



MAUNAKEA OBSERVATORIES



DEAR PRESIDENT OBAMA:

On behalf of the global astronomical community, we would like to thank you for recognizing during the October 19 Astronomy Night activities, the commitment by the Maunakea Observatories to open their doors and share the excitement of exploring the Universe with the public. Astronomy is sometimes referred to as a “gateway science.” Observing the moon, stars, and planets is an excellent starting point for inspiring youth and adults alike to learn about how the Universe works and how the scientific process can be used to explore the natural world. We are very pleased to be part of your effort to stimulate interest in and passion for scientific discovery.

As the Honolulu Star-Advertiser notes in an editorial published on October 24, 2015, “the Hawai’i Island observatories together make Mauna Kea the most scientifically productive site for astronomy in the world, a significant achievement for our state.” As the preeminent site for astronomical research in the United States, and in fact, the Northern Hemisphere, Maunakea is truly a national treasure. Stretching more than 30,000 feet from the ocean floor, Maunakea is one of the largest volcanos in the solar system and is the highest point in the Pacific Basin. It is home to an incredible diversity of ecosystems and represents a cultural anchor for much of Polynesia. We are honored and thankful for the opportunity to study the heavens from its summit and to be entrusted by the people of Hawai’i as stewards of the science reserve.

Scientists from universities worldwide rely on the Maunakea observatories to advance their research. Our observatories have contributed to some of the most significant astronomical findings in the modern era, including those that earned the 2011 Nobel Prize for Physics.

KEY DISCOVERIES THAT RELIED ON DATA FROM MAUNAKEA INCLUDE:

- 1. Dark Energy and Cosmic Acceleration:** While studying Type Ia supernovae, astronomers revealed that the Universe’s rate of expansion is accelerating. The repulsive force responsible for this acceleration is more commonly known as ‘dark energy.’ This discovery earned the 2011 Nobel Prize for Physics.
- 2. Supermassive Black Hole in the Milky Way:** By measuring the motions of stars at the heart of our Milky Way galaxy, researchers revealed a black hole that is 4.1 million times the mass of our Sun.
- 3. Extrasolar Planets:** The first images of a planetary system orbiting another star were recorded on Maunakea.
- 4. Killer Asteroids:** Telescopes on Maunakea and Haleakala are the world’s leaders in detecting and studying near-earth asteroids, including those that may put the earth at risk.
- 5. Most-Distant Galaxies:** Our cosmic frontier has been pushed to new extremes through the discovery of some of the most distant objects ever detected. Maunakea observatories helped astronomers reach back to a time when the universe was only five percent of its present age of 13.8 billion years.

Over the past 50 years, the observatories have contributed billions to the local economy, enriched STEM education options, created jobs, supported local businesses, and catalyzed improved infrastructure efforts, including widespread, high-speed internet. Hawai’i is our home and we are excited by the opportunity to deepen our connection to the community through the Kama’aina Observatory Experience.

The rich tradition of celestial navigation and modern scientific exploration in Hawai’i provides a remarkable opportunity for our scientists and the local community to explore together how cultural tradition, scientific discovery and environmental stewardship intersect on Maunakea. We believe the launch of the Kama’aina Observatory Experience is an important first step and we thank you for your acknowledgement of our efforts.

We cordially extend an open invitation to you and your family to come visit Maunakea to see this all firsthand. In the meantime, we will continue to seek new ways to share our passion for astronomy and all the STEM fields among youth in Hawai’i, across the United States, and in all our partner countries.

MAHALO NUI,

Caltech Submillimeter Observatory, Sunil Golwala

Canada-France-Hawaii Telescope, Doug Simons

Gemini International Observatory, Markus Kissler-Patig

James Clerk Maxwell Telescope (EAO), Paul Ho

NASA Infrared Telescope Facility, Alan Tokunaga

Subaru Telescope, Nobuo Arimoto

Submillimeter Array, Raymond Blundell

UKIRT Observatory, Richard Green

University of Hawai’i Hilo Educational Telescope, Pierre Martin

University of Hawai’i 2.2 m Telescope, Colin Aspin

TMT International Observatory, Henry T. Yang

University of Hawai’i, Institute for Astronomy, Günther Hasinger

Very Long Baseline Array, Mark McKinnon

W.M. Keck Observatory (Keck I and Keck II), Hilton Lewis

International Astronomical Union, Norio Kaifu

International Astronomical Union, Silvia Torres-Peimbert



www.kamaainaobservatoryexperience.org