvement of students on building their own satellites, the telecommunication protocol and the importance of information and experiences exchange. The role of governmental and private sectors to make this a global a solution is outlined introducing Latin-America as an example.

The proposal introduces formation flying and communication in multiple channels. It is addressed the experimentation and validation of instruments at real scale with the latest technology in shared laboratories as an alternative to avoid expensive infrastructure investment among universities. Any student will access the data in an open source format accessible from the nearest ground station to benefit their community and the management of their local environment. The feasibility of ground station construction in strategic access points in remote areas is analyzed. The dimension of the project gives access to low cost technologies; nanosatellites can be produced in series, under international space policies, profiting of the cheap manpower and launched in tandem due to its low weight and size. The goal would be achieved when students learning Space Technologies are able to transfer their knowledge and bring the wisdom of space to students in rural areas, giving them the opportunity to discover a young space career through real applied science.

Latin-America needs a boost in space exploration far than bilateral agreements. International collaboration will give rise to an increase on education level and economy development. Space research breakthrough opens the possibility to stop high dependency on natural resources exploitation and technology importation. The major motivation of this strategy is the support of tele-education programs against educational backwardness in rural areas, one of the main reasons holding back the development of the region.