



# The NASA Student Launch Projects

Inspiring Young Rocketeers to Aim For New Heights, Bright Futures



Team members representing the University of Alabama in Tuscaloosa ready their rocket for flight at the 2011–12 NASA Student Launch Projects launchfest, held April 22, 2012, at Bragg Farms in Toney, Ala. (NASA/MSFC)

The annual [NASA Student Launch Projects](#) challenge teams of enterprising young engineers, scientists and innovators to design, test and build large, high-powered rockets, capable of flying to the target altitude of one mile and carrying working, retrievable science or engineering payloads. A new rocketry challenge begins each fall and continues through the school year, concluding each spring with a final launch event in North Alabama.

NASA's Marshall Space Flight Center in Huntsville, Ala., which organizes the NASA Student Launch Projects for the agency, announced the 2012–13 roster of teams in September 2012. The current rocketry season will conclude with launch-day activities April 20, 2013 (or April 21 in the event of inclement weather). Launches will be conducted at Bragg Farms in Toney, Ala., the host site for the event since 2008, situated about 25 minutes north of the Marshall Center.

The Academic Affairs Office in the Marshall Center's Office of Human Capital manages the Student Launch Projects. NASA's Human Exploration and Operations Mission Directorate and Science Mission Directorate, both at NASA Headquarters in Washington, jointly sponsor the challenge. Corporate sponsorship for the event has been provided since 2006 by ATK Aerospace Group of Salt Lake City, Utah.

There are two divisions: The noncompetitive Student Launch Initiative is open to middle school and high school teams and members of qualified youth organizations; community college and university teams are invited to compete in the University Student Launch Initiative. The university category includes a \$5,000 first-place award from ATK.

NASAfacts

NASA created the rocketry challenge to test students' problem-solving skills, give them practical, hands-on experience and encourage them to pursue careers in the STEM fields — science, technology, engineering and mathematics. The project is designed to demonstrate the real-world complexity of planning missions; building and integrating flight hardware and on-board payloads; and completing thorough pre-flight safety checks and reviews.

The challenge also is designed to make students better communicators and ambassadors both for education and for the wonder and value of spaceflight. In addition to preparing the rockets and payloads for flight, each team must prepare detailed preliminary and post-launch reports, and build and regularly update a public website to document their rocket-building experience. They also must develop an educational engagement program to inspire and educate younger students in their local school systems and communities.

All these elements are factored into NASA's thorough design and flight reviews, conducted at several points in the eight-month project and concluding with a thorough assessment to choose the top prize winners.

## Eligibility of Teams

To qualify for the NASA challenge, middle school and high school teams first must place at or near the top of the [Team America Rocketry Challenge](#) or the [Rockets for Schools](#) competition. Having qualified at either competition, teams then must send one educator or mentor to the NASA Advanced Rocketry Workshop. Any community college or university is eligible to participate in the college-level competition; interested teams are strongly encouraged to participate in the workshop as well.

During the workshop, participants learn more about NASA's expectations and guidelines for the projects; basic rocketry safety; and the agency's overarching education and space mission and objectives. After successfully completing the workshop, each team is issued a Request for Proposal to participate in the Student Launch Projects during the next school year. A panel of NASA engineers, scientists and education specialists, including civil-service employees and contractors, reviews the proposals and selects each year's roster of participating teams.

Complete rules and guidelines are available online at: [http://www.nasa.gov/pdf/672448main\\_SLP\\_2012-2013.pdf](http://www.nasa.gov/pdf/672448main_SLP_2012-2013.pdf)



**Rocketeers from Fisk University in Nashville cheer as their launch vehicle ascends. (NASA/MSFC)**

NASA held the first student launch event in 2000–01. In response to its growing popularity, NASA expanded the activity to include schools across the country in 2003–04. In 2006–07, as the growth continued, a second division was created for colleges and universities.



**NASA researcher Lisa Monaco, second from right, talks with students from Rensselaer Polytechnic Institute in Troy, N.Y., during the 2011–12 NASA Student Launch Projects rocket expo. Held at the Marshall Center a day or two prior to launch-day activities each year, the expo is an opportunity for students to display their rockets and payloads, answer questions and network directly with NASA scientists, engineers and executives. (NASA/MSFC)**

### Student Launch Awards

The top prize of \$5,000 is awarded by ATK to the university-division team judged most successful in its construction and flight of the rocket and for delivery of the best presentations, website and supporting review materials. NASA and ATK also present a number of other honors. Second- and third-place finalists are recognized, along with the award for “Rookie Team of the Year,” presented to the most successful first-time participants.

NASA also presents the “Altitude Award” to the team whose rocket comes closest each year to the one-mile goal — though more points are deducted for overshooting than for coming in just under the mark, so precision is key. The current altitude record is held by the 2011–12 team from Florida A&M University in Tallahassee, which in April 2012 flew their rocket to 5,270 feet — just 10 feet shy of the goal.

Other commemorative awards, presented during a banquet each launch weekend, include “Best Vehicle Design,” “Best Payload Design,” “Best Web Design” and the “Education Engagement Award” for the best educational outreach efforts among a team’s local schools or community-based youth organizations. The “Science Mission Directorate

### 2012–13 SLI Teams

Durham Area Rocketry Team, Durham, N.C.  
 Falls Church High School, Falls Church, Va.  
 Harmony Magnet Academy, Strathmore, Calif.  
 Katalyst for Katastrophy, Spring Grove, Ill.  
 Krueger School of Applied Technologies, San Antonio, Texas  
 Lake Braddock Secondary School, Burke, Va.  
 Lake Zurich High School, Lake Zurich, Ill.  
 Lucy Rede Franco Middle School, Presidio, Texas  
 Madison West High School (two teams), Madison, Wis.  
 Millington High School, Millington, Mich.  
 Minster Junior/Senior High School, Minster, Ohio  
 Oak Park High School, Oak Park, Calif.  
 Plantation High School, Plantation, Fla.  
 Rockwall Heath High School, Heath, Texas  
 Spring Grove Area High School, Spring Grove, Pa.  
 St. Anthony’s High School, South Huntington, N.Y.  
 St. Vincent-St. Mary High School, Akron, Ohio  
 Thomas Jefferson High School, Alexandria, Va.  
 Victory Christian Center, Charlotte, N.C.  
 Waverly-Shell Rock High School, Waverly, Iowa

### 2012–13 USLI Teams

Alabama A&M University, Huntsville, Ala.  
 California Polytechnic-Pomona, Pomona, Calif.  
 Century College, White Bear Lake, Minn.  
 Citrus College, Glendora, Calif.  
 Clark College, Vancouver, Wash.  
 Florida A&M University, Tallahassee, Fla.  
 Georgia Institute of Technology, Atlanta, Ga.  
 Harper College, Palatine, Ill.  
 Massachusetts Institute of Technology, Cambridge, Mass.  
 Mississippi State University, Starkville, Miss.  
 New Mexico State University, Las Cruces, N.M.  
 North Carolina State University, Raleigh, N.C.  
 Northwest Indian College, Bellingham, Wash.  
 Northwestern University, Evanston, Ill.  
 Pennsylvania State University, University Park, Pa.  
 Purdue University, West Lafayette, Ind.  
 Santa Fe College, Gainesville, Fla.  
 Tarleton State University, Stephenville, Texas  
 University of Alabama, Tuscaloosa, Ala.  
 University of Alabama in Huntsville, Huntsville, Ala.  
 University of California-Davis, Davis, Calif.  
 University of Central Florida, Orlando, Fla.  
 University of Florida, Gainesville, Fla.  
 University of Illinois-Urbana Champaign, Champaign, Ill.  
 University of Louisville, Louisville, Ky.  
 University of Minnesota, Minneapolis, Minn.  
 University of Nebraska, Lincoln, Neb.  
 University of New Hampshire, Durham, N.H.  
 University of North Carolina-Charlotte, Charlotte, N.C.  
 University of North Dakota, Grand Forks, N.D.  
 University of Notre Dame, South Bend, Ind.  
 University of South Alabama, Mobile, Ala.  
 Vanderbilt University, Nashville, Tenn.  
 Virginia Tech, Blacksburg, Va.  
 Western Kentucky University, Bowling Green, Ky.  
 Windward Community College, Kaneohe, Hawaii

Payload Award” honors teams which took on a specific payload challenge commissioned by NASA’s Science Mission Directorate. The yearly “Project Review Award” honors the team which performed best during all project reviews and formal presentations.

Teams also vote on two peer awards: “Best-Looking Rocket” and “Best Team Spirit.”



**Each year, hundreds of spectators fill the fields at Bragg Farms in Toney, Ala., near the Marshall Center, to watch the rockets fly. (NASA/MSFC)**

## **Audiences and Outreach**

Each year, hundreds of flight enthusiasts fill the launch site at Bragg Farms to cheer for the student teams. Tens of thousands more watch live via NASA TV online and the streaming video service UStream. Archived launch-day coverage is available at:

<http://www.ustream.tv/channel/nasa-msfc>

Students, mentors and rocketry enthusiasts also can follow the event via a dedicated Facebook page and Twitter feed:

<http://www.facebook.com/NASASTudentLaunch>

[http://twitter.com/SLI\\_1MILEHIGH](http://twitter.com/SLI_1MILEHIGH)

For complete rules and other official information, visit:

[http://www.nasa.gov/offices/education/programs/descriptions/Student\\_Launch\\_Projects.html](http://www.nasa.gov/offices/education/programs/descriptions/Student_Launch_Projects.html)

For high-resolution images and information about past years’ challenges, visit:

<http://www.nasa.gov/slp>

For information about other NASA education programs, visit:

<http://education.nasa.gov>

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