



‘IMILOA
Astronomy Center of Hawai‘i

EXHIBITS

There are more than 100 individual exhibits featured at the Center, which is located on the University of Hawaii Hilo campus on the Big Island of Hawai‘i. Located within a 12,000 square-foot exhibition hall, the exhibits weave astronomy and Hawaiian culture into a compelling story of human exploration and voyaging.

COSMIC QUESTIONS EXHIBIT

Cosmic Questions: Our Place in Space and Time, a national traveling exhibition created by the Smithsonian Astrophysical Observatory, is now a permanent part of ‘Imiloa. Cosmic Questions was developed by the Smithsonian Astrophysical Observatory with generous support from the National Science Foundation and NASA. The exhibit features several walk-through areas as follows:

- Start at our Milky Way galaxy and travel outward to find out how we fit into the universe.
- At the Cosmic Kitchen theatre, visitors reflect the notion that our human story is intimately linked to the unfolding story of the universe.
- Great Mysteries: These exhibits invite visitors to explore the mysteries of the universe including dark matter and black holes.

PIKO EXHIBIT

As you leave the lobby, you enter the Exhibit Hall on a journey through a stylized koa tree forest to the summit of a sacred mountain: Maunakea. Journals along the way tell stories of Maunakea’s past and explain the reverence Hawaiians have for the mountain. You will also:

- See the night sky and stars over Hawai‘i
- Walk over an adze pit and see a collection of historic adze flakes
- Visit Lake Wai‘au – learn of the tradition of leaving a child’s “piko” — the umbilical cord in Lake Wai‘au to acknowledge a connection to one’s origins

ORIGINS EXHIBIT

This exhibit explores the question “Where do we come from?” One story is the Hawaiian account of our origins, the other is authored by modern science. Each story is told chronologically.

- Kūmūluipo Theater – This multimedia experience presents the Hawaiian chant that chronicles the birth of life that comes from darkness and emerges from the sea.
- Origins of the Universe – These exhibits invite you to travel back through time, first encountering early Earth organisms. Many hands-on interactive exhibits encourage you to explore space, the solar system and the Universe.
- The “Sampan Taxi” takes you on a robot-guided tour to Pluto.



VOYAGES EXHIBIT

The human desire to explore is the story in this gallery. For the early Hawaiians, the canoe was their tool for exploration. Today the tool that astronomers use to explore the universe is the telescope.

- A series of kiosks tells the story of early canoe voyagers who explored the oceans as well as their own history and new frontiers in Hawaiian cultural identity.
- Interactive exhibits test visitors' abilities to use the way-finding techniques used by navigators.
- Learn more about the Hawaiian cultural and language movement, and how the canoe is transmitting knowledge about Hawaiian culture today. A series of experiential exhibits allow you to enjoy Hawaiian music, contemporary hula and learn about immersion schools, which are both keeping the Hawaiian language alive and prompting a renaissance in Hawaiian culture.
- Exploration for today's astronomers is equally significant as their quest takes them into understanding space and time. Visitors can test out the astronomer's tools for exploration.
- Outlines on the carpet compare sizes of the different mirrors on Maunakea.
- Learn how astronomers "decode" patterns of starlight to discover intimate details about distant suns; try to estimate the temperature of each of Orion's stars; or compare patterns of spectral lines to deduce the chemical composition of a star.
- Large "sails" rising from the ocean of exhibits provide images of today's explorers; personal quotes describe their drive to explore.
- In the Virtual Observatory, tour Gemini Observatory and observe real-time images from cameras atop Maunakea.

4D2U: AN EXPERIMENTAL THEATER IN 3-D

Voyage through space highlighting portions of the data library of NAOJ's Four Dimensional Digital Universe Project, which is referred to as its 4D2U library. The exhibit was created to engage people from all walks of life to experience the mesmerizing beauty of the Universe, as revealed by modern astronomy, without sacrificing scientific accuracy. Former NAOJ Director Dr. Norio Kaifu was instrumental in bringing this theater program to ʻImiloa. Technical advisors from Japan installed the system for the Center. The 4D2U theater features two shows: Aloha Subaru and Voyage Through Space.

- Aloha Subaru: This theater program is a 3-D tour of Maunakea's largest telescope. Konishiki Yasokichi narrates the show and is a well-known Hawaiʻi born Samoan ozeki sumo wrestler. His charisma adds a local flavor to the show.
- Voyage Through Space: A computer simulation takes you back in time to the origins of the Universe, 13+ billion years ago. The simulation is based on real astronomical from the Subaru Telescope. Using 3-D glasses, you experience the beauty of space and begin to understand the vastness of the cosmos.

SCIENCE ON A SPHERE EXHIBIT

Located outside the Exhibit Hall in the Moanahōkū (Ocean of Stars) Hall is ‘Imiloa’s newest exhibit, Science on a Sphere[®], created and provided to us by the National Oceanic and Atmospheric Administration (NOAA).

Science On a Sphere[®] is a room-sized, global display system that uses computers and video projectors to display planetary data onto a six-foot-diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere[®] as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change and ocean temperature can be shown on the sphere, which is used to explain what are sometimes complex environmental processes in a way that is simultaneously intuitive and captivating.

‘Imiloa has been given over 100 data sets and will be working in conjunction with a consortium of other science centers to create and share new programming for Science on a Sphere.

‘Imiloa staff has developed a program to document and display the 2007 Hokule‘a canoe voyage to the South Pacific and Japan, as well as a program tied to the Annual Merrie Monarch Festival, tracing hula hālau around the world.

VIEWSPACE EXHIBIT

Located in the Planetarium Hallway, ViewSpace is a gift from NASA’s Space Telescope Science Institute. It uses a PC and a 50-inch plasma panel to display a variety of multimedia presentations that combine high-resolution images, digital movies, interpretive captions and evocative space music to portray the beauty and wonder of the universe. The Space Telescope Science Institute provides automatic daily updates via Internet upload creating a constantly evolving exhibit that never goes out of date.

Also in the Hallway are three Cosmic Questions exhibits:

- Cosmic Calendar of the Universe’s 14-billion year history collapsed into a single year. Examine major events and their relationship to life as we know it.
- Two interactive exhibits: Ride through Time and Windows on the Sky.