## Gemini Observatory Celebrates Two Decades of Discovery

As Gemini celebrates 20 years of discovery, the astronomical observatory's future shines brightly.

or the past two decades, astronomers using Gemini's twin 8-meter telescopes have made astounding discoveries that have advanced our knowledge of the visible Universe — from nearby objects in our Solar System to violent collisions of neutron stars and black holes at the limits of humanity's vision. Among the scientific achievements, researchers using Gemini have:



**Credit: Javier Fuentes** 

Determined the nature of an unexpected interstellar visitor passing through our Solar System

- Tracked weather on other planets and their moons
- Recorded the first image of a planet beyond our Solar System
- Imaged the birth of stars, and captured planetary systems just starting to form
- Measured the mass of supermassive black holes at the cores of galaxies
- And, dissected light from a neutron star collision that sent gravitational waves rippling across the Universe.



The promise of many more exciting decades of discovery lie ahead as the Observatory fine-tunes its capabilities for the new era of Multi-Messenger and Time-Domain Astronomy.

**Credit: Joy Pollard** 

From probing rapidly changing distant supernova explosions to chasing fastmoving bodies in our Solar System, Gemini is poised to utilize cutting edge technology to unravel some of the greatest mysteries of the Universe.

**Credit: Manuel Paredes** 

Research at Gemini is also helping astronomers to better understand dark matter and dark energy, and determine if life is possible on planets orbiting other suns.



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Gemini operates twin 8-meter telescopes in both hemispheres — one on Maunakea in Hawai'i and one on Cerro Pachón in Chile — that observe in both visible and infrared light. A flexible suite of instruments operate on a dynamic schedule and can be switched quickly to take advantage of changing sky conditions or targets requiring rapid response observations.

The majority of Gemini's funding comes from the US National Science Foundation (~70%), with Canada, Brazil, Argentina, Chile, and Korea completing the partnership. The Association of Universities for Research in Astronomy (AURA) manages Gemini under a cooperative agreement with the NSF.