

# A GREEN FAMILY LECTURE BY DR. ANDREA M. GHEZ



Photo by Annette Buhl

## **Dr. Andrea M. Ghez , UCLA**

Andrea M. Ghez, professor of Physics & Astronomy and Lauren B. Leichtman & Arthur E. Levine chair in Astrophysics, is one of the world's leading experts in observational astrophysics and heads UCLA's Galactic Center Group. Best known for her groundbreaking work on the center of our Galaxy, which has led to the best evidence to date for the existence of supermassive black holes, she has received numerous honors and awards. In 2020 she became the fourth woman to be awarded the Nobel Prize in Physics, sharing one half of the prize with Reinhard Genzel (the other half was awarded to Roger Penrose). She is the first woman to receive a Crafoord prize in any field, received the Bakerian Medal from the Royal Society of London, a MacArthur Fellowship, and was elected to the National Academy of Sciences, the American Academy of Arts & Sciences, and the American Philosophical Society.

Ghez earned her BS from MIT in 1987, and her PhD from Caltech in 1992 and has been on the faculty at UCLA since 1994.

## **“From the Possibility to the Certainty of a Supermassive Black Hole”**

**Monday, October 25, 2021 - 4:30 PM**  
**UCLA Ackerman Grand Ballroom**  
**Register at [www.ipam.ucla.edu/ghez](http://www.ipam.ucla.edu/ghez)**  
**This lecture will be accessible to a general audience.**

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.

**Please visit [www.ipam.ucla.edu/ghez](http://www.ipam.ucla.edu/ghez) for Covid-19 safety regulations affecting entry to this event.**

