

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
LIFT OFF - PRIMARY AND SECONDARY SPACE EDUCATION (1)

Author: Dr. Chantal Cappelletti
G.A.U.S.S. Srl, Italy, chantal.cappelletti@gmail.com

Mr. Fabrizio Paolillo
Scuola di Ingegneria Aerospaziale, Italy, fabrizio_paolillo@yahoo.com

Prof. Simone Battistini
Scuola di Ingegneria Aerospaziale, Brazil, battistini@unb.br

Mr. Francesco Guarducci
University of Southampton, United Kingdom, francesco.guarducci@gmail.com

Mr. Luigi Ridolfi
Scuola di Ingegneria Aerospaziale, Italy, Ridolfi.Luigi@gmail.com

ALERE FLAMMAM

Abstract

In the early 1980's an evident decline on science and mathematics education has been analyzed by different technical reports. For this reason the government and the professional science and education communities have to encouraging more students to study science, engineering and technology. A method to improve the students enthusiasm on scientific field could be hands on education. Since early nineties GAUSS (Group of Astrodynamics of the University of Rome "La Sapienza") at Aerospace Engineering School sets itself the goal to improve didactical programs where the students have not only to study theoretical lesson but are also involved in manufacturing prototype and aerospace systems. The main GAUSS hands on education program is UNISAT with the aim to design, manufacturing, launching and operating in orbit of a university microsatellite involving graduate and undergraduate students with teacher and researcher supervisor. GAUSS students are also involved in small rocket prototype design and manufacturing with MOSCA (MOdelling SCAle) project and in SPADE (SPAce Debris) program Recently GAUSS has launched "Alere Flammam" project in an effort to reverse the decline in the popularity of science among elementary and secondary students. Future generations of schoolchildren need to be encouraged to realize their full potential in science, engineering and technology and a method can be involve directly the students in hands on program designed considering their background. For this reason Alere Flammam is divided in three parts: "Astronautics in High School" program for secondary students, "Space Camp" for elementary students and "Space Museum". Secondary students participating in "Astronautics in High School" after theoretical lessons can design and manufacturing a microsatellite mock-up. During this program they can also propose payloads to board on GAUSS microsatellites. The GAUSS goal in educational field is also to offer a uniquely exciting and creative learning experience to younger students fusing science and games in a Space Camp where students can play with aerospace basics principles and start to learn space subsystems. The "Space Museum" at School of Aerospace Engineering will give the possibility to know the Italian space activities history.