



Design//Compete//Explore



Dear Potential Supporter,

Since 2005, the University of Saskatchewan Space Design Team (USST) has been working towards developing new space technology. As the team has grown into the multidisciplinary organization it is today, our goals have expanded to include providing project design and marketing experience to our thirty-five members. The team has many disciplines from the College of Engineering including engineering physics, mechanical, computer, and geological engineering. Members also come from biology, physics and computer science from the College of Arts and Science, accounting and marketing from the Edwards School of Business, and finally we have members from the College of Medicine. This high level of multidisciplinary work is unique and provides yet another source of experience for team members.

The USST's current primary project is the design, construction and testing of a Mar's Rover for the University Rover Challenge hosted by the Mars Society. The goal of this project is to design a rover that can operate in Mar's conditions. The final testing, and competition occurs at the Mars Research Station in Hanksville, Utah. This rover must be able to operate in challenging terrain and perform sample collection and analysis. It must also have the ability to repair, pick up and deliver equipment.

In the summer of 2013 the USST started a secondary project, a High Altitude Balloon Program. In this program we launch large hydrogen filled balloons to reach a target altitude of 30-35 km. This balloon will carry a retrievable payload that takes video and photo of the flight while acting as base platform for various experiments and environmental data logging

Currently we are working to raise the finances to fund the team's activities and goals. Any resources generously provided will go to help with the development, fabrication and testing of the rover, high altitude balloon and our community outreach events. We appreciate any and all forms of support. The USST invites you to support our cause and to build a long-term relationship with us; a variety of sponsorship opportunities are available to you as outlined later in the package. With your partnership, we aim to promote an entrepreneurial and innovative environment within our province and country while developing new technology to provide an unparalleled learning experience for all those that partake in the team.

We would be pleased to answer any further questions and arrange a meeting at your convenience. We can be contacted at pres@usst.ca, or financial.director@usst.ca. Thank you for taking the time to consider our proposal, we look forward to hearing from you.

Sincerely,

Justin Gerein
President

Callan Kimber
Financial Director



// Our Team //

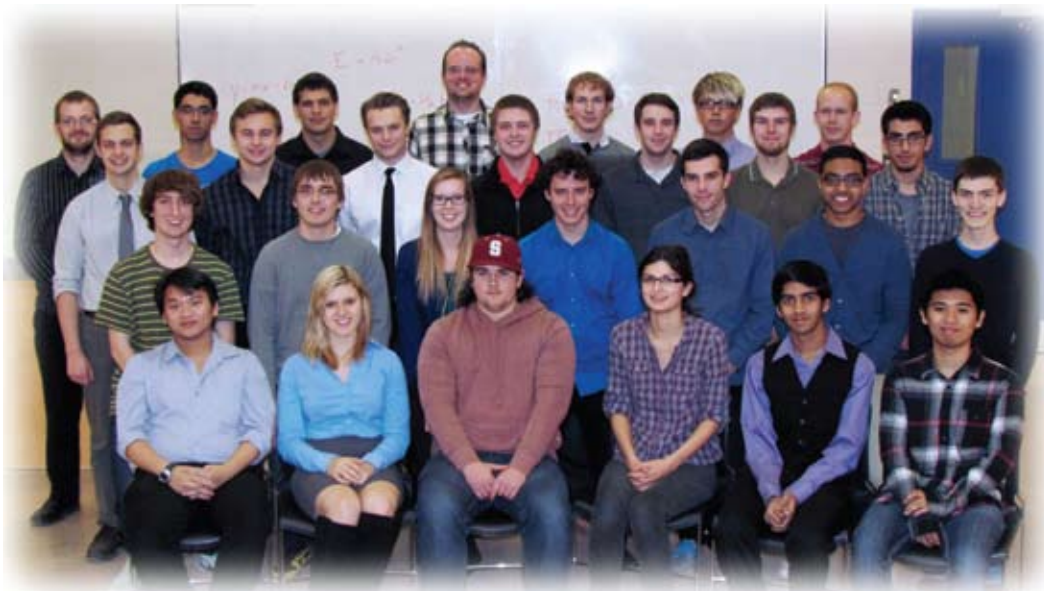
The University of Saskatchewan Space Design Team (USST) was formed in 2005 and since then has been striving to involve students from all colleges at the University of Saskatchewan. The group consists primarily of engineering students; however, students from all across campus, including physics, computer science, biology and commerce are also highly involved.

The USST is dedicated to providing students with the opportunity to apply their knowledge in solving real world problems, while developing friendships and networks in the process. We work to fulfill students' requests to work in a specific area of interest and further entrepreneurial spirit. USST projects require hard work and dedication from the already busy academic life of students.

When the team formed in 2005, the mission was to construct a fully operational space elevator. Elevator: 2010 was the official competition of the NASA 2010 Centennial Challenge in Power Beaming, requiring the construction of the wirelessly powered 'Space Elevator'. After four years, three first place finishes, six world records, and one documentary, the team moved on to a new challenge. In the summer of 2010, the team travelled to Japan for the 2nd Annual Japanese Space Elevator Technology and Engineering Competition, to demonstrate space elevator technology with their new battery powered climber. At this event, no other team came close to the time of the USST. This final success marked the end of space elevator design for the USST.

In September 2010, the USST entered the Canadian Satellite Design Challenge (CSDC), a two year challenge to design and build a nanosatellite. Our highly innovative payload required new methodology and instrumentation, and was endorsed by Dr. Paul Bernhardt of the United States Naval Research Laboratory. The team placed third at the Critical Design Review, and sent representatives to the award ceremony in September 2012.

Following the conclusion of the first CSDC, the USST began searching for its next project. In late 2012, the USST began designing a lunar excavator, a robot to mine the surface of the moon. Unfortunately, that competition was cancelled, so USST turned its sights to a new competition, the University Rover Challenge hosted by the Mars Society. The team is registered, and currently hard at work getting ready for the competition in May 2013.



// Executive Team //



/Justin Gerein / president /

The president works with both the engineering and financial teams of the USST. His focus is to ensure the team is operating smoothly, and accomplishing its goals in a timely and ethical manner.

/ Ryan Chester / vp of operations /

The vice president of operations aids the president in his duties. These include administrative duties, leading presentations, participating in outreach programs, and organizing the team. The vice president of operations assumes the role of the president in the event that they are not in a position to properly fill that role.



/William Davis / vp of engineering /

The vice president of engineering coordinates the efforts of the design teams of the primary project. It is his responsibility to ensure compatibility between all systems, facilitate communications between design teams, and plan the design and testing process.



/ Gaelene Lerate / secretary /

The secretary attends all team leadership and executive meetings. Recording the minutes of these meetings the secretary becomes a part of the management and leadership roles of the team. Apart from minutes, team archives are updated and maintained by the secretary to build upon team history and knowledge. This record allows for smoother transitions in the future, as current members move on and new students join.





/ Callan Kimber / financial director /

As the financial director, keeping in touch with previous and potential sponsors is important and essential to the future sustainability of the team. Other tasks include keeping track of accounts, public relations, team marketing and team event planning.

//Team Leaders //

/ Eric Mann / electrical team /

The electrical design team lead oversees the electronic aspects of the project and ensures that the electrical team fulfills its goals in a timely manner. His responsibilities include the computer, sensor, and control systems of the rover.



/ Taylor Price / mechanical design team /

The leader of the mechanical design team organizes and works with a group of team members designing and prototyping the mechanical aspects of the project. This includes developing systems for the sample collection, transportation, dexterous operations and the framework to house all the mechanical and electrical sub-systems.



/ Jordan Kubica / high altitude balloon team /

The high altitude team lead is responsible for the organization of the design, and launch logistics of the high altitude balloon program. They organize all individuals involved in this project while ensuring the launch is performed in a safe manner.



// Missions //

/ Short Term Goals /

- Design the mechanical, electrical and software components of the rover
- Have successful high altitude balloon launches
- Provide outreach to high school and elementary schools to increase awareness of engineering, space technology, and the USST

/ Long Term Goals /

- Strengthen our position as advocates for the aerospace industry at the University of Saskatchewan and throughout the province
- Enable University of Saskatchewan (U of S) students to further their interests in space design through the USST
- Strengthen relationships between campus faculty, industry professionals, and students
- Enable students to build time management, communication, and design skills



// Current Project //

/ University Rover Challenge /

The USST's current primary project is the design, construction and testing of a Mar's Rover for the University Rover Challenge hosted by the Mar's Society. The goal of this project is to design a rover that can operate in Mar's like conditions. The competition, and final testing occurs at the Mars Research Station in Hanksville, Utah.

The rover is required to be multipurpose and is to complete several challenges as a part of the University Rover Challenge. These tasks include sample retrieval and analysis, perform equipment maintenance, pick up and deliver equipment all while being able to traverse challenging terrain.

Some of the multidisciplinary designs as a part of this project includes:

- Tele-operational control system
- Complete sensor and video feedback system
- Communication systems
- Robotic arm to perform dexterous operations
- Suspension system
- Sample collection and analysis



// Current Project //

/ High Altitude Balloon /

In the summer of 2013 the USST started a secondary project, a High Altitude Balloon Program. The objective of this program is launch large hydrogen filled balloons to a target altitude of 30-35 km. These balloons carry a retrievable payload that takes video and photos of the flight while acting as base platform for various experiments and environmental data logging.

The goal of this project is to use it as a platform for involving the USST more in the community outside of the university.



// Sponsorship Info //

The University of Saskatchewan Space Design Team is funded entirely through donations and sponsorships. It is only through the support from sponsors, and donors that USST is able to continue. Some benefits of sponsoring or donating to the USST are:

- Promoting the aerospace industry in the province
- Enhancing company image as a supporter of education and entrepreneurship
- Promoting the skills of Saskatchewan students on a national and international stage
- Increasing exposure in the community through interaction with students from various disciplines and presence at media appearances
- Allowing potential recruits to gain hands-on experience in areas relevant to their future careers
- Helping the USST explore innovative and economical methods of space technology design

The USST appreciates and gladly accepts all levels and types of support. Support may include monetary support, gift-in-kind in the form of expertise; manufactured products or goods; and discounted rates. The value, or equivalent value, will be recognized in the following manner.



// Support Levels //

/ Sponsorship Levels /

	Platinum (\$10,000+)	Gold (\$5,000 - \$9,999)	Silver (\$1,000 - \$4,999)	Bronze (\$0 - \$999)
Logo on website	●	●	●	●
Certificate of appreciation	●	●	●	●
Company logo on team t-shirts*	●	●	●	●
Company name on banner**	●	●	●	
Recognition at local media events	●	●		
Logo recognition on future videos	●			

* This applies only to team shirts purchased in the future. Any existing shirts will not have the logo added.

** The size of the logos and company names will allow for a differentiation in the level of sponsorship.

/ Donations /

All personal or corporate support are eligible for receipts for tax purposes, and will be classified as a donation. Those who wish to support the USST through a donation will receive a receipt, but will not receive public recognition.

/ General /

All supporters or those interested in the USST have the option to visit the team, to see what we are working on and to meet with team members.

If you have any ideas of how the USST and your organization can work together or offer you recognition for your support, please feel free to contact us so we can work together.

// Contact Us //



Team President
Justin Gerein
pres@usst.ca

Financial Director
Callan Kimber
financial.director@usst.ca

Visit our website at <http://usst.ca/>
Or check us out on facebook: <http://www.facebook.com/UofSSpaceDesignTeam>
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