Reproducing Science and Exploration Work in Extreme Environments in the Twenty-First Century

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In this talk, Zara Mirmalek will present ethnographic research conducted among science and engineering workgroups investigating sites of interest in extraterrestrial (Moon, Mars) and terrestrial space (ocean). Historically, in the U.S., the timeline of developing work activities for space exploration begins in the mid-twentieth century, pre-Apollo missions. The timeline of work carried out for ocean research begins centuries earlier. Both work domains have changed as human-technology relationships afford new opportunities for exploring sites that are difficult for humans to reach or to remain in for extended periods of time. Extreme environments are reached via technologies and work practices that can be in accordance or in conflict with cultural (i.e., occupational; communities of practice) traditions.

Images, from left to right: A NASA Mars rover’s instruments extended to touch Mars (image credit: NASA/JPL-Caltech); a team of scientists gather data on Kilauea Volcano; a ship monitor displays a real-time feed of a tethered remotely operated vehicle’s claw extended undersea.