

Using the ISS to Prepare for Exploration (01)
Exploration Technology Demonstrations Using ISS (2)

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UTILIZATION BY THE CANADIAN SPACE AGENCY OF THE INTERNATIONAL SPACE STATION
IN SUPPORT OF HUMAN EXPLORATION

Abstract

Canadians have worked with international partners in space and on the ground to pursue research in support of human exploration. Canadian scientists began using the International Space Station (ISS) as a research platform for Life Sciences in 2001, with an intensive period of ISS research beginning in 2009. By combining the specific strengths of the Canadian scientific community with ISS opportunities, Canada has developed niche expertise in specific areas relevant to long-duration space travel –for example, in the assessment and ultimate reduction of risks to the cardiovascular system. CSA also supports technology development in support of human exploration, focusing on specific areas where Canadians are strong in terrestrial development, such as the development of point-of-care medical testing capability. . CSA-supported research on ISS has contributed to understanding of the effects of spaceflight on the nervous system, cardiovascular system, and has also provided insight to the radiation environment within and outside ISS. The CSA is currently developing a system of solicitation and execution of targeted research that enables synergistic cooperation between government, academia and industry with the goal of reducing or eliminating risks of human space exploration as well as providing enhanced capabilities to health care on Earth. This system will include ISS as a central, essential research platform.