

# Scottsdale man on winning college robotics team

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An adjunct math professor at Scottsdale Community College and a northern Scottsdale resident had a hand in a college team taking first place in a national rover prototype competition.

Student Anthony Burch was on the team and Bill Johnson, who also is technical advisor for the college's robotics club, taught student Jenna Connolly, another team member, how to use and program robots.

The team won top honors recently at the National Community College Aerospace Scholars (NCAS) project at Glenn Research Center in Cleveland, Ohio.

NCAS is an interactive online learning site that includes a three-day session at the NASA center in Cleveland. There, the students interact with NASA engineers, learning more about careers in science and engineering, and form teams to develop and test a prototype rover.

"As soon as we got there, there was no break," Burch said. "We just jumped right into it, so we actually didn't get a lot of sleep."

Burch and Connolly's rover beat out the competition for several reasons, the first being a 3-D printed part created and printed by Burch.

"The 3-D printed part ... made the rover more stable and allowed us to win the competition," Connolly said.

Connolly credited Johnson for all she learned from him.

"He not only taught me how to program it, but he also went over the math on how to program it," she said.

Johnson met Connolly when she was taking a programming class at SCC, and when Connolly was accepted into NCAS, she attended a few of Johnson's robotics club meetings.

"Jenna likes to be prepared," Johnson said, adding that preparation was another factor that increased the winning team's edge in the competition.

"She's a serious student and obviously she spent some time to learn how to do the programming, so when she was ready to go, her team was ready to go," Johnson said.

The two students worked in a team with seven other college students.

"Working with my team was amazing and, of course, at the end when they announced that we were the winner, that was a great feeling," Burch said, explaining: "When they program it, it would hit the



Two Mesa Community College students, Jenna Connolly (bottom left) and Anthony Burch (bottom right), and the rest of their team placed first in a rover prototype competition at the National Community College Aerospace Scholars project at Glenn Research Center in Cleveland, Ohio.

sensor, and anything that was a certain distance from the sensor would make the rover stop and then utilize the arm to come off and collect what was in front of it."

The sensor was set perfectly.

"It had to be set perfectly or else it wouldn't be able to read anything," Burch said.

Following the NCAS competition, Connolly shared her experience with students at Navajo Elementary School, whose STEAM Design Academy is a specialty program for fourth- and fifth-graders interested in science, technology, engineering and math.

"That's very rewarding for me to see that happen when we give some gals opportunities like that," Johnson said.

At NCAS, Burch was inspired by their mentor, Dr. Rafat Ansari, a senior scientist at the NASA John H. Glenn Research Center.

"He's super smart, very motivational," Burch said. "We got to sit down with [the engineers] and discuss our resumes, and [Dr. Ansari] gave us advice on the different paths that we're taking."

Burch believes this opportunity at NCAS will help give him an edge when applying for jobs at NASA and Cisco Systems, where he hopes to work following graduation.



Mesa Community College students Jenna Connolly (left) and Anthony Burch (right) placed first at the National Community College Aerospace Scholars project at Glenn Research Center in Cleveland, Ohio. Burch is holding the 3-D printed part that helped their Mars rover prototype win.

"The experience working with the team and being put in that high-pressure type of situation definitely gave me a heads up with any company I end up working with," Burch said.

Burch also makes it a point to thank one very special person for supporting him through his studies and his accomplish-

ments at NCAS.

"My wife Megan is my rock, my full support for pushing me through this and dealing with me while I'm trying to get through school," Burch said.

Burch will graduate from NAU in May 2019 with a bachelor's degree in network administration. 🚀