



Talking in Outer Space



At 1:19 pm on Thursday, Feb. 19, 2015, ten Council Rock (CR) High School South science and technology students talked directly with the astronauts on the International Space Station (ISS) as the ISS rounded earth. This CR first put South among an elite group of students worldwide who have talked to a crew on an ISS through ARISS (Amateur Radio on the International Space Station). ARISS is a consortium of ham radio organizations and space agencies in the US, Russia, Canada, Japan and Europe.

The opportunity for CR South students to have a live ISS in-orbit crew chat was the result of the work of CR South science teachers Jerry Fetter, Joe Warwick, Fred Bauer, and Jeff Warmkessel, along with Andy Vavra, Joe Horanzky, Irwin Darack and Karl Harris of the Warminster Amateur Radio Club. They connected with the ISS via a used radio system and antennas donated by Steve LaChesky of Ohio. Teachers made the long drive to Ohio to pick up the equipment.

Dealing with a very narrow window, the ten students had somewhere between 5 and 10 minutes of contact to ask all their questions. At first, only a static signal came through, but it continued to get stronger. When the ISS was at 275 miles above the eastern seaboard, traveling at a speed of 17,100 mph and over the horizon, the signal was strongest. This occurred around 1:19pm and continued until around 1:30pm, when the ISS went below the horizon and the signal was lost.

Ten students lined up to ask as many questions as the short radio signal and time allowed. Questions were answered by Italian astronaut, Samantha Cristoforetti, the first Italian woman in space, who was launched to the ISS on November 23, 2014.

The students asked about safety, re-entry, and life in orbit on the ISS. One question related to the astronauts' sighting of a sunrise and sunset, which occurs every 90 minutes during one orbit of the earth. It was, "Does the 90 minute orbit time affect how you work?" Ms. Cristoforetti responded, "Actually not so much, as we work on a regular 24 hour clock. You know as a human being we actually have a tendency to do that. Plus we work with the team on the ground who also works on a 24 hour clock and we go by our watch."

When the signal was lost all those in South's auditorium knew they had witnessed a very special Council Rock event.

Students in the Technology Club will continue with other special space related projects. With their newly donated ham radio equipment and antennas, the science department hopes to offer student classes where they can study to get an Amateur Radio license, and connect with students in schools around the world via ham radio technology.