

## SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)

Living In Space - Education And Outreach In Space Life Sciences and infrastructure development for capacity building (7.-A1.8)

Author: Dr. Marlene MacLeish  
United States, mmacleish@msm.edu

GLOBAL PARTNERSHIPS: EXPANDING THE FRONTIERS OF SPACE EXPLORATION  
EDUCATION

**Abstract**

During the 2010 Heads of Space Agencies Summit, celebrating the International Academy of Astronautics' (IAA) Fiftieth Anniversary, space faring nations from across the globe issued a collective call for robust international partnerships to expand the frontiers of space exploration and generate knowledge for improving life on Earth. Educators are playing a unique role in this mission. They are developing strategic partnerships and sharing best educational practices to further global understanding of the benefits of space exploration and to prepare the next generation of scholars for participation in a global, 21st century space workforce. Educational Outreach Programs (EOP) with successful measurable outcomes are: using information technologies to disseminate knowledge to new audiences, including the "iPod" generation; creating indigenous materials that have cultural resonance for emerging space societies; aligning educational products and processes for effective teacher professional development and comprehensive pipeline programs; and building education systems that judiciously use scarce resources to integrate space into their programs. The National Space Biomedical Research Institute (NSBRI), the National Aeronautics and Space Administration (NASA) and Morehouse School of Medicine (MSM) have sustained a thirteen-year international space education partnership that encompasses these elements. Beginning with NASA's STS-90 six-nation Neurolab Spacelab Mission, the consortium has sustained outreach portfolios that support NASA's education mission; deliver comprehensive Kindergarten through postgraduate level programs; and build international collaborations in support of a global vision for space exploration education. This paper references the consortium's extensive EOP operation, including scholarly interchanges with space exploration audiences in Africa, Canada, Czech Republic, Greece, Scotland, Italy, Austria, and Spain to make the case for using innovative, emerging information technologies to transfer space exploration knowledge to students, engage educators from across the globe in discourse about science curricula and educational standards, and foster multimedia collaborations that inform citizens about the benefits of space exploration for life on Earth. Also, the paper briefly describes the design and achievements of the NASA-NSBRI-MSM EOP programs, including organizational arrangements and international collaborations with the IAA to craft roadmaps with emerging space nations, publish scholarly works, and promote a "global voice" for space life sciences educational outreach. The 62nd International Astronautical Congress: African Astronautics, will provide a unique forum for garnering feedback to refine these international partnerships and to conceptualize new approaches that support educators in their mission to expand the frontiers of space exploration and generate knowledge for improving life on Earth.