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SPACE ENGINEERING EDUCATION THROUGH ON-THE-JOB TRAINING IN NANO-SATELLITE
FOR CAPACITY BUILDING IN BASIC SPACE TECHNOLOGY DEVELOPMENT

Abstract

Developing countries that in the past have mostly focused on applications-oriented aspects of space technology are increasingly also interested in building indigenous capacities for basic space technology development. A nano-satellite development program is an ideal first-step to establish such a basic capacity. Experience gained through on-the-job training, going through the complete cycle of designing, building and testing a satellite, is crucial to gain this capacity. To fill that demand there is a need for educational institutions to offer appropriate on-the-job training opportunities. In 2010, Kyushu Institute of Technology (KIT) and the United Nations Office for Outer Space Affairs launched a long-term fellowship programme on nano-satellite technologies for post-graduate level students from developing countries and countries with economies in transition. The programme has been quite successful. Every year since 2011, two students enrolled in a Ph.D. course of KIT. The fellowship selection process was very competitive, where nearly 40 applications came from all over the world every year. Based on the success, the fellowship program will be expanded from the class of 2013, gaining the support of Japanese government. The number of fellowship recipient will be increased to six instead of two. Students seeking a Master degree can also apply. To accommodate the large number of international students, KIT will launch a new post-graduate curriculum, space engineering international course, where the students can gain extensive knowledge necessary to build basic space technology in their home country through various lectures on space engineering in English, laboratory workshop on satellite testing, participation in various space projects. This paper describes the details of the new development of the fellowship program.