

26th IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
20th Workshop on Small Satellite Programmes at the Service of Developing Countries (1)

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UNISEC-GLOBAL'S MODEL FOR SPACE ENGINEERING CAPACITY BUILDING IN SPACE
EMERGING COUNTRIES

Abstract

UNISEC-Global was established in 2013 with the vision 2030-ALL which is “By the end of 2030, let’s create a world where university students can participate in practical space projects in all countries”. Currently, UNISEC-Global consists of 16 Local Chapters (LCs) and 50 Point of Contact (POC) in 50 nations. Local Chapters’ Experience sharing and know-how with space emerging countries was one of the main motivations to establish the UNISEC-Global as well as fostering the international cooperation. Since its establishment, the UNISEC-Global is conducting its core activities for capacity building annually which include Mission Idea Contest (MIC), CanSat Leader Training Program (CLTP), and UNISEC-Global Meetings. Those activities attract the attention of students, researchers and engineers from space emerging countries because of their affordability. In 2015, a new activity has been emerged which is the Debris Mitigation Competition (DMC) to facilitate the sharing of innovative solutions for debris mitigation and developing effective deorbit devices that can be demonstrated and validated with Micro/Nano-Satellites. The outcomes of Mission Idea Contest and Debris Mitigation Competition were compiled into four IAA book series. Starting from the 8th Cycle of CanSat Leader Training Program, a new CubeSat educational kit, called HEPTA-SAT, have been implemented. HEPTA-Sat is a reduced model of the standard CubeSat in which the participants learn how each subsystem functions and how to integrate subsystems into a satellite through experiencing the process of assembly, integration including programming system implementation and testing. UNISEC-Global meetings provide a forum to discuss about problems and give some advice to those in need. Within this framework, matters about launching means, exchange of technical information, space debris and other issues can be discussed effectively. In 2017, UNISEC-Global became a permanent observer at COPUOS (Committee on Peaceful Use of Outer Space). The observer status will enable UNISEC-Global to convey the views and concerns of the Micro/Nano-Satellite community to the whole world. In this paper the mutual contributions of Space Emerging Countries and UNISEC-Global are presented.