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Pakistan National Student Satellite Program (PNSSP)

By

Prof. Dr. Bilal Alvi
Sir Syed University of Engineering and Technology, Karachi, Pakistan
alvibilal@hotmail.com

Summary:

Micro-satellite development at University environment provides hands-on experience of building a satellite from design through launch and orbit operations for students in a cost effective way. Since multi-disciplinary efforts are required for satellite program are normally available in Universities therefore this kind of projects coupled with team building would provide valuable contribution to aerospace field. It would not only involve training scientists and engineers for the future but it can also used as a tool for development of new technologies using research culture of university environment for future system.

Pakistan Space and Upper Atmosphere Research Commission (**SUPARCO**), the national space agency has taken an initiative in the form of "Pakistan National Student Satellite Program (PNSSP)", envisioning a long-term program to involve, train and prepare university students for the high-tech space industry. The proposed program is a way forward for sustainable and progressive student satellite developments under the umbrella of SUPARCO. Sir Syed University of engineering and Technology, Pakistan has taken initiative to join hand with SUPARCO for first student satellite program. The development of attitude determination and control, and power sub systems will be carried out at Electronic Engineering Department with review and funding support from SUPARCO. The project will be implemented through involvement of students, research scholars and faculty members. The proposed design of satellite is a 50 kg class Micro Satellite, measuring 50cm by 50cm by 50cm, with an average power of ~50 W and design life of 1-2 years, to be launched in a low earth orbit (LEO) at ~500 km altitude, carrying Store forward, earth μCAM, and scientific experiments payload.

This talk will describe the system design concept, science mission, common subsystem description, and major challenges for development of student satellite.