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GRIT Will Improve Space Tech

The Gravitational Response In Tissues (GRIT) sounding rocket mission will utilize new organ-on-a-chip technology as an experiment to observe changes in different organs when transitioning from Earth to space and back. NASA Wallops Flight Facility will launch a Black Brant XII-A Sounding Rocket with a payload consisting of three organs-on-chips. To investigate human physiology in extreme conditions, organs-on-chips are small, high-tech microfluidic chips engineered to mimic human organs. This mission involves placing the chips under extreme g-forces from a sounding rocket launch, and then measuring any changes the different tissues undergo. The sounding rocket will be launched from Wallops Island, Virginia, and will be recovered by water via parachute and other recovery devices. GRIT plans to be executed in August 2030, with all data analyzed within 2 months of launch.

The information collected and studied will help NASA astronauts, medical researchers on human tissue decay, Air Force pilots who experience extreme g-forces frequently, and, finally, even you. NASA plans to create a Gateway Space Station on the moon, coinciding with the goal of commercializing space exploration further. With GRIT's data on the tissue gravity stress, designing new applications for safe space travel will be advanced. Other goals relating to the technology of the future include microgravity studies and understanding how g-force shifts while leaving and entering the atmosphere with the new technologies.

"As we rapidly approach the future of aircraft and rocket design, the human body is quickly becoming the limiting factor, and finding that limit can help define the need for artificial intelligence-driven exploration." David Bowker

NASA is a leader in space exploration, aeronautics research, and scientific discoveries. NASA is set on returning to the moon and sending more missions further into the solar system; GRIT's research will lead to advanced technology in these Artemis missions and Spacegate.

<https://www.nasa.gov/nasatv>

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Wallop Island, Virginia