

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Space Education and Outreach (8)

Author: Prof. Chris Welch  
International Space University (ISU), France, chris.welch@isunet.edu

Dr. Barnaby Osborne  
Kingston University, Australia, barnaby.osborne@gmail.com

KUSPACE: EMBEDDING SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS  
(STEM) AMBASSADOR ACTIVITIES IN THE UNDERGRADUATE ENGINEERING CURRICULUM

**Abstract**

The UK national STEM Ambassadors programme provides inspiring role models for school students in science, technology, engineering, mathematics (STEM) subjects. Ambassadors provide a change to regular lessons and activities and provide the following benefits to school students:

- Make STEM subjects relevant to everyday experience
- Motivate them, and give them confidence and enthusiasm
- Improve their key skills and increase their STEM understanding
- Enhance their understanding of career opportunities in STEM sectors

STEMNET, the national body responsible for STEM Ambassadors aims to provide more than 27,000 STEM Ambassadors nationwide by the end of 2011. No prior experience of working in schools or with young people is required as STEMNET provides training for STEM Ambassadors. Once trained, STEM Ambassadors have access to a private section of the STEMNET website. They need to carry out only one activity per year to remain on the active roster of Ambassadors.

This paper reports on a project at Kingston University to embed STEM Ambassador training and activity in Year 2 of the MEng/BEng (Hons) Aerospace Engineering, Astronautics and Space Technology degree. The project, known as KUSPACE (Kingston University Students Providing Amazing Classroom Experiences), was conceived to develop students' communication, planning and presentation skills, build links between different cohort years, while providing a valuable contribution to local primary schools' STEM programmes and simultaneously raising the public engagement profile of the university. By needing to engage with school students and the UK National Curriculum, the Kingston students also had to develop their own understanding of process of education. Part of the formal assessment of KUSPACE for the students required them to reflect on their experience of the project, what they learned and how it affected their own approach to learning.

This paper describes pedagogical conception of the KUSPACE, its implementation in the curriculum, the delivery of it in the university and in the schools and its effect on the undergraduate students as well as identifying good practice and drawing attention to lessons learned.