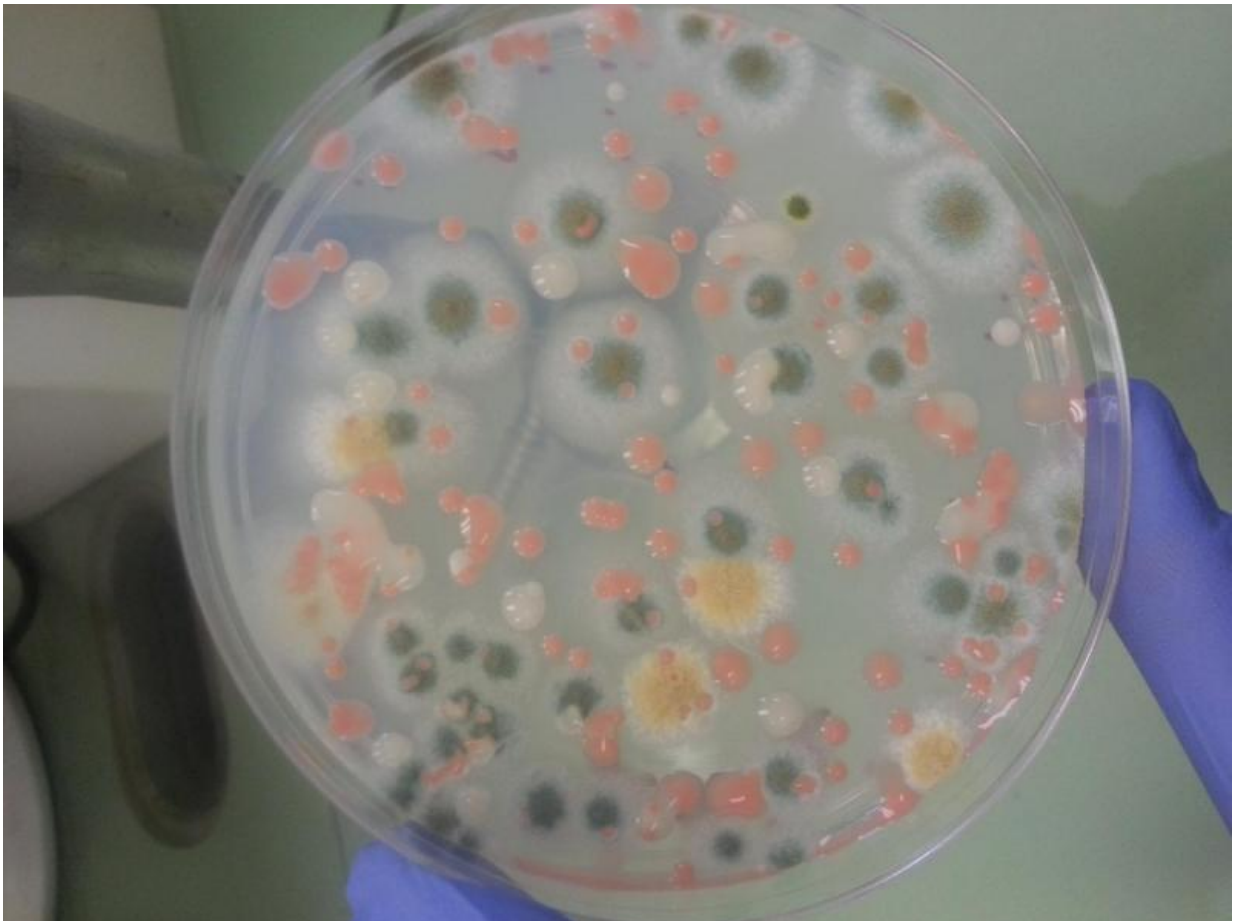


New research collaboration explores microbiome of the space station

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A petri dish contains colonies of fungi grown from a sample collected aboard the International Space Station during Microbial Tracking-1, a research investigation that looks at the types of microbes present on the surfaces and in the air of the space station. Credit: NASA / JPL

More than 200 people have crossed the airlock threshold to the International Space Station to conduct research that benefits people on Earth and the agency's [Journey to Mars](#). The microbes they brought with them—and left behind—are the focus of a new collaborative research opportunity from NASA and the non-profit Alfred P. Sloan Foundation.

Humans bring microbes everywhere they go—some of which reside inside the body, such as the intestinal tract. Others are outside the body on skin and clothes, for example. When these collective microbial communities enter a human-made environment like the International Space Station they create their own microbial ecosystem known as the Microbiome of Built Environments (MoBE).

NASA is seeking proposals from postdoctoral fellows to analyze the microbial communities inside the [space station](#) to determine how the communities colonize, adapt and evolve. The researchers will have access to a collection of space station microbial samples gathered over a decade or more, and archived at NASA's Johnson Space Center in Houston.

"NASA is incredibly excited to partner with the Sloan Foundation through a Space Act Agreement to look at the microbiome of the space station to better understand how to control the microbial environment in future human exploration spacecraft," says David Tomko, Ph.D., space biology program scientist at NASA.

NASA and the Sloan Foundation have a shared interest in promoting microbiology research that will enhance scientific understanding of the microbiome of built environments. Sloan funds an extensive research program dedicated to the topic, and has established an online network where researchers in the field can share information, apply for grants and plan meetings and conferences.

Microbiome research on the space station is an important area of research for NASA as it prepares astronauts for future long duration spaceflight. The agency will upload resulting data and analysis onto the open science [GeneLab](#) platform to allow for further review from the research community. Sloan and NASA plan to use results in GeneLab to allow for further development of experiments by the research community.

"We are proud to be partnering with NASA to fund groundbreaking research on the [microbial ecosystem](#) of the space station," says Paula J. Olsiewski, Ph.D., director of Sloan's Microbiology of the Built Environment program. "The opportunities for discovery are truly unique."

Proposals are welcome from graduate students in the final year of a doctor of philosophy or equivalent doctoral degree program, from postdoctoral fellows or from applicants who received a doctoral degree within the past two years. The Sloan Foundation anticipates funding an additional two awards through a solicitation of its own with similar goals.

Provided by NASA

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