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THE AGENCY OF HUMAN-ROBOTIC LUNATICS

Abstract

Imagination is our window into the future. Led by each generation of artists and scientists, it is through their explorations and inventions that we push towards the edges of possibility. Aerospace developments are no exception and like other areas of human endeavour we are witnessing the increased use of robots as the technological tools for humans to make our visions of the future a reality. Remembering that you can architect the future, what lunatic ideas can we conceive, believe and achieve? Presenting *The Agency of Human-Robotic Lunatics* a live keynote performance set underwater and on the Moon. QUT commissioned the collaboration between artist-astronaut Sarah Jane Pell and Jaymis Loveday [Cinema Swarm] and Charles Henden [Visitor Vision]. *The Agency of Human-Robotic Lunatics* premiered at Robotronica 2017. We saw the artist-astronaut's live performance blend with VR mapping of historical lunar orbital reconnaissance imaging data, and augmented reality artefacts from a real spacewalk simulation underwater on earth called Project Moonwalk. Project Moonwalk develops and tests technologies and training procedures for future missions to the Moon. Through the use of an autonomous subject tracking robotic camera system, the Cinema Swarm, the artist-astronaut articulated the range of human-robotic and human-aquatic interactions unique to Project Moonwalk. Like the high-fidelity underwater simulation trails, the staging built a future survival tool kit by creating experimental scenarios where the art of the future can be enacted. It demonstrates how creativity may be leveraged in the extreme natural and technologically mediated environments of space and space simulations on earth, and examined the exchange between human and autonomous systems. The aim of examining *The Agency of Human-Robotic Lunatics* is to contribute to the widening of the definition of technical and cultural activities in astronautics via demonstrated excellence in arts-led research and the pursuit of advancing knowledge across academies through strategic outreach, policy and the design of new models for trans-disciplinary dialogue and technical concepts. The parallel design of human-robotic performance protocols in undersea analogue EVA simulations [Project Moonwalk] and human-cinematic robot performance staging [Robotronica] creates new research impact pathways. Outcomes support the evolution of both creative and academic rigour on human performance in extreme environments, notably underwater designs in the preparation for space, and the communication design supporting astronaut performance and the experience of extreme environment interactions, live in-situ and with augmented reality in post-mission reporting scenarios. This project was developed with support from an Australia Council Fellowship.