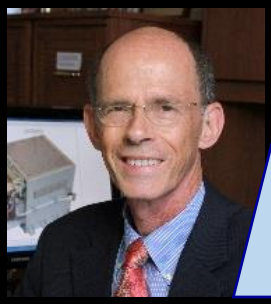

COLORADO STATE UNIVERSITY
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Searching for Life in the Solar System

Europa Clipper Mission

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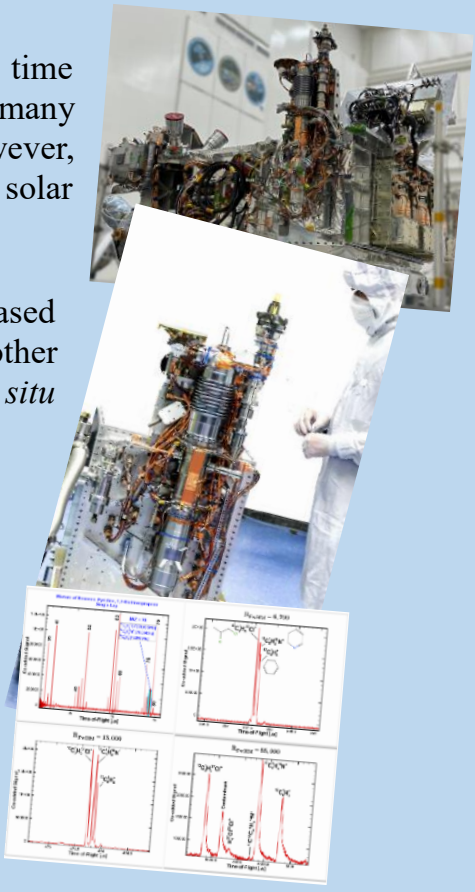
Register Here For this free webinar event on Oct. 1st, 2024 at 1:00 pm MT

Abstract: Earth formed out of the solar nebula 4.5 billion years ago. Simple bacteria appeared 800 million years later, complex animals took another 3.7 billion years to evolve, and modern *Homo sapiens* showed up a mere 300,000 years ago. Much more recently we entered the Space Age, at which point we began to wonder whether the terrestrial scenario of life's origins could play out elsewhere in the Universe.

There are 8 major planets in our solar system. Recent observations of our celestial neighborhood put the number of potentially habitable planets meeting the "Goldilocks criteria" for life (solid surface, water, organic material, the right star and orbit) as a billion or so.

But did life start elsewhere? Or are we 'alone'? Given enough time (the Universe is 13.8 billion years old) and Goldilocks planets, many scientists bet there is at least life and, possibly, intelligence. However, looking for evidence of life is a tricky business, even in our own solar system.



Over the next two decades a dozen ground- and space-based telescopes will search remotely for evidence of life. In another approach, a half dozen space missions will be sent to search *in situ* for evidence of life on Mars, Titan, and Jupiter's moon Europa.

This talk is about the Europa Clipper, NASA's newest planetary mission, scheduled to launch this October. It will carry the ultra-high performance Mass Spectrometer for Planetary Exploration (MASPEX) built by the Southwest Research Institute to "determine whether the conditions for habitability exist or have ever existed on Europa." But really, we're looking for life.