UCF Department of Physics

PHYSICS COLLOQUIUM

Speaker: Dr. Laura Schaefer, Stanford University

Chemical gradients in planetary systems with terrestrial planet formation simulations

Friday, March 27, 1:30 pm, PSB 160/161

Zoom: https://ucf.zoom.us/j/99149227179?pwd=nmXjX28QHTRY0VCJ6dnxpkiwSc3T0a.1
Meeting ID: 991 4922 7179
Passcode: 934087

Abstract: Measurements of the atmospheres of small planets are now feasible with the *James Webb Space Telescope*. These planets are generally hotter and bigger than the Solar System rocky planets, but smaller than our outer ice giants Neptune and Uranus, and many have primitive atmospheres like those that the rocky Solar System planets lost in their infancy. These exoplanets allow us to connect processes that happened in the ancient Solar System with ongoing, observable phenomenon. In this talk, I will touch on magma ocean-atmosphere exchange, primary atmospheres, and atmospheric escape both here in the Solar System and as observed on exoplanets and the future of observations for more habitable rocky worlds.

BIO: Laura Schaefer is an Assistant Professor in the Department of Earth and Planetary Sciences at Stanford University. She is a planetary scientist working on the theory of how the atmospheres of rocky planets form and evolve due to interactions with the planet's interior and its stellar environment. This includes studying processes like plate tectonics, outgassing, asteroid impacts, planet formation and atmospheric escape. Laura applies her work to both the early Solar System and current observations of exoplanets orbiting other stars. In her spare time, she likes to climb rocks, hike with her dog, and enjoy the beautiful redwood forests of the California coast.