SACRAMENTO STATE

Department of Physics and Astronomy

SPRING 2020 Colloquium Series

"Understanding the Giant Planet Formation Process with Direct Imaging"

Dr. Jordan Stone

University of Arizona

Understanding the planet formation process is a central goal of the exoplanet community. The giant-planet formation mechanism is especially important to understand because massive planets form earliest, and they dominate the dynamics and regulate material flow through planet forming disks. My work aims to inform theories of giant planet formation using high-spatial resolution direct imaging techniques to isolate light from planetary surfaces from the blinding light of their host stars. Spatially resolved imaging facilitates detailed spectroscopic measurements of planetary atmospheres revealing their composition. This is important because planetary composition can be related to formation location using the fact that temperature gradients in protoplanetary disks impose chemical gradients in the gas-phase disk material as different volatile species condense to solid phases at different distances from the central star. I will discuss two projects that I lead to develop instruments for improving sensitivity to planets, and a project to identify the best targets for direct imaging studies.

***Tuesday, March 3, 2020**
4:00 – 5:20PM
MENDOCINO HALL 1015

Open & Free to all students, faculty and public