

UCLA Division of Astronomy & Astrophysics

Astronomy Colloquium

Wednesday, Oct. 7 at 3:30 PM
Room 1-434 PAB

Dr. Betsy Mills
(University of Kansas)



Resolving the Activity Cycle in the Nearest Galaxy centers

Galaxy centers are powerful laboratories for studying the secular processes that shape galaxies across cosmic time, from large-scale gas flows and star formation to stellar feedback and interaction with a central supermassive black hole. While the proximity of the Milky Way center enables detailed study of its contents, its quiescence limits the processes that can be probed. Now, however, ALMA is allowing us to observe gas in the centers of more active nearby galaxies at parsec to sub-parsec scales. In this talk, I will focus on our recent work with ALMA and JWST to probe the early evolution of some of the most extreme star clusters in the present-day universe, and their role in launching galaxy-scale winds. I will also present initial results from an ALMA sample of nearby galaxies, including both starburst and Seyfert galaxies. With this sample, we make detailed comparisons of gas properties that allow us to isolate the physical, chemical, and kinematic conditions during different stages of activity in a galaxy nucleus. Finally, I will end with a brief discussion of the science prospects for PRIMA-- the first in a new class of NASA astrophysics missions.

Hosted by Professors Smadar Naoz and Alice Shapley