



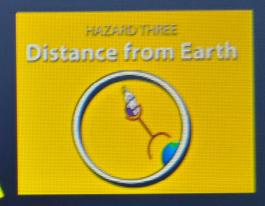
SPACE MEDICINE & SPACE MEDICS













DIET & NUTRITION

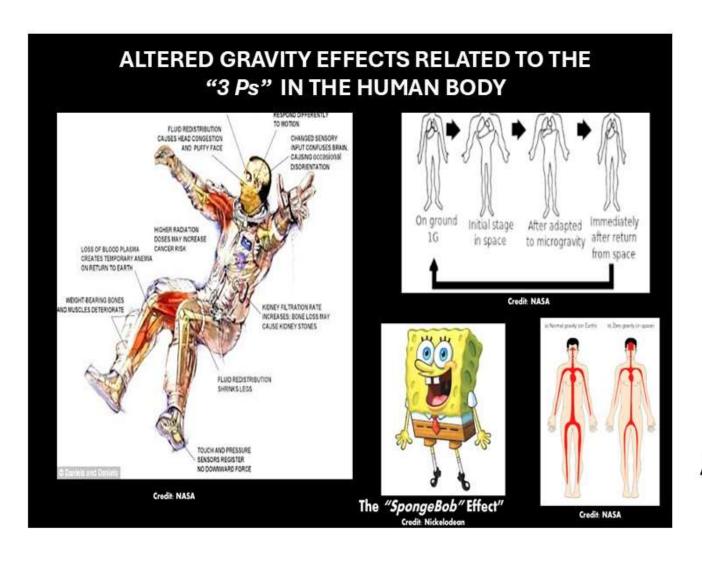
HAZARD TWO

Isolation



These hazards are being studied using ground-based analogs. le. MMAARS and ISS. Which serves as test bed to evaluate human performance and countermeasures testing

ALTERED GRAVITIES AND CONSEQUENCES ON MENTAL AND BEHAVIORAL HEALTH



Cognition Impairments
Learning
Memory
Processing speed
Attention
Cognitive flexibility
Executive function
Disorientation



Altered Behaviours
Altered Psychiatric Conditions

TYPES OF ANALOGS

Research & Development
Real-time Sims
Human Factors
Technology Validation



MMAARS, California



HERA, JSC



CONCORDIA, Antarctica



LUNARES, Poland



HISEAS, Hawaii



MDRS, Utah





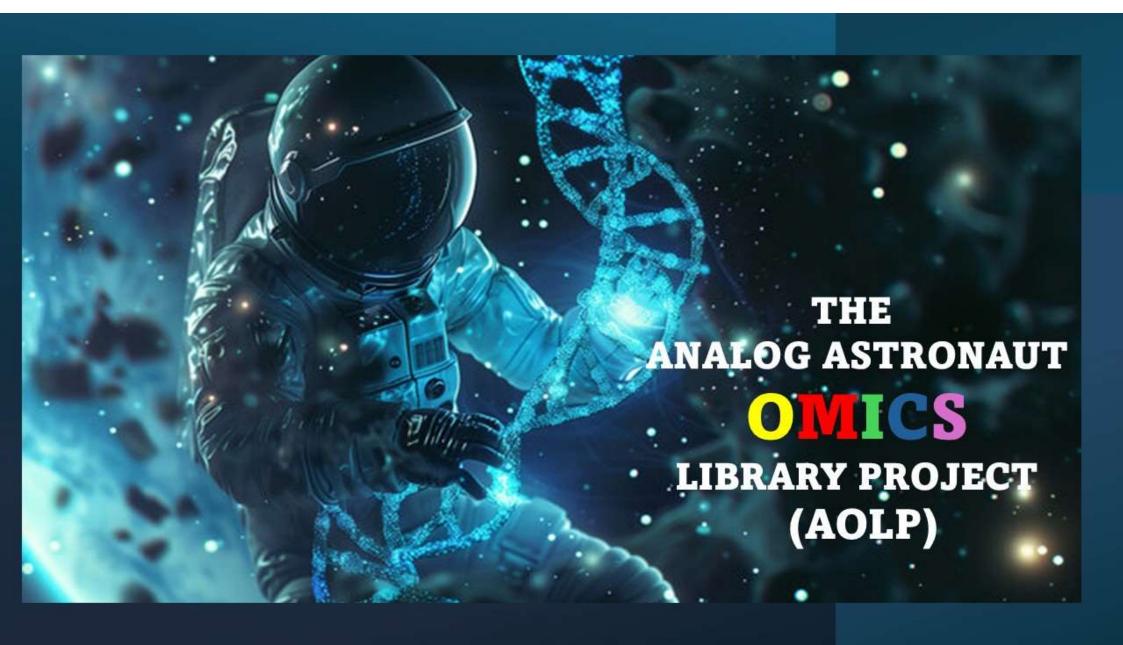




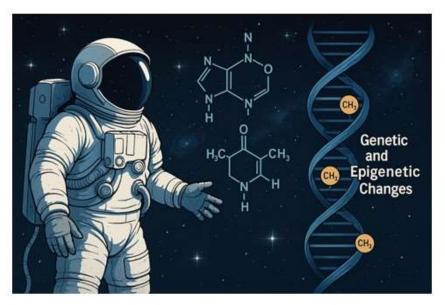






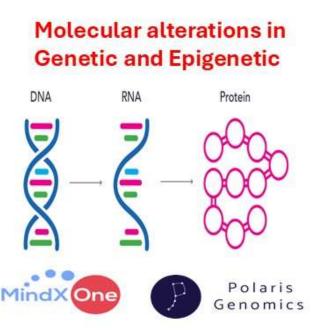


The Analog Astronaut Omics Library Project (AOLP): A Longitudinal, Multi-Fidelity Analog Research Platform Studying Analog Astronaut, Aquanaut, Oceanaut, and Parabolic Flight Crews for Preventative, Predictive, and Personalized Biopsychosocial Countermeasures in Simulated Spaceflight Environments



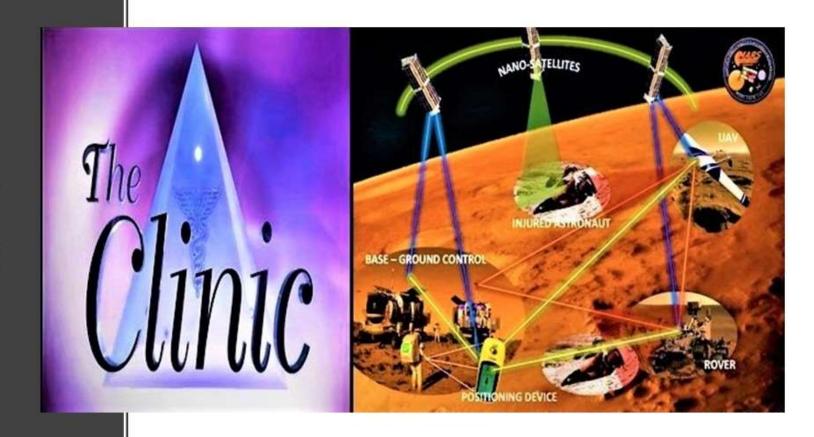


Biological Samples



AOLP is designed to create a reference terrestrial Omics database using multi-modal biological, physiological, and psychological data from analog astronaut missions across Land (analog astronauts), Underwater (aquanauts), Sea (oceanauts), and microgravity Parabolic flights) environments, supporting the development of precision countermeasures for long-duration spaceflight.

MEDICAL CARE IN SPACE





avatarmedic.com



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VIRTUAL DIGITAL TWINNING

Demonstration
moving the robotic arm
with spatial computer headset
device
(Hololens 2)

CREDIT: AvatarMEDIC, Inc / MMAARS

DIGITAL TWINNING OF 3D PRINTED ROBOTIC ARM



CREDIT: AvatarMEDIC, Inc / MMAARS

See file: "Video Space Medicine and Health 08_04_25" - Slide n. 2





TRAINING CREWS IN MEDICAL INTERVENTIONS & INTEGRATING 3D PRINTING OF MEDICAL TOOLS & LIFE SUPPORT SYSTEMS SUPPORT SYSTEMS



TELEROBOTICS AND VIRTUAL DIGITAL TWINING





MEDINAUT: Flying TeleRobotic, TeleAvatar Surgeon









MODULE 3:

MODULE 4: •SPACE CLINIC:

ANALOG ASTRONAUTICS SPACE MEDICS TRAINING



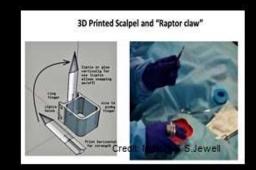
SPACE MEDICINE & MEDTECH INNOVATION TRACK Research & Development



3D PRINTED PAPR
Power Air Purifying Respirator



PORTABLE SOLAR POWERED 3D Printer & Laser Cutter





3D PRINTED VAPOJET Inhalation Anesthesia Device & Ventilator



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MEDINAUT

Flying Tele-Surgeon Rover-Drone





See file: "Video Space Medicine and Health 08_04_25" - Slide n. 3

VIDEO: AvatarMEDIC – MEDINAUT

AVATARMEDIC www.AvatarMEDIC.space

ADVANCE ANALOG ASTRONAUT TRAINING PROGRAMS







AERONAUTS

PARABOLIC TRAINING

AQUANAUTS

UNDERWATER TRAINING

LAVANAUTS

UNDERGROUND TRAINING

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IN PARTNERSHIP



MMAARS

ANALOG AQUANAUTICS TRAINING PECA INTERSTELLAT LAB UNDERWATER MODULAR HABITAT

Training NextGen Leaders, Analog Astronauts, Scientists, Innovators, Imagineers, Explorers for HUMANITY 2.0



www.MMAARS.com



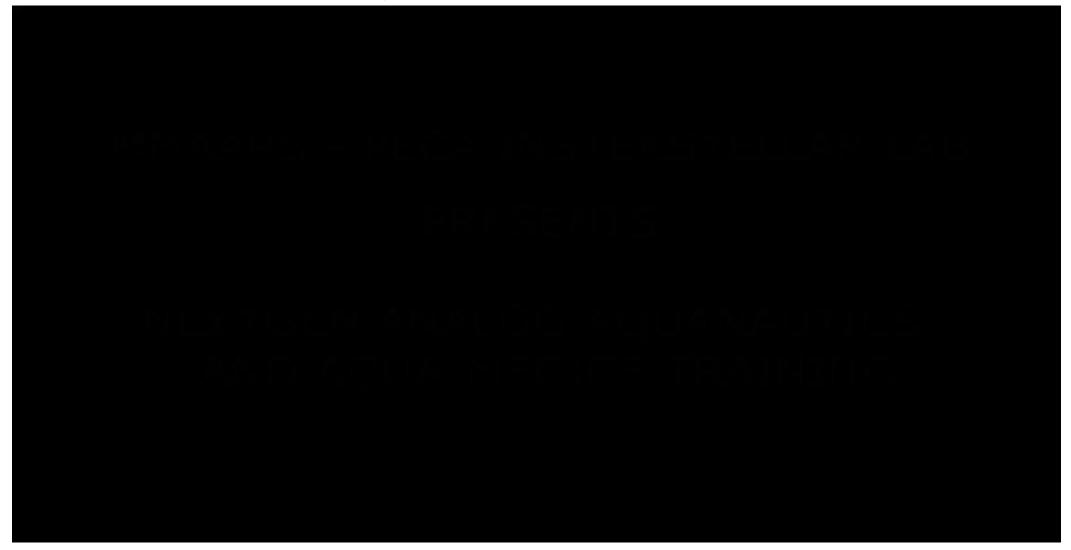
AQUANAUTS UNDERWATER

TRAINING



www.AvatarMEDIC.com

ANALOG AQUANAUTICS A UNDEWATER SIMULATION





MAU MARS MEDICS LOW-FIDELTY BASECAMP AT MOJAVE DESERT





MAU MARS MEDICS MID-FIDELITY BASECAMP, NEPAL, HIMALAYAS



MAU MARS MEDICS ANALOG ASTRONAUTS (EVAs /IVAs)

IN-PERSON ANALOG ASTRONAUTICS SIMULATION MISSIONS

Space Clinic | Mars Medics

ANALOG SIMULATIONS

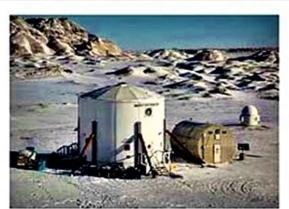
Analog Astronaut Crews

TELEMEDICINE Ex:Teleanesthesia Sim Training

3D PRINTING TECHNOLOGY

Ex: Anesthesia Inhalation Device VapoJET

Tele-anesthesia Training of Non-Medical & Medical Analog Astronauts











ESA/CONCORDIA STATION, ANTARCTICA









- Anesthesia-surgery simulations in analog environments
- Simulated decondioned astronaut
- Untrained unassisted or tele-assisted personnel





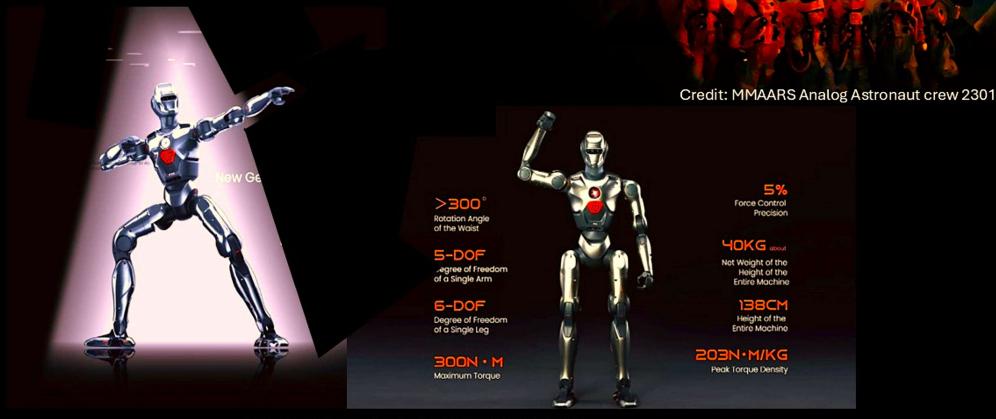




Medical Team in Concordia Telementoring Non-Medical Analog Astronauts at MDRS

Integrating and testing an AUTONOMOUS HUMANOID ROBOT as Space Guardian/Medical Officer in MMAARS Analog Astronaut missions: studying biopsychosocial "Omics" changes in crew dynamics, cognition, and mental health.





Credit: EngineAl Autonomous Humanoid Robot

"...TRAINING NEXTGEN ANALOG ASTRONAUTS, LEADERS & SUPER SPACEHEROS...



Mars-Moon Astronautics Academy & Research Science

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