Photo credit: Annette Buhl

2022 Spitzer Lecturer
Andrea Ghez, UCLA
April 26-28, 2022

COLLOQUIUM
Tuesday, April 26, 11:00-12:00 145 PEYTON HALL

From a Possibility to a Certainty of a Supermassive Black Hole

Learn about new developments in the study of supermassive black holes. Through the capture and analysis of twenty years of high-resolution imaging, the UCLA Galactic Center Group has moved the case for a supermassive black hole at the center of our galaxy from a possibility to a certainty and provided the best evidence to date for the existence of these truly exotic objects. This was made possible with the first measurements of stellar orbits around a galactic nucleus. Further advances in state-of-the-art of high-resolution imaging technology on the world's largest telescopes have greatly expanded the power of using stellar orbits to study black holes. Recent observations have revealed an environment around the black hole that is quite unexpected (young stars where there should be none; a lack of old stars where there should be many; and a puzzling new class of objects). Continued measurements of the motions of stars have solved many of the puzzles posed by these perplexing populations of stars. This work is providing insight into how black holes grow and the role that they play in regulating the growth of their host galaxies. Measurements this past year of stellar orbits at the Galactic Center have provided new insight on how gravity works near a supermassive hole, a new and unexplored regime for this fundamental force of nature.

LECTURE
Wednesday, April 27, 12:30-1:30, 145 PEYTON HALL

Our Galactic Center: A Unique Laboratory for the Physics & Astrophysics of Black Holes

LECTURE
Thursday, April 28, 9:00-10:00, MCDONNELL A02

As part of the PCTS workshop *Cosmological and Astrophysical Probes of New Physics*

Stellar Orbits at the Galactic Center: The Good, the Bad, the Ugly