

Astronauts test virus-fighting surface coating

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Credit: University of Queensland

Astronauts aboard the International Space Station (ISS) are conducting experiments with an antimicrobial surface coating designed to fight the spread of bacteria and viruses.

The coating was developed by The University of Queensland and Boeing as a joint research project to inhibit viral agents, such as the Earth-bound coronavirus responsible for the COVID-19 pandemic.

Professor Michael Monteiro from UQ's Australian Institute for

Bioengineering and Nanotechnology (AIBN) said it was exciting to see the research go into space after years of development.

The technology has already been tested aboard Boeing's ecoDemonstrator as part of the company's Confident Travel Initiative.

Boeing's Mike Delaney said while testing continued on orbit and on Earth, the team had been encouraged by the preliminary results of the antimicrobial chemical compound.

"There is potential for broad-based applicability for a [surface coating](#) like this when used in conjunction with other measures to prevent [disease transmission](#)," Mr Delaney said.

The ISS experiment tests two identical sets of objects from aircraft—including a seatbelt buckle, fabric from airplane seats and [seat belts](#), parts of an armrest and a tray table—with only one set receiving the antimicrobial [surface](#) coating.

To promote microbial growth, space station crew members will touch both sets of objects every few days to transfer microbes naturally occurring on human skin. No microbe samples were sent to the station for this experiment.

Later this year, the test objects will be returned to Earth for analysis at Boeing's labs to measure the effectiveness of the surface coating in a [space environment](#).

Professor Michael Monteiro said the primary purpose of UQ's antimicrobial coating was to help protect space missions.

"However, after the current pandemic struck, we modified the coating's formula so it could also target the COVID-19 virus if it is present on a

surface on Earth.

"We look forward to continuing our testing regimen and working to gain regulatory approvals."

An antimicrobial surface [coating](#) in a spacecraft could help ensure the health of the crew and protect the spacecraft's systems from bacteria—and ultimately may help prevent interplanetary contamination from Earth-borne or another planet's microbes.

Boeing and UQ have collaborated on a broad portfolio of joint research and development projects since 2003.

In 2017, the Brisbane-based Boeing Research & Technology engineers relocated to the University in a first-of-its-kind partnership for the company's Asia-Pacific region.

Provided by University of Queensland

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