

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
In Orbit - Postgraduate Space Education (4)

Author: Prof. Fabio Santoni
Sapienza University of Rome, Italy

Prof. Lucy Irungu
Machakos University, Kenya
Prof. Peter Mwita
Machakos University, Kenya
Dr. Charles Mwaniki
Machakos University, Kenya
Dr. John Njoroge Kimani
Kenya Space Agency (KSA), Kenya
Dr. Alfonso Lamanna
ASI - Italian Space Agency, Italy
Dr. SABRINA RICCI
Italian Space Agency (ASI), Italy
Dr. Maria Messina
Italian Space Agency (ASI), Italy

THE ITALIAN-KENYAN INTERNATIONAL POSTGRADUATE COURSE IN “CAPACITY
BUILDING IN ASTRONAUTICS”

Abstract

Sapienza University of Rome (Italy) and Machakos University (Kenya) jointly established the International Postgraduate Course in “Capacity Building in Astronautics” (JIPCCBA). Aim of the course is promoting Kenya domestic space capacity to develop an advanced course in aerospace, locally and autonomously, in the near future. This Course takes the heritage and is based on the lessons learned in the Joint International Postgraduate Course in Space Mission Design and Management (JIPCSMDM), run in the last two academic years. Kenya and Italy have long cooperation tradition in aerospace, dating back more than fifty years. Sapienza University of Rome established a space base in Malindi (Kenya), managed today by the Italian Space Agency (ASI), hosting a satellite control center and telemetry stations. Kenya has recognized aerospace activities as a technology development driver and established the Kenya Space Agency last year. Thanks to the support of UNOOSA-JAXA, Kenya was able to develop and launch its first satellite, the 1U Cubesat 1KUNS-PF (May 11th 2018). The satellite was developed as educational hands-on activity within the JIPCSMDM. Sapienza University of Rome, ASI, Kenya Space Agency (KSA) and the companies Roboptics, NPC, Officina Stellare and Vitrociset, supported the program. The International Postgraduate Course in “Capacity Building in Astronautics” is addressed to international students. In particular Italian and Kenyan students have equal opportunities to study in the partner organizing country, with the perspective of promoting international cooperation among young generations. Kenyan and Italian Professors take part in the course contents definition and in the course teaching activity. The course is supported by KSA and by ASI, which provides scholarships for Italian and Kenyan students, offering opportunities for student internships at the Broglio Space Center in Malindi and with lectures and seminars by its own experts within the course. Through the support of KSA, seminars in the major space related scientific institutions in Kenya are given, such as the World Meteorological Organization Regional

Training Center (IMTR/WMO-RTC) and the Regional Center for Mapping of Resources for Development (RCMRD). Besides describing the JIPCCBA, the paper deals with the lessons learned from the similar collaboration experience in the JIPCSMDM, previously developed by Italy and Kenya. The Program of the new course is presented along with lessons learned and innovations. Particular focus is given to hands-on experiences in the joint development of the 1KUNS-PF Cubesat, now operational in orbit, and the future activity related to the development of the scientific Italian-Kenyan satellite IKUNS-LEDSAT.