

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Hands-on Space Education and Outreach (8)

Author: Mr. Abhas Maskey  
Kyushu Institute of Technology, Japan, maskey.abhas481@mail.kyutech.jp

Mr. Saman Buddhacharya  
Nepal, samanratna2018@gmail.com

EXTREMELY LOW-COST CANSAT TRAINING METHOD IMPLEMENTED IN NEPAL FROM  
2016-2020 TO TEACH SPACE SYSTEMS ENGINEERING**Abstract**

Graduates from University Space Engineering Consortium's (UNISEC) CanSat Leadership Training Program (CLTP) held annually in Japan are expected to return and instigate the CanSat program in their home countries. These programs teach students and educators the basics of space systems engineering, wireless communication and embedded product design through non-flight, educational satellites called CanSat. However, using the same equipment and training process as in Japan to conduct such hands-on training in countries like Nepal is not practical. Even the most basic CanSat kit, priced at a 1000 dollars, is expensive. A novel, low-cost and minimalist training model had to be designed from scratch in order to satisfy constraints imposed in the country. Since the first pilot program at Kathmandu University in 2016, SastoSat CanSat Program has been conducted an additional five times including one in 2020. More than 150 students from grade 7 to graduate level related to over 15 different educational institutions have been directly benefited. The program now uses self-designed kits under 30 dollars and the training is given at no cost to the trainees. The paper explains the principles of the model, its design, implementation, impact and sustainability. The paper also discusses the program's future vision and challenges for expansion, collaboration and growth to other regions of Nepal and beyond its borders to Bhutan and Bangladesh through UNISEC's network.