

At the Entrance Membership Information Facility Rental Information Garden Tours Available KWXX FM

**In the Atrium** Birthday Cake Giveaways for keiki 'Imiloa Education Booth

## In the Hualalai Garden

KTA Super Stores Cookout **In the Exhibit Hall** Exhibit Hall guides throughout STARBASE Hawaii Flight Simulators

In the Planetarium

Live sky show & film trailer

éverv 15 minutes

from 9am - 1pm and 3pm - 4pm

How Big is Big? Presentation

by Dr. Jeff Goldstein at 1:30pm

In the Moanahokū Hall

Journey through the Universe

Presentations

Maunakea Obervatories

## In the Kipuka Garden

Hands-on activities by UH-Hilo: College of Agriculture, Forestry & Natural Resource Management College of Business and Economics College of Pharmacy Department of Education Department of Physics and Astronomy Ka Haka 'Ula O Ke'elikōlani College of Hawaiian Language Nā Pua No'eau Center for Gifted & Talented Native Hawaiian Children

Mahalo to KTA Super Stores for their support of 'Imiloa Astronomy Center!

# Journey through the Universe Presentations

### 9:30 am <u>Underwater Volcanoes</u> Dr. Brad Bailey, NASA Lunar Science Institute



Dr. Brad Bailey will discuss the relevance to underground Mars and Europa biospheres in addition to other volcanic activity in the solar system. A NASA Lunar Science Institute Staff Scientist, Bailey directs the NASA Ames Academy, a student research and leadership development program. In the Earl & Doris Bakken Moanahōkū Hall.



10:30 am <u>The Beautiful End of Stars</u> Dr. Douglas Arion, Carthage College

Some of the most spectacular astronomical images show the beautiful and intricate gas clouds that surround dying stars. Sometimes the star dies a violent death – a supernova. But most stars, like the Sun, will die slowly, and in that process for a short time are surrounded by the glow of planetary nebulas with amazing shapes and beautiful colors. Come explore these objects, and what their shapes may mean for planets around other stars and the future of our own Solar System. In the Earl & Doris Bakken Moanahōkū Hall.

#### 11:30 am Explore the Universe with Someone who was there when Pluto became a "Dwarf Planet" Dr. Gordon Squires, Thirty Meter Telescope



Gordon K. Squires is an astronomer at the California Institute of Technology, working with the Thirty Meter Telescopes as well as NASA's Spitzer Space Telescope, the Herschel Space Observatory, the Galaxy Evolution Explorer and other space telescopes with Caltech involvement. His research explores the old, cold and distant universe – understanding how galaxies formed billions of years ago and what is the nature of the dark matter and dark energy that fills space. In the Earl & Doris Bakken Moanahōkū Hall.

### 12:30 pm Astronomy on the Big Island, What's Funding Got to do with it? Dr. Scott Fisher, National Science Foundation



How are many of the telescopes on Mauna Kea funded? Find out where the money for these projects comes from and how it makes it way to the base facilities and observatories on the Big Island. 'Talk story' about the latest and greatest discoveries and take a tour of the sky and learn more about the cutting edge research happening right in our own back yard. Bring your questions to try to "Stump the Astronomer!" In the Earl & Doris Bakken Moanahōkū Hall.

#### 1:30 pm <u>How Big is Big?</u> Dr. Jeff Goldstein, National Center for Earth & Space Science KEYNOTE SPEAKER



It's a big, often intimidating universe out there. How do we even begin to fathom objects and distances that dwarf anything we've ever experienced? You might memorize all the facts and figures—our galaxy has over 100 billion stars, our Sun is 93,000,000 miles away. But where's the learning? The numbers are big, impersonal—even irrelevant. Instead, you might imagine a simple view with Earth, our Sun, and some neighboring planets and stars adrift in an endless ocean of

space. But both approaches do a disservice to the majesty of the cosmos. Earth's place in space IS understandable, and in a way that inspires awe and wonder! The secret is placing the universe in a context that is familiar. You're not convinced? Come and take this magical journey from spaceship Earth to points unknown. I promise when we come back home you'll feel the words of T.S. Eliot: "...and the end of all our exploring will be to arrive where we started and know the place for the first time." In the 'Imiloa Planetarium.

### 3:00 pm <u>Omens in the Sky: Can Comet Hunters Save the World?</u> Dr. Tim Slater, University of Wyoming



Since the dawn of civilization, skywatchers vigilantly stood guard for these strange visitors from the outer reaches of the solar system. Comets, asteroids, and meteor showers can leave observers mystified, but today impact predictions leave governments perplexed. In the Earl & Doris Bakken

