



# Cornell Mars Rover

We're not *crazy*. We're out of this *WORLD*.

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# Agenda

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# Mission

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*Cornell mars rover aims to design an innovative mars rover to compete in the University Rover Challenge. Our student-run team fosters creativity and intellectual growth throughout the development of our rover.*





# Our Team

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*Cornell Mars Rover is a new project team at Cornell University, established recently in 2010. In our short time, the team has made significant achievements and has grown to encompass six sub-teams, over forty members, and four rovers.*

CMR is an interdisciplinary student-run team that brings together talented individuals from engineering, science, and business. The team is divided into several sub-teams: Drive Systems, Task Systems, Controls Software, Controls Electrical, Science, and Business. Students can best use their specific skill sets to contribute to the project and are given the opportunity to learn from others in other disciplines if they are interested.

The team is extremely collaborative in nature. From joint sub-team meetings to weekly all-hands presentations, every student has the opportunity to present their work, knows what the team has accomplished, and knows what the next steps will be. Additionally, we have established an online space where we can share our work with the rest of the team. These collaborative efforts allow us to catch problems early and successfully work towards our end goal.





Even as a new team, CMR has a competitive edge over many other groups competing in the University Rover Challenge. Cornell University provides access to premium research facilities and resources on campus, including our

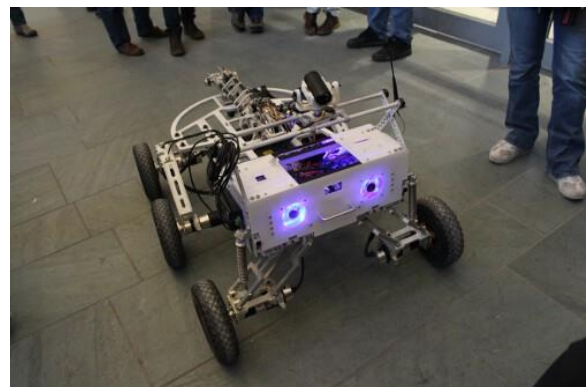
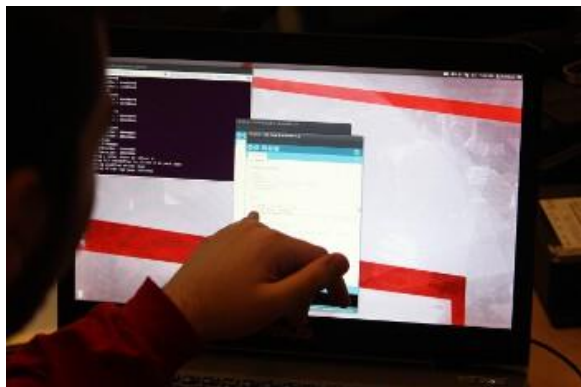
own lab space for building and testing our rover. Our team is student-run and researched, but we are also able to reach out to our advisor and other faculty who are experts in the field for help if needed.

*As a team we work towards several goals besides winning the University Rover Challenge. These goals include student leadership, communication, team work, and creative problem solving.*

Each student will have the opportunity to engage in a hands-on experience which will expand on the tools they are learning in class. CMR believes it is imperative that students are able to use what they have learned, which will allow them to be better and smarter workers in the future.

CMR believes in fostering leadership for each of our team members. There are many leadership roles that our members fill, ranging from sub-team leads to system engineers. Every member is also encouraged to present their work and design to the entire team in an effort to boost team cohesiveness, member ownership, and self-confidence.

*We believe that fostering creativity is an integral part of our team. If students think creatively, we will have more unique designs for our rover. By having students work in groups, each student is able to bring unique experiences to the table, which, when shared with others, can lead to original concepts.*





# University Rover Challenge

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The Mars Society is an international organization that promotes the exploration and eventual settlement of Mars through public awareness, government funding, and efforts in the private sector. The University Rover Challenge hosted by the Mars Society is an annual competition which takes place at the Mars Desert Research Center in the deserts of southern Utah.



*CMR will be competing in the University Rover Challenge in the summer of 2015. We hope to follow the success we have established in past years, as we came in 3<sup>rd</sup> Place in 2012 and 2<sup>nd</sup> Place in Terrain Traversal in 2014. We aim to take what we learn in this year's campaign and apply it to the following years' competitions.*

Several universities from across the globe will be competing against CMR in four tasks: site survey, emergency navigation, equipment servicing task, and extremophile search. Each task will be scored with the potential to earn up to 500 points. CMR will also be responsible for presenting the rover to the judges. In this segment of the competition, the team will be judged on team structure, organization and management, core rover design and presented functionality, suitability of rover design to competition tasks, response to follow-up questions, and overall quality of the presentation.

Following all of the scoring activities, the team with the highest collective score will be declared the winner. The winner receives the honor of presenting their rover at the International Mars Society's Conference.





# Cornell University

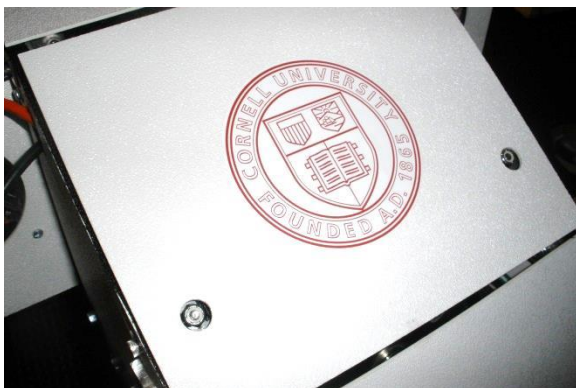
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Cornell University is one of the premier research universities in the world, committing over \$300 million to research in 2012 alone. We are extremely fortunate to be part of the research community here, particularly with its extensive tradition of Mars exploration. Furthermore, the University has helped CMR by providing us with the financial support needed to get our project off the ground.

*Cornell Mars Rover is part of a long standing tradition of successful and driven project teams on campus working to make technological advances.*

Among this collection of impressive teams are:

- **Aguaclara The Chemical Dose Control Team:** Nearly 10 plants completed in Honduras serving over 30,000 citizens.
- **Cornell University Autonomous Underwater Vehicle:** Won the 15th International Robosub Competition in 2012
- **Cornell Racing:** [9-time World Champions] DARPA Grand Challenge and Urban Challenge
- **Cornell Baja:** First Place in Baja Tennessee 2013, First Place in Baja Auburn 2012





# Benefits of Sponsorship

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CMR offers a unique opportunity for engineering students to gain hands on experience in their field. As we design and develop the rover, it is important that we are able to consistently support the team with any needed supplies. Cornell has helped us begin our funding efforts with their generous contribution, however in order to succeed we will need more support. Private donations and sponsorships will allow us to reach our full potential as a project team.

*By sponsoring CMR, you are providing the groundwork for innovation in rover design along with aiding in the development of some of the top engineering minds in the country.*

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There are many other benefits of sponsorship. First, any donation made to Cornell Mars Rover is considered tax deductible. For those making personal donations, employers often are willing to match these contributions furthering your impact on the team. If you are donating as a corporate sponsor, your company will benefit from the exposure of your company itself and its products to the budding engineers on the team.

In addition, the University Rover Challenge has been covered extensively in the media by outlets such as Wired, Business Insider, and Popular Science. Sponsors benefit tremendously from this exposure with the chance to feature their name and logo on both our Rover and Banner that represent us at competition.







# Monetary Donation Form

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**Donor Name:** \_\_\_\_\_

**Organization Name:** \_\_\_\_\_

**Mailing Address:** \_\_\_\_\_

\_\_\_\_\_

**Zip Code:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Fax Number:** \_\_\_\_\_

**Organization Website:** \_\_\_\_\_

**Gift Amount:**            \$ \_\_\_\_\_

*Please make checks payable to "Cornell Mars Rover" and attach to this form.*

**Do you require a charitable donation receipt?**    [ YES ]        [ NO ]

x

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**Donor Signature**

**Date**

**Please return this form to:**  
Attn: Emily Tompkins-Mintern  
Cornell University  
108 Upson Hall  
Ithaca, NY 14853

**Please contact us with any questions:**  
Emily Tompkins-Mintern  
Cornell Mars Rover  
(607)-255-1805  
eft24@cornell.edu





# Gift in Kind Form

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**Donor Name:** \_\_\_\_\_

**Organization Name:** \_\_\_\_\_

**Mailing Address:** \_\_\_\_\_

\_\_\_\_\_

**Zip Code:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Fax Number:** \_\_\_\_\_

**Organization Website:** \_\_\_\_\_

**What is the nature of this gift in kind?** \_\_\_\_\_

**What is the fair market value of the gift in kind? \$** \_\_\_\_\_

**How was the fair market value determined?** \_\_\_\_\_

\_\_\_\_\_

**Is an income tax receipt required?**    [ YES ]            [ NO ]

x

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Donor Signature	Date
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