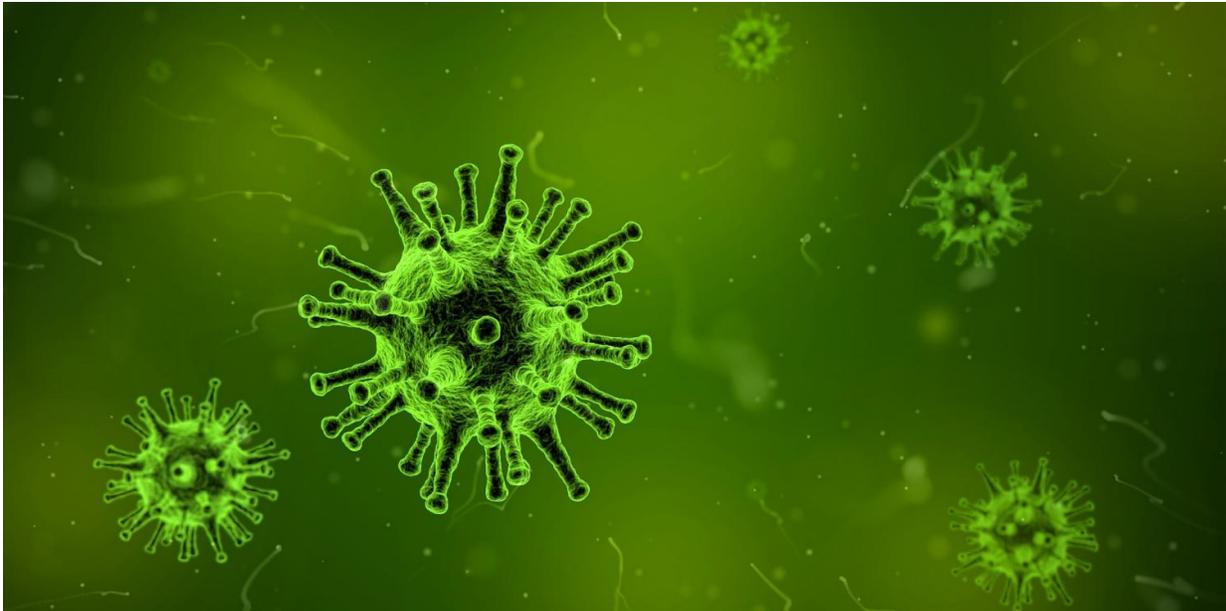


# Viruses are everywhere, maybe even in space

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Viruses are the most abundant and one of the least understood biological entities on Earth. They might also exist in space, but as of yet scientists have done almost no research into this possibility.

Portland State University biology professor Ken Stedman and colleagues are trying to change this through their article "Astrovirology: Viruses at Large in the Universe," published in the February 2018 issue of the journal *Astrobiology*. In this call to arms, the authors state that NASA and other [space](#) agencies should be looking for viruses in liquid samples

from Saturn and Jupiter's moons, develop technology to detect viruses in ancient deposits on Earth and Mars, and determine if Earth viruses could survive in space.

"More than a century has passed since the discovery of the first viruses," said Stedman, who teaches at PSU's College of Liberal Arts & Sciences. "Entering the second century of virology, we can finally start focusing beyond our own planet."

Stedman argues that since there are more viruses on Earth—10 to 100 times more than any other cellular organism—the same could be true on other planets and moons. Viruses also appear to be extremely ancient, may have been involved in the origin of life and have probably been involved in major evolutionary transitions on Earth.

"With this paper, we hope to inspire integration of virus research into astrobiology and also point out pressing unanswered questions in astrovirology, particularly regarding the detection of [virus](#) biosignatures and whether [viruses](#) could be spread extraterrestrially," Stedman said.

**More information:** Aaron J. Berliner et al, Astrovirology: Viruses at Large in the Universe, *Astrobiology* (2018). [DOI: 10.1089/ast.2017.1649](https://doi.org/10.1089/ast.2017.1649)

Provided by Portland State University

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