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Al Neyadi conducts experiment on options to cure Alzheimer's

Nasa shares details of microgravity study on neuro-degenerative disease treatments

PLACE

BY SAJILA SASEENDRAN
Senior Reporter

UAE astronaut Sultan Al Neyadi, who is on the longest Arab space mission on the International Space Station (ISS), on Monday conducted a space experiment to cure Alzheimer's disease, Nasa revealed.

Al Neyadi and Nasa astronaut Frank Rubio — flight engineers of Expedition 69, —worked on the experiment.

"Al Neyadi installed a syringe filled with a protein solution inside the Microgravity Science Glovebox [MSG] for the Ring Sheared Drop [RSD] experiment that may provide potential treatments for neuro-degenerative diseases," Nasa said.

"Rubio and Al Neyadi also assisted Nasa Flight Engineer Woody Hoburg on the Destiny laboratory module's carbon dioxide removal assembly."

RSD experiment

The Ring Sheared Drop investigation examines the formation and flow of amyloids without the complications associated with the solid walls of a container because in microgravity, surface tension help contain the liquid.

Amyloids are fibrous, extracellular protein deposits found in organs and tissues. They are associated with neuro-degenerative diseases such as Alzheimer's.

The Microgravity Science Glovebox (MSG) is a rack-level facility on the ISS that provides resources and containment for research investigations.

Sultan Al Neyadi on Monday joined Nasa's Frank Rubio and Woody Hoburg in working on the Destiny laboratory module's carbon dioxide removal assembly on the space station.

The Microgravity Science Glovebox is used for physical science and biological research and offers two levels of containment. It can be remotely controlled from tele-science centres.

MSG operation

It has an airlock, avionics, and a work volume with gloves for crew manipulation. The facility is used for physical science and biological research and offers two levels of containment.

The MSG can be remotely controlled from tele-science centres worldwide. It has transparent walls, cameras and video downlink for real-time observation by scientists on Earth. Crew members can safely manipulate items inside the sealed space by inserting their hands into gloves attached to any of four glove ports on the front and sides of the facility located in the US Laboratory module.

Benefits of microgravity

The orbital lab's main purpose is gaining scientific knowledge not possible in Earth's gravity. Human research and physics are a key part of the microgravity programme.

Al Neyadi's SpaceX Crew-6 members are conducting over 200 experiments during the six-month mission. He has been assigned 19 experiments by universities in the UAE. In April, Al Neyadi joined research to improve the efficiency of treating diabetic foot ulcers.