



The Sample Return Robot Challenge is a NASA Centennial Challenge combining a high-profile technical competition with an extensive outreach campaign focused on all ages. A \$1.5M prize purse will be awarded to the autonomous robot systems that can find and collect samples of interest in a 20-acre area without any human

Management

The Sample Return Robot Challenge is conducted through an agreement between the Worcester Polytechnic Institute, a Massachusetts non-profit educational institution, and NASA. WPI was selected to manage the Sample Return Robot Challenge because of the leadership team's extensive experience managing robotic competitions and conducting various outreach programs to introduce all age levels to robotics technology and careers.

Program Objectives

Technology

- Discover innovative new technologies to advance robot navigation and sample collection without human control.
- Demonstrate robot transportation through varied terrain without the aid of GPS or other earth based systems.

Outreach

- Empower educators and people of all ages, by introducing robotics and how they work, where they work, and real-world applications of how robots will be used the future.

Outreach

Education of the high tech world of robotics begins in May with Educator workshops designed to provide project based activities that can be used at home and in the classroom. June 4, 2013 teams begin to arrive and prepare for the competition. WPI and NASA prepare for a full day of competition observation, robotic exhibits and hands on opportunities for all ages and backgrounds include those that are experts in robotics and those that have never even seen a robot before.

Technical Competition

The competition is conducted in 2 phases:

1. *Level 1 Competition* (June 5, 2013) – Robot demonstrates the ability to retrieve a sample within a 30-minute time limit (\$50,000 prize purse, \$5,000 max per team)
2. *Level 2 Competition* (June 6, 2013) – Robot demonstrates the ability to retrieve two samples minimum within a two hour limit. Samples are categorized as Easy, Intermediate and Hard with higher point values given for samples classified as hard. Prize Purse is \$1.5 Million with awards ranging from \$100,000 to \$1.5M depending on the amount of points scored

Night Rover Challenge Contacts

Project Technical Manger
Colleen Shaver
colleen@wpi.edu, (508) 831-6750

WPI Public Affairs
Eileen Brangan Mell
ebmell@wpi.edu

Director of Events
Stephanie Pasha
spasha@wpi.edu

NASA Program Manager
Sam Ortega
sam.ortega@nasa.gov

NASA Public Affairs
Janet Anderson
janet.l.anderson@nasa.gov

Sample Return Robot facts

PRIZES BY



CENTENNIAL
CHALLENGES