N E W S R E L E A S E

New Report Highlights Importance of Sterility Assurance for Planetary Protection and Prevention of Hospital-Acquired Infections

Advances in Biological Indicator Technology Developed for NASA Being Leveraged by Verrix to Ensure Sterility of Surgical Instruments

SAN CLEMENTE, Calif.—Oct. 3, 2018—In a new report published in *Space Policy,* Adrian Ponce, Ph.D., of NASA's Jet Propulsion Laboratory (JPL) and founder of Verrix, and co-authors examine the importance of sterility assurance to prevent contamination of spacecraft destined to potentially habitable ocean worlds of the outer solar system, and the parallel debate around sterility assurance requirements in the healthcare environment.[1]

"We are seeing many similarities between spacecraft and hospital sterility assurance challenges, including important ongoing conversations about sterility assurance and preventing the spread of microbial contamination," Ponce said. "It is critical to prevent biological contamination in our hospitals, just as it is in space—these are risk management, technology, and ethics challenges."

In healthcare, inadequately sterilized surgical instruments and implants are a major contributor to infection outbreaks. Biological indicator (BI) systems are used to verify the success of sterilization cycles and detect failed cycles. However, currently used BI technology is outdated and prone to inaccuracies that can lead to surgical delays and increased costs—in part due to the push for more rapid results.

According to Ponce, the drive for faster BI results has pushed existing technology to its limits. "Speeding up the current BI technology increases the risk of both false-positive and false-negative results," Ponce said. "However, the sterility assurance technology originally conceived to help prevent forward contamination for NASA missions now has the potential to provide confidence that surgical instruments are free from infectious contamination."

In 2013, Ponce founded Verrix, a medical device company that is developing sterility assurance products and technologies based on planetary protection technology developed at NASA's JPL for the Mars Rover program. The Verrix Endospore Verification Assay™ (EVA) technology provides a powerful, direct bacterial detection methodology with unprecedented speed and accuracy down to a single bioindicator organism. The first BI system developed based on these technology advances is expected to be introduced in 2019.

The full report, titled "Forward contamination of ocean worlds: A stakeholder conversation," can be found here.

About Verrix

Verrix is a San Clemente, Calif.-based medical device company that is using the most advanced technologies to help protect patients from healthcare-associated infections. The company was formed as a spin-off from the Jet Propulsion Laboratory (JPL), and is partnered with JPL doctors and scientists to commercialize a library of issued patents licensed from the California Institute

of Technology (Caltech). Its core sterility assurance technology integrates cutting-edge optical physics, chemistry, spectroscopy, and molecular biology, and is uniquely positioned to address critical unmet needs for protecting patients from life-threatening infections. Visit www.verrix.com for more information.

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Reference

1. Sherwood B, Ponce A, Waltemathe M. Forward contamination of ocean worlds: A stakeholder conversation. *Space Policy*. 2018. Doi: https://doi.org/10.1016/j.spacepol.2018.06.005.