

Alexander's first week in space

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ESA astronaut Alexander Gerst floats through the International Space Station. As part of his Blue Dot mission he will perform many scientific experiments in weightlessness that could not be done on Earth. Credit: ESA/NASA

ESA astronaut Alexander Gerst has now spent a week in space on the International Space Station. As he grows accustomed to floating in weightlessness, he has been busy learning about his new home, taking over experiments, drawing blood, keeping fit and, yes, cleaning the toilet.

Alexander arrived in the early morning 29 May together with NASA astronaut Reid Wiseman and Roscosmos commander Maxim Suraev in their Soyuz spacecraft.

They complement the three crewmembers on board since April and will stay in their new home in space for almost six months.

Immediately after arrival, they held a short conference with family and friends on Earth who they had left behind only six hours earlier.

Alexander's comment: "It is awesome up here!"

One of Alexander's first experiments was relatively easy, a questionnaire about headaches. Many astronauts suffer from headaches that have been described as "exploding", and scientists want to find out more about who suffers most and when.

As with many experiments that make use of the Station, ESA's space headache research is collecting data over many years and from multiple astronauts – 30 for this experiment.

Alexander and Reid were taken on tours of the Station – the size of a large six-bedroom house – and shown how the systems work by Station commander Steve Swanson. General maintenance and emergency procedures were run through for the new arrivals.



Expedition 40/41 crew pose for a selfie in Europe's Cupola observatory in the International Space Station. From front to back: NASA astronaut Reid Wiseman, Roscosmos commander Maxim Suraev and ESA astronaut Alexander Gerst. The three astronauts will stay on the International Space Station, 400 km above Earth, for six months conducting science and maintaining humankind's microgravity laboratory. Alexander will work on 100 experiments during his Blue Dot mission. Credit: NASA/ESA

A more involving experiment for Alexander checked his eyes for NASA's Ocular Health research into how astronauts' eyes adapt to space conditions.

Alexander also replaced a lamp for a Japanese experiment that is looking at how plants resist the pull of gravity and grow upwards. This effect can only be studied in a laboratory in the absence of weight.

In his own words Alexander tweeted from space: "Repaired xenon lamp

yesterday in Japanese SAIBO rack, for experiments aiming to grow more effective crops on Earth." Alexander will work on the complementary Seedling Growth-2 ESA–NASA study later during his Blue Dot mission.



ESA astronaut Alexander Gerst checking his eyes in space for NASA's Ocular Health research into how astronauts' eyes adapt to space conditions. During Alexander's six-month Blue Dot mission on the International Space Station he will take part in around 100 experiments. Credit: ESA/NASA

Just like any large house, the Station requires attention to more menial jobs. As Alexander's colleagues spent time cleaning and packing waste items for removal, Alexander cleaned and maintained one of the two toilets. He has trained for this many times on Earth, but doing it in [space](#) was a new experience.



ESA astronaut Alexander Gerst using the International Space Station's Advanced Resistive Exercise Device (ARED) to keep fit. Astronauts need to spend up to two hours each day working out to counteract the loss of bone and muscle fibre that comes from living in space. ARED is similar to a multifunctional weightlifting machine on Earth but, of course, weights are not much use in weightlessness. Instead, pneumatic resistance achieves the same result: exercising the muscles. Credit: ESA/NASA

All astronauts on the Station spend two hours a day keeping fit on exercise machines. In addition to all these tasks and getting acclimatised, Alexander is sharing his experiences via social media – follow his

mission at alexandergerst.esa.int

Provided by European Space Agency

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