

Expedition 44 astronauts reach ISS for Mars research

23/07/2015 20:21 by admin

Washington: Three Expedition 44 astronauts representing the US, Russia and Japan arrived at the International Space Station (ISS) on Wednesday to continue key research that advances NASA's journey to Mars.

The spacecraft was launched from the Baikonur Cosmodrome in Kazakhstan and docked at the space station after orbiting Earth four times, the US space agency said in a statement.

NASA astronaut Kjell Lindgren, Russian Federal Space Agency (Roscosmos) cosmonaut Oleg Kononenko and Japan Aerospace Exploration Agency (JAXA) astronaut Kimiya Yui join the other three astronauts already working on the ISS.

The three existing astronauts are Expedition 44 commander Gennady Padalka of Roscosmos and flight engineers Scott Kelly of NASA and Mikhail Kornienko of Roscosmos who have been aboard the ISS since March 27.

During more than five months on humanity's only microgravity laboratory, the Expedition 44 crew members will conduct more than 250 science investigations in fields such as biology, Earth science, human research, physical sciences and technology development.

Lindgren, Kononenko and Yui will remain aboard the station until late December.

The station will host nine crew members for 10 days in September during a Soyuz taxi flight that includes Russian cosmonaut Sergey Volkov and Denmark's first astronaut Andreas Mogensen of the European Space Agency.

At the end of the handover, Mogensen and Padalka will return to Earth in the Soyuz launched in March, leaving Kelly in command of Expedition 45.

Shortly thereafter on September 15, Kelly and Kornienko will reach the halfway point of their one-year mission to advance understanding of the medical and psychological challenges astronauts face during long duration spaceflight, in addition to developing countermeasures that would reverse those effects.

The pair will return to Earth in March 2016 after 342 cumulative days living in space.

Expedition 44 crew members are expected to be the first to harvest and eat crops grown aboard the station, another necessary advance for astronauts travelling on deep space missions.

Astronauts will be allowed to eat half of the second crop of lettuce in the veggie investigation, freezing the other half for a return to Earth where scientists will analyse the plants and compare them to a control set grown at NASA's Kennedy Space Centre.

The crew members also are scheduled to receive several cargo spacecraft - including the fifth Japanese HTV resupply flight and two Russian Progress resupply missions - each delivering tonnes of food, fuel, supplies and research.

Russian crew members are scheduled to conduct a spacewalk for station maintenance and upgrades in August.

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