

Andrea M. Ghez
DOB: June 16, 1965



Astrophysicist
BS in Physics from Massachusetts Institute of Technology 1987
Ph.D from California Institute of Technology 1992
Professor UCLA, Department of Physics and Astronomy
Research Area: Star Formation and Black Holes

Biography

Andrea Ghez was born in Chicago in 1965. Like many young girls, she wanted to grow up to be a ballerina. The moon landings changed her focus from ballerina to becoming the first female astronaut and set her on her path to become an astrophysicist. She had two very important role models as a young girl; her mother that encouraged her at every step of the way and a high school chemistry teacher that made it all seem possible.

Her undergraduate studies began in mathematics and shifted to physics during her early years at MIT. In 1987, Ms. Ghez graduated from the Massachusetts Institute of Technology with a BS in Physics. From there she went on to get her PhD from the California Institute of Technology in 1992. While a doctoral student at Caltech, Ms. Ghez convinced her adviser to allow her to teach undergraduate courses in physics. Her argument was that there was a need for female role models in teaching that would encourage young women to pursue science degrees. She received the Caltech teaching award for her efforts an honor normally reserved for faculty. In 1994, she joined the teaching staff at UCLA and is now the head of the UCLA Galactic Center Group.

Research Description

Ms. Ghez is known for her study of star formation and black holes. While studying as a doctoral student at Caltech, she discovered that most stars are formed in pairs and that most systems have two suns not just one like ours. Her fascination with black holes has been a focal point for her research. Working with a team at UCLA they have been able to use special optics to look into the center of the milky way galaxy and observe the invisible existence of black hole by seeing how they interact with the celestial objects around them.

Ms. Ghez is currently working to test the theory of general relativity with relationship to black holes. According to the theory of general relativity, when a star comes in contact with large gravitational forces, it will not follow the laws of physics and begin to change its orbit. The gravitational forces produced by black holes changes the game because large gravitational forces are now massive. This could prove to be a challenge to this long held theory. In the near future, Ms. Ghez and her team hope to have an answer to this question.

Awards

Annie J Cannon Award in Astronomy
Packard Fellowship Award
Sackler Prize
Crafoord Prize in Astronomy

Newton Lacy Pierce Prize in Astronomy
Maria Goeppert-Mayer Award
MacArthur Fellowship
Gold Shield Faculty Prize for Academic Excellence