SURVIVING

In the Final Frontier

A seven-part docuseries exploring the current and future state of space science, technology and innovation and how humanity will overcome the challenges of surviving permanently in space……as a species

OVERVIEW

Throughout the history of humanity, our species has always looked to explore beyond our horizon. This curiosity has led to the crossing of the Atlantic, bringing the old world to the new. It was this inquisitive nature that led to man's footprints atop the summit of Mount Everest and eventually our own moon. Throughout this history, there have always been teams of brave and innovative men and women collaborating for the greater good. While many names and faces are easily recognizable, history has not been as kind to the vast majority of pioneers that have pushed the human race beyond what we deemed possible.

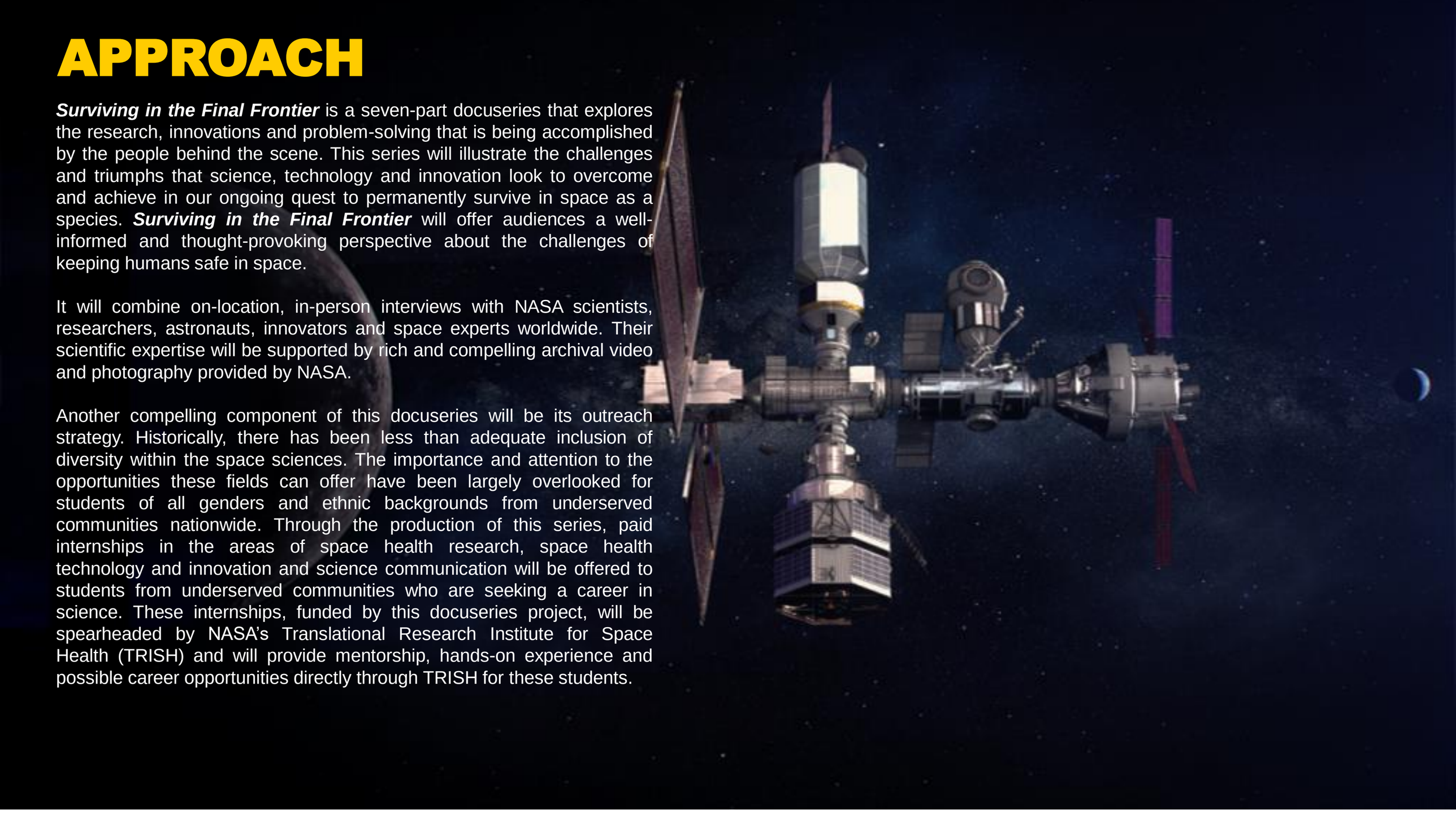
As our species marvels at the great unknown throughout the universe, we now find ourselves at the dawn of the next logical phase in this evolution; surviving permanently in space. And although we've traveled great distances in the past, we've never had to contend with the challenges of long-term space travel and its effects on the human mind and body. These obstacles will test the very limits of our engineering, medical, biological, and psychological abilities. And just as history has taught us before, we will rely on the courage and pioneering spirit of many individuals to make our dreams of tomorrow a reality today.

APPROACH

Surviving in the Final Frontier is a seven-part docuseries that explores the research, innovations and problem-solving that is being accomplished by the people behind the scene. This series will illustrate the challenges and triumphs that science, technology and innovation look to overcome and achieve in our ongoing quest to permanently survive in space as a species. ***Surviving in the Final Frontier*** will offer audiences a well-informed and thought-provoking perspective about the challenges of keeping humans safe in space.

It will combine on-location, in-person interviews with NASA scientists, researchers, astronauts, innovators and space experts worldwide. Their scientific expertise will be supported by rich and compelling archival video and photography provided by NASA.

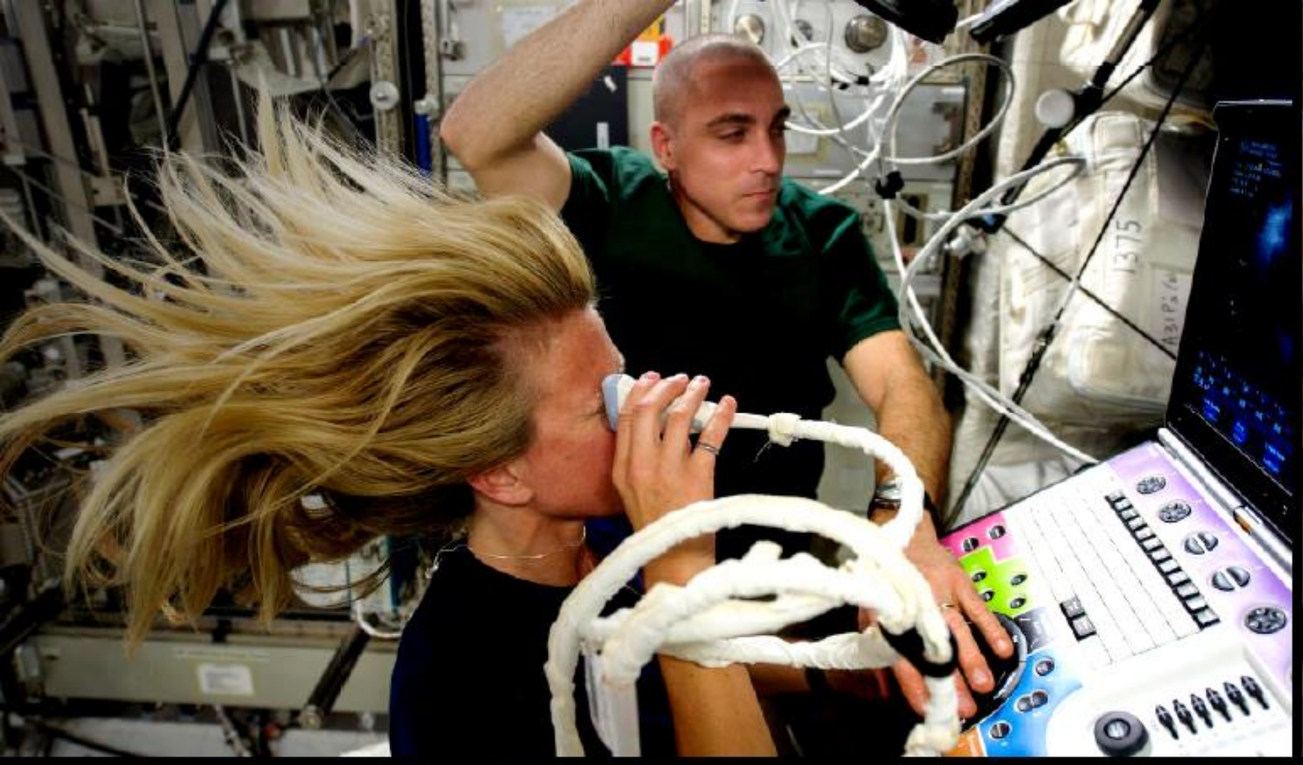
Another compelling component of this docuseries will be its outreach strategy. Historically, there has been less than adequate inclusion of diversity within the space sciences. The importance and attention to the opportunities these fields can offer have been largely overlooked for students of all genders and ethnic backgrounds from underserved communities nationwide. Through the production of this series, paid internships in the areas of space health research, space health technology and innovation and science communication will be offered to students from underserved communities who are seeking a career in science. These internships, funded by this docuseries project, will be spearheaded by NASA's Translational Research Institute for Space Health (TRISH) and will provide mentorship, hands-on experience and possible career opportunities directly through TRISH for these students.



APPROACH

Individuals likely to be interviewed include:

Charlie Boldin, Former NASA Administrator
Col. Catherine "Cady" Coleman - NASA Astronaut (retired)
Jennifer Fogarty - TRISH Chief Scientific Officer (also 16 years as NASA's Chief Scientist for Human Research Program)
CDR Victor Glover - NASA Astronaut
Jeffrey Hoffman - NASA Astronaut (retired) and currently part of the MOXIE research program for Mars
Dava Newman - Director of MIT Media Lab and former NASA Deputy Administrator
William Paloski - Director NASA Human Research Program (retired)
Nicole Stott - NASA Astronaut (retired)
Michael Barratt - NASA Astronaut
Steve Platts - Chief Scientist for NASA Human Research Program
Kathleen Lueders - NASA Associate Administrator of Space Operations
Jared Isaccman - Commander, Inspiration 4



EPISODE 1

Food

Food

The current food system used by the space program works. Food is resupplied to the space station every few months, including a limited amount of fresh fruits and vegetables. But to keep humans healthy while living and working in space, on the Moon and eventually on Mars, a revolutionary new way to maintain, supply and provide the proper nutrients for people has to be developed.

EPISODE 2

Behavioral Health (2 part episode)

Behavioral Health

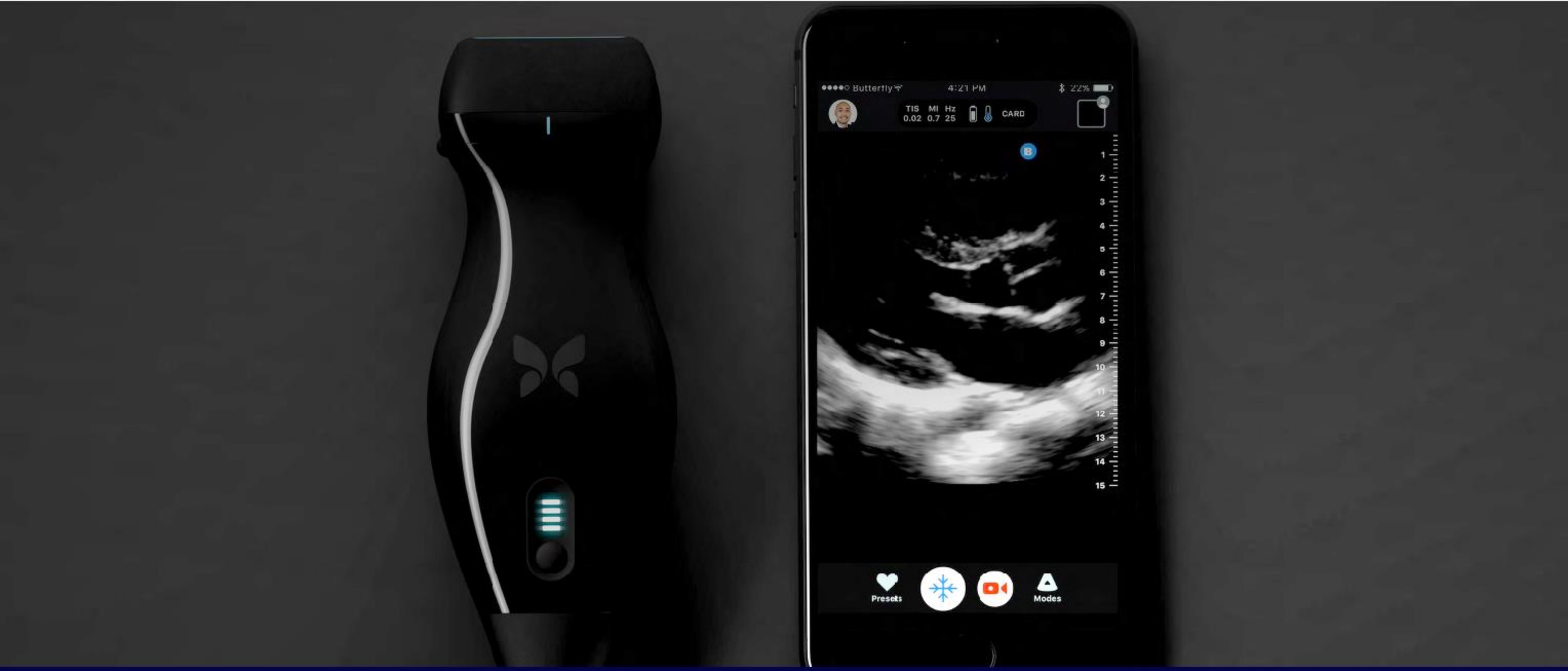
Behavioral health is the most challenging issue facing humans in space: communication delays, isolation, confinement, separation from family and friends, limited recreation and free time, redundant schedules, cultural and religious differences. Long duration stays in the vastness of space, or on the moon, and more importantly for the three years a mission to Mars would take, will absolutely challenge the mental resilience of humans in extraordinary ways.

EPISODE 3

Medical Autonomy/Counter Measures

Medical Autonomy/Countermeasures

Even the healthiest of people are bound to get sick on a long duration mission. The space environment itself with the absence of gravity and exposure to radiation causes health problems that will vary from space to being on the moon or traveling to Mars. Current medical research is aimed at preventing these and other medical conditions from developing. However, we need to provide crews with the ability to make simple diagnosis, treat simple and potentially complex injuries and make and administer medications themselves.



EPISODE 4

Medical Autonomy/Technology

Medical Autonomy/Technology

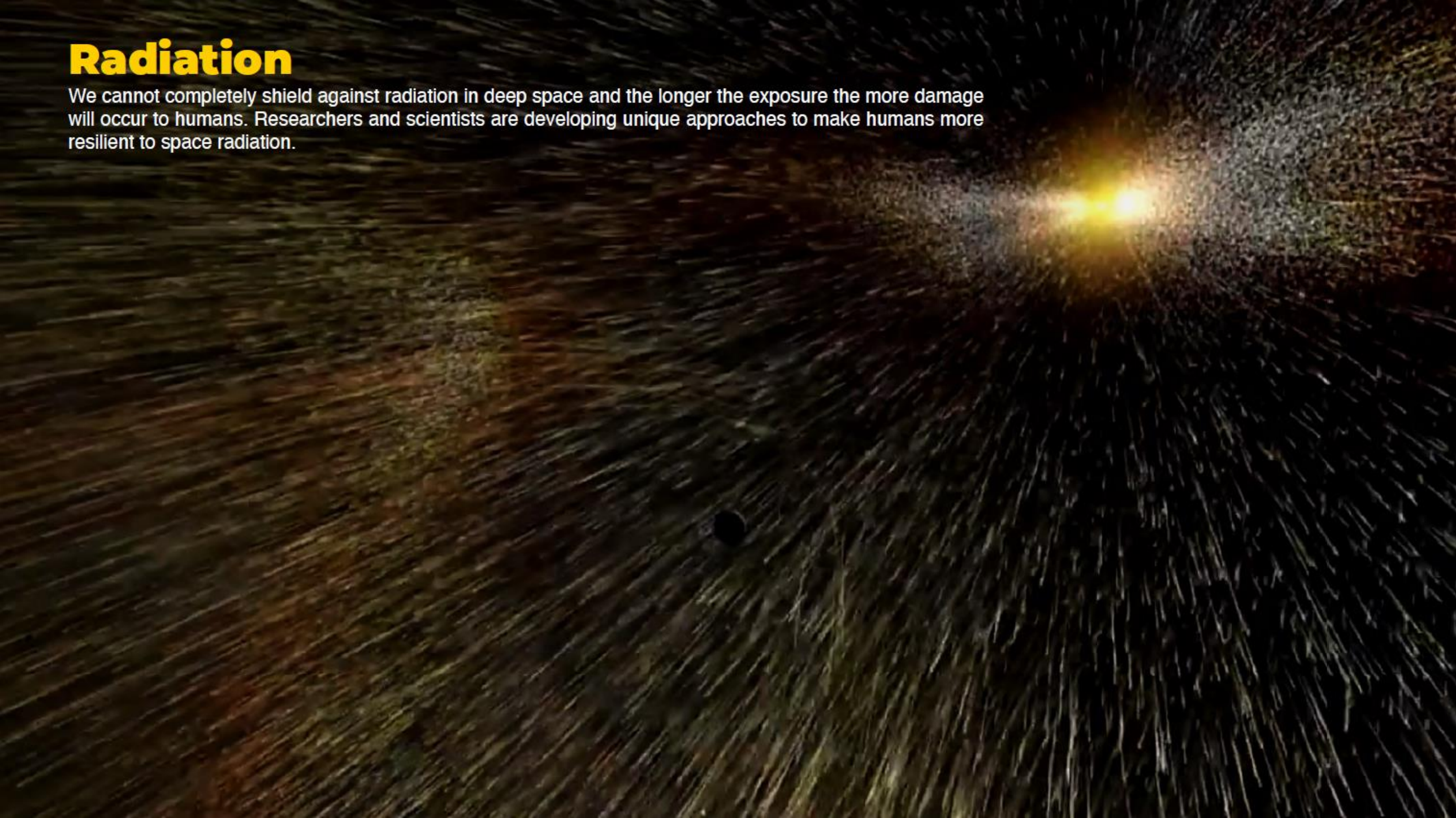
With enormous mass/power/volume limitations for spaceflight, normal medical equipment and supplies will not be available, and with communication delays present in deep space, the moon and Mars immediate medical support from Earth will not be possible. Future crews will be provided with innovative medical equipment, on-board information and the tools needed to autonomously contend with common ailments as well as with more serious concerns that might arise due to the stressors of spaceflight and existing in varying gravitational environments.

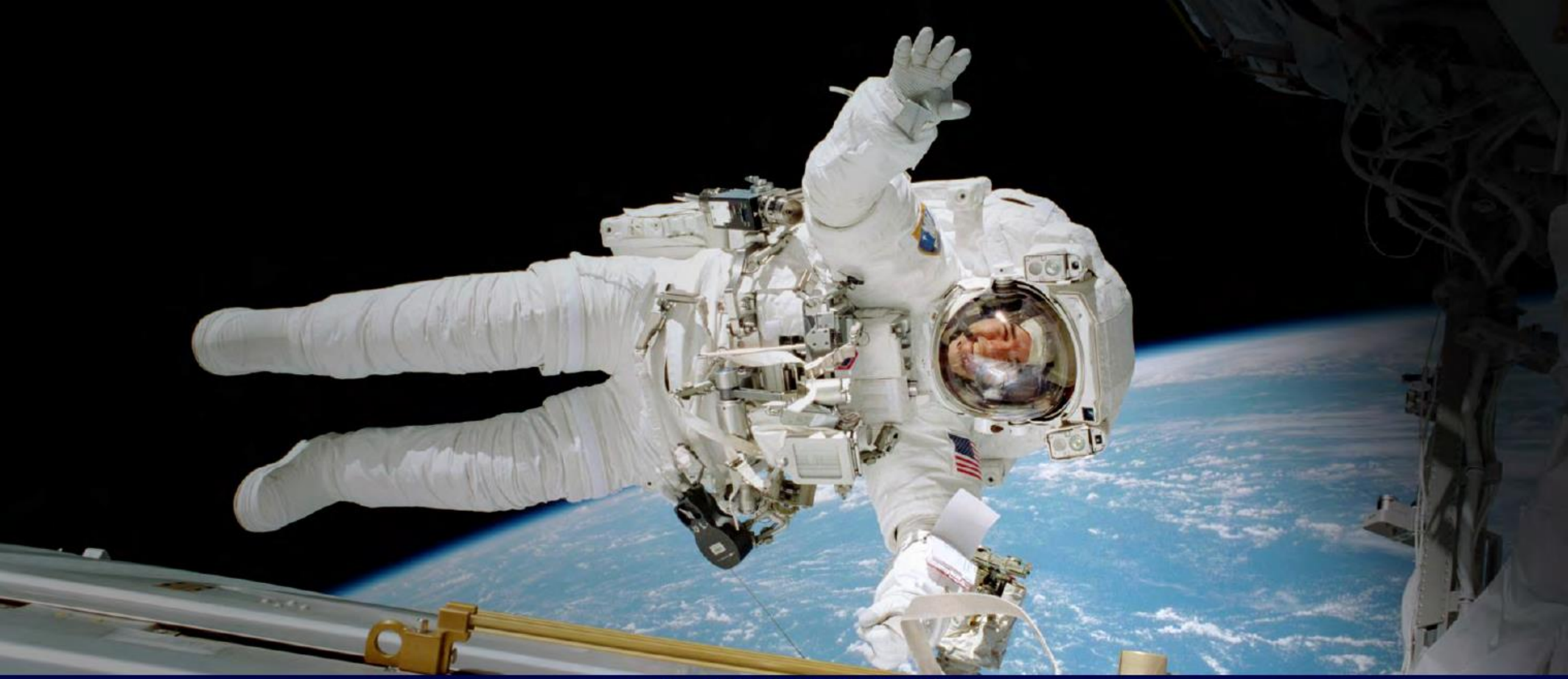
EPISODE 5

Radiation

Radiation

We cannot completely shield against radiation in deep space and the longer the exposure the more damage will occur to humans. Researchers and scientists are developing unique approaches to make humans more resilient to space radiation.



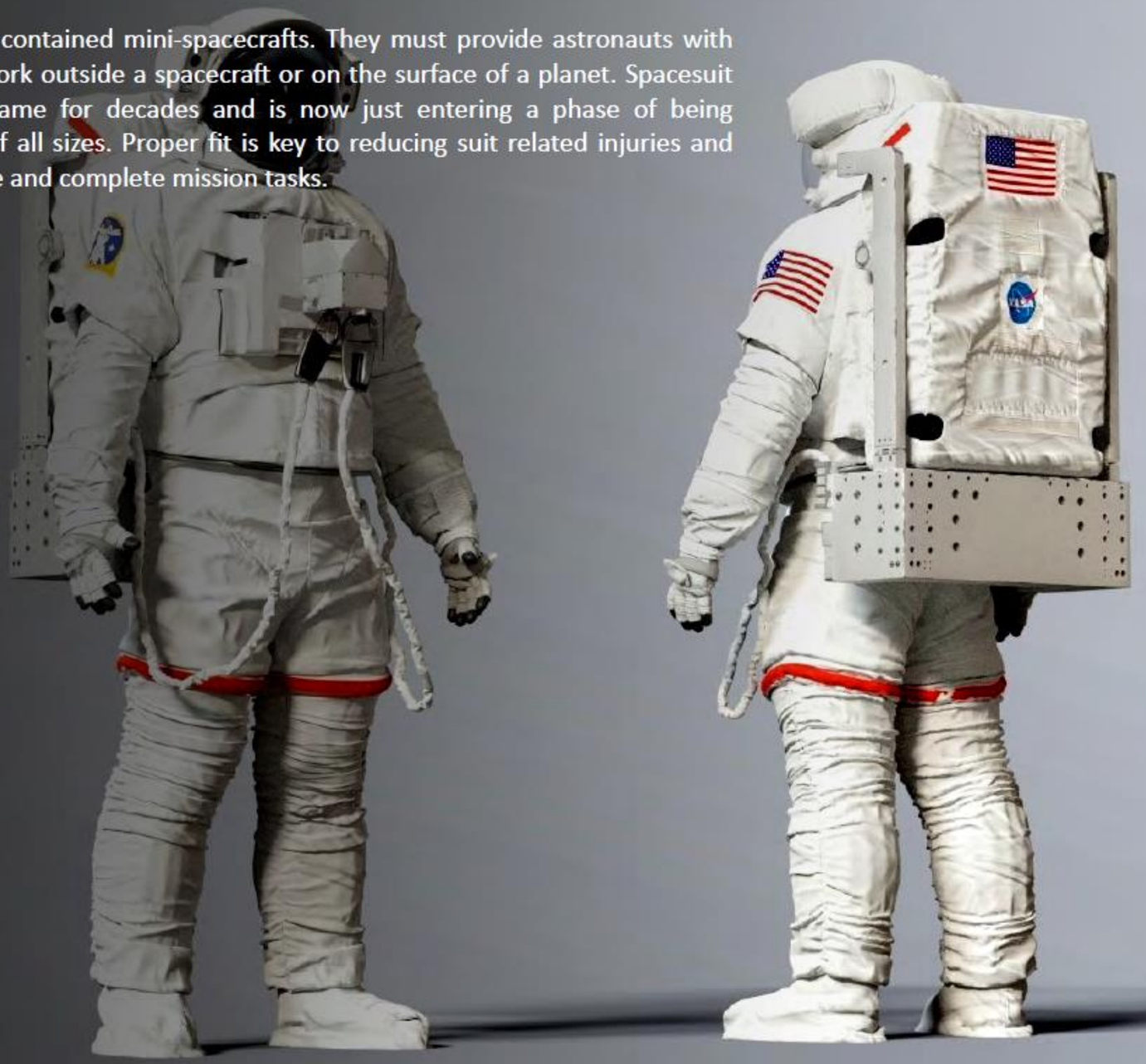


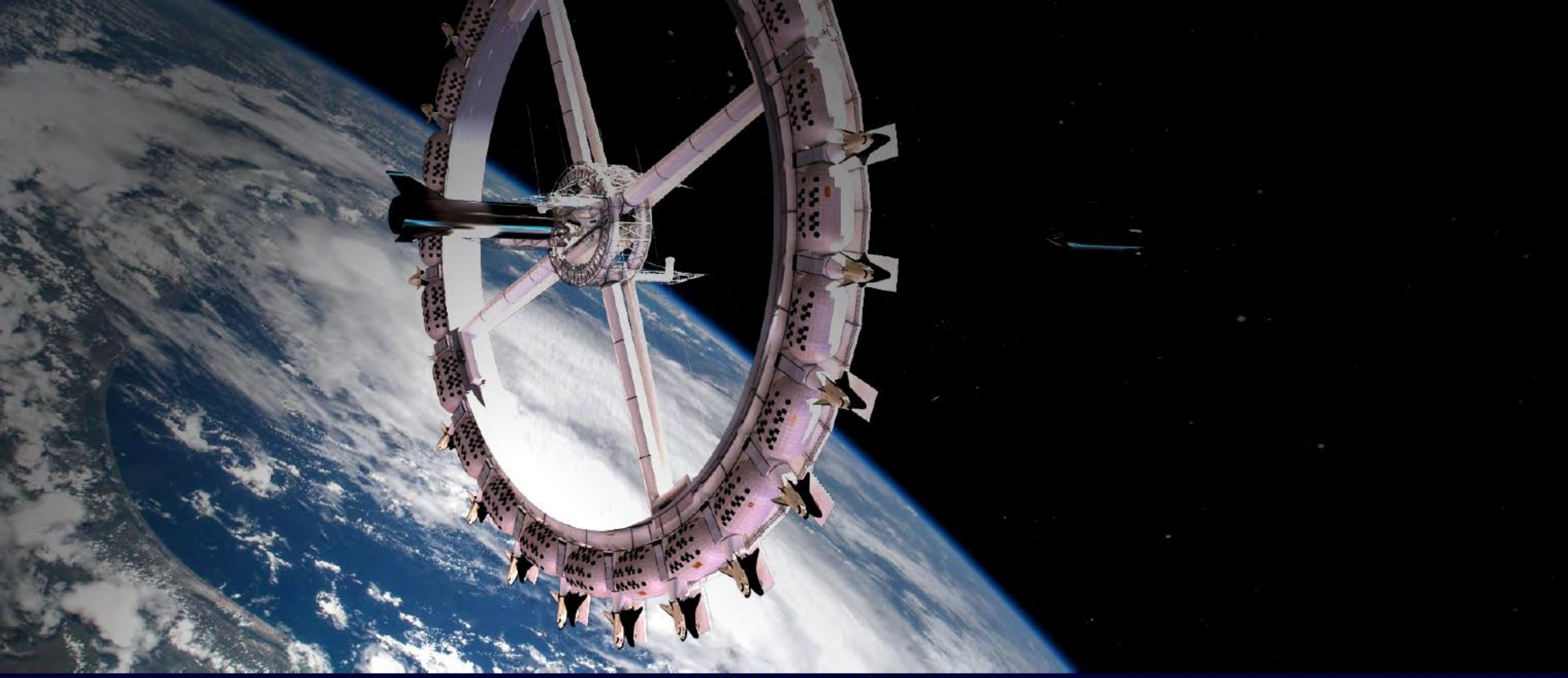
EPISODE 6

Spacesuits

Spacesuits

Spacesuits are intended to be self contained mini-spacecrafts. They must provide astronauts with everything they need to live and work outside a spacecraft or on the surface of a planet. Spacesuit design has primarily stayed the same for decades and is now just entering a phase of being adaptable for males and females of all sizes. Proper fit is key to reducing suit related injuries and enabling humans to be more mobile and complete mission tasks.





EPISODE 7

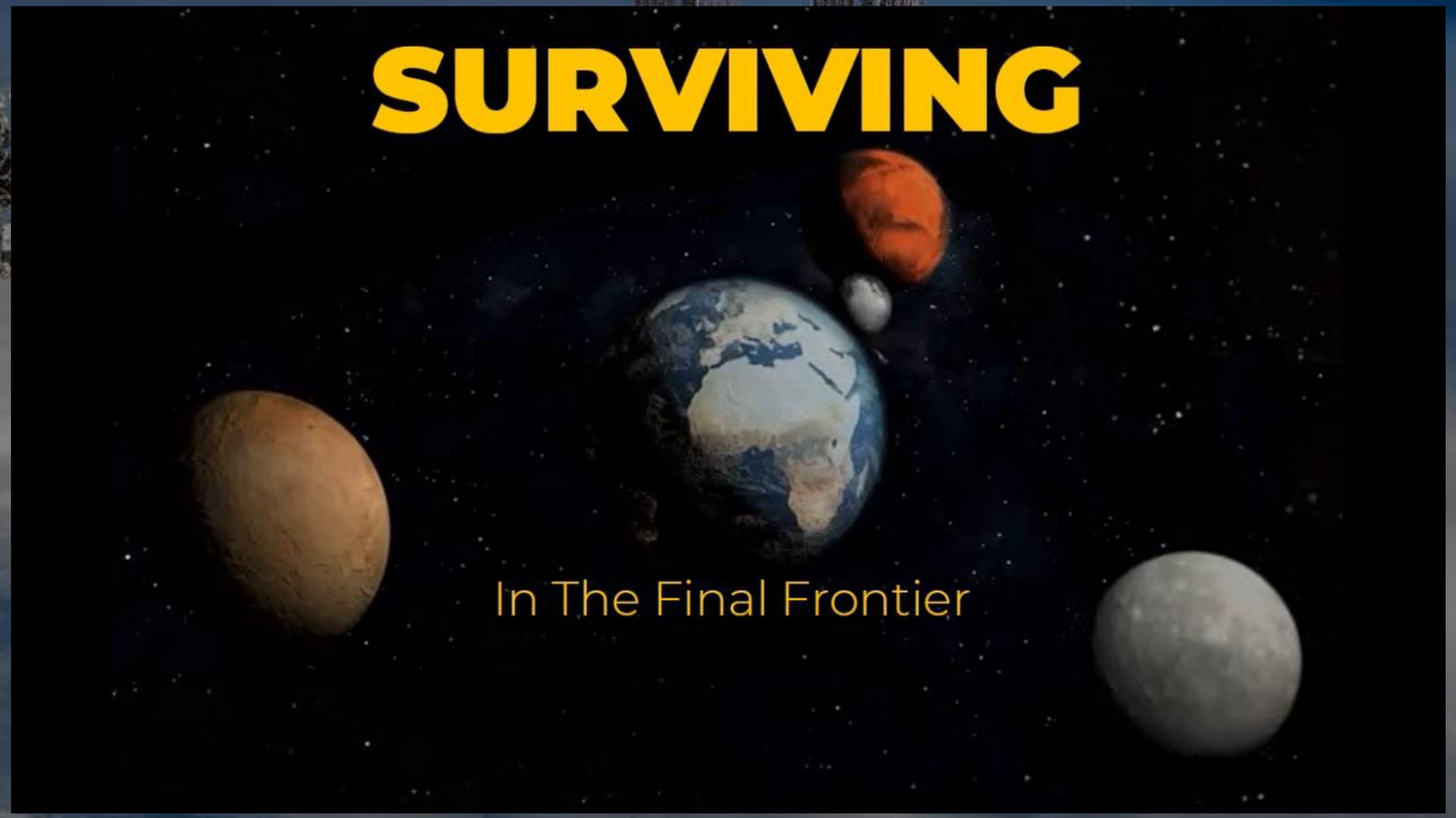
Artificial Gravity/Habitat

Artificial Gravity/Habitat

Long duration stays in space will require a habitat that not only protects the crew from radiation, it must also efficiently recycle limited resources such as oxygen and water and remove the carbon dioxide from the air. The habitat, whether it's a permanent spacecraft or on a planet's surface, must be equipped to overcome the physiological decrements that occur from the lack of earth's gravity. So far humans have only lived in zeroG for months at a time, the longest being a year and have spent only days on the surface of the moon. Some form of artificial gravity will be needed for long duration stays. As humans will be living in these confined spaces for a very long time, the habitat must be designed to preserve mental health as well as physical health.

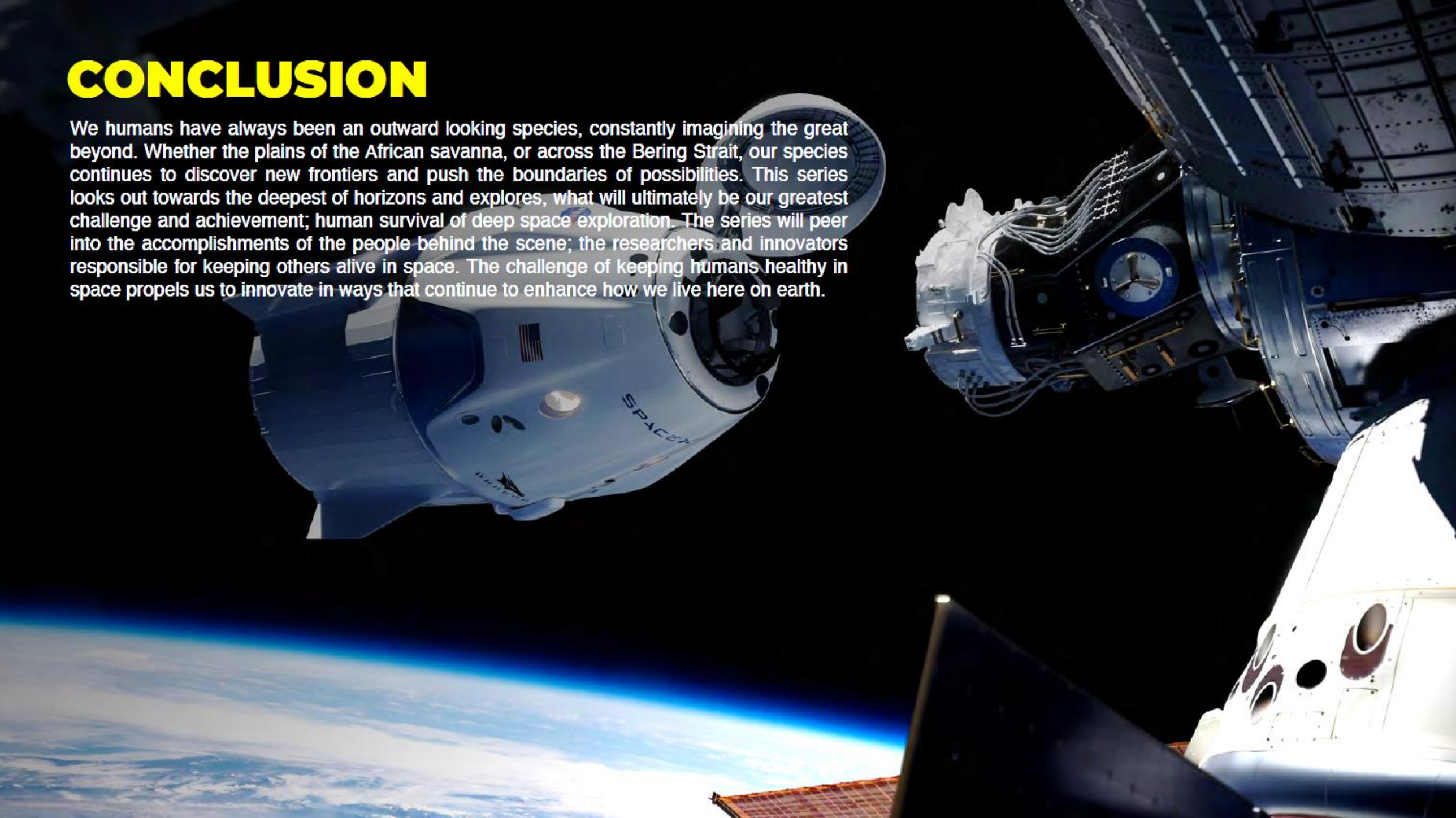
LOOK & FEEL

The look and feel will be a seamless combination of carefully curated archival NASA footage and in-person interviews with scientists, researchers, astronauts, innovators, and space experts worldwide. A large portion of this footage will consist of traditional film stock used at the time, giving it a specific historical aesthetic and imagery. We will combine this with contemporary high-quality video of today's individuals and their current and futuristic achievements.



CONCLUSION

We humans have always been an outward looking species, constantly imagining the great beyond. Whether the plains of the African savanna, or across the Bering Strait, our species continues to discover new frontiers and push the boundaries of possibilities. This series looks out towards the deepest of horizons and explores, what will ultimately be our greatest challenge and achievement; human survival of deep space exploration. The series will peer into the accomplishments of the people behind the scene; the researchers and innovators responsible for keeping others alive in space. The challenge of keeping humans healthy in space propels us to innovate in ways that continue to enhance how we live here on earth.



EXECUTIVE PRODUCER

DDC Worldwide

Dynamic Digital Content Worldwide was created by entertainment veterans who saw an opportunity to expand production content for the ever-expanding broadcast platforms becoming available to a global audience. Partners David Hock, Charles Shaughnessy and David Shaughnessy have more than eighty-five years of collective entertainment experience. Their production experience spans all forms of TV entertainment from soap operas, to animated series, to episodic series, mow's, shorts and documentaries. Credits include: *Days of Our Lives, General Hospital, The Young & The Restless, The Bold and the Beautiful, The Nanny, Murphy Brown, Punky Brewster, Stargate SG-1, Sabrina the Teenage Witch, Mom's Got a Date with a Vampire, The Magicians, Mad Men, Newhart, Stanley, Big Hero 6, Labyrinth, Star Wars: Resistance, Star Wars: Rebel,* All of which has garnered five Emmy awards over the years.

SPACE SCIENCE ADVISOR

Dorit Donoviel, Ph.D., serves as Executive Director for the Translational Research Institute for Space Health (TRISH), a NASA-funded consortium led by Baylor College of Medicine (BCM) in Houston, TX and includes the California Institute of Technology in Pasadena, CA and Massachusetts Institute of Technology in Cambridge, MA. Under Dr. Donoviel's leadership, TRISH leads the national effort in translating cutting edge emerging terrestrial biomedical research and technology development into applied space flight human risk mitigation strategies for human exploration missions, serving both NASA, the nation's and international partners' needs.

Dr. Donoviel authors numerous scientific articles and papers in academic journals every year, and is a sought-after expert regionally, nationally, and internationally. She has been, and continues to be, a keynote speaker about space health concerns, science, and biomedical innovations at numerous domestic and international conferences and regularly authors opinion pieces on the importance of health research in spaceflight.

Dr. Donoviel is an Associate Professor in the Department of Pharmacology and Chemical Biology and the Center for Space Medicine at Baylor College of Medicine. She is a long-standing Faculty Senator and serves on the College's Institutional Policy Committee. Dr. Donoviel's training includes a B.A. in Biochemistry at University of California, San Diego, and a Ph.D. in Biochemistry at the University of Washington. Dr. Donoviel also performed postgraduate training at the Samuel Lunenfeld Research Institute at Mount Sinai Hospital in Toronto, Ontario, Canada.

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