



UAA College of Engineering
UNIVERSITY of ALASKA ANCHORAGE



UAA Professional Development Seminar Series

Human Mars Mission Concepts

Presented by Michelle Rucker, NASA

As NASA continues on the path toward commercialization in low-Earth orbit (LEO) and a robust decade ahead at the Moon through the Artemis program, the agency also is refining concepts for the first human missions to Mars. This seminar will highlight Mars-class mission technology and capability advancements achievable through the International Space Station in LEO and Artemis operations at the Moon, as well as unique developments that will be required to deploy the Mars infrastructure elements needed to support humans, including the round-trip journey for the first astronauts who will step foot on the Red Planet. We'll discuss the challenges of landing humans on Mars—and returning them safely to Earth—as well as opportunities for Mars mission simulations in LEO and at the Moon.

Michelle Rucker was born in Anchorage, Alaska and is a 34-year veteran of NASA. She began her career in the Houston oil industry, designing down-hole sensors while pursuing undergraduate and graduate degrees in Mechanical Engineering from Rice University. She began her NASA career as a test engineer at the White Sands Test Facility in New Mexico, supervising materials testing and managing a two-stage light gas gun hypervelocity impact research laboratory. Michelle has had the good fortune to participate in a range of exciting projects, such as International Space Station (ISS) environmental control and life support systems development, supervising spacesuit and Extravehicular Activity (EVA) tools projects, ISS exercise equipment system engineering, and Orion and Altair lunar lander test and verification. She currently leads the Mars Architecture Team, developing crewed Mars mission concepts.

Friday, April 2nd, 2021
11:45 am-12:45 pm
Online Via [YouTube Live](#)