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Laboratory for Atmospheric and Space Physics
for our next public lecture

The Hidden Ocean, NASA's Europa Mission, and the Search for Habitability

Sascha Kempf

Wednesday, November 4, 2015 at 7:30 PM

(doors open at 7:00 PM)

LASP Space Technology Building Rm. 299
1234 Innovation Drive—Boulder, CO

NASA's next flagship mission will explore whether Jupiter's moon Europa could harbor conditions suitable for life. Previous missions have provided compelling evidence for such conditions on Europa: The moon most likely harbors a global ocean underneath its icy crust; the conditions within the ocean are acceptable for extant terrestrial life; and the chemical inventory of the ocean provides the range of elements essential for Earth-like organisms.

The mission will place a spacecraft in orbit around Jupiter to perform close flybys of Europa. NASA has selected nine instruments for this mission, including cameras and spectrometers, an ice-penetrating radar, a thermal instrument, a magnetometer, and in-situ mass spectrometers. LASP will provide the Surface Dust Analyzer (SUDA), an instrument to investigate the chemical makeup of Europa's surface, which may hold the fundamental clues for understanding its potential to develop and sustain life, because materials embedded in the ice matrix on Europa's surface carry a treasure trove of information about the moon's interior.

In this talk, SUDA principal investigator, Sascha Kempf, will provide an overview about NASA's mission to Europa and how the scientific payload will help determine if this moon can sustain life.

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