



UNIVERSITY OF HAWAII
of HAWAII
HILO



March 1 - 9, 2012





Aloha to all of our Journey partners!!!!

As Journey through the Universe 2012 came to a close, we all realized the impact that this science education outreach program has had on our community. This year our 72 astronomers/astronomy educators engaged over 8,000 students in 380+ classrooms at 20 schools in the Hilo/Laupahoehoe/Waiakea District. For the past eight years our astronomers were able to express their passion and excitement for science, engineering, and education and share this enthusiasm with their students.

The Journey through the Universe program not only nurtures our student's innate curiosity, but also provides workshops for our teachers in STEM (Science, Technology, Engineering and Mathematics) education and an opportunity for our community members to visit the classrooms alongside our astronomers. Family Science Events, held at the 'Imiloa Astronomy Center as well as the University of Hawaii at Hilo are attended and enjoyed by thousands.

Our community partners, the Hawaii Island and Japanese Chambers of Commerce have hosted a celebratory event at the Yacht Club for the past several years. The Chambers' thank you celebration provides a unique opportunity for astronomers, educators, and the business community to discuss and share what is our common goal – to enrich science education in our schools and inspire our children to aim high.

District Superintendent Valerie Takata elaborates, "Our Hilo /Laupahoehoe/Waiakea complex area schools' stellar partnership with the business organizations and community is Journey to the Universe: STEM initiative. As a part of the educational system our complex area is





overwhelmed with appreciation for the enthusiasm and energy this initiative has generated for our schools.... students, teachers and administrators and families. This concerted effort has made this grassroots program a sustaining reality.... for the past eight years. As we work toward our vision for students to be career and college ready when they graduate, this reality becomes more powerful and impactful when support and involvement is in sync. We thank our community partners for caring so deeply for our students."

In addition to the numerous distinguished guests and lecturers at Journey 2012, Jeff Goldstein, Journeys' visionary who started the national program over a decade ago participated in the activities by lecturing, leading a conference for local teachers in STEM education and providing inspiration for moving the program in new directions in coming years.

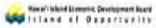
Everyone involved in the Journey through the Universe program would sincerely like to thank each and every one of you. An education program of this magnitude could not happen without our community support.

You are all – truly – our shining stars!

We humbly thank you from the bottom of our hearts!

Janice Harvey
 Journey Team Leader
 Gemini Observatory





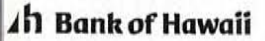
Journey through the Universe
Hilo, Hawaii
2012

Astronomy Educators

in the classroom

DEPARTMENT OF EDUCATION
Hilo/ Laupahoehoe/ Waiakea Complex Area
www.gemini.edu/journey
For more information contact
Janice Harvey at
jharvey@gemini.edu

Andy Adamson, Gemini Observatory
Doug Arion, Carthage University
Brad Bailey, NASA Lunar Science Institute
Kenyan Beals, Hawaii Electric Light Company
Matt Benjamin, NASA Lunar Science Institute
Jennie Berghuis, Subaru Telescope
Dan Birchall, Subaru Telescope
Antonio Chrysostomou, Joint Astronomy Centre
Paul Coleman, UH Institute for Astronomy
Steve Colley, Subaru Telescope
Richard Crowe, UH Hilo Physics & Astronomy
Dora Diou, NASA Lunar Science Institute
Kristina Davis, NASA Lunar Science Institute
Sandra Dawson, Thirty Meter Telescope
Brian Day, NASA Lunar Science Institute
Jeff Donahue, Gemini Observatory
Greg Doppmann, W.M. Keck Observatory
Anil Dasg, Submillimeter Array
Angelica Ebbers, Gemini Observatory
Scott Fisher, NSF/Gemini Observatory
Brian Force, Caltech Submillimeter Observatory
Suzanne Frayer, Subaru Telescope
Gary Fujiwara, UH Institute for Astronomy
Roy Gal, UH Institute for Astronomy
Tom Getalle, Gemini Observatory
Jesse Goldman, UH Hilo Physics & Astronomy
Jeff Goldstein, National Center for Earth & Space Science
Taras Golota, Subaru Telescope
William Gorman, Subaru Telescope
Tomotsugu Goto, UH Institute for Astronomy
Olivier Guyon, Subaru Telescope
John Hamilton, UH Hilo Physics & Astronomy
Janice Harvey, Gemini Observatory
Saeko Hayashi, Subaru Telescope
Michael Hoening, Gemini Observatory
Inge Meyer
Ryoko Ichioka, Subaru Telescope
Eric Jeschke, Subaru Telescope
Russell Kackley, Subaru Telescope
Art & Rene Kimura, Hawai'i Space Grant, UH Manoa
Kaifu Kimura, Imitoa Astronomy Education Center
Scott Kleinman, Gemini Observatory
Shawn Laatsch, Imitoa Astronomy Center
Bernhard Laurich, Hawai'i Community College
Nancy Levenson, Gemini Observatory
Ramsey Lundock, Subaru Telescope
Frantz Martinache, Subaru Telescope
Tony Matulis, Gemini Observatory
Richard McDeimid, Gemini Observatory
Callee McNew, Gemini Observatory/ UH Institute for Astronomy
Peter Michaud, Gemini Observatory
Brian Mitchell, NASA Lunar Science Institute
Harriet Parsons, Joint Astronomy Centre
Derrick Pitts, Franklin Institute Science Museum
Stephen Pompea, National Optical Astronomy Observatory
Ramprasad Rao, Submillimeter Array
Julie Renaud-Kim, W.M. Keck Observatory
Luca Rizzi, W.M. Keck Observatory
Kathy Roth, Gemini Observatory
Hiroko Shinnaga, Caltech Submillimeter Observatory
Doug Simons, Gemini Observatory
Stephanie Slater, Ctr for Astr & Phys Education Research CAPER
Tim Slater, University of Wyoming
Gordon Squires, Thirty Meter Telescope
Sunny Stewart, Gemini Observatory
Marianne Takamiya, UH Hilo Physics & Astronomy
Holly Thomas, Joint Astronomy Centre
Marcel Tognetti, Gemini Observatory
Muniko Usuda, Subaru Telescope/ Imitoa Astronomy Center
Bernie Walp, Gemini Observatory
Jonathan Williams, UH Institute for Astronomy
Greg Wirth, W.M. Keck Observatory
Matthew Wuang, Subaru Telescope



JOURNEY
through the UNIVERSE

2012
Hilo, Hawai'i



It takes a Community! Thank you to Everyone Involved!

- DOE Hilo/Laupahoehoe/Waiakea Complex Area
- Gemini Observatory
- National Center for Earth & Space Science
- Thirty Meter Telescope
- NASA Lunar Science Institute
- University of Hawai'i at Hilo
- 'Imiloa Astronomy Center
- Bank of Hawai'i
- Basically Books
- Big Island Toyota
- Big Island Chevron
- Business - Education Partnership
- Caltech Submillimeter Observatory
- Canada-France-Hawai'i Telescope
- Carthage University
- Center for Astronomy & Physics Education Research
- Franklin Institute Science Museum
- Hawai'i Space Grant Consortium, UH Manoa
- Hawai'i Island Chamber of Commerce
- Hawai'i Island Economic Development Board
- Hawai'i Tribune-Herald
- James Clerk Maxwell Telescope
- Japanese Chamber of Commerce & Industry
- Joint Astronomy Centre
- KTA Superstores
- KWXX
- Mauna Kea Observatories Outreach Committee
- NASA Infrared Telescope Facility
- National Radio Astronomy Observatory
- Prince Kuhio Plaza
- PISCES, Pacific International Space Center for Exploration Systems
- Rotary Club of Hilo Bay
- Smithsonian Submillimeter Array
- Subaru Telescope
- UH Hoku Ke'a and 2.2 Meter Telescopes
- UH Institute for Astronomy
- UH Hilo, College of Pharmacy
- United Kingdom Infrared Telescope
- W.M. Keck Observatory

www.gemini.edu/journey



Proclamation

Presented to

In Recognition of Journey Through the Universe

WHEREAS, Journey Through the Universe is a national science education initiative developed by the National Center for Earth and Space Science Education that engages students, teachers, families and the public through programs relating to space exploration and Earth science; and

WHEREAS, Journey Through the Universe endorses sustained education in the critical areas of science, technology, engineering and mathematics (STEM), and is a wonderful exploration within the pleasures of learning; and

WHEREAS, Journey Through the Universe provides teachers the tools and training to conduct stimulating lessons in the classroom relevant to Hawai'i Content and Performance Standards in addition to providing venues for family learning where parents and their children learn together, and

WHEREAS, Journey Through the Universe North Hilo/Laupahoehoe/Waiakea Complex is one of only ten communities in the United States designated as a Journey Through the Universe site; and

WHEREAS, Journey Through the Universe program founder and nationally recognized science educationalist and leader of inter-organization team that installed the Voyage model Solar System, having trained over 3,000 teachers annually, Dr. Jeff Goldstein will promote and empower the S.T.E.M. Education Conference with the Department of Education and Partners; and

WHEREAS, Journey Through the Universe will give local teachers the opportunity to construct Galileoscopes, integrating the Engineering Design Process in collaboration to encourage student participation in developing experiments to be executed using spaceflight microgravity environment; and

WHEREAS, Journey Through the Universe provides 72 astronomer educators, astrophysicists and engineers who will be present to bring fruition and instill the passion of science within our students; and

WHEREAS, the 8th Annual Journey Through the Universe program will take place from March 01-09, 2012 on the Big Island of Hawai'i; now

THEREFORE I, NEIL ABERCROMBIE, Governor, and I, BRIAN SCHATZ, Lieutenant Governor of the State of Hawai'i, do hereby proclaim March 1- 09, 2012 as

"JOURNEY THROUGH THE UNIVERSE WEEK"

in Hawai'i and ask the people of the Aloha State to join us in broadening our appreciation of the scientific efforts which better allow us to understand the universe.

DONE at the State Capitol, in the Executive Chambers, Honolulu, State of Hawai'i, this sixth day of February 2012.

NEIL ABERCROMBIE
Governor, State of Hawai'i

BRIAN SCHATZ
Lt. Governor, State of Hawai'i



Special Message from Governor Neil Abercrombie
“Bringing the Universe to the Classroom”

March 06, 2012

On behalf of the people of Hawai'i, I extend a heartfelt *aloha* to all of the participants for the Department of Education Hilo/Laupahoehoe/Waiakea Complex Area Schools and partners engaging students in science, technology, engineering and math learning experiences within and beyond the classroom.

I commend Shawn Laatsch, Planetarium Manager for the 'Imiloa Astronomy Center of Hawai'i and the Executive Officer in the International Planetarium Society. For more than 24 years, Mr. Laatsch has been actively involved in endorsing planetarium program development and astronomy education in museum, university and K-12 educational settings. In 2010, both he and Richard Crowe had been awarded the *Taniguchi Excellence and Innovation in Teaching Award* for their cooperation instructing introductory astronomy in the 'Imiloa planetarium.

I want to personally thank all the participants from the State and Complex Area Leadership as well as the event sponsors their dedication to the children of Hawai'i by taking them on a journey through the universe. Today, children will be empowered with the passion of cultural and historical astronomy.

Again, I would like to congratulate all those who made this event possible and share my deepest appreciation for your hard work. *Mahalo*.

Aloha,

NEIL ABERCROMBIE
Governor, State of Hawai'i

COUNTY OF HAWAII

Proclamation

WHEREAS, the National Center for Earth and Space Science Education's (NCESS) central objective is to continue America's legacy as a leader on the frontiers of science and technology well into the 21st century by ensuring a scientifically literate public and a next generation of scientists and engineers; and

WHEREAS, NCESS is joined by the local scientific community beginning with Gemini Observatory, Joint Astronomy Centre, Subaru Telescope, Thirty Meter Telescope, Submillimeter Array, National Radio Observatory Telescope, Hoku Ke'a Telescope, James Clerk Maxwell Telescope, Nasa Infrared Telescope, United Kingdom Infrared Telescope, UH Institute for Astronomy, Caltech Submillimeter Observatory, W. M. Keck Observatory, 'Imiloa Astronomy Center of Hawaii, UH-Hilo Physics & Astronomy, Onizuka Visitor Information Station, Mauna Kea Support Services, Mauna Kea Observatories Outreach Committee, University of Wyoming and the Jet Propulsion Laboratory; and

WHEREAS, partnered with the Dept. of Education Hilo/Laupahoehoe/Waiakea Complex Area, "Journey Through the Universe" continues for an 8th year on March 1-9, 2012, and features a full nine days of whirlwind cosmic exploration and 'star-studded' space and science education for students, teachers, and parents as a national team of astronomer researchers and engineer, working on the frontier of space, visit more than 8,000 students in 380 classrooms at 21 schools; and

WHEREAS, the County of Hawaii fully encourages and supports the educators who perpetuate learning and exploration of our universe in order to excite our youth about the future; and

WHEREAS, there are only ten sites across the country and the Hilo site has been recognized as the flagship "Journey" program in the nation,

NOW, THEREFORE, I, BILLY KENOI, Mayor of the County of Hawaii, do hereby proclaim March 1-9, 2012, as

JOURNEY THROUGH THE UNIVERSE WEEK

in the County of Hawaii and urge all citizens to be mindful of the great contributions that astronomy makes to the educational and economic betterment of our island's people.

IN WITNESS WHEREOF, I have hereunto set my hand and caused The Seal of the County of Hawaii to be affixed. Done this 20th day of January, 2012, in Hilo, Hawaii.



Billy Kenoi
MAYOR



UH Hilo Chancellor's Blog

NEWS FROM UNIVERSITY OF HAWAII AT HILO OFFICE OF THE CHANCELLOR

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Mar 12 2012

Letter: Mahalo to UH Hilo and other partners of Journey through the Universe 2012

Posted by admin



Doug Arion, designer of the GalileoScope (red shirt) looks on as students observe through a telescope as part of his classroom presentation for Journey Through the Universe.



Thank you letter from Janice Harvey, *Gemini Observatory*

Aloha to all of our Journey partners!

As *Journey through the Universe 2012* came to a close, we all realized the impact that this science education outreach program has had on our community. This year our 72 astronomers/astronomy educators engaged over 8,000 students in 380+ classrooms at 20 schools in the Hilo/Laupahoehoe/Waiakea District. For the past eight years our astronomers were able to express their passion and excitement for science, engineering, and education and share this enthusiasm with their students.

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alongside our astronomers. Family Science Events, held at the 'Imiloa Astronomy Center as well as the University of Hawai'i at Hilo are attended and enjoyed by thousands.

Our community partners, the [Hawai'i Island Chamber of Commerce](#) and the [Japanese Chamber of Commerce and Industry](#) have hosted a celebratory event at the Yacht Club for the past several years. The chambers' thank you celebration provides a unique opportunity for astronomers, educators, and the business community to discuss and share what is our common goal – to enrich science education in our schools and inspire our children to aim high.

District Superintendent Valerie Takata elaborates, "Our Hilo /Laupahoehoe/Waiakea complex area schools' stellar partnership with the business organizations and community is Journey to the Universe: STEM initiative. As a part of the educational system our complex area is overwhelmed with appreciation for the enthusiasm and energy this initiative has generated for our schools[...], students, teachers and administrators and families. This concerted effort has made this grassroots program a sustaining reality[...] for the past eight years. As we work toward our vision for students to be career and college ready when they graduate, this reality becomes more powerful and impactful when support and involvement is in sync. We thank our community partners for caring so deeply for our students."

In addition to the numerous distinguished guests and lecturers at Journey 2012, [Jeff Goldstein](#), Journeys' visionary who started the national program over a decade ago participated in the activities by lecturing, leading a conference for local teachers in STEM education and providing inspiration for moving the program in new directions in coming years.

Everyone involved in the Journey through the Universe program would sincerely like to thank each and every one of you. An education program of this magnitude could not happen without our community support.

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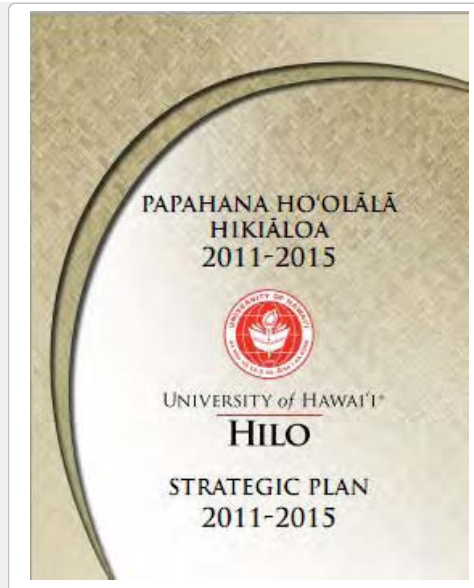
Janice Harvey
Journey Team Leader
[Gemini Observatory](#)

Photo courtesy of Gemini

[More info about event](#)

Tagged with: [Academics](#), [Community Outreach](#), [Featured Post](#), [K-12 Partnerships](#)

Five honored at UH Hilo 2012 Distinguished Alumni and Service Awards Banquet



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 Board of Regents approves UH Hilo 2011-2015 Strategic Plan

 UH Hilo Chancellor's Community Vision Summit: Summary Report

Select Month

UH President MRC Greenwood

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February 15, 2012

About TMT



Near the center of Pasadena, California, a team of scientists, engineers, and project specialists is busily planning and designing what eventually will become the most advanced and powerful optical telescope on Earth.

When completed later this decade, the Thirty Meter Telescope (TMT) will enable astronomers to study objects in our own solar system and stars throughout our Milky Way and its neighboring galaxies, and forming galaxies at the very edge of the observable Universe, near the beginning of time.

Quick Links

[TMT Website](#)

Like us on Facebook 

Journey through the Universe Week Encourages Students To Reach For The Stars Slated for March 1-9, 2012

Journey through the Universe is a National initiative that includes local programs for thousands of students and families and includes grade K-12 lessons and curriculum support materials, teacher training, and ongoing teacher support in science content and education. The Journey program brings together local students and teachers with astronomers and engineers who share their passion and knowledge for science and technology and inspires local students to reach for the stars.

Hilo is currently only one of 10 communities around the nation that is designated as a Journey through the Universe site.



This year, Journey through the Universe Week kicks off an exciting week of science and astronomy discoveries starting with a [Master Educator and Astronomy Educator Workshop](#) on Thursday, March 1 at 8 am at the ʻImiloa Astronomy Center. This workshop helps to improve the impact of astronomers' and scientists' classroom visits.

On Friday, March 2 and continuing through the following week, [Astronomy educators make classroom visits](#) to more than eighteen Hilo, Laupahoehoe and Waiakea State Department of Education (DOE) schools. Always a favorite, these classroom visits connect scientists and astronomers to students with cool science and astronomy lessons.

On Saturday, March 3 beginning at 8:30am at Hilo High School, nationally recognized science educator and planetary scientist, Dr. Jeff Goldstein, Center Director for the National Center for Earth and Space Science



Education takes the stage as the Keynote speaker at the [STEM Education Conference](#).

His address titled, *Science-It's Not a Book of Knowledge....It's a Journey* will be an exciting time for Hawaii DOE educators and an opportunity to bring STEM learning experiences into the classroom and beyond.

Be sure to mark your calendars for [Imiloa's 6th Annual KTA Family Free Day](#) with Journey through the Universe on Sunday, March 4. This popular and well attended event gets underway at 9 am with give-aways for the first 500 keiki. There will be exhibits, Planetarium previews, and science talks throughout the day.

At [11:30 am TMT's Dr. Gordon Squires](#) will present his science talk, *Explore The Universe With Someone Who Was There When Pluto Became A "Dwarf Planet!"*

Squires is an astronomer at the California Institute of Technology and works with the Thirty Meter Telescope as well as NASA's Spitzer Space Telescope, the Herschel Space Observatory, the Galaxy Evolution Explorer and other space telescopes with Caltech's involvement. His research explores the old, cold and distant universe - understanding how galaxies formed billions of years ago, the nature of the dark matter and dark energy that fills space.

The Hawaii Island business community will have an opportunity to celebrate Journey To The Universe Week on Monday, March 5 starting at 5 pm at Hilo Yacht Club for an [Astronomy Educators Reception](#).

Sponsored by the Hawaii Island Chamber of Commerce and the Japanese Chamber of Commerce and Industry of Hawaii, this reception is an opportunity to thank the National Center for Earth and Space Science Education members and the many astronomers and scientists who deliver exciting STEM programs to our local schools. Contact either Chamber for more info on how to attend.

[Forward email](#)



Try it FREE today.



GEMINI OBSERVATORY

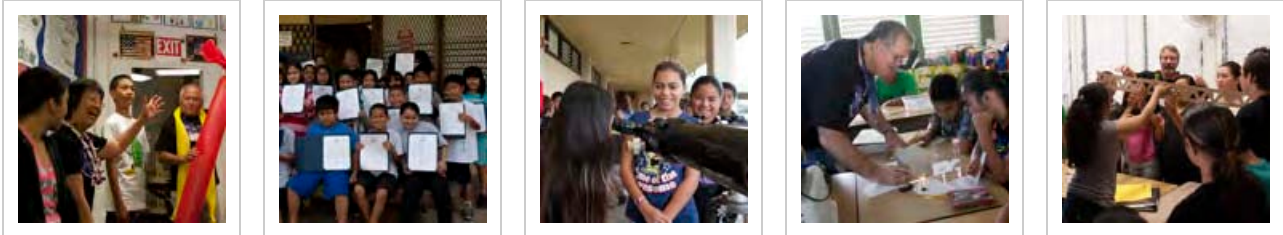
Exploring the Universe,
Sharing its Wonders.

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JOURNEY through the UNIVERSE

March 1-9, 2012
Hilo, Hawai'i



Schedules Overview Events Workshops Astronomy Educators Educators Ambassadors Community Contact Us

[see: UH Hilo Chancellor Donald Straney's Blog, March 12, 2012](#)

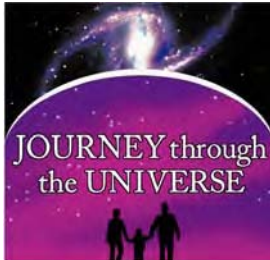
Journey through the Universe (Journey) Week: March 1 – 9, 2012

- Thursday, March 1, 2012:
Master Educators/Astronomers' Workshop: 8am – 12pm `Imiloa Astronomy Center
Astronomy Educators will join the Master Educators 10am – 12pm
- Friday, March 2 & Monday - Thursday, March 5 - 8, 2012:
Astronomy Educators will make classroom visits to [Participating Schools](#)
- Saturday, March 3, 2012:
Journey Community Keynote and Workshops: 8am – 3:30pm at Hilo High School
- Sunday, March 4, 2012:
Journey through the Universe Family Science Day: 9am – 4pm at `Imiloa Astronomy Center with KTA
- Monday, March 5, 2012:
Hawai'i Chambers of Commerce Appreciation Event: 5pm – 8pm at Hilo Yacht Club
- Wednesday, March 7, 2012:
Journey through the Universe Family Science Night: 6pm – 9pm at University of Hawai'i at Hilo



*Invitational Event for Hawaii Department of Education
Hilo/Laupahoehoe/Waiakea Complex Area Schools and Partners*

Journey Through The Universe "2.0" S.T.E.M. EDUCATION CONFERENCE



Bringing the Universe to the Classroom

*Engaging Students in Science, Technology, Engineering and
Math Learning Experiences within and Beyond the Classroom*

Saturday, March 3, 2012

Hilo High School

Featuring

DR. JEFF GOLDSTEIN

**DIRECTOR: NATIONAL CENTER FOR EARTH AND SPACE
SCIENCE EDUCATION**

Keynote Address:

**Science –It's Not a Book of Knowledge...
...It's a Journey**

Leadership Session:

**Journey through the Universe 2.0 -
Creating 21st Century Learning Opportunities**

Special Session:

Student Spaceflight Experiments Program



TEACHER BREAKOUT SESSIONS

- ✧ **Build Your Own Galileoscope: *Doug Arion, Carthage University***
- ✧ **Integrating the Engineering Design Process (EDP) in the Classroom:
*Lynn Lum and Ryan Saito, State STEM Resource Teachers***
- ✧ **Teaching Energy Science as Inquiry; Teaching Electric Science as Inquiry
*Dr. Tim Slater, University of Wyoming; CAPER Team***
- ✧ **Exploring the Moon with NASA: *Brian Day, NASA***



Journey through the Universe 2012 STEM Conference





Ambassadors for Journey 2012



KTA Family Free Day with Journey through the Universe
'Imiloa 6th Anniversary
Sunday, March 4, 2012

Celebrate 'Imiloa Astronomy Center's 6th anniversary celebration at KTA Family Free Day on Sunday, March 4, 2012. Thanks to the generous sponsorship of KTA Super Stores, this celebration is free to the community. 'Imiloa's KTA Family Free Day starts at 9 a.m. and runs until 4 p.m. The first 500 keiki visitors will receive a special 'Imiloa giveaway to take home. The day's offerings includes free access to 'Imiloa's exhibit hall and Journey through the Universe presentations featuring an inspiring keynote speech by Dr. Jeff Goldstein at 1:30 p.m. entitled, "How Big is Big?" For the hungry visitors, KTA Super Stores will be grilling their 1/3 pound beef franks with sweetbread bun for sale and free birthday cake will be served to the first 1,000 visitors.

Special programs include 15-minute planetarium experiences starting at 9 a.m. as the audience will be treated to a night sky presentation and a "sampling" of 'Imiloa planetarium shows. Engaging and awe-inspiring presentations by Journey through the Universe astronomy professionals Dr. Brad Bailey, Dr. Douglas Arion, Dr. Gordon Squires, Scott Fisher, and Dr. Tim Slater will start at 9:30 a.m.

Hands-on activities will be offered by various departments and colleges of the University of Hawai'i at 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 and Nā Pua No'eau Center for gifted and talented Native Hawaiian Children. Informative booths by Maunakea observatories and the popular STARBASE Hawaii flight simulators will also be onsite for visitors.

'Imiloa's 6th Annual KTA Family FREE Day

with **Journey through the Universe**

Sunday, March 4, 2012

Celebrate with us! **9:00 am - 4:00 pm** *At 'Imiloa!*



Giveaways for the first 500 keiki!

 Birthday Cake

Journey through the Universe Presentations

 UH Hilo Booths & Activities

 Exhibit & Garden Tours

 Planetarium Previews

 STARBASE Hawaii Flight Simulators

 KTA Super Stores Cookout

Special Guest Speaker: Dr. Jeff Goldstein

"How Big is Big?" @ 1:30 pm



Astronomy Center of Hawaii



www.imiloahawaii.org or 808.969.9703



NASA Lunar Science Institute
Family Science Day - 'Imiloa Astronomy Center
Family Science Night - University of Hawaii - Hilo



Master Teachers
& Astronomy Educators'
Workshop
'Imiloa Astronomy Center



Journey through the Universe Presentations

9:30 am Underwater Volcanoes

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 The Beautiful End of Stars

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 How Big is Big?

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 Omens in the Sky: Can Comet Hunters Save the World?

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 Moanahōkū Hall.

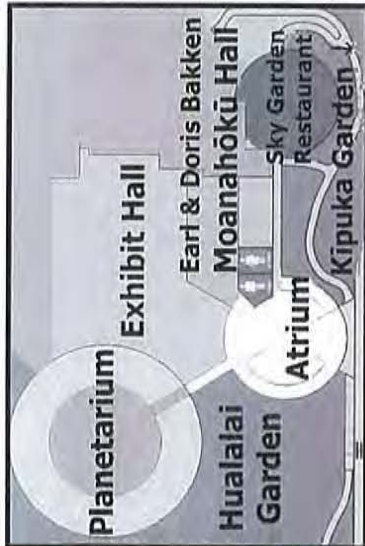


Mahalo for celebrating with us on our 6th Birthday!

KTA Family FREE Day

with Journey through the Universe

March 4, 2012 9:00 am - 4:00 pm



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 Kīpuka 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!

In the Planetarium

Live sky show & film trailer
every 15 minutes
from 9am - 1pm and 3pm - 4pm
How Big is Big? Presentation
by Dr. Jeff Goldstein at 1:30pm

In the Moanahōkū Hall

Journey through the Universe
Presentations

Maunakea Observatories

In the Exhibit Hall

Exhibit Hall guides throughout
STARBASE Hawaii
Flight Simulators



Hilo, Hawai'i 2012
Classroom Visits



Hilo, Hawai'i 2012
Classroom Visits



Journey Through The Universe 2012

By: Janice Harvey,
Journey Team Leader, Gemini Observatory

As Journey through the Universe 2012 came to a close, we all realized the impact that this science education outreach program has had on our community. For the past eight years astronomy educators and engineers have visited an average of 7,000 students in 380 classrooms at 20 schools in the Hilo/Laupahoehoe/Waiakea District. This year was no exception and our astronomers were able to express their passion and excitement for science, engineering, and education and share this enthusiasm with their students.

The Journey through the Universe program not only nurtures our student's innate curiosity, but also provides workshops for our teachers in STEM (Science, Technology, Engineering and Mathematics) education and an opportunity for our community members to visit the classrooms alongside our astronomers. Family Science Events, held at the `Imiloa Astronomy Center as well as the University of Hawai'i at Hilo are attended and enjoyed by thousands.

Our community partners, such as the Hawai'i Island Chamber of Commerce, have supported this effort monetarily as well as hosting a celebratory event at the Yacht Club for the past several years. The Chamber's thank you celebration provides a unique opportunity

for astronomers, educators, and the business community to discuss and share what is our common goal – to enrich science education in our schools and inspire our children to aim high.



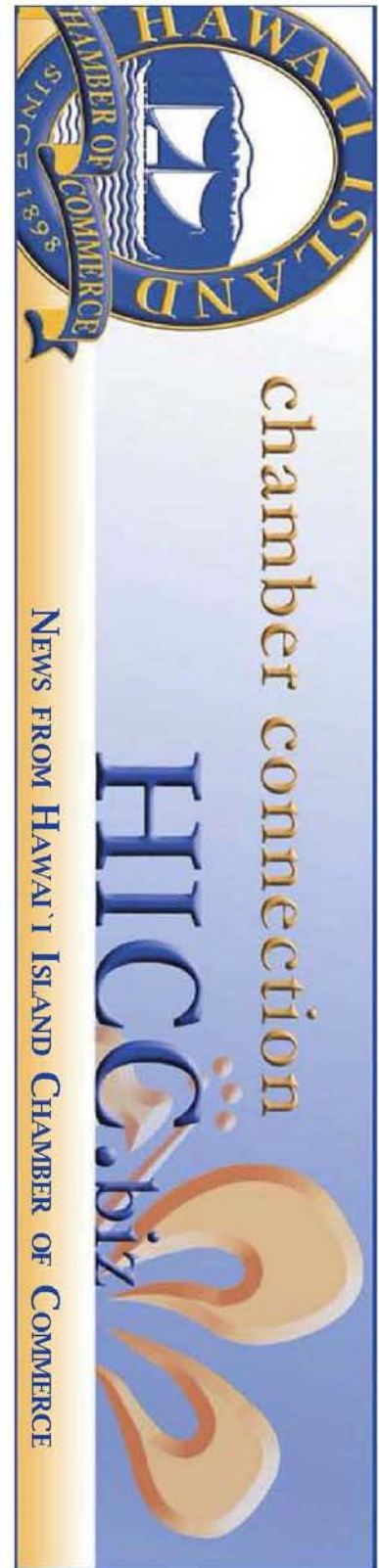
Ka'iu Kimura, Executive Director of the `Imiloa Astronomy Center of Hawai'i speaks at the 2012 Journey Through The Universe Reception

D O E
Complex Area
Superintendent

Valerie Takata elaborates, "Our Hilo /Laupahoehoe/Waiakea complex area schools' stellar partnership with the business organizations and community is Journey to the Universe: STEM initiative. As a part of the educational system our complex area is overwhelmed with appreciation for the enthusiasm and energy this initiative has generated for our schools.... students, teachers and administrators and families. This concerted effort has made this grassroots program a sustaining reality.... for the past eight years. As we work toward our vision for students to be career and college ready when they graduate, this reality becomes more powerful and impactful when support and involvement is in sync. We humbly thank the Chamber of Commerce for their continued support as we all work together toward common goals - building a better future."

In addition to the numerous distinguished guests and lecturers at Journey 2012, Jeff Goldstein, Journey's visionary who started the national program over a decade ago participated in the activities by lecturing, leading a conference for local teachers in STEM education and providing inspiration for moving the program in new directions in coming years.

Everyone involved in the Journey Through the Universe program would sincerely like to thank the Hawai'i Island Chamber of Commerce for their support and acknowledgement. An education program of this magnitude could not happen without our community support. We thank all members and look forward to many more years of partnership with the Hawai'i Island Chamber of Commerce!





Astronomy Educators Reception

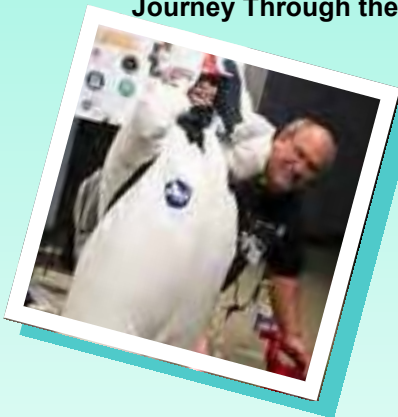
Sponsored by
Hawai'i Island Chamber of Commerce
and Japanese Chamber of Commerce
and Industry of Hawai'i

Monday March 5, 2012
5pm to 8pm Hilo Yacht Club

We invite you to celebrate Journey Week!
Meet and greet National Science Team members plus
the many astronomers and educators
who are delivering this fantastic educational program
to our K-12 schools.

Join the business community in thanking them for
their commitment to the
Journey Through the Universe program.

- Pupus
- No Host Beverages
- Door Prizes
- JCCIH & HICC members \$25
- Non-members & guests \$30



Hawaii State Department
of Education



REGISTRATION DEADLINE: MONDAY FEBRUARY 28, 2012
No-shows or cancellations after February 28 will be charged the full fee.

Name: _____ amt. \$ _____ Company _____

Name: _____ amt. \$ _____ Company _____

Payment method: _____ Total \$ _____
cash _____ check _____ credit card: Visa, MC, Amex

Credit card # _____ Exp. date _____

Phone _____ Email _____

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Payments accepted at either Chamber's offices. Credit card orders also accepted via phone, email or fax.
JCCIH 714 Kanoelehua Ave. Ste. 202 Hilo, HI 96720 • Phone: 934-0177 • Fax: 934-0178 • Email: jccih@jccih.org
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Journey through
the Universe
Chambers' Event
2012



Astronomy Educators Reception

Monday March 5, 2012
5pm to 8pm Hilo Yacht Club



Welcome to Journey Week! Meet and greet National Science Team members plus the many astronomers and educators who are delivering this fantastic educational program to our K-12 schools. Join the business community in thanking them for their commitment to the Journey Through The Universe program.



Community Sponsors - 2012

Sponsored by the Japanese Chamber of Commerce and Industry of Hawai'i and the Hawai'i Island Chamber of Commerce

Welcome to the Journey Through The Universe Astronomy Educators Reception

This Evening's Program

Master of Ceremonies

Vaughn Cook, President-Elect

Hawai'i Island Chamber of Commerce

Welcome

Jon Miyata, President

Hawai'i Island Chamber of Commerce

Mike Kaleikini, President

Japanese Chamber of Commerce & Industry of Hawai'i

Introduction

Janice Harvey

Gemini Observatory, Journey Through the Universe Team Leader

Presentation of Proclamation, Office of the Governor

Wendy Botelho-Cortez, East Hawai'i Representative

Presentation of Proclamation, Office of the Mayor

Mayor Billy Kenoi

County of Hawai'i

Valerie Takata, District Superintendent

Department of Education

Special Presentation

Dr. Scott Fisher, Program Director

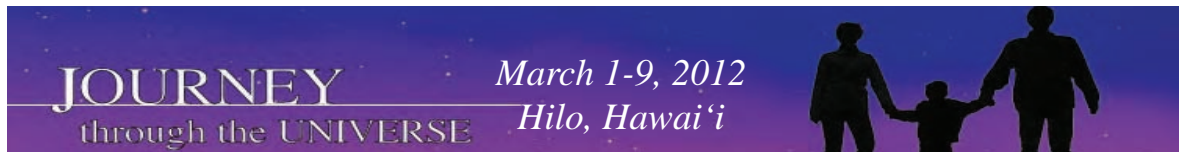
Division of Astronomical Sciences

National Science Foundation

Door Prizes

Mahalo to our 2012 Astronomy Educators

Andy Adamson	Jesse Goldman	Peter Michaud
Doug Arion	Jeff Goldstein	Brian Mitchell
Brad Bailey	Taras Golota	Harriet Parsons
Kenyan Beals	William Gorman	Derrick Pitts
Matt Benjamin	Tomotsugu Goto	Stephen Pompea
Jennie Berghuis	Olivier Guyon	Ramprasad Rao
Dan Birchall	John Hamilton	Julie Renaud-Kim
Antonio Chrysostomou	Janice Harvey	Lucca Rizzi
Paul Coleman	Saeko Hayashi	Kathy Roth
Steve Colley	Michael Hoenig	Hiroko Shinnaga
Richard Crowe	Inge Heyer	Doug Simons
Doris Daou	Ryoko Ishioka	Stephanie Slater
Kristina Davis	Eric Jeschke	Tim Slater
Sandra Dawson	Russell Kackley	Gordon Squires
Brian Day	Art & Rene Kimura	Sunny Stewart
Jeff Donahue	Ka'iu Kimura	Marianne Takamiya
Greg Doppmann	Scott Kleinman	Holly Thomas
Anil Dosaj	Shawn Laatsch	Marcel Tognetti
Angellic Ebberts	Bernhard Laurich	Kumiko Usuda
Scott Fisher	Nancy Levenson	Bernie Walp
Brian Force	Ramsey Lundock	Jonathan Williams
Suzanne Frayser	Frantz Marinache	Stephanie Wilson
Gary Fujihara	Tony Matulonis	Greg Wirth
Roy Gal	Richard McDermid	Matthew Wung
Tom Geballe	Callie McNew	



Family Science Night

Wednesday, March 7, 2012

University of Hawai'i at Hilo

Science and Technology Building - Rm 108

Presented in collaboration with Black History Month

Minority Access & Achievement Program
UH Diversity & Equity Initiative
Black History Month Committee



Brian Day



Derrick Pitts

6:00 pm – Doors Open, Displays, Meet and Greet

7:00 pm - The New Moon

Brian Day (NASA Lunar Science Institute, NASA Ames)

Most of us grew up learning that the Moon is a completely arid, geologically dead, and airless world. However, a new generation of robotic lunar explorers is fundamentally changing our understanding of the Moon. Brian Day, EPO for the Lunar Atmosphere and Dust Environment Explorer (LADEE) mission, will show how the Moon is a far more interesting place than we had previously thought. He will also discuss how students and interested members of the public can work with NASA to explore the Moon.

8:00 pm - The New Space Race

Astronomy & Space Exploration on the Edge of Tomorrow

Derrick Pitts

(Chief Astronomer & Director, Fels Planetarium, Franklin Institute, Philadelphia)

Tomorrow's world will see an advent of super-sized telescopes run with international partnerships. Beyond Earth will be a flotilla of space-based telescopes observing the Universe in ways never before imagined. Coupled with a global push for renewed manned space explorations by China, India and Japan (along with the traditional mainstays Russia and the US), we shall witness a global "leap forward" into the Universe!

For Disability accommodation contact 933-0816 (V), 933-3334 (TTY), uds@hawaii.edu





Journey through the Universe
2012
Classroom visits
& Family Science Night



Journey
through the
Universe

2012

Classroom
Visits



Hawaii

Tribune Herald



Saturday, March 3, 2012

Proudly serving Hilo and the Big Island since 1923

50 cents

Exploring the Universe



Photos by HOLLYN JOHNSON/Tribune-Herald

To infinity and beyond

ABOVE: Fifth-grader Kahiau Kua-Silva, 10, laughs as he and his classmates blow up balloons while learning about dark matter and dark energy with University of Hawaii at Hilo physics and astronomy assistant professor Marianne Takamiya (not pictured) at Keaukaha Elementary School on Friday as part of the Journey Through the Universe program. **RIGHT:** UHH astronomy professor Richard Crowe demonstrates centrifugal force to second graders at Keaukaha Elementary School.



COMMUNITY

Wednesday, January 25, 2012

Hawaii Tribune-Herald

C5

CoP holds workshop on engineering concepts

Twenty-nine local teachers attended a workshop led by the College of Pharmacy (CoP) at the University of Hawaii at Hilo campus over Christmas break. The workshop will help them introduce engineering concepts in their own classrooms.

"Engineering plays an important role in many careers, including pharmaceutical manufacturing," said Ken Morris, a professor of pharmaceutical sciences who led the one-day workshop that provided tools teachers need to inspire students to look into engineering careers.

"This represents a huge opportunity to address many issues on the Big Island,

from energy generation to the observatories, to roads and bridges," said Morris. The program is funded via a grant from the National Science Foundation Engineering Research Center on Structured Organic Particle Systems, with UH-Hilo as an outreach partner.

The opportunity to attend the workshop was offered to faculty members at the Hilo-Laupahoehoe-Waiakea Complex who teach in science, technology, engineering and math, known as STEM disciplines. Future plans are to offer the workshop to all Big Island school complexes.

"We hope this will pro-

vide a natural link to training students in engineering at the undergraduate level at UH-Hilo and other UH campuses," Morris said. The course combined classroom instruction with hands-on activities and laboratory exercises that focused on understanding engineering concepts and methods.

Raj Dave, a distinguished professor of engineering at New Jersey Institute of Technology, was both an instructor and advisor for the College of Pharmacy on the engineering-specific content of the workshop. UH-Hilo instructors included Mahavir Chougale, assistant professor

of pharmaceutical sciences, and Mazen Hamad, assistant professor in chemistry. Xinyan Wang, the undergraduate engineering coordinator at UH-Hilo, organized the workshop with Bess Jennings, one of three state Department of Education STEM resource teachers on the Big Island who attended the workshop.

"The workshop gave teachers a better understanding of the range of careers in engineering and how to interest their students in the subject," Jennings said. "This is important, because the discipline of engineering is a key aspect of the focus on revital-

izing teaching and learning through STEM-based education."

Janice Harvey, Community Outreach and Education Programs leader at the Hawaii Journey through the Universe project at the Gemini Observatory, helped link the CoP-driven effort with her school system network in an introductory session to principals in the summer. Superintendent Valerie Takata led the effort with the Hilo-Laupahoehoe-Waiakea Complex area schools.

The collaboration should result in more students understanding engineering concepts and possibly choosing careers in related fields to help build a better Hawaii.

Teacher evaluations for Journey Through the Universe Program – 2012

*Journey is a great opportunity for the students to see and talk to researchers currently working in the field. Lance Tominaga, Waiakea High School

*Every year the program gets better! Very impressive, leaves a lasting impression on the students. Susan Spencer, Kapiolani.

*Please continue with this worthwhile program to inspire kids. Great job! We appreciate it and students love it! Karen Emerson, Kapiolani.

*JTTU has done an excellent job at educating students. The presentations really spark an interest in learning science. No teacher name, E.B de Silva.

*Wonderful presentation! The kids were interested and engaged. Presentation was interactive and lively!! Michele Cann, Keaukaha Elem. School.

*JTTU is an enriching experience that helps reinforce grade level curriculum. No teacher name, E.B. de Silva Elem. School.

*Awesome! I can tell that you work with youth. The presentation was age appropriate and very engaging! I was impressed with how the information was presented. You tapped into all the different learning styles and created a lesson that included all students! Thank you! Lia Pe'a, Waiakea Inter.

*Thank you for sharing your knowledge with us. You made a difficult subject easier to understand. I think the program is wonderful! Please continue it. No teacher name, Waiakeawaena Elem. School.

*We were all wowed!! A super awesome presentation!! Everyone loved it – everyone was engaged! What an easy way of learning such difficult concepts. Rochelle Tamiya, Hilo Intermediate.

*The JTTU program allows the students to make additional connections to concepts presented in the classroom. It is a great opportunity for students to learn about science from other people in the community. Kathy Sewake, E.B. de Silva Elem. School

*Thank you for continuing this wonderful program. The students learn so much valuable information and experiencing this program positively impacts student's learning! Jacqueline Luna, Kapiolani Elem. School.

*This is such a fantastic program! I loved getting to experience science in such a stimulating and interesting way. The children's faces say it all – Science is Fun!! Thank you! Roseann Retter, E.B. de Silva Elementary School.

*Very personable and animated. Every student was engaged and fascinated. Fun, interactive – excellent!! Great introduction to our unity on space and the solar system in particular. Students loved it! Carolyn Kuntemeyer, E.B. de Silva Elem. School.

*Great job!! Student impact is tremendous!! Students enjoyed the presentation and it's real world application. Mahalo! Christin Quinories, Ka Ana La'ahana PCS.

*Please keep coming with these hands—on interactive activities. My students ENGAGE! THANK YOU!!!! Rene Matsubara, Waiakea Elem. School.

*Excellent presentation! Thank you! This is such a worth while and motivating program for the students!! Wendy Gomes, Waiakea Elem. School.

*Excellent presentation! Wow, most involved I have seen a class in 6 years! Stacey Thom, Hilo Union Elem. School.

*JTTU will plant a seed in these curious minds for future scientists or researchers. We hope this program will continue for many years to come. Jill Igawa, Waiakea Elem. School.

*It is such a wonderful program to bring scientists to the classrooms and make contact to build enthusiastic learners for the next generation of scientists. Joanne Yaga, E.B de Silva Elem. School.



JOURNEY 2012
through the **UNIVERSE**

UNIVERSITY OF HAWAII HILO

- DOE Hilo/Laupahoehoe/Waiakea Complex Area
- Gemini Observatory
- National Center for Earth & Space Science
- Thirty Meter Telescope
- NASA Lunar Science Institute
- University of Hawai'i at Hilo
- 'Imiloa Astronomy Center
- Bank of Hawai'i
- Big Island Toyota
- Business - Education Partnership
- Caltech Submillimeter Observatory
- Canada-France-Hawai'i Telescope
- Carthage University
- Center for Astronomy & Physics Education Research
- Franklin Institute Science Museum
- Hawai'i Space Grant
- Hawai'i Island Chamber of Commerce
- Hawai'i Island Economic Development Board
- Hawai'i Tribune-Herald
- James Clerk Maxwell Telescope
- Japanese Chamber of Commerce & Industry
- Joint Astronomy Centre
- KTA Superstores
- KWXX
- Mauna Kea Observatories Outreach Committee
- NASA Infrared Telescope Facility
- National Radio Astronomy Observatory
- Rotary Club of Hilo Bay
- Smithsonian Submillimeter Array
- Subaru Telescope
- UH Hoku Ke'a and 2.2 Meter Telescopes
- UH Institute for Astronomy
- United Kingdom Infrared Telescope
- W.M. Keck Observatory

www.gemini.edu/journey

Journey Tshirts 2012

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 Astronomy Educators
 Ambassadors
 DOE Resource Staff
 Master Educators

Journey Through The Universe

March 1-9, 2012

www.gemini.edu/journey

Hilo/Laupahoehoe/Waiakea Complex Area



State of Hawai'i
Department of Education

Displayed at Journey through the Universe Schools (20)

Journey Through The Universe

March 1-9, 2012

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Hilo/Laupahoehoe/Waiakea Complex Area



State of Hawai'i
Department of Education



Displayed at Gemini Observatory & Imiloa Astronomy
Education Center

