



NASA'S SPACE GRANT MIDWEST HIGH-POWERED ROCKET LAUNCH (MRL)

Informational Telecon: Sept. 27, 2016 @ 7:00 PM; January 19, 2017 @ 7:00 PM

Contact James Flaten, flate001@umn.edu for call-in information

WSGC Notice of Intent to Compete Due: October 3, 2016

WSGC Selection Announcement: October 14, 2016

Launch Competition – “Adaptable Single-Stage, Dual Deploy System” in North Branch, MN:
May 20-21, 2017
(Rain date May 22, 2017)

Awards: Registration Fee: \$400 (*Paid by WSGC Program Office*)

Rocket Supply/Travel Award: Up to \$2000 (*Reimbursement provided through WSGC Program Office*)

About the Program: The Minnesota Space Grant (MnSGC) announces NASA's Space Grant Midwest High-Power Rocket Launch Competition. This competition is an opportunity for students to design and construct rockets to be launched at a competition in the spring of 2016 in North Branch, Minn.

Wisconsin Space Grant Consortium (WSGC) will sponsor up to three (3) teams with prior rocket experience to compete in the national competition.

Note: Teams selected to participate in the Midwest High-Power Rocket Competition may only receive funding for one WSGC sponsored rocket competition. Individuals cannot compete on a Collegiate Rocket Launch team, but are encouraged to mentor a Collegiate Rocket Launch team.

To Apply: A faculty advisor must complete the following steps:

- Register as faculty on the WSGC website (<https://spacegrant.carthage.edu/about/login/>).
- Submit the “Create Rocket Launch Team (NOI)” Grant Application Form (<https://spacegrant.carthage.edu/forms/application/rocket-launch-team/>).
- Submit a preliminary budget
- Complete the [Institutional Representative Acknowledgement](#) form

If applying for both the Collegiate and Midwest Rocket Competition, please indicate in the Rocket Launch Team NOI which competition is the school's preference.

Once the faculty advisor completes the Notice of Intent (NOI), identifies the team name, lists the known student participants, and chooses which competition the team will compete in, each student will need to:

- Register as an undergraduate student on the WSGC website (<https://spacegrant.carthage.edu/about/login/>).
- Complete the Midwest High-Powered Rocket Competition Rocket Competition application (<https://spacegrant.carthage.edu/forms/application/midwest-high-powered-rocket-competition/>)
- Submit a resume
- Indicate past rocket experience

Applications Requirements: To qualify for the competition, interested teams must:

- be US citizens
- attend any WSGC [Academic Affiliate Institution](#) full-time
- have prior rocket experience
- submit an academic [institutional representative acknowledgement](#)
- submit a preliminary budget
- 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

Competition Engineering Parameters: In this competition college/university student teams will design and construct an “adaptable” single stage, dual deploy high-power rocket system that will fly to the same highest possible altitude on two motors (one I-class and one J-class, or else one J-class and one K-class) that are as different as possible from one another. The rocket must be recovered safely and in flyable condition. The students must predict the rocket’s flight performance (with each selected motor) and construct a non-commercial on-board data collection package for the rocket that will directly measure velocity versus time, for comparison with data collected by a commercial rocketry altimeter, as well as sense and log airframe separation and parachute extraction from the airframe for both drogue and main parachute deployments, and also collect up and down video from outside the airframe to certify expected (i.e. primary, not backup) drogue and main parachute full deployment.

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](#).

Award Acceptance Requirements: As part of the award acceptance, awardees will be asked to attend the Annual Wisconsin Space Conference as outlined in the award agreement and submit the following documents on the WSGC application website under Program Applications/Your Applications:

All Advisors/Participants

- Award Agreement Letter
- Media Release Form
- One-Paragraph Biography
- Professional Photo

Team Lead

- Submit copies of all MnSGC documents to WSGC
- Final Team Roster

All Team Members

- Attend the WSGC Safety Review Meeting
- Oral Design Presentation
- Launch Competition

- Present project at the Annual Wisconsin Space Conference
- Submit a proceedings paper for the 27th Annual Wisconsin Space Conference online journal

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

Dr. William Farrow

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Logistical questions may be directed to James Flaten, flate001@umn.edu.

Technical questions may be directed to Gary Stroick, president@OffWeGoRocketry.com.

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