

IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Astronaut Training, Accommodation, and Operations in Space (5)

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EXTREME UNDERWATER SPACE TRAINING

Abstract

At the International Institute for Astronautical Sciences (IIAS), scientist-astronauts specialize in bioastronautics research and engineering for underwater environments. The Bioastronautics research team in collaboration with NAUI and Survival Systems USA tested a new spacesuit in a series of space simulations, leading advancement of new technologies and improvements to make spacesuits more comfortable, adjustable, and efficient for any extreme underwater space simulations . IIAS seeks to make remarkable contributions to the space industry as it ramps up effort to conduct Extravehicular Activity (EVA) operations for future spaceflights. The shared knowledge obtained in recent spacewalk training at the IIAS Neutral Buoyancy Laboratory (NBL) will be pivotal to train future scientist-astronaut candidates. This paper will focus on the challenges and findings to put in operation a new spacesuit for spacewalk exercises, as well as opportunities for spacesuit evaluations underwater. The result of this extreme underwater space simulation will develop new technologies and test practices, as well as will further science for space exploration readiness.