

# SLIMER

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Researchers are looking for possibilities of life both inside and outside of our solar system. They look at Venus for possible life in the cooler atmosphere, they look for fossilized life during a possible period of habitable wet environments on Mars, they look for life in the plumes of water from Europa's icy oceans, and they even look for life in exoplanets via transient spectroscopy. We are searching across this diverse range of environments for any sign of organic organisms, but what would they look like and how can we prepare to understand how they might behave from Earth?

The most likely candidate for life on another body would be the simplest: a microbe. To understand what this organism would need, we need to understand the relationship between an Earth-bound microbe, its microbial ecosystem, and its structure and function. Only by doing this will we understand the environment, compounds, and microbes needed to successfully host life on another body in the solar system. To do this, we are considering using the apparatus called SLIMER, a microscope-scintillator-camera system to identify how a microbe interacts with its environment through a nuclear decay marker.

