

Thaxted Astronomical Society

14th April 2022

News

Features

NF0158

First All-private Astronaut
Crew On The ISS

<https://www.dailymail.co.uk/sciencetech/article-10719701/First-private-astronaut-crew-begin-science-experiments-ISS.html>

First all-private astronaut crew begin science experiments on the ISS: Wealthy businessmen get down to work in space after paying \$55 million each for the ten day trip

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- The crew: Michael López-Alegría, Larry Connor, Eytan Stibbe, and Mark Pathy
- They are spending ten days in space, including eight aboard the space station
- During their time in space they are completing a series of tests and research
- This includes a hologram communication system beaming back down to Earth

The crew of the **first all-private astronaut mission** to travel to the ISS have started working on a number of experiments and research projects.

Axiom Space's Ax-1 mission includes three businessmen each paying \$55 million for the ten day trip, and a former NASA astronaut acting as commander for Axiom.

They launched on a SpaceX Crew Dragon spacecraft on Friday, April 8, arriving on the space station the following morning - bringing the total on the ISS to 11.

Michael López-Alegría is the Axiom employed commander, joining Larry Connor, Eytan Stibbe, and Mark Pathy for eight days on the orbital laboratory.

They committed to devote roughly a tenth of their time to science, medical and tech investigations, including some for Axiom Space partner organizations.

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The projects they'll work on include an EEG-enabled space helmet, and the first two-way **Holoportation** experiment to be performed in space.

The crew are set to splash down after ten days in orbit on Easter Monday, April 18.

Axiom Space says the crew adjusted well to the microgravity environment of the International Space Station and are in 'good spirits'.

One of their first tasks was to unpack the science payload that travelled with them on the SpaceX Crew Dragon **Endeavour, which had flown to space for the third time**

Pathy, a Canadian investor, was responsible for the two-way holoportation session, using augmented reality glasses to generate a hologram of himself on the Earth.

The technology could one day be used by astronauts to speak to loved ones during long-duration spaceflights, or for doctors to remotely examine patients.

'The team is buzzing at Axiom Mission Control Center (MCC-A) in Houston as it assists the crew conducting groundbreaking research and integrating commercial payloads while on the International Space Station,' Axiom said.

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Stibbe, an Israel investor and former fighter pilot, worked on the Nano ISS Antenna experiment, a deployable reflector antenna for high bandwidth communications, which was developed by the Israeli startup company NSLComm.

The antenna must be tested in microgravity, as it does not hold its shape under Earth's gravity.

This test is the last qualification activity of the antenna before the 2022 launch of NSLASAT-2, an ESA (European Space Agency) satellite.

Ax-1 Commander Michael López-Alegría worked on the Modeling Tumor Organoids Experiment, a cancer stem cell proof of concept project that will leverage the accelerated aging aspects of the microgravity environment to evaluate early pre-cancer and cancer changes in stem cells.

The human body undergoes complex adaptation when exposed to extreme conditions of space travel.

The Cardioprotection experiment led by Larry Connor, with contributions from crewmates like Pathy, will provide human data on the impact of spaceflight on cardiac function.

These tests will reveal how to fly a more diverse population of space travellers.

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As a result of there currently being 11 residents of the ISS, the newcomers are having to sleep in unusual places.

Stibbe and Pathy are in the Columbus module, Connor is in the spacecraft that took them to the ISS and López-Alegría is having to sleep in the airlock.

SpaceX has previously operated an all commercial spaceflight – sending the Inspiration4 crew on a three day orbit of the Earth – but this is the first to dock with the outpost some 250 miles (400 km) above the Earth.

While the space station has hosted civilian visitors from time to time, the Ax-1 mission will mark the first all-commercial team of astronauts to use ISS for its intended purpose as an orbiting laboratory.

They will be sharing the weightless work environment with seven regular crew members aboard the ISS — three American astronauts, a German astronaut and three Russian cosmonauts.

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The trip, carried out in partnership with the commercial spaceflight company Axiom Space, is designed to be a pre-cursor to wider moves into the commercial space sector. Axiom Space is behind the first fully commercial module being developed for the ISS — due to launch in 2024.

The firm has loftier ambitions than just a module on the ISS, with aspirations to build a free floating commercial space station in low-Earth orbit once NASA retires the ISS in 2031.

So far, Russia has sent seven self-funded tourists to space in partnership with the US-based company Space Adventures.

Japanese billionaire Yusaku Maezawa along with his assistant Yozo Hirano became the latest to do so when they had a 12-day stay on the ISS at the end of last year.

Pathy, Connor and Stibbe have taken part in hundreds of hours of training ahead of their upcoming launch on a SpaceX Falcon 9 rocket, including test driving the Dragon spacecraft.

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Connor (left), who is in his 70s, Pathy (middle, right), 52, and Stibbe (right), 64, are spending eight days on the ISS

