



NASA
Wisconsin Space
Grant Consortium

2015-2016
ANNOUNCEMENT OF OPPORTUNITY
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COLLEGIATE ROCKET LAUNCH (CRL)

Informational Telecon: (TBC)

Notice of Intent to Compete Due: September 30, 2015

Selection Announcement: October 9, 2015

Kick-off Meeting at Milwaukee School of Engineering: October 24, 2015

Safety Review Meeting at EAA AirVenture Museum: March 19, 2016 (TBC)

Oral Presentation at Carthage College: April 22, 2016 (TBC)

Launch Competition – “True Scale Model” at Richard Bong Recreational Park: April 23, 2016 (TBC)

About the Program:

The Wisconsin Space Grant Consortium (WSGC) announces the Annual Collegiate Rocket Launch Design Competition. This competition is an opportunity for students to design and construct rockets to be launched at a competition in the spring from Richard Bong State Recreational Area, Kansasville, WI.

Wisconsin Space Grant Consortium (WSGC) will sponsor up to twelve (12) teams - one team per academic institution. To qualify for the competition, interested teams of 4-6* students will be required to submit a Notice of Intent to Compete, in which they name their team members and committed faculty mentor. Teams are allowed to seek advice from Industry, Tripoli, NAR, and others. Teams do not need to have prior rocket experience.

*Only six (6) students can register per team on the WSGC registration site.

Note: The Collegiate Rocket Launch competition will no longer be divided into engineering and non-engineering categories. Teams selected to participate in the Collegiate Rocket Launch Competition may only receive funding for one WSGC sponsored rocket competition. Individuals cannot compete on a [Midwest High-Power Rocket Launch](#) team, but are encouraged to shadow a Midwest High-Power Rocket Launch team.

Purpose:

The Wisconsin Space Grant Consortium's (WSGC) Collegiate Rocket Competition is intended to supply teams of affiliated university students with the opportunity to demonstrate engineering and design skills through direct application. It allows the teams to conceive, design, fabricate and compete with high powered rockets. The restrictions on rocket motors and dimensions are limited so that knowledge, creativity and imagination of the students are challenged. The end result is a great aerospace experience for students that would not otherwise be available in the region.

It is the purpose of this Announcement of Opportunity to support the innovative, visionary projects that are student-led and designed to fully realize WSGC's goal of assisting in training the next generation of aerospace professionals.

Competition Engineering Parameters:

Student teams will be required to design, construct and fly a high-power “true scale model” of a current or retired, rocket or missile found somewhere in the world. A scale model is most generally a physical representation of an object, which maintains accurate relationships between all important aspects of the model, so all of the proportions of the model match those of the real object being modeled. The rocket is required to use electronic deployment of the recovery parachute and motor deployment as a backup. A downed rocket location aid must be included in the design. All structural components and materials must be obtained from reputable high powered rocketry vendors or an engineering analysis demonstrating their suitability must be included with the design. The winner of the flight portion of the competition will be the team whose rocket completes a successful flight and whose rocket achieves an apogee closest to their predicted apogee, as recorded by a competition-provided flight recorder.

The competition will include two written reports about the design, analysis, simulation, build, and test flight results of the rocket, an oral presentation, plus assessment of competition flight data results. These will be scored by a panel of professional engineers from both academia and industry. Scoring of the pre-competition reports and the post-flight report will focus on the system design and its performance. More details about the competition motor, reports, deadlines, etc. are in the competition handbook.

Equipment/Reimbursable funds provided by WSGC:

Required Competition Rocket Motor	Cesaroni (38mm): 567I125-10A, 601I350-16A, 634I540-16A, 648J285-15A, 684J290-15A, 649J335-15A, 658J357-17A Thrust curve data can be found at: http://www.thrustcurve.org/searchpage.jsp
Competition Flight Data Recorder	Raven III Featherweight Altimeters http://www.featherweightaltimeters.com/The_Raven.php 1.80” long x 0.8” wide x 0.55” thick Powered by a 9V battery This recorder is separate from the team’s electronic deployment system and will be inserted at time of launch to record acceleration & altitude vs. time.
Rocket Supplies and Equipment	Reimbursed up to \$675. Submit a Team Reimbursement Form accompanied with original receipts to: Wisconsin Space Grant Consortium 2001 Alford Park Drive Kenosha, WI 53140 ATTN: Lisa Crumble NOTE: Reimbursement deadline is June 1, 2016.

Travel Award	<p>Teams whose schools are outside the following radius (round trip) measured from Richard Bong State Park, are eligible to claim:</p> <p><100 miles = \$0 for mileage & lodging >100miles<200miles = \$75 mileage & 1 night hotel (maximum 2 rooms) >200miles = \$125 mileage 2 night hotel (maximum 2 rooms)</p> <p>NOTE: Teams must request travel funds and provide a Google map to the WSGC Program Office no later than January 11, 2016.</p>
Low-Power Rocket	<p>Teams who attend the Kick-Off Meeting at Milwaukee School of Engineering will receive a low-power rocket for demonstration flight requirements.</p>

Awards:

1st Place - \$3000; **2nd Place** - \$2000; **3rd Place** - \$1000

Eligibility:

To qualify for the competition, individuals/teams must:

- be US citizens
- attend any WSGC [Academic Affiliate Institution](#) full-time
- submit an academic [institutional representative](#) acknowledgement
- have a committed faculty mentor
- be comprised of 4-6 team members
- select a team leader

Individuals/teams may:

- seek advice/mentorship from Industry, Tripoli, NAR, and others
 - include Graduate students* as long as they represent less than 50% of the team members
 - compete without experience (*Teams will be given the basic training and information required*)
- Groups of students wishing to be paired up with like-minded students at other affiliate institutions should contact the WSGC Institutional Representative for their campus. Members of groups underrepresented in aerospace disciplines are particularly encouraged to participate.

*Individual students cannot participate in more than four WI Collegiate Rocket Competitions.

[See a list of current and past award recipients](#)

If you have question about the Student Satellite Initiatives Program, please contact:

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