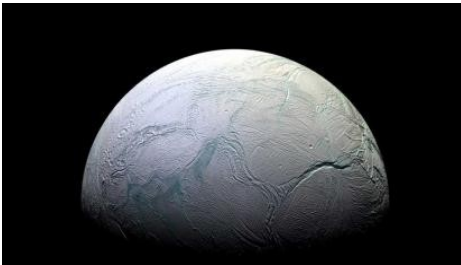


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Dr. Jonathan Lunine



Saturn's icy moon
Enceladus (above), and its
plumes of ice as seen by
Cassini (below)



SPACE IS LIMITED

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Vernon [Registration](#)**

Fall 2022

Harcourt "Ace" Vernon Memorial Lecture

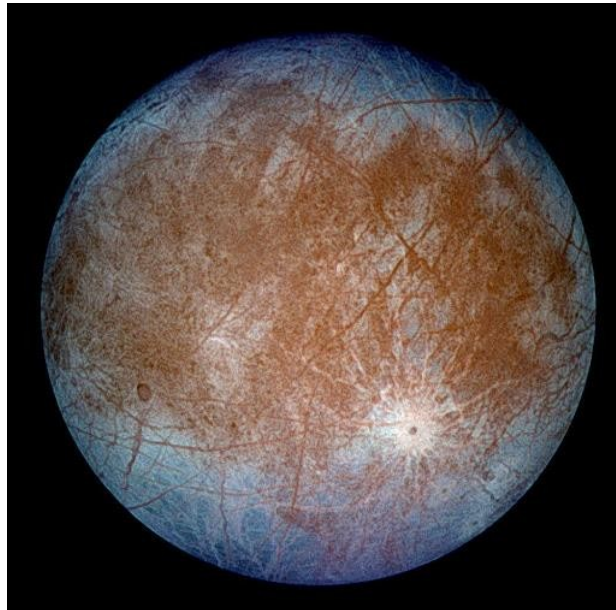
**October 12, 2022
7:30 pm Clayton Hall
University of Delaware**

Featuring Guest Speaker

**Dr. Jonathan Lunine
Cornell University**

Looking for Alien Life in the Oceans of Our Solar System

Spacecraft exploration of the solar system has revealed a number of worlds beyond the asteroid belt with liquid water oceans beneath icy crusts. They are called "ocean worlds". The strongest evidence for the existence of such oceans is within Jupiter's moon Europa, and Saturn's moons Titan and Enceladus. Each of them has a different potential for life and relative ease of exploration. I will cover all of them, explaining what we know and what to do to determine if these are abodes of microbial life alien to our own biosphere.



Europa is the smallest of Jupiter's 4 Galilean moons. Yet there is evidence that a salty liquid water ocean exists beneath the icy surface. The surface is crisscrossed with numerous cracks and could indicate material coming up from below the ice. Europa is one of the best locations to look for life outside of our planet. (NASA)