

328 days in space

Christina Koch broke the record for the longest time spent in space by a woman. WONG SHER MAINE finds out about her amazing trip.

When Christina Koch was in kindergarten, she knew she wanted to be an astronaut. She used to love looking at the stars in the sky through a telescope in the back garden of her house.

"No one told me I had a crazy dream. No one told me I couldn't do it. And so that dream kept right on growing and growing," she told *The News & Observer*.

In university, she studied physics and electrical engineering. After graduation, she started working with NASA as an electrical engineer on the ground. At age 34, she was selected to be an astronaut. She finished her training and was sent into space last year. She returned 328 days later, on 6 February 2020.

Today, she has made history as the woman who spent the longest time in space, without returning to Earth during that time. The person, however, who spent the longest time in space is a Russian man, Valeri Polyakov, who spent 437 days there.

"(I enjoy) anything that is a challenge, that puts me in a circumstance that I have to think hard to get out of," said Ms Koch, who also loves backpacking, rock-climbing, and surfing.

Few women astronauts

Not many women become astronauts. More than 500 people have been in space since space exploration started in 1957, but only 65 have been women.

When NASA's astronaut classes started in 1959, the graduates were all men. Women graduates only started appearing in 1978, but there have been more and more of them after that. In 2017, nearly half or 45 percent of the graduates were women.

Ms Koch, who is now 41, was sent to the International Space Station on 14 March 2019. The station is like a giant science laboratory in space. While the astronauts inside do not feel like they are moving, the space station is actually going very fast at 28,000km per hour. It circles Earth every 90 minutes.

For nearly one year, Ms Koch lived and worked on the space station, which floats in orbit about 400km above the Earth. She quickly got used to working upside down, and says it felt the same as being right-side up.

"It's been a huge surprise to see that life up here can actually become normal because of what our bodies can **adapt** to," she said.

Life in space

Ms Koch is an engineer and scientist who did a lot of science experiments at the space station to find out how things work in a place with **microgravity**.

She grew leafy greens to study how microgravity would affect the way plants grow, and started fires in



NASA astronaut Christina Koch on her spacewalk.

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space to investigate how fires behave so spacecrafts can be made even safer in future.

She gathered data about her own body so scientists can see how spending a long time in space affects women. For instance, scientists have noticed that men have some problems with their eyesight and hearing when they get back from space, while women might feel faint.

Ms Koch also helped to repair equipment, as the space station is like a giant machine, and went on space walks outside. In fact, she also made history when she and another female astronaut went on a spacewalk in October 2019. It was the first time a spacewalk did not have any men joining in.

She had a lot of fun as well. She sang karaoke with her fellow astronauts, and ate pizzas which were sent up from Earth and which they managed to heat up in their "space oven" with the help of some aluminium foil.

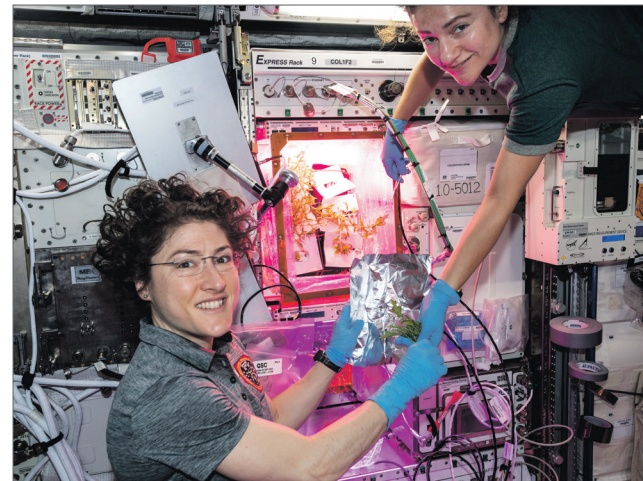
Ms Koch saw Earth during her spacewalk. She said, "At that moment, I just felt like everything I had ever worked for, everything I had ever loved, everything I had ever wanted to contribute to my entire life was just **culminating** in that moment."

Back on Earth

When Ms Koch came back to Earth and felt its gravity for the first time in nearly 11 months, she had some neck pains and balancing problems.

"I felt like a two-week-old who was actually working hard to hold up my own head," she said. She felt better after eating a lot of her favourite chips and salsa, and reuniting with her dog.

NASA has plans to send its second set of astronauts to the moon in 2024 for the first moon mission since 1972. A woman has never stepped on the moon.



Ms Koch and a fellow astronaut checking the lettuce they grew under low gravity conditions at the International Space Station.

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A mission to Mars could happen in Ms Koch's lifetime. A woman might even be the first human to go to Mars.

"As astronauts, one of the things that we sign up for is to be ready for any **eventuality**. We would all be ready and it would be an honour for all of us to be able to do that," she said.

VOCAB BUILDER

adapt (say "e-dept"; verb) = become adjusted to new conditions.

microgravity (say "my-kro-gra-vitee"; noun) = extremely weak gravity.

culminating (say "kal-mi-nay-ting"; verb) = reaching its maximum point.

eventuality (say "ee-ven-chu-e-li-tee"; noun) = unexpected outcome or event.