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SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Interactive Presentations (IP)

Author: Mr. Benjamin Bonsu
Kyushu Institute of Technology, Japan, q595908b@mail.kyutech.jp

Mr. Joseph Quansah
All Nations University, Ghana, jquansah@anuc.edu.gh
Prof. Cho Mengu
Kyushu Institute of Technology, Japan, cho@ele.kyutech.jp
Mr. Ernest Matey
All Nations University, Ghana, ematey@anuc.edu.gh

FIRST EDUCATIONAL SATELLITE TO ENHANCE SUSTAINABLE SPACE PROGRAM IN GHANA

Abstract

Ghana's dream to become a space faring nation over the past 60 years has been achieved by researchers at the All Nations University Space Science and Technology Laboratory (ANU-SSTL) in Ghana. ANU-SSTL was established in the year 2012. The vision is to lay down a foundation and advance a sustainable space program by building human capacity in space Science and Satellite Technology in Ghana and Africa. The ANU-SSTL started with CANSAT technology and was successfully launched in May 2013. The success of the CANSAT launch is to create public awareness and to stimulate student interest in STEM education related to space science and technology. The CANSAT outreach program caused 30 space clubs to be established in high schools. One of the objective of ANU-SSTL is to deepen the understanding of satellite communication, therefore we developed the first Ghana University Amateur VHF/UHF Ground station to be used as a center for Ghana young engineers, students and researchers to build their capacity on how to track and receive telemetry data from satellite passes over Ghana Region. ANU-SSTL Ground station has joined ground station network which includes Info stellar Networks and UNISEC ground station network in Japan to support university satellites that passes over Ghana region. The ANU-SSTL organizes annual conference known as Space Science and Satellite Technology Application (SSSTA) Conference and World Space Week Celebration. SSTA is a platform where both local and international space enthusiast gather to share and exchange ideas to enhance the sustainable growth of space program in Ghana. Ghanasat-1 is a two years (2015-2017) project under the Birds Project initiated by Kyushu Institute of Technology in Japan to give opportunities for emerging countries to build their capacity in space science and technology. The Ghanasat-1 is a 1U CubeSat and its missions are to take picture of our homeland Ghana, broadcast our Ghana National anthem song as it passes over Ghana and study single Event latch-up occurrence on satellite to contribute to space science research. GhanaSat-1 will be launched in the mid 2017 via ISS launch to an Orbit of altitude 420km. This paper give details about Ghansat-1 development phase and lesson learned and future plans of ANU-SSTL contribution to sustainable space program in Ghana.