2018-2019

SOCIETY FOR ADVANCED ROCKET PROPULSION



\ MESSAGE FROM OUR CHIEF ENGINEER—

Dear Potential Sponsor,

It is only with the support of sponsors like you that SARP can provide hands-on engineering experience to students at the University of Washington. With your help, we can not only build our rocket and win the 2019 Spaceport America Cup but build the next generation of engineers and leaders. In the following packet, you will find more information about our team and what we do, as well as more specifics on how your support as a sponsor would be used to advance our goals. Sponsors are key to our success, and we greatly appreciate the support we receive each year. On behalf of the entire SARP team, thank you for considering us for sponsorship.

C. Jegg Grunt

Jess Grant,

Chief Engineer

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WHAT IS SARP?

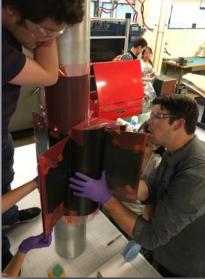
The Society for Advanced Rocket Propulsion (SARP) is a team of student engineers at the University of Washington. Every year, we design, build, and launch an advanced hybrid sounding rocket at the annual Spaceport America Cup in New Mexico. We compete against more than 80 teams in the most technically challenging category, where teams launch student manufactured and designed hybrid rockets high enough to fly by commercial airliners. Our calendars have been marked for this year's competition on June 19th, 2019, where we plan to defend our crown as the best student hybrid rocket engineers in the world.

Our multidisciplinary team consists of 200 undergraduate students from a variety of majors ranging

from mechanical engineering to business, all of whom contribute from different angles to our success.

STUDENT EXPERIENCE

SARP provides students the opportunity to develop the skills necessary to work as successful engineers. The technical and innovative challenges that come with rocket engineering push students to become equipped with skills beyond engineering by encouraging growth, communication, and project management in a team environment. Students have used SARP as a platform to elevate themselves beyond the typical undergraduate experience, opening opportunities for success in the aerospace industry and graduate school.



Today, SARP alumni work throughout the aerospace industry and beyond at organizations like SpaceX, Blue Origin, Boeing, Aerojet Rocketdyne, Lockheed Martin, Systima Technologies, AeroTEC, the Sierra Nevada Corporation, the Department of Defense, and many others.

SARP IN NUMBERS

1 championship win

1.5 times the speed of sound at max velocity

30,000 foot target altitude

pounds of fuel consumed per second

1,200 pounds of peak thrust

200 team members

15+ majors represented



TEAM STRUCTURE

SARP is organized into five sub-teams. On top of ensuring due diligence at every step of our engineering process, we prioritize safety as one of our primary objectives and take it very seriously on all of our teams. A description of the responsibilities of each of the teams follows:

STRUCTURES

Designs and builds the rocket airframe, bulkheads, and launch rail. The structures team is also responsible for the aerodynamic stability of the rocket and vehicle assembly before launches. The team has extensive experience with composite materials, additive manufacturing, and machining.

AVIONICS & RECOVERY

Handles much of the electrical systems on the rocket. This team develops the systems for filling and igniting the rocket, collecting in flight data, and locating the rocket after launch. They also design and build the scientific payload that the rocket carries. This year, the team is attempting guided landing through a combination of measures, inspired by SpaceX.

PAYLOAD

The payload team is in charge of an incredibly unique piece of equipment, a plasma generator that seeks to reenergize flow around the nosecone of the rocket. The team was branched off this year due to the complexity and difficulty of the project.

PROPULSION

Responsible for developing the fuels and fuel systems used in the hybrid rocket, as well as the combustion chamber, the oxidizer tank, the oxidizer injector, the ignition system, and the nozzle, in addition to many other systems. These systems are all rigorously analyzed and tested as part of SARP's commitment to safety and reliability.

BUSINESS

The Business team coordinates SARP's fundraising, budgeting, community outreach, and operational activities. The Business team returns from the 2017-2018 competition season, taking on more responsibilities and facilitates communication and quality of life for the rest of the team.

SARP'S HISTORY

2009

The first students participate in the Intercollegiate Rocket Engineering Competition (IREC) through a **graduate-level** Aeronautics Engineering course with a solid fuel motor rocket. At IREC, the team places second and reaches 12,500 feet. The team earns the **Excellence in Engineering award** at the competition.

2015

Gaining interest from undergraduates, the team grows to **30 students**. The rocket reaches **22,000 feet** at IREC.



2017

SARP has 70 undergraduate students involved on the team, and the rocket diameter is grown to 8 inches. Competing in the first annual Spaceport America Cup, the team reaches 12,500 feet and places **second** in the competition.

2019

SARP grows again to **200 members**, becoming the largest engineering RSO at UW. SARP will defend the 30K Hybrid Motor title again in June!

2011

The course becomes an independent graduate study course, and the team is able to complete a full scale static fire at IREC.

2012

The team adopts the name SARP, and becomes an extracurricular program with both graduate and undergraduate students. With 10 members, the team develops their first **hybrid O-class motor**, reaching 25,000 feet and **placing 1st** at IREC while again earning the Excellence in Engineering award.

2014

SARP becomes an **undergraduate-only** program with 16 students. The rocket reaches 8,000 feet at IREC.



2016

With 50 students on the team, SARP is able to fire a full scale launch in Brothers, Oregon. Unfortunately, a pre-ignition issue preclude the team from competing at IREC.

2018

The team grows considerably to **145 students**. For the first time ever, SARP places **first in its category** in the most technically challenging category



WHY SPONSOR?

PRODUCT EXPOSURE

Your company's products and brand name will be used and seen continuously throughout the process of designing, manufacturing, and launching the rocket. The exposure will reach hundreds of future engineers on the team and thousands of participants from around the world at the IREC competition. Students that gain familiarity with your products during their foundational education will develop important preferences and connections that carry over into their industry careers.



RECRUITMENT

By developing and nurturing your relationship with SARP, you leaving a lasting impact on engineering students at the UW campus. Your company have first choice, direct recruiting access to SARP's elite team, with all of our team's resumes on hand. Our members each year are carefully vetted for drive, experience, and enthusiasm, and gain the unique experience of working on a large scale engineering project at an early stage their career.

ONLINE PRESENCE

SARP's online presence is closely followed: our website receives over a thousand views a month and our Facebook page has over 850 followers. Your logo will be placed in its respective category on the Sponsors page of our website with a link to your company's website, and will show up throughout all of our webpages. When mentioned on Facebook and on the website, your company will receive an individual post dedicated to your mission and your products.

BRAND PROMOTION

With your company's name on the rocket, team competition t-shirts, and on promotional materials for the organization, your brand will be seen by thousands of students on UW campus, by various engineering team at and before the competition, and by the wider public at all SARP events.



SPONSORSHIP PACKAGES

PURPLE (\$5,000+)

All Platinum benefits +

Maximum sized logo placement on rocket and t-shirt

Maximum promotion on all campus events and at IREC competition

Invited to provide posters for display during all campus events

Name a scientific payload

PLATINUM (\$3,000-\$5,000)

All Gold benefits +

Extra Large logo placement on rocket and competition t-shirt Preferential logo placement on rocket

GOLD (\$2,000-\$3,000)

All Silver benefits +

Large logo placement on rocket and competition t-shirt Recognition (logo) on all outreach event promotion on UW campus Detailed written features

SILVER (\$1,000-\$2,000)

All Bronze benefits +

Medium logo placement on rocket and competition t-shirt

Logo featured on quarterly newsletter

Logo placement on all Rocket Unveiling promotion in Spring

BRONZE (\$500-\$1,000)

Small logo placement on rocket and competition t-shirt
Recognition of donation with individual post on Facebook and website
Logo and link to company website placed on SARP website
Member resume book if requested

Gifts to the University of Washington, SARP are tax deductible to the full extent of the Internal Revenue Service (IRS) code. The University of Washington is designated by the IRS as a not-for-profit 501(c)(3) organization.

YOUR SPONSORSHIP AT WORK

We appreciate and can put to use all forms of sponsorship, whether your goodwill comes in the form of monetary donations, product discounts, or raw materials. All materials and discount-based donations will be placed in the appropriate category based on their fair market value. See below for a few examples of general materials that are needed for this year.

Composites

Carbon Fiber
Epoxy Resin
Core Materials

Manufacturing

Welding
Heat Treatment
3D Printing

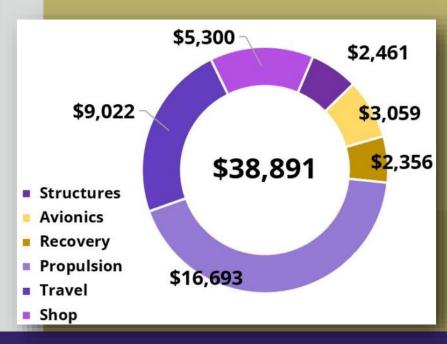
Metal

7075 Aluminum 6061 Aluminum Copper

Miscellaneous

Parachutes Electronics Hardware

2018 BUDGET & SCHEDULE





OCT: Design

JAN: Industry PDR

APR: Unveiling

America Cup

DEC: Internal PDR FEB: Manufacturing & MAY: Test Launch

(Preliminary Design Review)

Testing

(Brothers, Oregon)

Thank you.

We rely on sponsors like you to build better rockets year after year. Our undergraduate team is **hungry for engineering innovation** and is dedicated to perfecting ourselves through iteration.

As a supporter of SARP, you are not only supporting a team of aspiring rocket engineers, but you are also investing in the future of sustainable aerospace engineering.

We sincerely appreciate your consideration of SARP for sponsorship, and hope that you will join us in enabling the engineers of tomorrow.