



Workshop on Multiple Aspects of Innovation

at NASA Johnson Space Center

Gilruth Recreation Center/Alamo Ball Room

January 29, 2016

Keynote Presentation

Challenges of human missions to Mars by Astronaut Dr. Stan Love

NASA's ultimate goal for human exploration is the planet Mars. But the journey will be difficult, and existing technology is barely up to the task. In this presentation, Dr. Stan Love reviews the orbital mechanics of a Mars mission, the limitations of present-day rocket technology, and the considerations for keeping a Mars crew healthy and productive on a space mission lasting up to three years.



Dr. Stan Love is a NASA astronaut at Johnson Space Center. He served as a crew member and spacewalker on Space Shuttle flight STS-122 in 2008 and worked as a Capcom for many Shuttle and International Space Station missions. He has participated in numerous terrestrial spaceflight analog expeditions, including two Antarctic field seasons with ANSMET. He previously worked as a spacecraft engineer at Jet Propulsion Laboratory and as a postdoctoral researcher in planetary science at Caltech and at the University of Hawaii. He holds a bachelor's degree in physics from Harvey Mudd College, and a master's and doctorate in astronomy from the University of Washington.

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