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SALLY RIDE SCIENCE

Sally Ride Science rolls out inspiring space-education program at ISS research conference



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July 29, 2019 (<https://sallyridescience.ucsd.edu/sally-ride-science-rolls-out-inspiring-space-education-program-at-iss-research-conference/>) by Sally Ride Science (<https://sallyridescience.ucsd.edu/author/mking/>) · Posted in " News Releases (<https://sallyridescience.ucsd.edu/category/news-releases/>) " · Tags " International Space Station (<https://sallyridescience.ucsd.edu/tag/international-space-station/>), ISS (<https://sallyridescience.ucsd.edu/tag/iss/>), STEAM (<https://sallyridescience.ucsd.edu/tag/steam/>), STEM (<https://sallyridescience.ucsd.edu/tag/stem/>), STEM education (<https://sallyridescience.ucsd.edu/tag/stem-education/>) " ·

Sally Ride Science is stepping onto the national stage at a major space-research conference this week to announce the expansion of an innovative program that lets students take an active role in research aboard the International Space Station (ISS).

Last year Sally Ride Science, which is based at UC San Diego, partnered with [Space Tango](https://spacetango.com/) and [Quest for Space](https://www.questforspace.com/) to offer workshops where students program heat-transfer experiments and then actually upload their programs to the ISS and run them in microgravity.

At the [ISSR&D](https://www.issconference.org/) (International Space Station Research & Development) Conference July 29-August 1 in Atlanta, Tam O'Shaughnessy, Sally Ride Science cofounder and executive director, will announce plans to expand access to Quest for Space curriculum to students and educators across the country.

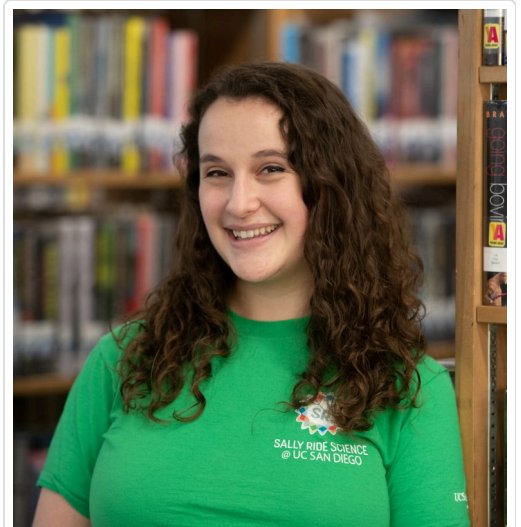
Sally Ride Science representatives will also deliver a presentation about the program to researchers at the conference. And Sally Ride Science will join Space Tango and Quest for Space for a panel discussion about the partnership's evolution and planned expansion.

"This partnership has taken Sally Ride Science's STEAM (science, technology, engineering, arts and math) programming to the next level," said Megan Lancaster, manager for education and community outreach at [UC San Diego Extension](https://extension.ucsd.edu/), who will be one of the presenters at the conference. "Students are becoming rocket scientists and learning in real time where careers in STEAM can take them here on Earth and potentially even off the planet."

The annual ISSR&D Conference brings together NASA officials, researchers, educators and aerospace industry representatives for panels and technical sessions. The focus is on the innovative ways companies and educational institutions are utilizing ISS lab facilities. Microgravity offers significant advantages in the development and future manufacturing of medicines, materials, fuels and other products.

Jana Stoudemire, Space Tango's commercial innovation officer, looks forward to getting out the word about Quest for Space to ISSR&D participants.

"We are pleased to have the opportunity to share this unique approach to STEM (science, technology, engineering and math) curriculum and exceptionally strong partnership model with others who are committed to inspiring the next generation of students," she said. "This approach provides direct access to research on the ISS to expanded



Shirli Cohen, who teaches Quest for Space workshops, will be among the presenters at the conference in Atlanta. Xavier Bailey/Photos

numbers of students compared to competing science models.”

Shirli Cohen, a research bioengineer who teaches Quest for Space workshops in San Diego, will also be among the presenters in Atlanta. She is eager to discuss the program with key players in space research.

“I’m looking forward to sharing the impact that this programming has had on my students,” she said. “It’s an important message for educators, scientists and researchers alike. We all have the ability to empower students to find a passion and pursue it. I’ve seen firsthand how significant that ‘aha’ moment can be when someone realizes the potential locked inside of them.”

Science-education partners

Space Tango is a Kentucky-based company that designs, builds and operates facilities on the ISS for research and manufacturing of biomedical and technology applications and STEM initiatives. Space Tango has created small modules called CubeLabs that are launched aboard commercial rockets and installed into the company’s TangoLab facilities on the space station, where they can be remotely operated from the ground.

In 2018 Space Tango partnered with the San Jose-based [Quest Institute for Quality Education](https://thequestinstitute.com/) (<https://thequestinstitute.com/>), creators of the Quest Space Kit. Students use the kit to build and customize hardware for heat-transfer experiments, and then program the experiments on the Arduino platform in the C programming language. Finally, students run their experiment configurations in the Quest module in Space Tango’s facilities on the ISS and analyze the resulting data.

Sally Ride Science has offered two versions of the Quest for Space workshop.

- As part of this summer’s Sally Ride Science Junior Academy (<https://sallyridescience.ucsd.edu/junior-academy/>), high school students spent four weeks programming and running multiple experiments to see how microgravity affects heat transfer by radiation, conduction and convection.
- Through an ongoing program called Library NExT (<https://sallyridescience.ucsd.edu/next/>), middle school students can take part in free 3-hour workshops in San Diego Public Library branches. Students program a radiation experiment and upload their programs to the ISS.

Plans are in the works to expand Quest for Space to a year-long program beginning this fall. Students will be able to enroll in a series of courses to earn UC San Diego Extension certificates and credits. Lancaster said organizers are also planning to roll out four-week workshops nationally, beginning with a session in Atlanta later this year.

Stoudemire said there are plans to make the program available in other countries as well through UC San Diego online courses. “We are pleased to work with strong partners who share the commitment to providing exceptional STEM programs to students and educators across the globe,” she said.

Reaching students of all backgrounds

Morgan Appel, assistant dean for education and community outreach at UC San Diego Extension, will be part of the Quest for Space panel at ISSR&D. He pointed to the program's ability to bring science lessons to life for students, teachers and parents.

"The synergies emerging from our collaborative engagement with Space Tango and Quest for Space have provided grounded opportunities to generate enthusiasm for holistic approaches to science education," he said, adding that the program taps into students' "innate spirit of adventure and creativity."

Danny Kim, managing director for Quest Institute, emphasized the power of the workshops to inspire students at all achievement levels.

"The Quest for Space program fosters curiosity and helps students to realize the dream of doing science experiments on the ISS," he said. "With the partnership with Sally Ride Science, Quest for Space has the opportunity to broaden our reach to students from all backgrounds, from the underserved to the highest achieving, and fosters a renewed interest in STEM-based learning."

Cohen said it has been inspiring to see students from a variety of backgrounds respond to the workshops. "We're bringing courses in advanced science and engineering, as well as the opportunity to run experiments in space, to virtually any student," she noted. "We're showing these young scientists that no goal is out of reach – once they perform an experiment in space, they can accomplish anything they set their minds to."

The Quest for Space partnership continues the legacy of America's first woman in space as a champion of science education for girls and boys of all backgrounds.

After retiring from NASA, Sally Ride became concerned about the lack of women in science and engineering. She joined with O'Shaughnessy, her life partner, along with three friends to found Sally Ride Science in order to inspire students in STEM. Ride died in 2012, and in 2015, Sally Ride Science became part of UC San Diego under Extension's direction.

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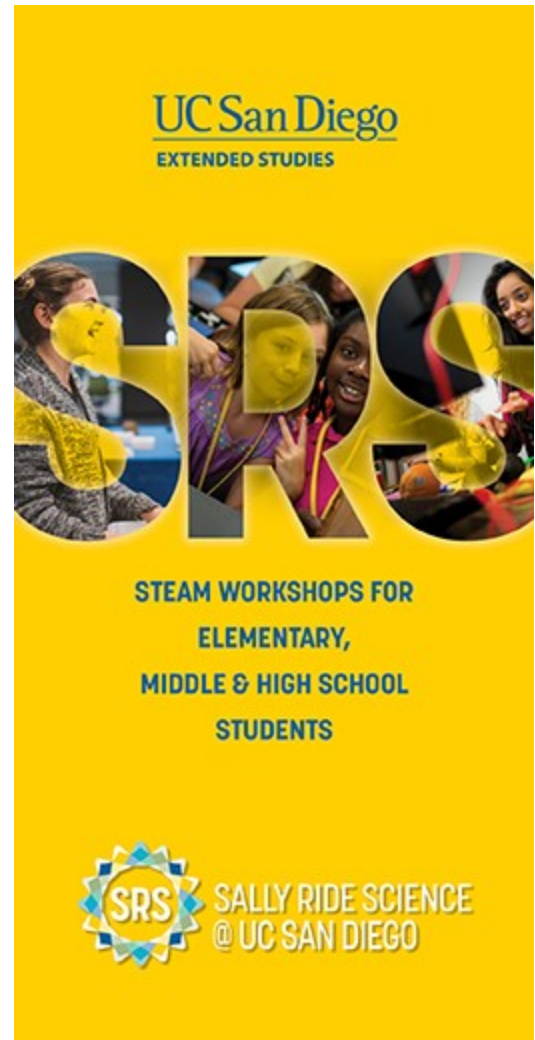
➤ At Sally Ride Science Junior Academy, program supervisor Christine Morales focuses on safety,

Barbie hails astronaut Sally Ride with new 'Inspiring Women' doll (<https://sallyridescience.ucsd.edu/barbie->

communication – and inspiration
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