

# ESA astronaut Samantha Cristoforetti back on Earth

June 12 2015

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ESA astronaut Samantha Cristoforetti shortly after landing on Earth after 199 days in space. Credit: ESA/NASA

ESA astronaut Samantha Cristoforetti, NASA astronaut Terry Virts and

Russian commander Anton Shkaplerov landed safely today in the Kazakh steppe after a three-hour ride in their Soyuz spacecraft. They left the International Space Station at 10:20 GMT at the end of their six-month stay on the research complex.

Soyuz TMA-15M braked from the Station's cruising speed of almost 28 800 km/h and entered the atmosphere shortly afterwards. The small descent module separated as planned and parachutes deployed to slow the vehicle down even more.

The module fired retrorockets moments before landing and springs in the moulded seats reduced the impact of hitting the steppe at 13:44 GMT. Teams were on hand within minutes to help them out.

They leave behind NASA astronaut Scott Kelly and cosmonauts Mikhail Kornienko and Gennady Padalka to look after the Station and run experiments. Scott and Mikhail are almost a third of the way through their almost a year stay in space.

## **Looking back at Futura**

Samantha is the seventh ESA astronaut and the first female ESA astronaut to complete a long-duration mission in space. She set new records for longest single time in space for an ESA astronaut and female astronauts in general. She took over duties from ESA astronaut Alexander Gerst for cargo on ESA's Automated Transfer Vehicle Georges Lemaître. Samantha was responsible for packing the versatile spacecraft. She monitored its undocking, which marked the end of an era – Georges Lemaître was the last in a series of five ATV vessels supplied by ESA to service the Station.

Samantha also helped to grab and dock two Dragon ferries with the Station's robotic arm, providing support for the first in January and

taking the lead as prime operator of the 16 m-long arm to grapple Dragon-6 in April.

With two spacewalks conducted during her mission, Samantha played an important role preparing her colleagues for their sortie and supporting them while they were working outside the Station.



Touchdown of Soyuz TMA-15M spacecraft in Kazakhstan on 11 June 2015. Inside were ESA astronaut Samantha Cristoforetti, NASA's Terry Virts and cosmonaut commander Anton Shkaplerov who had just spent 200 days in space. Credit: NASA-B. Ingalls

## **Science foremost**

For the first time a Station airlock was used for scientific research when Samantha and Terry sampled their exhaled breath under reduced pressure, using nitric oxide as a tool to monitor lung inflammation as well as charting lung health in [astronauts](#).

Samantha's Expedition saw much research conducted on genetics and biology, keeping ants, fruit flies, plants and worms for international studies on the effects of spaceflight over multiple generations.

Meanwhile, hardware attached to Europe's Columbus laboratory module continues to monitor the Sun and ocean winds. Another exterior facility is exposing 'extremophiles' and organic compounds to space and investigating the origin of life.



ESA astronaut Samantha Cristoforetti enjoying the view on her 200th day in space on the International Space Station. Credit: ESA/NASA





Samantha published this image with the text: “Working with BRIC units. The Biological Research in Canisters (BRIC) is an anodized-aluminum cylinder used to provide passive stowage for investigations studying the effects of space flight on small specimens.” Credit: ESA/NASA

Provided by European Space Agency

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