

Space Life Sciences Directorate Innovation and Collaboration for Education and Outreach

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Johnson Space Center's (JSC's) Space Life Sciences Directorate has initiated the Student Teacher Outreach Mentorship Program (STOMP) as a collaborative and innovative approach to achieving its education and outreach goals. STOMP will contribute to sustaining and enhancing Space Life Sciences core competencies and inspiring the next generation to pursue science, technology, engineering, and mathematics (STEM) careers.

The Tufts University STOMP is an engineering education and outreach program that began in 2001, implemented through the Center for Engineering Education Outreach at Tufts University. In August 2009, Tufts University staff met with representatives from JSC Space Life Sciences and Engineering directorates to discuss partnership and collaboration potential in the area of education and outreach.

The collaboration of JSC and Tufts STOMP is aimed at developing activities that are appropriate for STOMP outreach based on NASA Space Life Sciences content using the LEGO® MINDSTORM® robots (figures 1 and 2); developing and implementing a STOMP outreach program at JSC that places employees in local K-12 classrooms; and engaging STOMP students in NASA Space Life Sciences research.

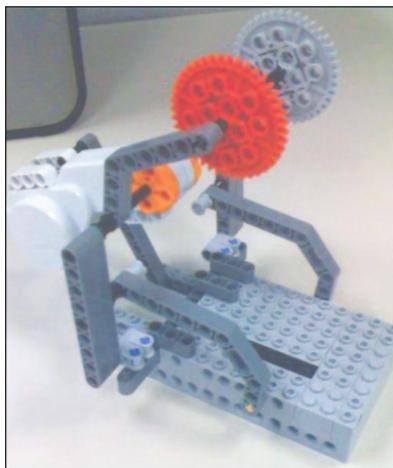


Fig. 1. Example of LEGO ARED.

The first phase of the pilot was completed during the summer of 2010 and included hosting a Tufts University student within the JSC Space Life Sciences Directorate to develop a unit of lessons equivalent to 6 to 8 hours of



Fig. 2. Example of LEGO Treadmill.

classroom time. Space Life Sciences research topics and related countermeasures are included in this set of lessons and were pilot tested in STOMP fifth-grade classrooms in the Boston, Massachusetts, area. The results of the pilot test will be used to refine the lessons into a final product, and are part of the second phase to begin in the summer of 2011 and carry through the fall.

Pilot testing in Houston, Texas, elementary schools is planned during the second phase. This testing will be planned and accomplished through collaborations with other education and outreach discipline experts within NASA and external parties. Existing surveys developed by the Tufts' program will be used to determine the volunteers', teachers', and students' assessments of the program.

Tufts University is a member of the Massachusetts Space Grant Consortium, which was a recipient of the Summer of Innovation 2010 awards issued by the NASA Office of Education. The experience and lessons learned will be leveraged in developing and implementing the long-term goal of establishing a JSC STOMP effort that engages employees to volunteer for this outreach activity with students.