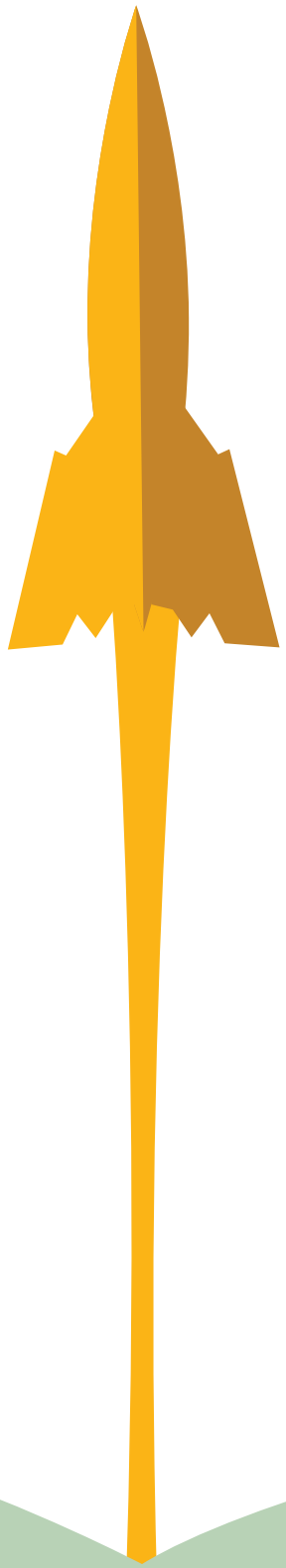
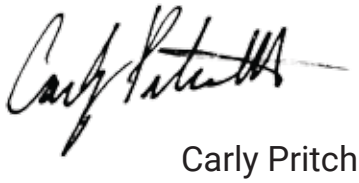


CalSTAR

sponsorship opportunities

Thank you!

I'd like to personally thank you for your consideration in sponsoring CalSTAR. This group has big hopes for the future and a team full of students passionate and driven enough to make it happen. Your sponsorship will propel this team upwards and expand the aerospace community at Cal for current and future rocket scientists. As a first year team with limited money this past year we came to understand how each dollar is important. Therefore I can promise that careful consideration will be put forth into using your funding effectively. Over this last year, CalSTAR not only developed my technical skills but introduced me to a new family that has challenged and inspired me. I hope that, after reading through this packet, you'll see what makes CalSTAR so special. Thank you.



Carly Pritchett,
CalSTAR President

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find more at: stars.berkeley.edu

Our Mission

Research

As a Space Technologies team, we have subteams designing and testing new parts and processes for use in launch vehicles. We are currently focusing on designing innovative dynamic control systems, manufacturing and testing processes, electronics and telemetry, and propulsion systems. Some of these projects include active attitude control using actuated fins, long range radio communications, and small scale electric turbopumps for liquid propulsion systems.

Application

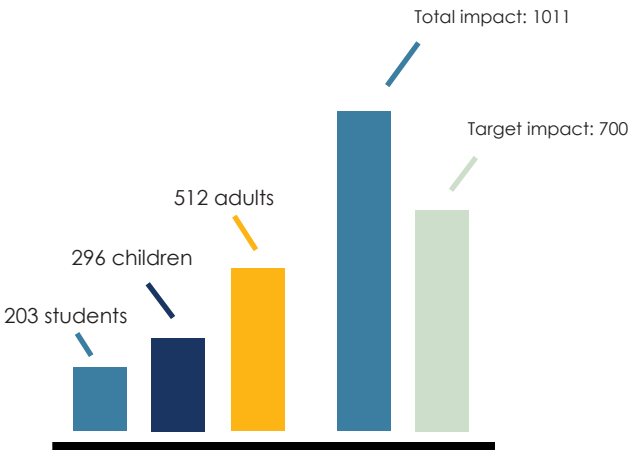
CalSTAR serves as the leading organization at Berkeley for hands on experience with engineering for extreme environments. Our members gain practical knowledge of software and hardware provided by sponsors. Through the collaborative design and manufacturing of innovative rockets and payloads, we prepare our members for future roles as professional engineers.

Community Outreach

A core mission of CalSTAR is to educate and inspire a love for STEM within our community. We host and participate in several outreach events where we meet and interact with local children, teachers, and makers. At all our events, we demonstrate the science and technology behind rockets and give people the chance to try out our interactive exhibits.

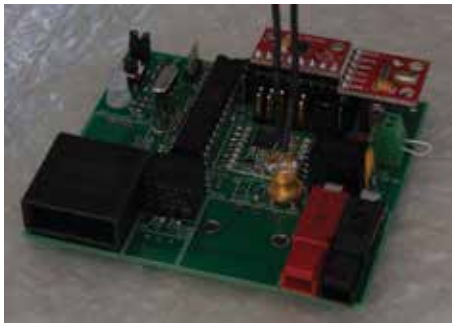
Past Year

Outreach

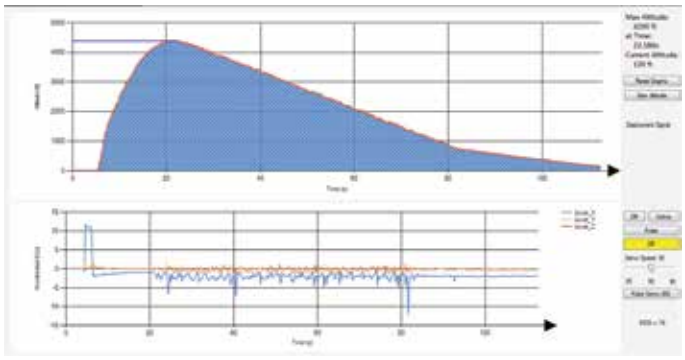


In October 2017, CalSTAR attended Ohlone College's Night of Science and interacted with over 800 young children and parents, hosting hands on activities to teach kids about rocketry. CalSTAR also attended Discovery Day at Cal State East Bay and Discovery Day at AT&T park, reaching out to over 1000 atendees and hosting interactive activities. CalSTAR also hosted activities at the 2017 Maker Faire Bay Area. In the future, CalSTAR intends on connecting with the local Berkeley High School to begin and mentor a competition rocketry team.

Research



CalSTAR's research projects include liquid propulsion systems, dynamic flight control and stabilization, active recovery systems, and long range live radio telemetry. Many of these systems will be featured on CalSTAR's Spaceport America Cup competition rocket, Spectre, scheduled for flight in June 2018.



Competition

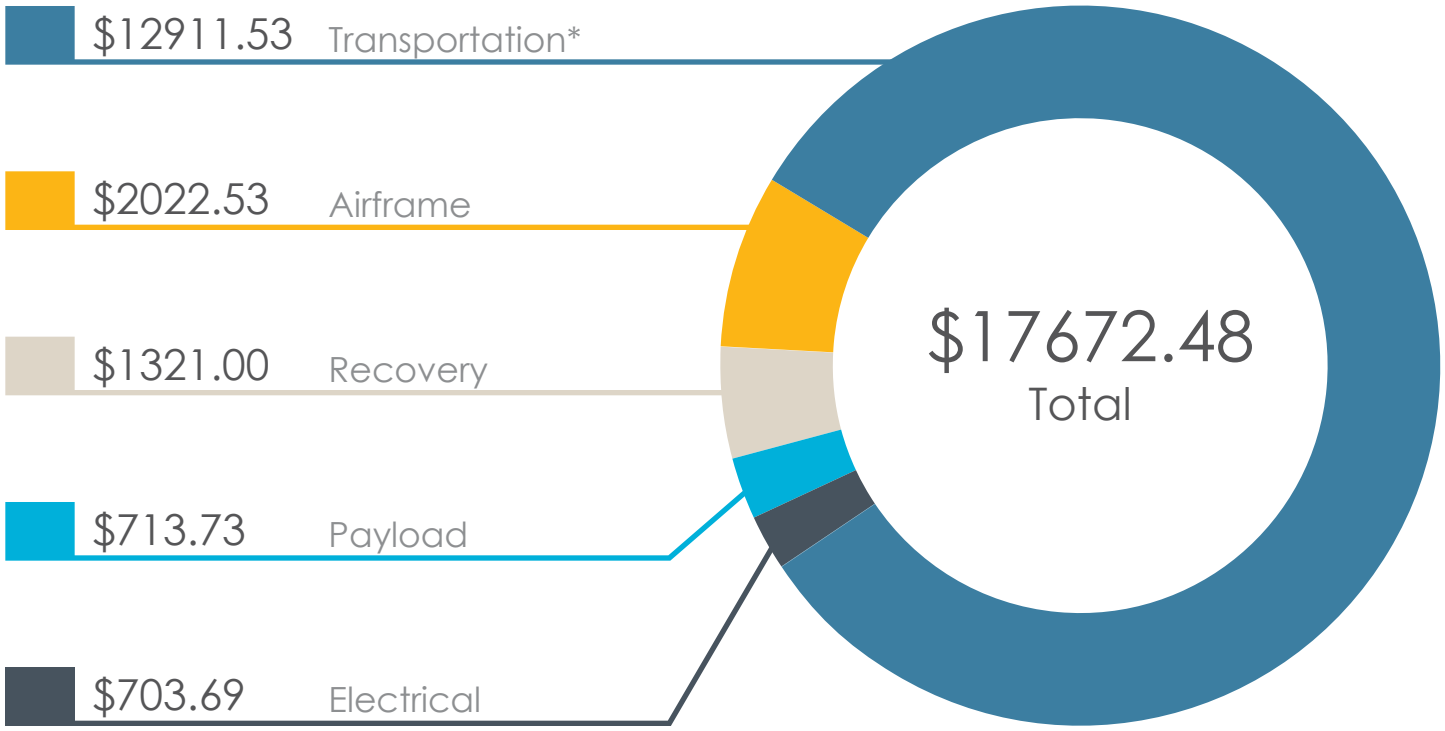
CalSTAR made its competitive debut at NASA Student Launch in April 2017, launching a rocket to an altitude of nearly a mile and deploying a target detecting and upright landing payload.

CalSTAR is once again competing in the 2018 NASA Student Launch, and is in the process of building a launch vehicle to reach an altitude of one mile and autonomously deploy a Mars-style rover upon landing.

Additionally, CalSTAR is competing in the 2018 Spaceport America Cup, and intends on designing a rocket, dubbed Spectre, to reach an altitude of 30,000 feet. This vehicle sports a carbon filament-wound airframe, custom avionics, long range live telemetry, and a two stage propulsion system consisting of a solid propellant booster and a liquid bipropellant sustainer. Additionally, CalSTAR is teaming up with UC Berkeley's Space Sciences Laboratory to include a cosmic ray detector on the rocket as a science payload, making CalSTAR one of the only student launch provider groups in the country.

CalSTAR's major long term goal is to become one of the first university groups to send a rocket to space, aiming for an altitude of 100 kilometers (62 miles). Much of the research related to CalSTAR's competition rockets focuses on robustness and scalability in order to develop systems that will ultimately be used in a space rocket.

Budget 2016-2017

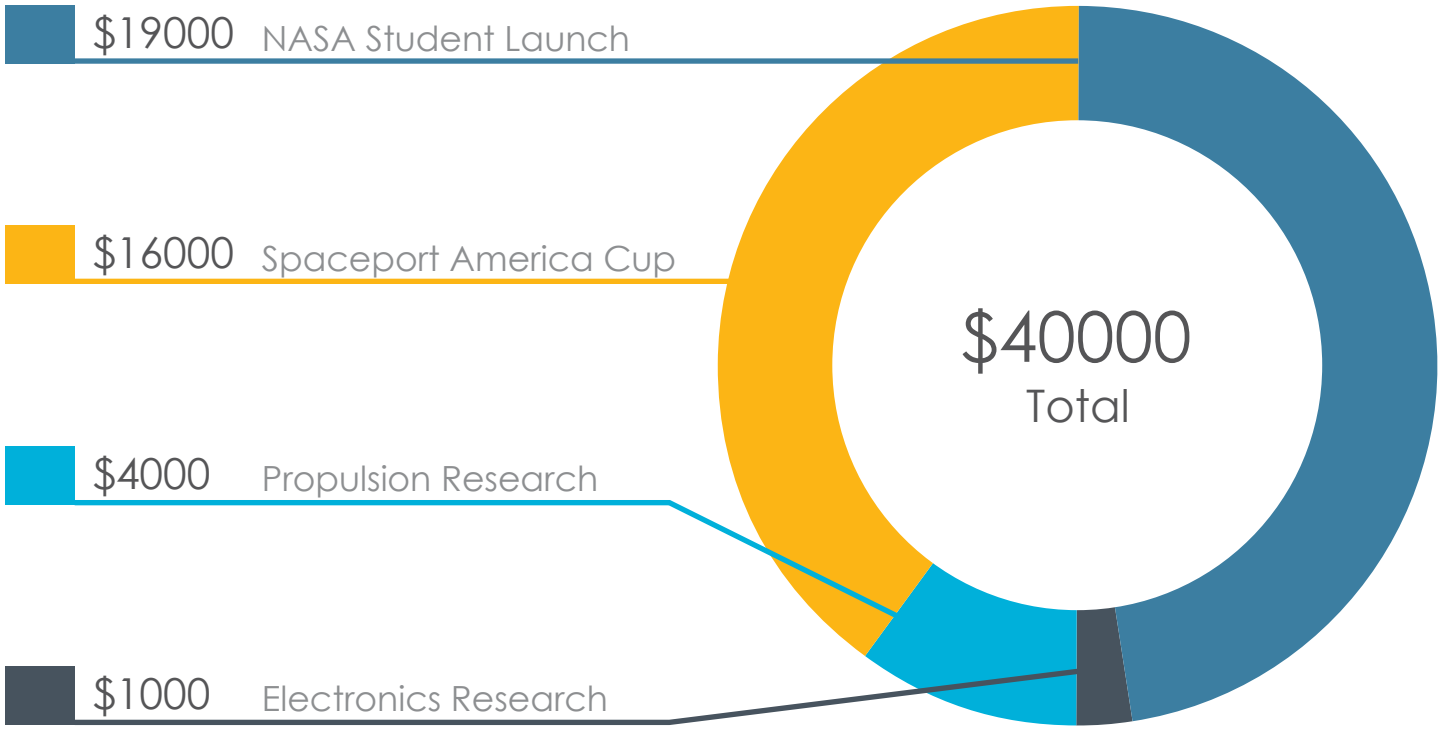


* Category also contains $150 in Outreach Expenses and $39.50 in Safety Expenses

Our total expenditure this past year was $17,672.48, comprising $4,760.95 in parts and manufacturing and $12,722.03 in all other expenses (transportation, outreach, and safety).

The majority of parts and manufacturing costs came from building the airframe and buying off-the-shelf motors for our five launches. The greatest expenses for recovery were the five parachutes required for both the main rocket recovery and the payload recovery systems. The transportation category includes the cost of plane tickets, hotels, and rental cars for the build team members who traveled to Huntsville for the NASA Student Launch competition.

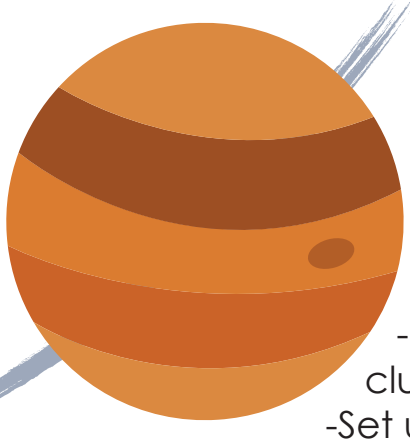
Projected Budget 2017-2018



This year, we more than tripled our membership, increasing from 20 active members to 64, and have taken on two year-long competitions--the NASA Student Launch and the Spaceport America Cup. As such, our projected budget is larger than our past expenditures. We are looking to fundraise about $40,000.

About half of our projected budget will go to the NASA Student Launch competition. The remaining half will go to the Spaceport America Cup competition. The major costs we expect to undertake are raw materials for construction of airframe and propulsion systems, hardware for electrical and recovery systems, and equipment for our manufacturing facilities.

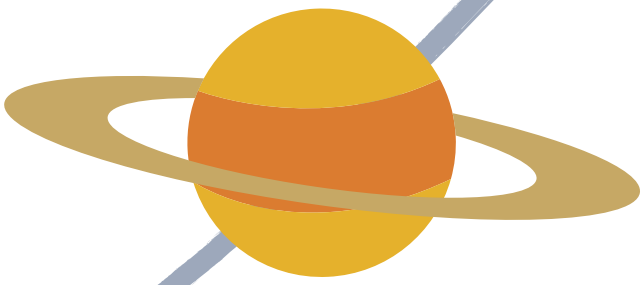
Sponsorship Tiers



Jupiter

5,000+

-All lower tier rewards
-Prominent logo on all club materials
-Set up networking or training events on campus
-Acknowledgement in all public broadcasts



Saturn 3,000+

-All lower tier rewards
-Acknowlegement in all campus activites
-Tour of our workspace and visits on build days

Uranus 1,000+

-All lower tier rewards
-Logo/Name on rocket
-Regular updates on our progress

Neptune

500+

-Logo/Name on Website
-Mission Plaque
-Mission Patches
-Keychain

Words from our members

Allen Ruan

"If you combine a group of curious and audacious engineering students with a burning passion for all things space and rockets, you'll end up with STAR. As a native Texan, STAR has become my family at Cal. From the late nights fashioning fiberglass components in dimly lit rooms, to the incessant amount of technical problems we have had to overcome, STAR has above all taught me to be dynamic and adaptable, filling in the gaps whenever I am able to. Overall, I am unspeakably proud of the work that we have done in just one year. We are fast-paced, paralleling the actual industry, and I know we will only be propelling upwards from here on out. And you can bet that I will be there every step of the way."

-- Allen Ruan, B.S. Mechanical Engineering, 2020

Brunston Poon

"I think this year at STAR, what really got through to me was how much we had to deal with adversity and being able to think of solutions on the fly with less than optimal resources at hand, and sort of those constrained resources problems that are very common in the real world. I really got a chance to work on them here at STAR, and I think that getting a chance to work with the NASA Student Launch also enabled me to grow more as a leader and as an engineer, and as a person."

-- Brunston Poon, B.S. Electrical Engineering and Computer Science, 2020

Adam Huth

"So this year, one of the biggest things I learned is that it doesn't matter where you start, it doesn't matter what your experience level is, you can accomplish anything you put your mind to, at any point in your life. And I think a lot of us learned that this year, no matter what our skill levels were, and how busy we were in school, and whatever got thrown our way, we could do the impossible. And I think that's a really valuable lesson in life. That it's not too late to start something, and you can do anything you want, just like they told us when we were kids!"

-- Adam Huth, B.S. Mechanical Engineering, 2018

Thank You!