

BLACK HOLES IN DENSE STAR CLUSTERS
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TITLE: The Galactic Center

SPEAKER: Andrea Ghez (UCLA)

The Galactic Center presents a unique laboratory for studying a dense stellar system surrounding a supermassive black hole (SMBH). Over the last 20 years, the tremendous progress that has been made in high angular resolution imaging on the world's largest telescopes has allowed detailed measurements of the orbits and astrophysics of the stars at the Galactic Center. This has not only provided the most direct evidence we have for the existence of supermassive black holes, but revealed many unexpected phenomena in the surrounding stellar population and the black hole accretion flow. I will review this progress and upcoming opportunities to further our understanding of gravity with tests of Einstein's Theory of General Relativity in unexplored regimes and future insight into the physical processes that enable feedback between the central black hole and the surrounding stellar population.