

# Ices and Oceans in the Outer Solar System

## A MULTIDISCIPLINARY PRESENTATION

This public talk for general audiences focuses on concepts taught by the depts of Physics and Astronomy, Earth and Atmospheric Sciences, and the School of Biological Sciences.

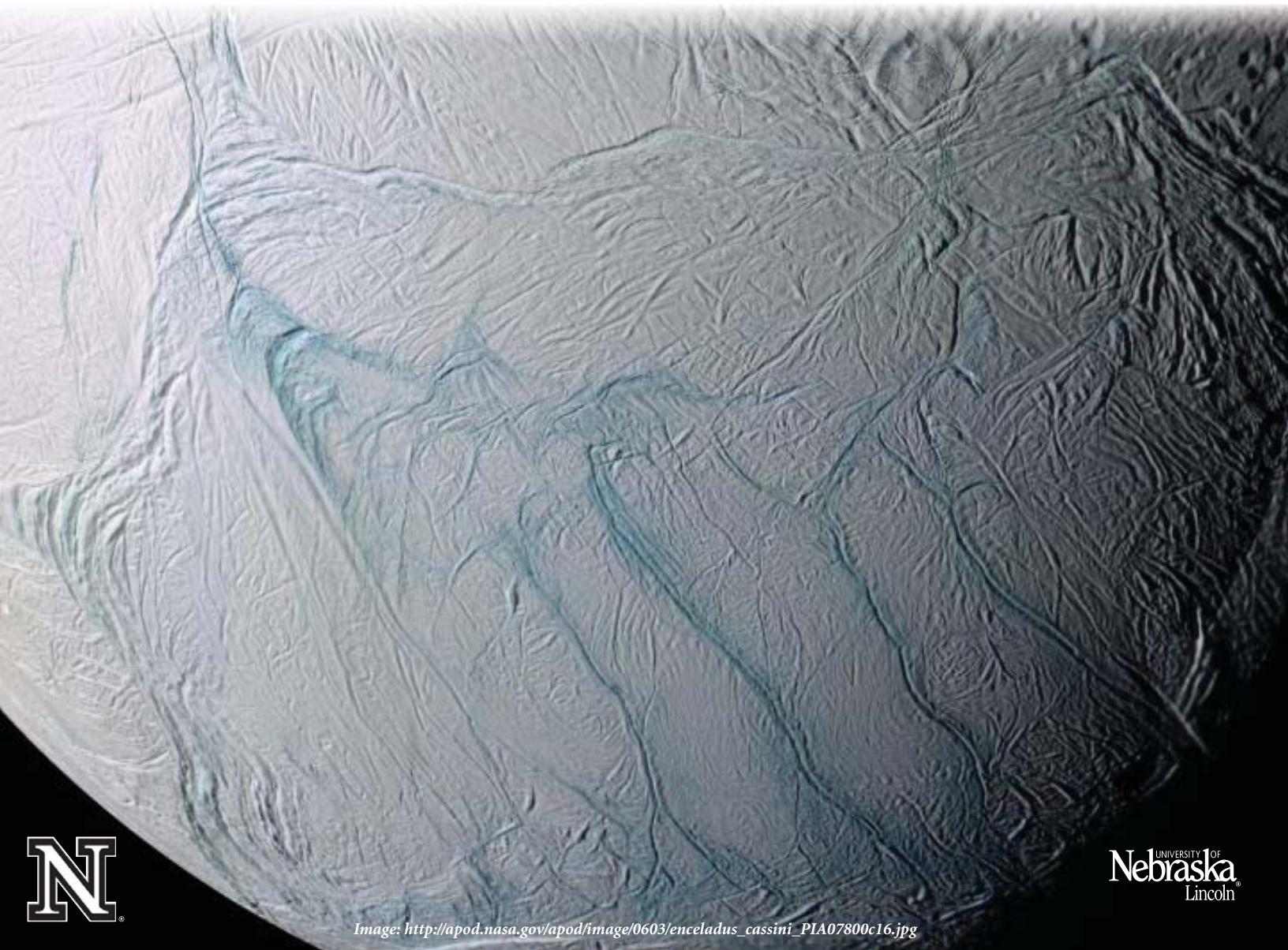
**7:30 p.m.**  
**Monday, April 14**  
**Union Auditorium**

## Robert T. Pappalardo

Senior Research Scientist and Europa Study Scientist  
Jet Propulsion Laboratory, California Institute of Technology

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**Abstract:** On Earth, essentially everywhere there is liquid water, there is life, so it is reasonable that the search for extraterrestrial microbial life in our solar system focuses on the search for water. The solar system's most promising candidate for a potentially habitable ocean beyond Earth lies beneath the surface of Jupiter's ice-covered moon Europa, which is one of the most geophysically and astrobiologically fascinating and complex bodies in our solar system. Its exploration is key in advancing our understanding of habitable zones, in our solar system and beyond. Water oceans may also exist within other icy moons, including within Ganymede and Callisto at Jupiter, Enceladus and Titan at Saturn, and Triton at Neptune. We will take a tour of the solar system's icy worlds that might contain watery oceans within. The interior oceans of icy worlds may be the most common habitats for life in the universe.



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