German Aerospace Center

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Successful launch of Space Shuttle Discovery - relief crewmember on the way for Thomas Reiter

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Launch of Space Shuttle Discovery

Cologne – Space Shuttle Discovery (STS-116) lifted off on 9 December 2006 at 20:47 local time (10 December at 02:47 CET), continuing NASA's series of shuttle flights to upgrade the International Space Station (ISS). One of the on-board crew is American NASA astronaut Sunita Williams, who will relieve permanent crewmember and flight engineer Thomas Reiter after his extended stay on the station as a member of the Expedition 14 crew

Professor Sigmar Wittig, Chairman of the German Aerospace Center (DLR), congratulated NASA Administrator Michael Griffin on the successful launch of Discovery: "The successful launch of Discovery is yet another step in the scientific exploitation and upgrading of the ISS. Mission STS-116 represents a successful conclusion to the European Astrolab mission," said Wittig. "Over the last six months, the Columbus Control Center, in particular, has had a real chance to prove its expertise and capabilities."

German-Canadian scientific collaboration onboard ISS

The STS-116 mission marks the beginning of the PMDIS/TRAC experiment (Perceptual Motor Deficits in Space/Test of Reaction and Adaptation Capabilities). This experiment is part of a collaboration between Germany and Canada and continues the scientific use of the ISS by German researchers.

NASA astronaut Sunita Williams during training for the PMDIS/TRAC experiment

The experiment is a joint project between York University in Toronto (represented by Prof. B. Fowler) and the German Sports University in Cologne (Prof. O. Bock), with the participation of NASA (Dr J. Bloomberg).

The project was brought to fruition by the Canadian Space Agency and DLR in its capacity as Germany's space agency. DLR supported the development of the experimental equipment by Kayser-Threde in Munich, and research carried out at the Sports University. Canada, as an ISS partner, is providing the necessary resources onboard the ISS. The experiment is designed to answer questions about the human coordination of movement, particularly in relation to the process of adjustment in zero gravity and after returning to Earth from space. Specifically, the experiment will study the changes in the astronauts' manual dexterity during the course of a mission.

Other tests will measure alertness, spatial awareness and other cognitive functions. The STS-116 mission, the Discovery's 33rd mission and the 20th Space Shuttle assembly mission to the ISS, is scheduled to last twelve days. After one crewmember has been relieved, a new structural element (the P5 truss) will be installed and the temporary electrical and cooling systems reconfigured. The mission will involve three EVAs (spacewalks). After undocking from the ISS, the Discovery crew will also launch three small satellites into Earth orbit.

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