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# SCIENCE IN SPACE FOR TERRESTRIAL BENEFIT - THE ISS NATIONAL LABORATORY MODEL

**Abstract**

The Center for the Advancement of Science in Space is a NGO enacted by U.S. Congress, charged with identifying the unique capabilities of ISS that can be applied to science and technology research and development that is uniquely focused on improving life on Earth. With the establishment of the ISS as a U.S. National Laboratory, this platform is now available for use by a much broader research base.

CASIS works with government funding agencies, universities and consortiums to answer the fundamental questions of microgravity research in order to clearly identify the capabilities of the ISS. CASIS also works with non-traditional and commercial entities to seed applied research that will ultimately support the organization's mission. Among both groups, CASIS has focused on identifying barriers to utilizing the ISS and is working collaboratively with NASA and other partners to resolve these challenges.

This paper will describe the identified capabilities of ISS as well as those capabilities that require further research to definitively demonstrate ISS as a value-added asset. The constraints associated with utilizing ISS will be identified along with the apparent lack of resources that are necessary for applied research to be conducted by non-traditional users. This paper will also address the recent success among multiple science disciplines and the impact this research has on establishing the terrestrial benefit of microgravity research.