

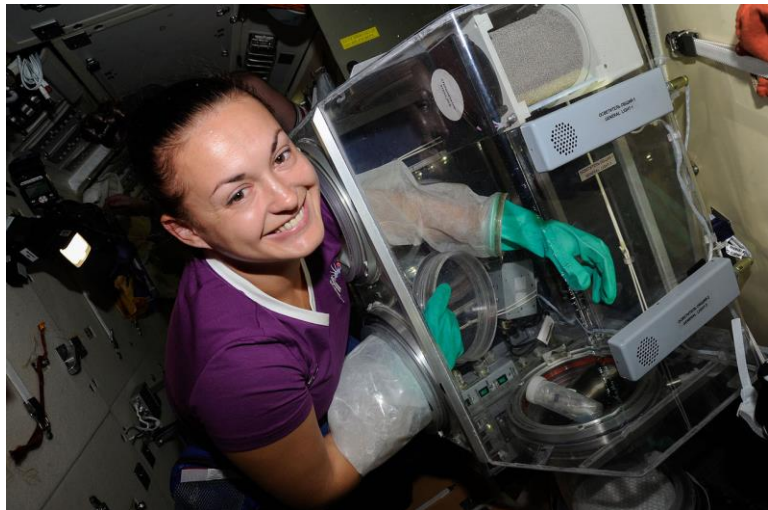
Women in Space Updates

When I wrote *Women in Space: 23 Stories of First Flights, Scientific Missions, and Gravity-Breaking Adventures*, two of the women featured had spaceflights announced, but had not been to space at the time of the book's publication. I am happy to say that both women have now been to space.

After an auspicious start launching the first two women in space, Russia has drastically fallen behind. Only three female cosmonauts had been to space when the Russian Federal Space Agency or Roscosmos announced in 2011 that Yelena (sometimes written as Elena) Serova would be part of Expedition 41/42.

There's a certain amount of media attention before going into space, particularly if you're the first female cosmonaut in 17 years, but when the aeronautics engineer who had been training for spaceflight for seven years was asked in a pre-launch press conference about styling her hair in space, she'd had enough. She asked the journalist why the question wasn't being asked of her colleagues. She concluded with, "My flight is my job."

Yelena launched as a flight engineer on September 25, 2014, arriving at the International Space Station (ISS) approximately six hours later. All missions include dozens of scientific and technology investigations, and Expedition 41 was no different. Yelena participated in medical and biophysical experiments, including seedling growth, animal biology studies, and bone and muscle physiology experiments.



Expeditions and ISS crews overlap, and Expedition 42 began on November 23, 2014 when Samantha Cristoforetti arrived at the ISS. She was the first woman from Italy in space and only the third woman from the European Space Agency (ESA).



Samantha is an aeronautical engineer and a fighter pilot with the Italian Air Force. While training and waiting for her opportunity in space, she earned qualifications in EVA (spacewalks) and robotics. She was assigned as a flight engineer on the Soyuz TMA-15M for Expedition 42/43. Although she also participated in many experiments, she received the most attention for the being the first astronaut to brew espresso at the ISS.

On March 12, 2015, Yelena returned to Earth after 167 days aboard the ISS. Yelena didn't return to space. The next year, she left Roscosmos and entered politics. She remains the first and only female Russian cosmonaut to visit the space station.

While over 50 American women have been to space and nine females were chosen for the last astronaut class, only one female cosmonaut is currently waiting for her chance to break the stratospheric ceiling, Anna Kikina. She has not been assigned to a mission as of yet.

Samantha returned to Earth with her crew on June 11, 2015. Her 200 days in space set two records. First as the longest period of time a European astronaut had been in space, and second, the longest time a female astronaut had been in space. The second record was broken in 2017 when American astronaut Peggy Whitson spent 289 days in space.

Samantha continues to be active with the ESA and is waiting to be assigned to a second spaceflight. Some of her projects include the Spaceship EAC initiative, a team working on the technological challenges of future missions to the Moon. She is also working with Chinese astronauts in defining and implementing cooperation among nation in the field of astronaut operations.

As 2018 closed, 61 women have been to space. Several of them, like Peggy Whitson, have been to space multiple times. Currently, engineer/aviator Ann McClain is on the ISS, arriving on December 3, 2018. In this picture, she is in the foreground. To the left behind her is Serena Auñón-Chancellor, NASA astronaut and flight engineer who returned to Earth on December 19, 2018.

