

Success In Space

WHAT WE'VE ACCOMPLISHED • WHAT MAY LIE AHEAD

Space Station Stowaways

(NAPSA)—Long before the first humans boarded the International Space Station (ISS), something else was living there.

Something unseen, but potentially dangerous. Something with an uncanny ability to survive and reproduce in even the most hostile environments. Something capable of attacking the Station's crew and even the Space Station itself.

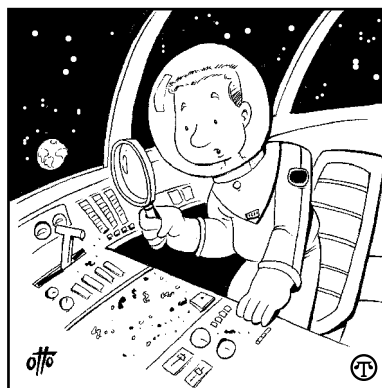
It's not some man-eating alien from a science fiction movie. These lurking, mischievous life forms aboard the Space Station are simply microbes: viruses, bacteria and fungi.

"Microbes were the first inhabitants of the Space Station," said Monsi Roman, chief microbiologist for the Environmental Control and Life Support Systems (ECLSS) project at NASA's Marshall Space Flight Center.

The Space Station's microorganisms are hitchhikers; they were carried there on ISS hardware and by the assembly crews themselves. "When the Station went up, microbes went with it," says Roman. "Microbes will be the last ones in the Station, too."

Microbes are a fact of life anywhere that humans go. The majority are harmless, and several types are actually beneficial to humans. Nevertheless, certain microbes can pose a health threat to the Station's crew and even attack the materials and hardware of the Station itself. Just as they do to protect people and products on Earth, scientists and engineers at NASA must find ways to keep such microorganisms on the Space Station under control.

The first step in protecting the health of the crew is testing each crewmate for infection before



When the first human crew of the ISS blasted into space, a community of microbes was already waiting to receive them in orbit. The microbes arrived in space attached to ISS hardware and on the bodies of earlier assembly crews.

launch. Only healthy crew members are allowed to fly into space, and they're quarantined before launch to prevent them from contracting harmful germs at the last moment.

Once on the Space Station, the air, water and surfaces with which the crew members interact must be kept clean. The air in the Space Station will be kept in constant motion, and all the air on the Station will pass through filters—called High Efficiency Particle Air (HEPA) filters—on its way to the temperature and humidity control systems.

What scientists learn about keeping air clean in space may someday help improve the air down here. You can learn more about the space station and what it means for folks on Earth, online at <http://spaceflight.nasa.gov>.