

## Simulating Mars: Student projects at Mars Desert Research Station (MDRS)

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**Presenter Information**

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Human Factors and Applied Psychology Conference 2016 Abstract

Simulating Mars: Student Projects at the Mars Desert Research Station (MDRS)

Ashley Hollis-Bussey, Lycourgos Manolopoulos, Marc Carofano, John Herman, Hiroki Sugimoto, and Cassandra Vella.

Human missions to Mars will involve many challenges, from environmental obstacles related to radiation to how crews will adapt to prolonged isolation and confinement. Research in settings analogous to a Mars mission provide researchers the opportunity to study these challenges and help develop countermeasures. One such Mars analog, the Mars Desert Research Station (MDRS), is an enclosed, two-story structure, located near Hanksville, Utah, and managed by the Mars Society,

In December 2015, six students, representing multiple departments at Embry-Riddle Aeronautical University (ERAU) participated in a 2-week simulated Mars colony mission at the MDRS. During the mission, these students conducted multiple research projects. For instance, one of the projects involved tracking memory of the crewmembers throughout their stay at the station. Another project involved periodically logging the levels of solar radiation inside and outside of the Habitat environment followed by a minor personality and character survey to track relatable hormone changes based on the radiation fluxuations. The crew even managed to grow some radish sprouts inside the Habitat after some careful cleaning.

The endeavor was a successful example of cooperation with mission support and crew in facilitating proper isolation. Plans are already underway for an expanded series of projects for the next ERAU crew to attend MDRS in 2016. With the support from faculty of different departments and ERAU Alumni, the future ERAU MDRS Crew looks to be even better with aspiring researchers, graduates and undergraduates alike.