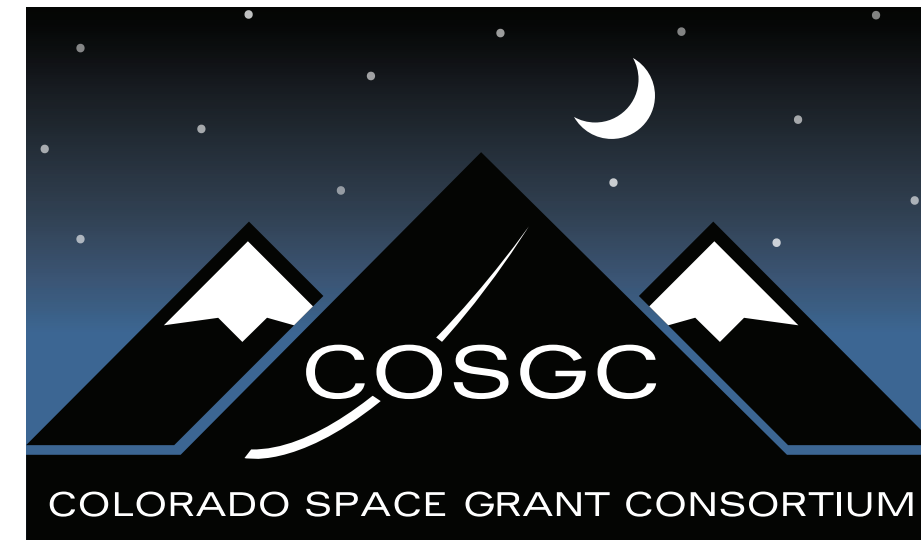


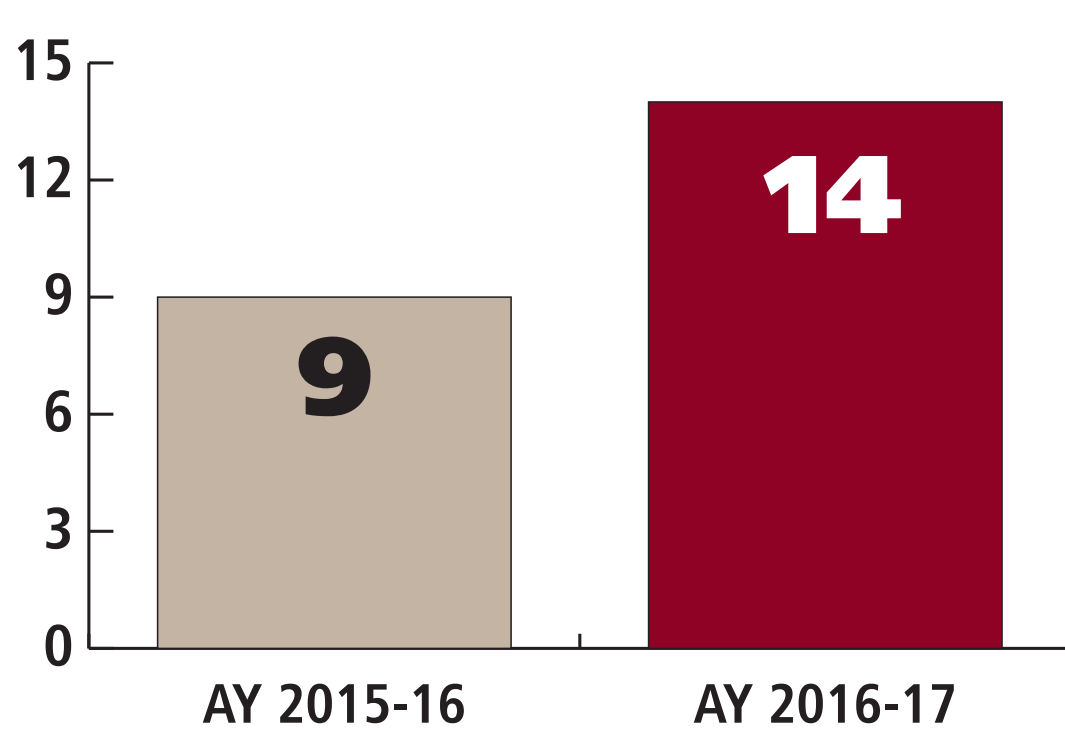
## Background

The Colorado Space Grant Consortium (COSGC) is a state-wide organization funded by NASA involving 21 colleges, universities and institutions. The COSGC provides students with hands-on workshops, interaction with engineers and scientists, undergraduate research opportunities, and the opportunity to develop, test, and fly new space technologies.



Being one of the affiliate colleges, Pueblo Community College is heavily involved in the COSGC with the main goal of providing students with the opportunity to explore real world technologies by taking part in one or all of the three different projects offered.

**Number of Participants in the Space Grant Consortium**



(From left to right) Zachary Thallus, Maddie Stalder, David Paez, and Tom Martinez competing in the 2017 Robotics Challenge at the Great Sand Dunes.

## 2015-16 Academic Year

In the 2015-16 academic year, the PCC Space Grant Team participated in the Robotics Challenge, which allows students to develop, design, and program a vehicle similar to NASA's Mars Rovers that would be tested on a course at the Great Sand Dunes in Alamosa. Nine PCC students participated in the challenge, 33% of which were women and 22% Hispanic.

## 2016-17 Academic Year

The goal for the 2016-17 academic year was to build diverse capacity within our Space Grant team with the addition of two new projects to go along with the Robotics Challenge.

One of the new projects introduced was DemoSat, which encompasses the design, fabrication, launch, recovery and analysis of data from balloon-launched payloads. Five PCC students presented their findings at the Research Symposium at the University of Colorado-Boulder.

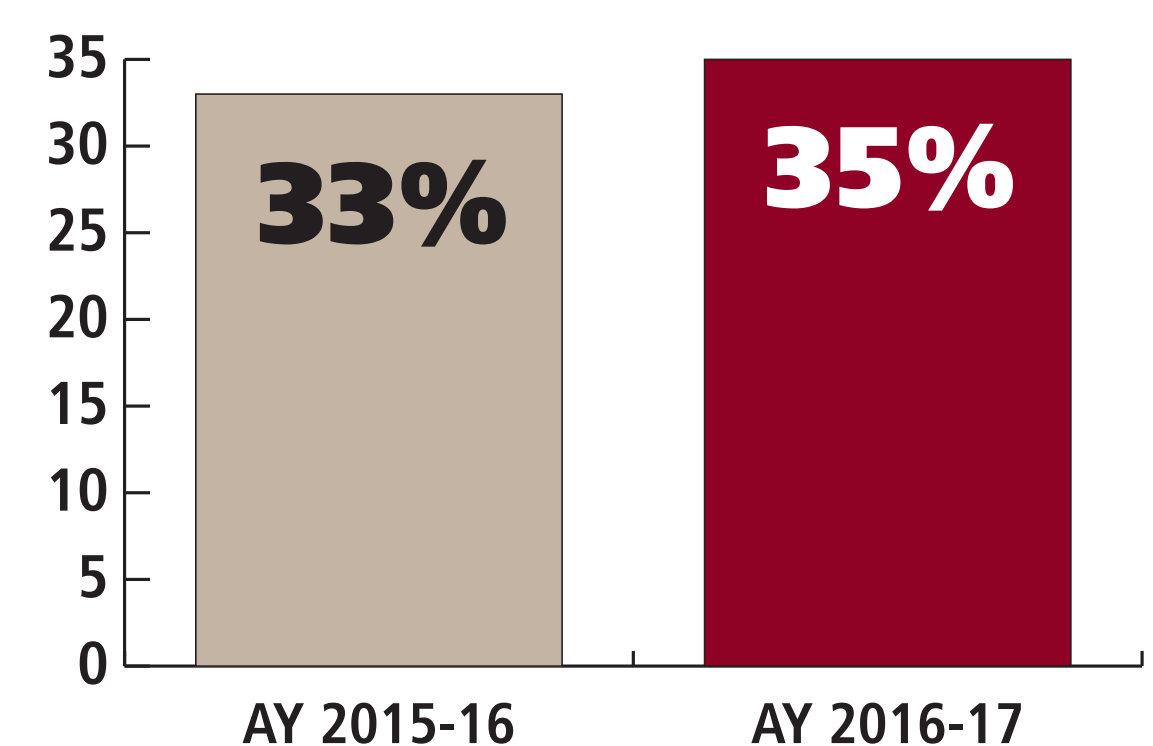
The second venture was the Electronic Wearables project, developed in collaboration with Colorado Mesa University as a more gender-neutral project.

The addition of these two programs resulted in an increase in student participation from nine students in the 2015-16 academic year to 14 students in 2016-17.

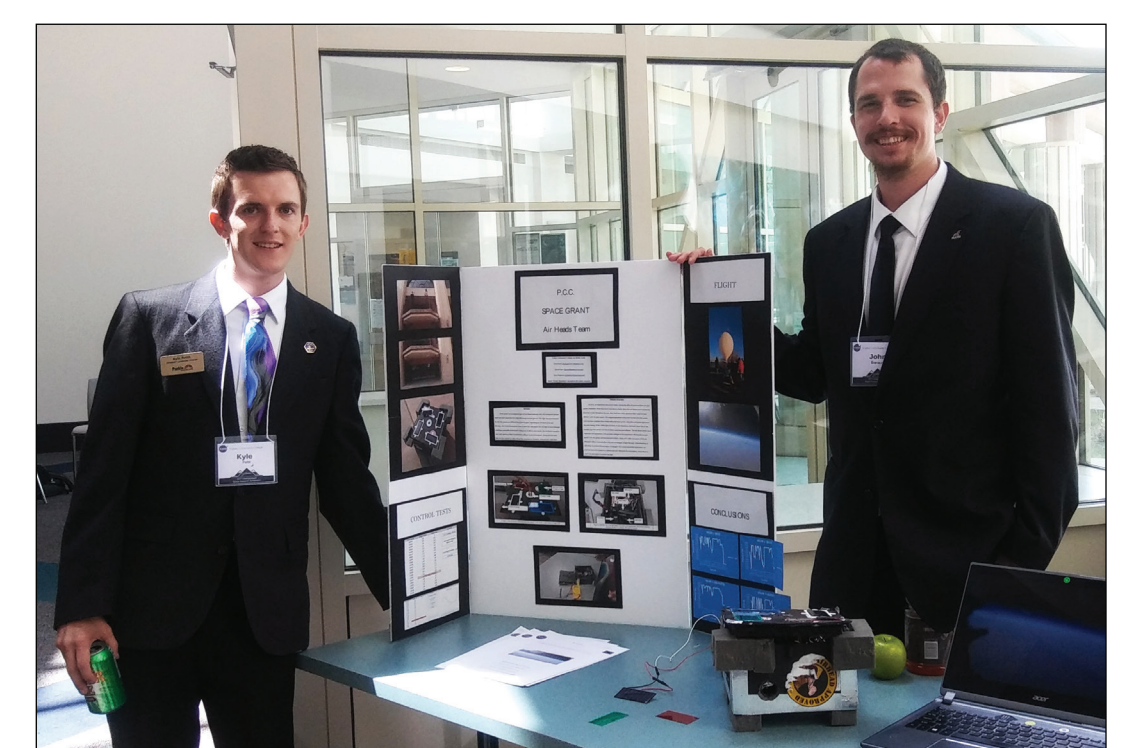


DemoSat balloon launch

**Percentage of female participation in the Space Grant Consortium**



(From left to right) Tom Martinez, Lori Hannis, and Zachary Thallus attending the Research Symposium on the University of Colorado-Boulder campus.



Kyle Pettit (left) and Johnathon Banaum attending the Research Symposium on the University of Colorado-Boulder campus.

## Results

While the goal to build diverse capacity within the Space Grant Consortium is important, we offer all PCC students the opportunity to participate in this hands-on STEM-based organization to introduce them to critical thinking and develop problem-solving skills that will keep them engaged and help to increase their retention as they move forward in their education.

Since the introduction of the DemoSat and Electronic Wearables endeavours, combined with the Robotics Challenge, not only has the number of student participants increased, the funding has increased as well. During the 2015-16 academic year, NASA provided \$10,000 in funds with an additional \$14,000 approved for academic year 2016-17. The final result of these funds will allow PCC to engage more students in the program and provide more hands-on projects and undergraduate research opportunities.