

HEMET

High school senior pursues love of science

By Diane A. Rhodes
Correspondent

Krystal Horton's childhood dreams of becoming an astronaut took flight again when she was named as one of 25 student ambassadors for the Back To Space program, designed to bring space exploration back into popular culture.

"My life is dedicated to exploring space," said Horton, a senior at Western Center Academy in Hemet. "I have known since I was 6 and I met Sally Ride that I wanted to be involved in the space program."

She'd love to travel into space, but if she can't, she hopes to work in the aerospace industry, where she can send things into space and learn more about it.

Despite Horton's goals of going into space, she keeps herself grounded with all things science. She has a science blog with 200,000 views, has a YouTube channel, has been to the robotics World Championships and has won numerous awards at science fairs and beyond.

"I always wanted to know why things worked the way they did," the Menifee resident said. "I have a constant need to know."

She recently had one of her research project articles published. Horton's scientific manuscript, titled "Using DNA Barcodes to Evaluate Ecosystem Health in the SWRCMS (Southwestern Riverside County Multi-Species) Reserve" was published Sept. 27 in the *Journal of Emerging Investigators*, the non-profit scientific journal run by Harvard University graduate students.

The journal mentors young scientists in middle and high school by publishing their research after a rigorous editorial and sci-



COURTESY OF KRystal HORTON

Krystal Horton stands with Apollo 16 astronaut Charlie Duke at an October gala to celebrate the 25 student ambassadors of the Back To Space program.

entific review process.

The journal's Cameron Hedden said Horton's research focused on using DNA barcodes to study the population genetics of two populations of insects in California.

"By analyzing the sequences in populations at rural and urban locations, Horton was able to determine how factors such as genetic drift and gene flow affect the population and its overall health, in addition to how human influence affects the health of a population," Hedden wrote in an email.

"It was nice to have this experience and see how much work goes into getting published," said Horton, 17. "It has given me more respect for professors who have to do it annually."

To conduct her research, Horton worked closely with biology department chair Nick Reeves at Mt. San Jacinto Community College's Menifee Valley Campus.

"Krystal made the unique contribution of considering which mechanisms of evolution may be acting in the insect populations she compared," said Reeves, who served as her

research mentor. "She also undertook additional literature research to learn more about genetic diversity in reserves."

He said Horton's passion for science was evident and that her evaluation of data was much deeper than he expected from a high school student working independently in an area of research that was new to her.

"Krystal truly embodies all of the qualities that we expect to see in our very best science students," Reeves said.

The Back To Space Student Ambassador competition was open to U.S. students in grades 8-12.

Each student had to submit an essay or video on one of four topics.

Horton wrote about "a creative solution to bring science, technology, engineering and math (STEM) back into popular culture."

In a news release, Danielle Dallas Roosa, Back To Space founder and granddaughter of Apollo 14 astronaut Stuart Roosa, lamented, "How many students can name numerous really show 'stars' but how few can name anyone who's actually been among the stars? It's unsettling."

Horton's weekendlong introduction to the program included a gala at the Frontiers of Flight Museum in Dallas on Oct. 19, the 50th anniversary of the historic Apollo 7 mission.

"It was an amazing opportunity to get to spend time with American heroes who shaped the United States space program and to have this experience with other students that have similar passions and aspirations," Horton said.

Information: <https://backtospace.com>