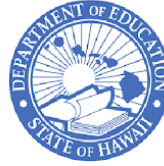




**2019**

**Program Highlights**



## TO OUR JOURNEY FAMILY

The 15th year of Journey Through the Universe, Hawai'i Island's flagship education and outreach program, brought astronomy professionals from Maunakea and across the nation into Hawai'i island classrooms, visiting thousands of students—one classroom at a time. Our diverse group of astronomers, scientists, engineers and informal educators provided an authentic and personal window into the process of scientific discovery and the wonders of our universe.

During Journey "week," 80 astronomy educators visited over 8,000 students in the Hilo-Waiākea, Pa'auilo, Honoka'a and Waimea schools. Journey as a year-round program also includes StarLab Portable Planetarium shows for grades K - 1, career panel presentations for high schoolers in the Hilo-Waiākea and Ka'ū-Kea'au-Pāhoa complex areas, astronomy educator workshops, Lunar and Meteorite workshops hosted by NASA SSERVI, Family Science events, and a public presentation on recent Maunakea discoveries.

Hilo-Waiākea and Ka'ū-Kea'au-Pāhoa complex area superintendent, Chad Farias has elaborated in the past, "The Journey Through the Universe: STEM initiative is a stellar partnership between the Department of Education, business organizations, and community. Our complex areas appreciate and acknowledge the enthusiasm and energy this initiative has generated for our schools, students, teachers, administrators and families. This concerted effort has made this grassroots program a sustaining reality. We humbly thank the community for their support as we all work together toward a common goal - building a better future."

Our Journey Team would like to thank everyone involved for their continued support of this STEM initiative. A program of this magnitude could not happen without the dedication of our community partners and their ongoing support. As we enter into our sixteenth year of the Journey Through the Universe program, we will continue to change our student's lives as we advance science literacy through astronomy and encourage all students to reach for the stars!

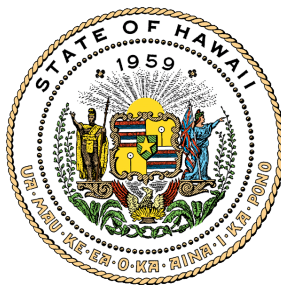
To keep up to date on what Journey is accomplishing in the community, please visit:  
<http://www.gemini.edu/journey>

Much Aloha and our sincerest Mahalo,

Janice Harvey  
Journey Team Leader







# Proclamation

**WHEREAS**, the Journey through the Universe program, developed by the National Center for Earth and Space Science Education, inspires and prepares the next generation of scientists and engineers to compete in global markets in the age of high technology; and

**WHEREAS**, Hilo, Hawai'i is currently one of ten communities around the nation that are designated Journey through the Universe sites; and

**WHEREAS**, the 15th Annual Journey through the Universe program on Hawai'i Island strengthens the community by partnering with the Gemini Observatory on Mauna Kea, University of Hawai'i at Hilo, Department of Education's Hilo-Waiakea and Ka'u-Kea'au-Pahoa Complex Areas, Waimea and Honoka'a Schools, 'Imiloa Astronomy Center of Hawai'i, Japanese Chamber of Commerce & Industry of Hawai'i, Hawai'i Island Chamber of Commerce, and other sponsors, organizations and businesses; and

**WHEREAS**, this fun-filled educational program has engaged tens of thousands of students in Hawai'i, giving them forefront access to the entire sky and allowing them to gain 21st century skills that helps to ensure science literacy; and

**WHEREAS**, over 70 observatory professionals and informal educators will pass on their experiences and knowledge of science, technology, engineering, and math (STEM) to Hawai'i's students; and

**WHEREAS**, students, teachers, families and the public are provided with an intensive week of programs that include teacher workshops, classroom visits by astronomers and scientists, public lectures, and family science nights; and


**WHEREAS**, Journey through the Universe embraces Hawai'i's diversity and promotes an inclusive environment by engaging members of the local community;


**THEREFORE I, DAVID Y. IGE, Governor, and I, JOSHUA B. GREEN, Lieutenant Governor of the State of Hawai'i, do hereby proclaim March 2-9, 2019 as**

## **"JOURNEY THROUGH THE UNIVERSE WEEK"**

in Hawai'i and ask the people of the Aloha State to join us in recognizing the local, national and global importance of STEM education and encourage our keiki to pursue the explorers within them.

Done at the State Capitol, in Executive Chambers, Honolulu, State of Hawai'i, this fifteenth day of January 2019.

  
DAVID Y. IGE  
Governor, State of Hawai'i

  
JOSHUA B. GREEN  
Lt. Governor, State of Hawai'i

# COUNTY OF HAWAI'I

## *Proclamation*

*WHEREAS*, Journey through the Universe promotes sustained education in the critical areas of science, technology, engineering and mathematics (STEM), and is a celebration of exploration and the joys of learning science. In 2019, the program celebrates its 15th anniversary on Hawai'i Island, where it has engaged over 60,000 students in the past decade in STEM education in local schools; and

*WHEREAS*, developed by the National Center for Earth and Space Science Education (NCESSSE), Journey through the Universe is a national science education initiative that engages entire communities - students, teachers, families, and the public - using educational programs in the earth and space sciences, and space exploration to inspire and educate; and

*WHEREAS*, the Department of Education Hilo/Waiākea Complex and Gemini Observatory began the partnership in 2004, agreeing to work together and share Mauna Kea astronomy with students. Over the past decade students, teachers and the community-at-large have benefited from Journey Through the Universe, which has grown to include dozens of local and national research and education institutions, as well as local businesses, government agencies, and individuals; and

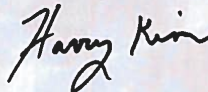
*WHEREAS*, the County of Hawai'i fully encourages and supports the educators who perpetuate learning and exploration of our universe in order to excite our youth about the future, and the astronomers and engineers who instill excitement and understanding about the diverse careers available at the telescopes,

NOW, THEREFORE, I, HARRY KIM, Mayor of the County of Hawai'i, do hereby proclaim March 2-9, 2019, as

### **JOURNEY THROUGH THE UNIVERSE WEEK**

in the County of Hawai'i, 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 Hawai'i to be affixed. Done this 4<sup>th</sup> of March, 2019, in Hilo, Hawai'i.



Harry Kim  
MAYOR





UNIVERSITY OF HAWAII  
**HILO**



UNIVERSITY OF HAWAII  
**MĀNOA**



UNIVERSITY OF HAWAII  
**HAWAII COMMUNITY COLLEGE**



UNIVERSITY OF OREGON



# Journey Through the Universe Hawai'i Island



Hawaii  
**Tribune Herald**



CANDIES  
**BIG ISLAND**

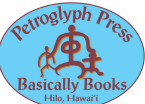


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Hawai'i Island Economic Development Board  
Island of Opportunity

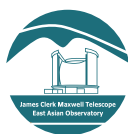


## Astronomy Educators in the Community 2019

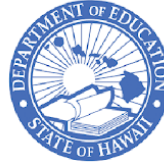
Alexis Acohido	Gemini Observatory
Virginia Aragon-Barnes	Thirty Meter Telescope
J D Armstrong	UH Institute for Astronomy
Ellis Avallone	UH Manoa Institute for Astronomy
Christoph Baranec	UH Institute for Astronomy
Kerri Beisser	Johns Hopkins University APL
Tishanna Ben	National Solar Observatory
Vanshree Bhalotia	UH Manoa Institute for Astronomy
Jerry Brower	Gemini Observatory
Michelle Buck	Maunakea Visitor Center
André-Nicolas Chene	Gemini Observatory
Devin Chu	UCLA
Christophe Clergeon	Subaru Telescope
Kathy Cooksey	UH Hilo Physics & Astronomy
Iain Coulson	East Asian Observatory
Callie Crowder	Canada-France-Hawaii Telescope
Christine Cunningham	Gemini Observatory
Sandra Dawson	Thirty Meter Telescope
Brian Day	SSSERVI/NASA
Kyla Defore	PISCES
Aaron Do	UH Manoa Institute for Astronomy
Jerry Dobeck	Northwestern Michigan College
Jeff Donahue	Gemini Observatory
Xinnan Du	UCLA
Trent Dupuy	Gemini Observatory
Angelic Ebbers	Gemini Observatory
Jocelyn Ferrara	Gemini Observatory
Scott Fisher	University of Oregon
Miriam Fuchs	Submillimeter Array
Lucas Fuhrman	Keck Observatory
Tom Geballe	Gemini Observatory
Jeff Goldstein	NCSSE
Alyssa Grace	Gemini Observatory
John Hamilton	UH Hilo Physics & Astronomy
Janice Harvey	Gemini Observatory
Saeko Hayashi	NAOJ, Mitaka
Stephanie Henry	NASA Marshall Space Flight Center
Michael Hoenig	Gemini Observatory
Stewart Hunter	Maunakea Support Services
Russell Kackley	Subaru Telescope
Carolyn Kaichi	UH Institute for Astronomy
Yuko Kakazu	Subaru Telescope
Jason Kalawe	Gemini Observatory
Scott Kleinman	Gemini Observatory
Shintaro Koshida	Subaru Telescope
Sylvia Kowalski	National Radio Astronomy Obs.
Mary Beth Laychak	Canada-France-Hawaii Telescope
Julien Lozi	Subaru Telescope
Nadine Manset	Canada-France-Hawaii Telescope
Peter Michaud	Gemini Observatory
Joseph Mitlra	SSSERVI/NASA
Brian Mitchell	NASA Marshall Space Flight Center
Junichi Noumaru	Subaru Telescope
Emily Peavy	Imiloa Astronomy Center
Andreae Petrie	Canada-France-Hawaii Telescope
Tae-Soo Pyo	Subaru Telescope
Bo Relpurth	UH Institute for Astronomy
Rodrigo Romo	PISCES
Laurie Rousseau-Nepton	Canada-France-Hawaii Telescope
Ananya Sahoo	Subaru Telescope
Jasmin Silva	Maunakea Visitor Center
Doug Simons	Canada-France-Hawaii Telescope
Gordon Squires	Thirty Meter Telescope
Ichi Tanaka	Subaru Telescope
Matt Taylor	Gemini Observatory
Alex Tetarenko	East Asian Observatory
Tomonori Usuda	TMT Japan
John Vierra	Gemini Observatory
Sebastien Vievard	Subaru Telescope
Thomas Winegar	Subaru Telescope
Siyi Xu	Gemini Observatory
Michitoshi Yoshida	Subaru Telescope

For more information contact Janice Harvey at: [jharvey@gemini.edu](mailto:jharvey@gemini.edu)

[www.gemini.edu/journey](http://www.gemini.edu/journey)







**For Immediate Release: February 22, 2019**  
**Press Release Media Contacts:**

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[agrace@gemini.edu](mailto:agrace@gemini.edu)  
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**Gemini Observatory Celebrates 15th Year of Journey Through the Universe**

*Local Students Engage with Scientists and Staff from the Maunakea Observatories and from Around the World!*

**Hilo, Hawai'i** - Journey Through the Universe is celebrating 15 years of astronomy education on Hawai'i Island! With the support of local astronomy, business, and educational organizations, Gemini Observatory's flagship outreach program, Journey Through the Universe ("Journey") continues to expand. For its 15th year, Journey will visit over 300 classrooms, deliver more than 40 Starlab portable planetarium programs, 17 career panels for students, as well as teacher workshops, free public lectures and opportunities for everyone to celebrate science and exploration!

"The only way we can sustain a program of this magnitude and consistent impact on our students and teachers is our many partnerships," said Janice Harvey, Journey team leader at the Gemini Observatory. "We are so grateful to have the support of the Department of Education, our local business community, and our many volunteer astronomy educators and ambassadors," Harvey adds.

During Journey Week 2019, March 4 - 8, more than 80 astronomy educators will share their passion for exploration with over 8,000 local students at all grade levels. Thirteen schools from the Hilo-Waiākea complex area and four schools in North Hawai'i Island will participate. To prepare for these visits, 40 astronomy educators attended an educational workshop on February 1st. Hilo-Waiākea and Ka'ū-Kea'au-Pāhoa Complex Area Superintendent, Chad Farias opened the workshop with his vision for the future of East Hawai'i schools, growing STEM opportunities for students with Journey as a model.

"Journey Through the Universe is a stellar partnership between business organizations and the community. Our complex areas are overwhelmed with appreciation for the enthusiasm and energy this initiative has generated and sustained for our students, teachers, administrators and families. We humbly thank the community for their continued support as we all work together building a better future," Farias said.

Highlights for this year's Journey program will include:

On March 2nd and March 9th, NASA Solar System Exploration Research Virtual Institute (SSERVI) will host a free Lunar and Meteorite Sample Workshop for teachers at 'Imiloa Astronomy Center in Hilo and the Thelma



Parker Library in Waimea. This workshop certifies local teachers in handling and borrowing samples of the Moon, asteroids, and Mars to showcase in their classrooms.

On Monday, March 4th, the Hawai'i Island Chamber of Commerce and Japanese Chamber of Commerce and Industry of Hawai'i will host the annual Journey celebration at the Hilo Yacht Club. This event allows astronomy professionals, the business community, and Department of Education to get to know each other (and say thank you) as we work toward the common goal of inspiring local students.

On Tuesday, March 5th, Journey is teaming up with the Hawai'i Science and Technology Museum, NASA SSERVI, and the 'Imiloa Astronomy Center to provide a Family Science Night for Big Island families with students in grades 4 - 8. In celebration of the 50th anniversary of the Apollo 11 Moon landing, NASA SSERVI will be hosting touchable rock samples from both the Moon and Mars. The Hawai'i Science and Technology museum will be providing robots that students can build and drive on a large interactive Mars map, simulating Mars rovers.

On Wednesday, March 6th, the University of Hawai'i at Hilo will host a free lecture by Dr. Scott Fisher on recent discoveries made at Maunakea Observatories. Dr. Fisher is long-time volunteer for the Journey program and flies in nearly every year just for classroom visits. He is a professor at the University of Oregon and a former Gemini Observatory scientist.

Journey Through the Universe began as a five-year national program funded by NASA and directed by Jeff Goldstein. Despite the loss of federal funding one year later, Journey continued on Hawai'i Island thanks to the support of the local business community and the Department of Education. Since its first year when only five astronomy educators visited local classrooms, Journey has grown in myriad unexpected ways.

For more information on the Journey Through the Universe program and events throughout the year, visit: [www.gemini.edu/journey](http://www.gemini.edu/journey)







HOLLYN JOHNSON/Tribune-Herald

Seventh-graders Ikaika DeMello-lokia, 12, and Lee Marvin-Ugalde, 12, watch an image of the "Dragon Ball" character Goku spin in a pyramid hologram Wednesday during the Journey Through the Universe program at Hilo Intermediate School.

# Science is fun

Astronomers, others bedazzle students with engaging hands-on lessons

By MICHAEL BRESTOVANSKY  
*Hawaii Tribune-Herald*

Students at Hilo Intermediate School held lightning in their hands Wednesday.

As laughing students watched tiny figures of light dance in the air above their smartphone screens, Janice Harvey, a spokeswoman for Gemini Observatory, asked "Isn't science fun?" to an affirmative cheer from the children.

Harvey was visiting a class at Hilo Intermediate as part of Journey Through the Universe Week, a science education and

outreach program organized by the observatory to promote science education and literacy in Hawaii Island schools.



HARVEY

More than 80 educators from all of the Maunakea observatories will visit more than 300 classrooms this week, sharing hands-on science lessons with students of all ages.

And although the program, now celebrating its 15th year, is

See SCIENCE Page A4



# SCIENCE From the front page

broadly focused on astronomy, the lesson presented to the Hilo Intermediate students by Gemini engineer Angelic Ebbers on Wednesday was about illusions.

Under Ebbers' instruction, students assembled simple pyramids out of plastic and affixed them to the screens of their smartphones. Simple videos played on the phones — a dancing couple, crackling lightning, a fluttering hummingbird — and, reflected upon the faces of the pyramid, created the illusion of a "Star Wars"-esque hologram hovering over the screen.

The demonstration, Ebbers said, was an intuitive and tangible example of a simple scientific principle: the law of reflection.

"We like to do something hands-on and something familiar that connects science with what students have experienced



HOLLYN JOHNSON/Tribune-Herald

Gemini Observatory engineer Angelic Ebbers and seventh-grader DJ Amador, 14, watch an image of a diamond spin in a pyramid hologram Wednesday during the Journey Through the Universe program at Hilo Intermediate School.

in the real world," she said. "It helps students understand how it works and how they could work in science in the future."

While many of the students were energetic, they engaged with Ebbers' explanation of reflection and reacted with awe

upon the demonstration of the "holograms."

"I'm gonna trip my brother out with this," laughed 12-year-old Lee Marvin-Ugalde as a miniature cartoon character revolved over his phone.

While much of the program's work takes

place this week, Harvey said Journey Through the Universe continues throughout the year, with educators visiting classrooms throughout the Hilo-Waiakea Complex Area and in the northern part of the island. The lessons differ from grade

to grade and change from year to year; Ebbers said the hologram lesson is a new one for her.

Harvey said lessons at the high school level have components that discuss potential STEM-related (science, technology, engineering and mathematics) career paths for students, but the lessons at lower levels help show students that working in science is a possibility: "You, too, can work at an observatory. You, too, can be a scientist," she said.

"It works so well because we have some of the brightest people on the island finding ways to teach kids," Harvey said. "And when you see the lessons, you see we really are making a difference."

Hilo Intermediate teacher Cindy Fong agreed, saying Wednesday's lesson engaged students in a way that can be difficult. "Middle-schoolers

are hands-on learners," Fong said. "If you can give them something to do with their hands, their minds are focused. If you don't, then they're just trying to figure out how to cause trouble."

Fong said she strives to keep her classes as similar to the Journey Through the Universe sessions as possible, "sneaking lessons through the back door," but added that middle school students can be difficult to get to engage with lessons.

"But look at how it's working," Fong said, as students labored over their hologram projectors or gathered around others' completed devices. "You can't get much better proof than that."

*Tribune-Herald* reporter Stephanie Salmons contributed to this article.

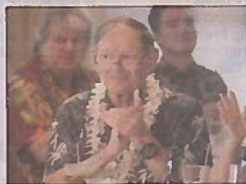
Email Michael Brestovansky at mbrestovansky@hawaii.tribune-herald.com.

## JOURNEY THROUGH THE UNIVERSE

HILO • MARCH 4



Journey Team Leader Janice Harvey smiles.



Jim Kennedy of Elijah Services claps.



Photos: HOLLYN JOHNSON/Tribune-Herald

Mike and Yu Yok Peering smile together during the Journey through the Universe Hawaii Island Astronomy Educators Reception March 4 at the Hilo Yacht Club.



CFHT Executive Director Doug Simons and Mayor Harry Kim chat.



Hawaii Island Chamber of Commerce President Gordon Takaki, left, and Japanese Chamber of Commerce and Industry of Hawaii President Stephen Ueda pose for a picture.





# Astronomy Educator Workshop

**When:** Feb. 1, 2019, 10 AM - 3 PM

**Where:** Gemini Observatory Lecture Hall

Celebrate & prepare for the 15th year of Journey Through the Universe on Hawaii Island!

★ Department of Education District Superintendent Chad Farias will discuss East Hawaii's vision, commitment, and moving forward with the Journey Through the Universe program. School Renewal Specialist, Darrell Nekoba will share the results of our recent formal evaluation including positive impacts and lessons learned.

★ Experience three stellar presentations for various ages from experienced Astronomy Educators: Mimi Fuchs, Julien Lozi, and Angelic Ebberts.

★ Brainstorm with teachers, Journey team members, & fellow Astronomy Educators on presentations & activities for upcoming Journey classroom visits.

**Lunch will be available for all participants.**

**Remote access via Zoom will be provided.**

**Contact Alyssa, [agrace@gemini.edu](mailto:agrace@gemini.edu) to sign up.**

**For more on Journey Through the Universe 2019 visit: <http://www.gemini.edu/journey>**



# NASA Lunar and Meteorite Sample Certification Workshop

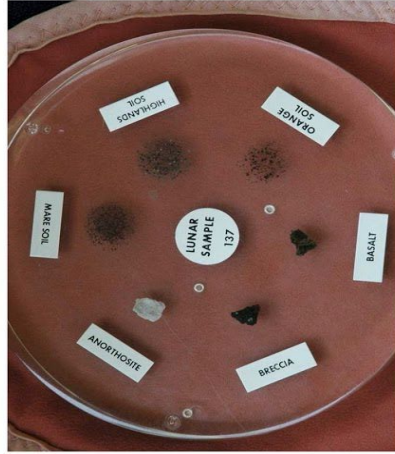
**When:** Saturday, March 2  
8 AM - 12 PM

**Where:** 'Imiloa Astronomy Center

**Contact:** Alyssa Grace

**Email:** [agrace@gemini.edu](mailto:agrace@gemini.edu)

**Phone:** 808-974-2531



Joseph Minafra



Brian Day

Celebrate the 50th anniversary of the Apollo 11 Moon landing with NASA's Solar System Exploration Research Virtual Institute team and learn how space rock samples contain the secrets to the birth and evolution of our solar system, planets, moons, and possibly even life! In this workshop K-12 teachers will:

- ★ Examine samples of material from the Moon, Mars, and asteroids.
- ★ Learn the science of astromaterials and its classroom applications.
- ★ Earn certification to borrow lunar and meteorite samples from Apollo missions.

**Participation is free but limited to 12. Lunch will be available for all participants. Please sign up by Feb. 11 via email to [Alyssa Grace at agrace@gemini.edu](mailto:agrace@gemini.edu)**

**For more information about the Journey Through the Universe program, visit <http://www.gemini.edu/journey>**







Gemini Observatory added 18 new photos to the album: [Journey Through the Universe Astronomy Educator Workshop 2019.](#)

Published by Alexis Acochido [?] · February 4 ·

Our Journey Through the Universe Astronomy Educator Workshop on February 1st was a huge success! Mahalo to the Department of Education (DOE), including Complex Area Superintendent Chad Farias, for sharing their insight into the past 15 years of the Journey program. Workshop attendees were treated to dynamic, interactive presentations from three of our seasoned astronomy educators. Journey Through the Universe continues to flourish because of the partnerships between the Hawai'i DOE, community partners, and the astronomy community. Together, we help our students reach for the stars!







### Gemini Observatory

Published by Alyssa Leinani Grace [?] · February 14 at 11:28 AM · 🌐

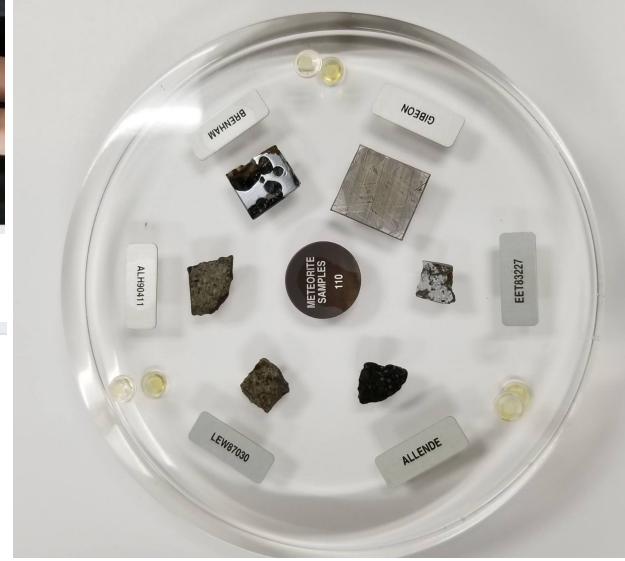
Our 2019 Journey Through the Universe Ambassadors met for the first time yesterday in preparation for classroom visits in March. Ambassadors are an important part of our Journey program, providing local insight and support to our visiting astronomy educators. We're all so excited for Journey to begin!



### Gemini Observatory

Published by Hootsuite [?] · March 2 at 12:39 PM · 🌐

For our first Journey event of the week, NASA SSERVI hosted a Lunar and Meteorite Certification workshop for 15 educators at the 'Imiloa Astronomy Center. These local educators are now certified to bring extraterrestrial samples into their classrooms!





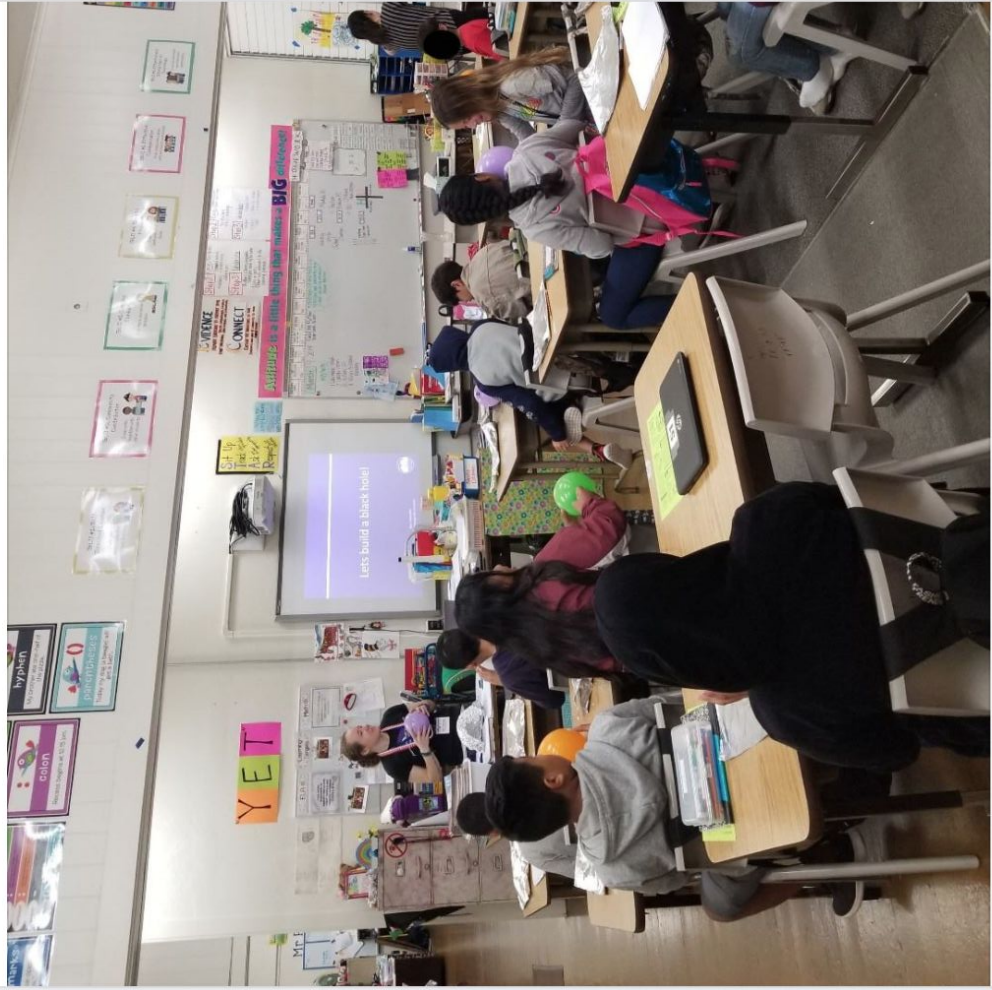


East Asian Observatory shared a photo.

March 4 at 11:24 AM · 🌐

...

🌟🌟 Hilo Union Elementary students got to make #BlackHoles today at #JTTU with our researcher Alex Tetarenko. OK not a real one but models are fun! comment below if you want to know how to make your own black hole model 🍷🍷 #WomenInSTEM

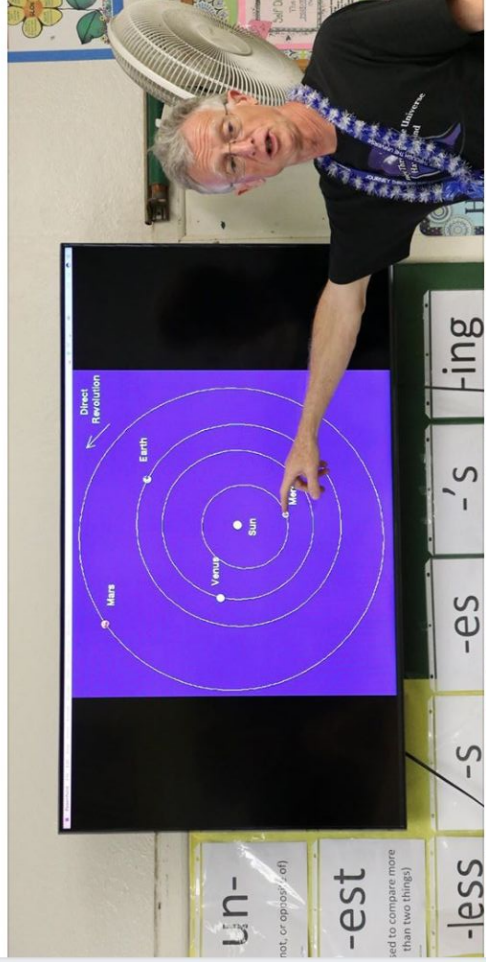


Chiefess Kapi'olani Elementary School

March 8 at 8:12 AM · 🌐

...

Our students had an amazing day of discovery yesterday with guests from Journey Through the Universe! We learned about exoplanets, telescopes, and even made an actual comet indoors! A big mahalo to the JTTU guest speakers! #KoleaPride #JTTU #Science #DOEHawaii #CKES #CKS #ChiefessKapiolaniElementary #PublicEducation #HWCComplex







# Journey Through The Universe Week

March 2-9, 2019

Astronomy Educators' Reception at the Hilo Yacht Club – March 4

**T**he Hawai'i Island Chamber of Commerce and Japanese Chamber of Commerce and Industry kicked off the celebration of Journey's 15th year with an astronomy educator's reception. Everyone involved with Journey was there including the Hawai'i Island business community, Maunakea Observatories and the Department of Education.





# Community Sponsors



**Fifteen years... the Journey Continues...**

**Journey through the Universe  
Hawai'i Island**

# Astronomy Educators Reception

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.

**Monday, March 4, 2019  
5pm to 8pm  
Hilo Yacht Club**

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



**Program**  
**Master of Ceremonies**  
 Newton Chu  
**Welcome Remarks**



**Gordon Takaki, President**  
 Hawaii Island Chamber of Commerce  
**Stephen Ueda, President**  
 Japanese Chamber of Commerce & Industry of Hawaii

**Introductions**

**Janice Harvey**  
 Gemini Observatory, Journey Through the Universe Team Leader

**Harry Kim, Mayor**  
 County of Hawaii

**Chad Farias**  
 Dept. of Education Superintendent  
 Ka'u-Kea'au-Paho Complex and Hilo-Waiakea Complex

**Andy Adamson, Associate Director**  
 Gemini Observatory

**Heather Kaluna**  
 Professor, University of Hawaii at Hilo

**Jim Kennedy**  
 Eijay Services

**Brian Day**  
 NASA SSERVI



# Mahalo to our 2019 Astronomy Educators

Aaron Do  
 Alex B Walter  
 Alex Tetarenko  
 Alexis-Ann Acohido  
 Alyssa Grace  
 Ananya Sahoo  
 André-Nicolas Chené  
 Andreea Petric  
 Angelic Ebberts  
 Anthony Liu  
 Bo Reipurth  
 Brian Day  
 Brian Mitchell  
 Callie Crowder  
 Cam Wipper  
 Carolyn Kaichi  
 Christine Copes  
 Christine Cunningham  
 Christoph Baranec  
 Clergeon Christophe  
 Devin Chu  
 Doug Simons  
 Ed Bufil  
 Ellis Avallone  
 Emily Peavy  
 Erin Petrosian  
 Gordon Squires  
 Iain Coulson  
 Ichi Tanaka  
 J D Armstrong  
 Janice Harvey



Jasmin Silva  
 Jason Kalawe  
 Jeff Donahue  
 Jerry Brower  
 Jerry Dobek  
 Jessica Depmsey  
 Jocelyn Ferrara  
 Joe Minafra

Matthew J Wahl  
 Michael Hoening  
 Michelle Buck  
 Michitoshi Yoshida  
 Mimi Fuchs  
 Mirko Simunovic  
 Nadine Manset  
 Peter Michaud  
 Rodrigo Romo  
 Roger Chien-Cheng Lin  
 Russell Kackley  
 Saeko Hayashi  
 Scot Kleinman  
 Scott Fisher

John Hamilton  
 John Vierra  
 Julien Lozi  
 Junichi Noumaru  
 Kathy Cooksey  
 Kerri Beisser  
 Kyla Defore  
 Laurie Rousseau-  
 Nepton  
 Liz Chock  
 Lucas Fuhrman  
 Lucio Ramos  
 Mark Chun  
 Mary Beth Laychak  
 Matt Taylor  
 Matthew Brown

Sébastien Vievard  
 Shintaro Koshida  
 Siyi Xu  
 Stephanie Henry  
 Sylvia Kowalski  
 Tae-Soo Pyo  
 Thomas Winegar  
 Tishanna Ben  
 Tomo Usuda  
 Trent Dupuy  
 Vanshree Bhalotia  
 Virginia Aragon-Barnes  
 Xinnan Du  
 Yuko Kakazu





## Maunakea Astronomy:

### Recent Discoveries From Our Own Backyard!

Presented by Dr. Scott Fisher

Where: University of Hawai'i-  
Hilo - Science & Technology  
Building, Room 108

When: March 6th, 2019  
6:00-7:30 pm



In this free public talk, Dr. Scott Fisher will speak about the observatories atop Maunakea, some of the most exciting recent results from them, what it is like to work as a staff scientist at a modern, large-aperture telescope, and how astronomy is taught at a large public university like the University of Oregon. Dr. Fisher is a very energetic and engaging speaker who will use images and videos that are appropriate for all ages and all levels of astronomy knowledge.

Dr. Fisher is the Director for Undergraduate Studies at the University of Oregon Department of Physics. He teaches introductory-level astronomy courses and runs an astronomical observatory. He previously worked at the National Science Foundation and at Gemini Observatory as an instrument scientist and member of the Gemini outreach team.

Please join us for this informative and exciting presentation!!

For more information about the Journey Through the Universe program, visit <http://www.gemini.edu/journey>



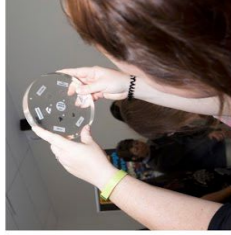
UNIVERSITY OF HAWAII  
HILO



## Journey Family Event

When: Tuesday, March 5, 4 - 6 PM

Where: 'Imiloa Astronomy Center



Celebrate the 15th anniversary of Journey Through the Universe on Hawai'i Island and the 50th anniversary of the Apollo 11 Moon landing at 'Imiloa Astronomy Center! Experience the wonders of astronomy through these free interactive and educational activities:

- ★ Touch rocks from the Moon, Mars, and asteroids.
- ★ Navigate a giant Mars map with real robots.
- ★ Virtually explore previous and future landing sites for the Moon and Mars.
- ★ Talk story with local astronomers and NASA scientists.

Participation is limited to grades 4 - 8.

For more about the Journey Through the Universe program, visit <http://www.gemini.edu/journey>







# Journey Through The Universe Week

March 2-9, 2019

Family Science Night – March 5

**T**he Hawai'i Science and Technology Museum, NASA SSERVI, TMT International Observatory and Gemini Observatory teamed up to host Journey's Family Science Night at 'Imiloa Astronomy Center. This evening event was free and open to families with students in grades 4 - 8. Approximately 200 attendees enjoyed these activities: comet making, oreo moon phases, building robots and driving them on map of Mars, and touching actual extraterrestrial rock samples.







# Journey Through The Universe Week

March 2-9, 2019

Maunakea Astronomy Public Lecture – March 6



**D**r. Scott Fisher's free lecture at the University of Hawai'i at Hilo had the entire audience laughing and learning through the evening. Dr. Fisher highlighted recent discoveries made by Maunakea observatories such as the discovery of hydrogen sulfide (gas that smells like farts) on Uranus and a new dwarf planet named the Goblin.







# Journey Through The Universe Week

March 2-9, 2019

Classroom Visits – March 4 - 8

In just one week, over 80 astronomy educators and 20 community ambassadors taught 8,000 students about the wonders of the universe. Students in grades 2 - 8 participated in hands-on learning activities for topics like star sizes, stellar distances, moon phases and telescope mechanics. Students in grades 9 - 12 received career panels from a variety of professionals in the astronomy community.







# Journey Through The Universe Week

March 2-9, 2019

Classroom Visits – March 4 - 8





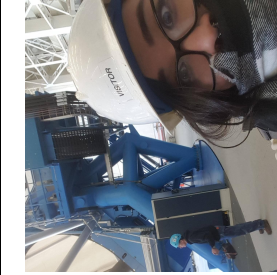
**It Takes a Community!**  
**Mahalo to All of Our Project Partners Involved!**

Bank of Hawai'i  
Basically Books  
Big Island Candies  
Big Island Toyota  
California Institute of Technology  
Caltech Submillimeter Observatory  
Canada-France-Hawai'i Telescope  
DeLuz Chevrolet  
Gemini Observatory  
Hawai'i Community College  
Hawai'i Electric Light Company  
Hawai'i Island Chamber of Commerce  
Hawai'i Island Economic Development Board  
Hawai'i State Department of Education  
Hawai'i Science and Technology Museum  
Hawai'i Tribune-Herald  
'Imiloa Astronomy Center  
James Clerk Maxwell Telescope/EAO  
Japanese Chamber of Commerce & Industry  
KTA Superstores  
KWXX Radio Station/New West Broadcasting  
Mauna Kea Astronomy Outreach Committee  
Mauna Kea Observatories

Mauna Kea Support Services  
Mauna Kea Visitor Information Station  
NASA Infrared Telescope Facility  
NASA Marshall Space Flight Center  
National Center for Earth & Space Science  
National Optical Astronomy Observatory  
National Radio Astronomy Observatory  
National Astronomical Observatory of Japan  
Pacific Science Center  
Pacific International Space Center for Exploration Systems  
Project Astro/Family Astro  
Rotary Club of Hilo Bay  
Smithsonian Submillimeter Array  
Subaru Telescope  
Thirty Meter Telescope  
Thirty Meter Telescope - Japan  
UH Hilo, College of Pharmacy  
UH Hoku Ke'a and 2.2 Meter Telescopes  
UH Institute for Astronomy  
United Kingdom Infrared Telescope  
University of California - Los Angeles  
University of Hawai'i at Hilo  
University of Hawai'i-Manoa  
University of Oregon  
Very Long Baseline Array  
W.M. Keck Observatory



## Astronomy Educator Profiles



**Alexis Ann Acohido**  
**Gemini Observatory,**  
**James Clerk Maxwell**  
**Telescope/ East Asian**  
**Observatory**  
[aacohido@gemini.edu](mailto:aacohido@gemini.edu)

**Alexis Ann Acohido** is an Extended Operator at the James Clerk Maxwell Telescope/East Asian Observatory and Media Relations and Local Outreach Assistant at Gemini Observatory. She graduated from the University of Hawaii 'i at Mānoa in 2015, where she obtained a Bachelor's of Science in Mathematics. She was born and raised on O'ahu and moved to Honoka'a on the Big Island shortly after her college graduation. In 2013 she was part of the Akamai Workforce Initiative program and interned at the Institute for Astronomy on Maui where she worked on parallax ranging methods for point source objects. Her back catalog of video games to play and novels to read are extensive and ever growing.



**Christian Andersen**  
**Pacific International**  
**Space Center for**  
**Exploration Systems**  
**(PISCES)**  
[canderse@hawaii.edu](mailto:canderse@hawaii.edu)

**Christian Andersen** is the Operations Manager at the Pacific International Space Center for Exploration Systems (PISCES), and leads the agency's additive manufacturing and construction projects at its Laser Lava Lab. Andersen started his career conducting research in inertial confinement fusion at Lawrence Livermore National Laboratory, Ecole Polytechnique, and Rutherford Appleton Laboratories. As Operations Manager, he's worked on a variety of PISCES projects in transitioning aerospace technologies to terrestrial applications and analogue field testing. Andersen is also a Lecturer and Affiliate Faculty in the Physics & Astronomy Department at the University of Hawaii at Hilo, and the Vice-Chair of the Space Resources



**Virginia Aragon-Barnes**  
**TMT International**  
**Observatory**  
[varagon@tmt.org](mailto:varagon@tmt.org)

Technical Committee for the AIAA (American Institute of Aeronautics and Astronautics). He holds a B.S. in Physics from San Jose State University and a M.S. in Engineering from U.C. Davis.

**Virginia Aragon-Barnes** had a passion for science and a natural curiosity about how and why things worked from a very early age. After a few earthquakes and a one-day lesson on volcanoes in a junior high physical science course she was hooked on Geology. She moved to Hawaii'i to pursue and successfully obtain a Bachelor's in Geology at the University of Hawaii'i at Hilo and is currently pursuing a Master's degree. Since graduation, her career has taken her to workplaces such as the active lava flows of Kilauea, the beautiful summits of Mauna kea and Mauna loa and the lush native forests cared for and protected by our state. Currently, Virginia is the Environmental, Health and Safety Compliance Engineer for the Thirty Meter Telescope. Virginia continues to pursue her personal commitment of inspiring Hawaii'i's keiki to become future scientists through educational outreach.



**J. D. Armstrong**  
UH Institute for  
Astronomy  
[jamesarm@hawaii.edu](mailto:jamesarm@hawaii.edu)

**J. D. Armstrong** is the project scientist for the Faulkes Telescope North -- the largest telescope built for education and outreach. He is also the Maui Technology Education and Outreach Specialist for the University of Hawaii'i Institute for Astronomy. J. D. Received his Bachelor's degree in physics from Westminster College of Salt Lake City, a master's degree in physics from Michigan State University, and his PhD from the University of Hawaii'i. His research interests include solar physics, minor planets, and exoplanets, but he spends most of his time helping middle and high school students participate in real science. He claims that he is creating the scientists of the future.



**Ellis Avallone**  
UH Institute for  
Astronomy  
[eavallon@hawaii.edu](mailto:eavallon@hawaii.edu)

**Ellis Avallone** is a graduate student at the Institute for Astronomy at UH Manoa, and received her B.S. in Astronomy and Physics from the University of Washington in 2018. She is interested/obsessed with the Sun, specifically the dynamics of its magnetic field and how it affects us here on earth. If you find her not staring at a computer screen, she is probably looking for a hike to go on, drawing, or showing you pictures of her dog.



**Christoph Baranec**  
UH Institute for  
Astronomy  
[baranec@hawaii.edu](mailto:baranec@hawaii.edu)

**Christoph Baranec** is an assistant astronomer at the Institute for Astronomy. He designs, builds and uses adaptive optics systems -- instruments that overcome the blurring effects of the Earth's atmosphere. Baranec won an Alfred P. Sloan Research Fellowship in 2014 and the UH Board of Regents' Medal for Excellence in Research in 2017 for leading the development of the world's first automated adaptive optic system, Robo-AO. Observations from this system appear in nearly 40 scientific publications. These include several adaptive optics surveys with the most numerous observations ever performed, including all of the several thousands of Kepler candidate exoplanet hosts and all known stars within 80 light years, observable from the northern hemisphere. Baranec currently leads the effort to deploy an upgraded version of Robo-AO to the University of Hawaii'i 2.2-meter telescope which will achieve resolutions approaching that of the Hubble Space Telescope.



**Kerri Beisser**  
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University APL  
[kerri.beisser@jhuapl.edu](mailto:kerri.beisser@jhuapl.edu)  
[u](#)

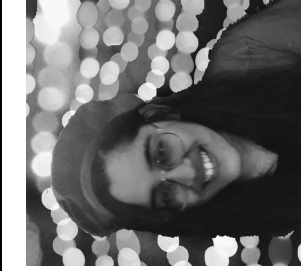
**Kerri Beisser** is Program Manager for the Space Dept. of the Applied Physics Laboratory at the Johns Hopkins University. Before coming to APL, Ms. Beisser worked for the Challenger Center for Space Science Education, where she was the Project Manager for national programs for NASA's Cassini, STARDUST and Galileo missions. She also worked for the U.S. Space and Rocket Center and Space Camp in Huntsville, Alabama. Here she conducted student and teacher trainings in the history of the space program and in the fields of aerospace, engineering, technology, and space station/space shuttle activities. She also led corporate training programs and special events for Space Camp, such as training the cast of the movie Apollo 13. Since joining APL in 1999 in the Space Department, Ms. Beisser has managed the education and public outreach programs and the engagement and communications program for NASA missions from the Sun to Pluto and beyond. These have included the Near Earth Asteroid Rendezvous (NEAR) mission, the NASA "Vision Mission" Innovative Interstellar Probe, the Thermosphere, Ionosphere, Mesosphere, Energetics and Dynamics (TIMED) mission, for the Solar-Terrestrial Relations Observatory (STEREO) spacecraft, the Compact Reconnaissance Imaging Spectrometer for Mars (CRISM) instrument for the Mars Reconnaissance Orbiter (MRO), and the Radiation Belt Storm Probes Mission (RBSP). Currently, she is managing the engagement and communications programs for the New Horizons mission to Pluto and the Kuiper Belt, and the

Parker Solar Probe Plus mission, slated to launch in July 2018.



**Tishanna Ben**  
National Solar  
Observatory  
[tben@nso.edu](mailto:tben@nso.edu)

**Tishanna Bailey Ben** is the Hawai'i Community Outreach and Education Programs Leader for the National Solar Observatory (NSO). She graduated from the University of Hawai'i with a Bachelor of Arts (B.A.) in cell and molecular biology and a Master of Science (M.S.) in tropical conservation biology and environmental science. Prior to her position at NSO, she worked as a laboratory technician and graduate researcher with the Research Corporation of the University of Hawai'i (RCUH). She also taught middle and high school science courses at Ka'u High and Pahala Elementary School on the Big Island.



**Vanshree Bhalotia**  
UH Manoa Physics &  
Astronomy  
[vanshree@hawaii.edu](mailto:vanshree@hawaii.edu)

**Vanshree Bhalotia** is a graduate student in the Dept. of Physics and Astronomy at University of Hawaii at Mānoa. She is an APS Bridge fellow and an AAS Astronomy Ambassador. She recently moved to Honolulu after obtaining her M.S. in Physics in August 2018 from DePaul University in snowy Chicago. She studied Astrophysics as an undergraduate at UCLA, obtaining her B.S. in 2016. Vanshree is passionate about communicating astronomy to the public and helping everyone feel connected to the sky that we share. As an undergraduate at UCLA, Vanshree volunteered frequently in Astronomy Live! events, and as a graduate student at DePaul she was involved with astronomy outreach throughout Chicagoland. Vanshree has worked at the Adler planetarium as an After-Hours Education host, at the University of Chicago KICPas an outreach assistant, and as a coordinator with the Northwestern chapter of Astronomy on Tap. For fun, Vanshree dances, does theatre, makes art, writes poetry and cooks spicy food.



**Jerry Brower**

**Jerry Brower** is the self proclaimed "Information Systems guy to the stars!" (literally the stars) He has over 30 years in the information technology field, including designing data centers, cyber security, and many industry certifications from Microsoft, Cisco, Comp TIA, SANS, and others. As a security consultant, he performed audits/penetration testing on financial institutions and performed independent security research. When not on the computer at work, he can often

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**André-Nicholas Chené**  
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be found in such cyber places as Tatoonine, Azeroth, or Jita in The Forge.

**André-Nicholas Chené** is an assistant scientist at the Gemini North Observatory since early 2013. He obtained his Ph.D. in astrophysics from the Université de Montréal in 2007. He then moved across his home country ("A Mari Usque Ad Mare") to become a research associate for the National Research Council Canada at the Herzberg Institute of Astrophysics from 2007 to 2010. From 2010 to 2013, he held a joint postdoctoral position between the Universidad de Concepcion and the Universidad de Valparaiso, in Chile, and joined the science team of the VISTA Variable in Via Lactea survey. His main scientific interests are massive stars and young stellar open clusters. His expertise covers optical and near infrared imaging and spectroscopy. Two things he enjoys a lot since he moved to Hawaii are long observing runs at Mauna Kea, and his daily bike ride to work up and down Puainako St.





**Devin Chu**  
University of California  
Los Angeles  
[dchu@astro.ucla.edu](mailto:dchu@astro.ucla.edu)

**Devin Chu** was raised in Hilo, Hawaii and graduated from Hilo High School in 2010. He received his Bachelor's degree from Dartmouth College in Physics and Astronomy in 2014 and Masters of Science in Astronomy from UCLA in 2016. He is currently a graduate student at UCLA working with Professor Andrea Ghez. His research involves studying the orbits of stars around the supermassive black hole at the center of the Milky Way. Devin was a frequent participant in Journey Through the Universe while growing up.



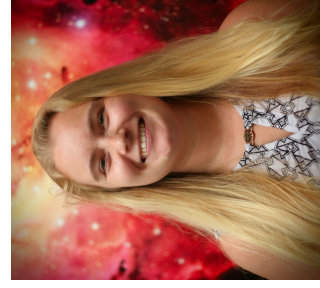
**Iain Coulson**  
[iain.m.coulson@gmail.com](mailto:iain.m.coulson@gmail.com)

Until retiring in 2017, **Iain Coulson** had worked for 30 years as a support astronomer at the James Clerk Maxwell Telescope on Mauna Kea. He obtained a PhD from the University of Edinburgh in 1980 working on the cosmic distance scale, and spent 8 years at the South African Astronomical Observatory observing Cepheid variable stars, amongst other things, before relocating to Hawaii. For the past 10 years or so, he has been part of an international collaboration using JCMT and other telescopes studying the chemistry of comets.



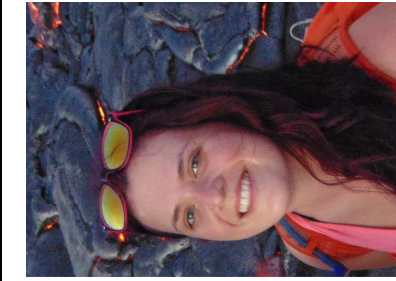
**Kathy Cooksey**  
UHH Physics &  
Astronomy  
[kcooksey@hawaii.edu](mailto:kcooksey@hawaii.edu)

**Kathy Cooksey** is an associate professor in astronomy at the University of Hawaii at Hilo. She is passionate about teaching and incorporates the best practices from science-education research in her classroom. She cares deeply about diversity and inclusion in the sciences and does what she can to increase both. She researches the large-scale gaseous structure in the universe to understand how various elements cycle in and out of galaxies, over cosmic time. As for hobbies, she enjoys running and hiking (and crocheting and watching anime, on the sedentary side).



**Callie Crowder**  
Canada-France-Hawaii  
Telescope  
[crowder@cfht.hawaii.edu](mailto:crowder@cfht.hawaii.edu)

**Callie Crowder** is a Remote Observer at the Canada-France-Hawaii Telescope where she controls the observatory on the summit of Maunakea while taking data from Waimea. She moved to Hawaii from Ohio in 2013 to study at the University of Hawaii at Hilo. She graduated in 2017 with her Bachelor's of Science in Astronomy, Bachelor's of Arts in Physics, and a Mathematics minor. While taking classes at UH Hilo she worked on the commissioning of the new UH Hilo 0.7m telescope, Hoku Kea, to be used by the undergraduate students. Her future goal is to become an astronaut.



**Christy Cunningham**  
Gemini Observatory  
[ccunningham@gemini.edu](mailto:ccunningham@gemini.edu)

**Christy Cunningham** is currently a Science Operations Specialist for Gemini Observatory and has previously worked as a telescope operator for Smithsonian Astrophysical Observatory's Submillimeter Array. Born and raised in Anchorage, Alaska, she moved to Flagstaff, AZ to complete her B.S. in Physics and Astronomy and later received her M.S. in Applied Physics from University of Oregon with emphasis on Lasers and Optics. Her current projects at Gemini include working with the Laser and Adaptive Optics team to install the new Laser Guiding system and also acting as the systems engineer for upgrades to the Mirror Coating Chamber. Outside of work she is almost always found fishing or hiking island wide!



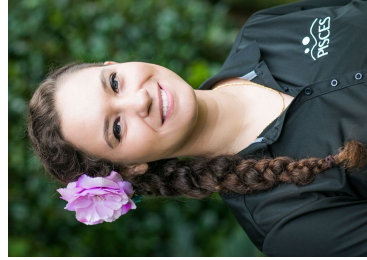
**Sandra Dawson**  
TMT International  
Observatory  
[sdawson@tmt.org](mailto:sdawson@tmt.org)

**Sandra Dawson** is Manager, Hawai'i Community Relations, for the Thirty Meter Telescope Project. Dawson has a Bachelor of Arts degree in Political Science and a Master's Degree in International Studies from Claremont Graduate University. For 20 years as an employee of the California Institute of Technology (Caltech) she worked at Caltech's Jet Propulsion Laboratory on some of JPL's largest projects for NASA, including the Galileo, Cassini and Mars missions, and received numerous group and individual awards. With her husband, Dwayne, she moved to Hilo six years ago to work on the Thirty Meter Telescope project and has been engaged in many civic, nonprofit, and educational programs.



**Brian Day**  
SSERVI/NASA  
[brian.h.day@nasa.gov](mailto:brian.h.day@nasa.gov)

**Brian Day** is the Lead for Citizen Science and Community Development at the Solar System Exploration Research Virtual Institute (SSERVI). In this role, he coordinates programs with numerous internal and external partnering organizations, focusing on providing opportunities for students and the public to directly participate in NASA science and exploration. He currently acts as SSERVI's project manager for NASA's Lunar Mapping and Modeling Portal (<http://lmp.nasa.gov>), a set of tools designed for mission planning, lunar science, and public outreach. From 2010-2014, Brian served as the Education/Public Outreach Lead for NASA's Lunar Atmosphere and Dust Environment Explorer (LADEE) mission to the Moon, which flew through and studied the Moon's tenuous atmosphere. From 2007-2010 he served as the E/PO Lead for NASA's LCROSS lunar impactor mission which discovered deposits of water ice at the Moon's South Pole. He has also participated in producing the Education/Public Outreach sections for numerous NASA mission proposals. Brian has played key roles in various NASA Mars Analog Field Studies, providing technical support in the field for webcasts and robotic rover tests in extreme environments here on Earth. In 2007, he flew on the Aurigid-MAC mission to record fragments of comet Kieass entering Earth's upper atmosphere. Brian is a frequently-requested speaker at local schools and community organizations. As a member of NASA's Speakers Bureau, he is sent by NASA to give talks on a wide range of NASA missions and research topics.



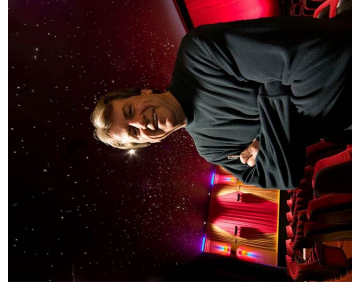
**Kyla Defore**  
Pacific International  
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Exploration Systems  
(PISCES)  
[deforeky@hawaii.edu](mailto:deforeky@hawaii.edu)

**Kyla Defore** is a 2016 graduate of the University of Hawaii at Hilo Bachelors in Geology program. After graduation and many internships Kyla became the Geology and Material Science Technician for the Pacific International Space Center for Exploration Systems (PISCES), a state funded aerospace company located in Hilo HI. Kyla's current research investigates how to manufacture basaltic rock into construction materials that have Earth bound applications as well as In-Situ Resource Utilization (ISRU) applications that may one day support future colonies on the Moon and Mars.



**Daniel Devost**  
Canada-France-Hawaii  
Telescope  
[devost@cfht.hawaii.edu](mailto:devost@cfht.hawaii.edu)

**Daniel Devost** is the Director of Science Operations at the Canada-France-Hawaii Telescope since 2008. He started at CFHT in 2007 as a Canadian Resident Astronomer and was the WIRCam Instrument Scientist. Before Moving to Hawaii, Daniel worked at Cornell University from 2000 to 2007 as an Instrument Scientist for the Infrared Spectrograph. The spectrograph is one of three instruments on board the Spitzer Space Telescope that was launched in August 2003. Daniel did his PhD at the Université Laval in Québec City, Canada in collaboration with the Space Telescope Science Institute in Baltimore where he spend three years. His science interests are the formation of massive stars and the amount of metals in the Universe.



**Jerry Dobek**  
Northwestern Michigan  
College  
[jdobek@nmc.edu](mailto:jdobek@nmc.edu)

**Jerry Dobek** is Professor of Astronomy and Head of the Sciences Department at Northwestern Michigan College. He has been involved in E/PO for more than 30 years and is the Site Co-ordinator for Project ASTRO and Project Family ASTRO in Michigan. Jerry's research interests are in small amplitude red variable stars and dark nebulous material in the Milky Way. In 2011 he republished Edward Emerson Barnard's treatise "A Photographic Atlas of Selected Regions of the Milky Way". Jerry has been a Solar System Ambassador with NASA/JPL since 2002 and is a founding member of the International Dark-Sky Association.



**Jeff Donahue**  
Gemini Observatory  
[jdonahue@gemini.edu](mailto:jdonahue@gemini.edu)

**Jeff Donahue** is Senior Laser Technician at Gemini Observatory. He supports the laser guide star, preparing the laser for each laser run. Jeff and his wife came from Oregon, where he spent 17 years at Hewlett Packard. Jeff also worked in Corvallis, Oregon as an electronic and laser maintenance technician supporting Inkjet Manufacturing. Jeff has a B.S. degree in Industrial Technology from Central Washington University and an A.S. degree in Electronic Engineering Technology from Linn Benton Community College. In addition to his laser activities, Jeff enjoys snorkeling and exploring the Big Island.





**Xinnan Du**  
TMT International  
Observatory  
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**Xinnan Du** is a postdoctoral researcher and the manager of the NASA MIRO FIELDS (Fellowships and Internships in Extremely Large Data Sets) program at UC Riverside. She got her PhD in astronomy in 2018 from UCLA, and her research focuses on the physical properties of the interstellar and circumgalactic gas in distant star-forming galaxies. Xinnan is very enthusiastic about K-12 STEM outreach and inquiry-based teaching, and she has a long-term career goal in informal science education. Having led multiple departmental and campus-wide outreach programs and events, Xinnan hopes to inspire the younger generation in STEM through hands-on experience.



**Angelic Ebberts**  
Gemini Observatory  
[aebbers@gemini.edu](mailto:aebbers@gemini.edu)

**Angelic Ebberts** is a Senior Software Engineer for Gemini Observatory. She is part of the Software Operations group as well as a Telescope Technical Manager. Angelic specializes in motion control systems, EPICS real-time development, and troubleshooting. Angelic earned a B.Sc. from York University in the Space and Communications Sciences stream, with Honors in Computer Science and Physics, plus a minor in Astronomy. Prior to joining Gemini, Angelic worked for The Herzberg Institute of Astrophysics as well as the University of Toronto Southern Observatory in Chile. Outside of work, Angelic can be found training/competing in Dog Agility, scuba diving, or reading a good science fiction book.



**Trent Dupuy**  
Gemini Observatory  
[tdupuy@gemini.edu](mailto:tdupuy@gemini.edu)

**Trent Dupuy** is an assistant astronomer at Gemini Observatory in Hilo. He received his PhD in 2010 from the University of Hawai'i at Mānoa. Before moving back to Hawai'i in 2017, he was a research fellow at the Smithsonian Astrophysical Observatory in Boston and at the University of Texas in Austin. Among his main research interests are understanding the formation and evolution of the lowest mass, coldest objects, from brown dwarfs to gas-giant planets. Most of his observations are done from Maunakea, using infrared cameras and laser guide star adaptive optics to study objects that emit almost no visible light. When he's not working on his own projects or helping other astronomers around the world use the Gemini Telescope, he's often enjoying the spectacular array of fresh fish, produce, and beer that can be found on Big Island.

**Jocelyn Ferrara** recently joined the Gemini Observatory as a Science Operations Specialist. This native Californian moved to New York City to earn her B.A. in Physics & Astronomy at Barnard College of Columbia University, which she completed in 2014. An observing run at the NASA IRTF during undergraduate studies sparked her interest in working for telescope operations. She then worked at the Space Telescope Science Institute in Baltimore as an operations specialist for the Hubble Space Telescope and as both a test & systems engineer for the upcoming James Webb Space Telescope. As part of the Johns Hopkins Whiting School of Engineering for Professionals, Jocelyn is also working on a masters in space systems engineering, one course at a time. A driving force that keeps her sane and inspired in the field is working to improve diversity and inclusion in the workforce and enabling women & minorities to pursue and thrive in careers in STEM.



**Jocelyn Ferrara**  
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[jferrara@gemini.edu](mailto:jferrara@gemini.edu)



**Scott Fisher**  
University of Oregon  
[rsf@uoregon.edu](mailto:rsf@uoregon.edu)

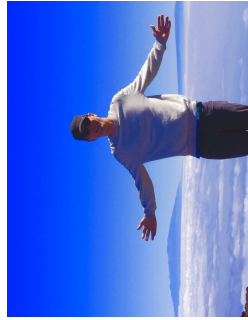
**Scott Fisher** is a faculty member in the University of Oregon Department of Physics where he teaches introductory-level astronomy courses, runs an astronomical observatory, and serves as the Director for Undergraduate Studies. Scott previously worked at the National Science Foundation in Washington, DC where he was responsible for selecting and funding astronomy programs across the United States. Before his time in Washington, Scott was based in Hilo, Hawaii where he worked as a staff scientist of the Gemini Observatory. At Gemini, he worked as an instrument scientist and as a member of the Gemini Outreach team. Scott's main areas of research are searching for and studying planet-forming disks around young stars and more recently, the evolution of galaxy clusters at high redshift. In addition to his love of astronomy, Scott is an amateur photographer and a Geocacher. When he is not observing, he can often be found in Las Vegas, Atlantic City, or anywhere with a nightlife full of bright neon lights, poker cards, and casino chips.





**Miriam Fuchs**  
East Asian Observatory/  
James Clerk Maxwell  
Telescope  
[m.fuchs@eaobservatory.org](mailto:m.fuchs@eaobservatory.org)

**Miriam (Mimi) Fuchs** is a Telescope Systems Specialist for East Asian Observatory's James Clerk Maxwell Telescope on the Big Island of Hawai'i. She received her B.S. in Astrophysics from Haverford College in 2013. Mimi has worked in both telescope operations and public outreach for the Smithsonian Astrophysical Observatory's Submillimeter Array, as well as in informal science education at The Franklin Institute in Philadelphia and the North Carolina Museum of Science. When she's not on the summit of Mauna Kea, she likes to spend her time singing karaoke with friends and weaving palm frond.



**Lucas Fuhrman**  
Gemini Observatory  
[lfuhrman@gemini.edu](mailto:lfuhrman@gemini.edu)

**Lucas Fuhrman** was swept up in Astronomy in 1995 while a student at SFSU, a time when the first exoplanets were discovered by faculty at the university. Since then Lucas has received a Masters degree in Astronomy, and first began spending nights on Maunakea in 2004. Initially he joined the United Kingdom InfraRed Telescope as a Telescope Support Specialist, followed by time as a Science Support Associate at Gemini South Observatories in Chile. Currently he is a Science Operations Specialist at Gemini North Observatory. After many years in Astronomy, the night sky continues to fill him with a sense of awe and wonder.



**Tom Geballe**  
Gemini Observatory  
[tgeballe@gemini.edu](mailto:tgeballe@gemini.edu)

**Tom Geballe** obtained a PhD in physics in 1974 under Prof. Charles Townes at U.C. Berkeley. Following postdoctoral fellowships at Berkeley and Leiden, and a Carnegie Fellowship at Hale Observatories in Pasadena, he became a staff astronomer at the United Kingdom Infrared Telescope in 1981. He was Astronomer-in-charge, Associate Director, and Head of Operations at UKIRT from 1987 until 1998, when he joined Gemini. Among his research interests are the Galactic center, the late stages of stellar evolution, H3+ as a probe of interstellar gas, the composition of interstellar dust, the surfaces, atmospheres, and aurorae of planets and moons, and brown dwarfs.



**Jeff Goldstein**  
National Center for  
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**Jeff Goldstein** is a nationally recognized science educator and planetary scientist who has dedicated his career to the public understanding of science and the joys of learning. As Center Director for the National Center for Earth and Space Science Education, Jeff oversees the creation and delivery of programs that engage entire communities, train 3,000 teachers annually, and emphasize family learning. He led the inter-organization team that permanently installed the Voyage model Solar System on the National Mall in Washington, D.C., in front of the Smithsonian. The Voyage National Program is permanently installing low-cost replicas in 100 communities world-wide. Jeff also oversees the Student Spacelight Experiments Program (SSEP) that provides real research opportunities for pre-college students on the Space Shuttle and International Space Station. Jeff was the Keynote Speakers for the NSTA National Conference in San Francisco, California, in March 2011. Jeff was at the National Air and Space Museum for 8 years, departing in 1996 as acting Chair of the Lab for Astrophysics. He was on the senior staff at Challenger Center from 1996-2005. In 2005 he created the National Center for Earth and Space Science Education. Visit Jeff's website at <http://blogontheuniverse.org>.



**Alysa Grace**  
Gemini Observatory,  
'Imiloa Astronomy  
Center  
[agrace@gemini.edu](mailto:agrace@gemini.edu)

**Alysa Grace** is an Outreach Assistant at Gemini Observatory, Planetarium Operator at 'Imiloa Astronomy Center, and University of Hawai'i at Hilo alum. Her roles primarily consist of organizing outreach events (ie. Journey Through the Universe), and educating the community on local astronomy through press releases, social media, classroom visits, Starlabs, planetarium shows, and public events. When she isn't learning more Astronomy, Hawaiian culture or various languages, she's working on her 200 hour yoga teacher certification, writing novels, or playing with her cats.

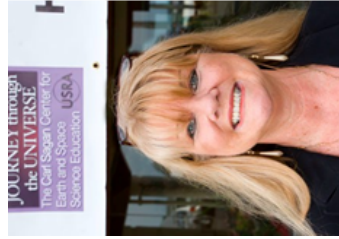


**John Hamilton**  
UHH Physics &  
Astronomy  
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**John Hamilton** is currently based at the University of Hawai'i at Hilo. An astronomer by trade, he has been associated with space exploration since 1972 with the Skylab missions, spent most of his career supporting astronomical observations at multiple observatories in Hawai'i on Haleakala and Mauna Kea and also in Chile. He has most recently managed the first two international ISRU analog field tests in Hawai'i in 2008 and 2010 and the 2012 deployment. John teaches undergraduates in Physics and Astronomy courses at UH Hilo. He also serves as co-founder and chief scientist for a local high-tech R&D company Akeakamai Enterprises LLC.



**Janice Harvey** is the Community Outreach and Education Programs Leader at Gemini Observatory and serves as the director of the nationally recognized Journey through the Universe Program on the Big Island. Janice is also the National Team Site Leader for the Family Astro/Project Astro program in Hawaii and serves as the StarLab Portable Planetarium instructor and trainer. In 2010 she was awarded the *Outstanding Individual in Business* award by the Rotary Club of Hilo. She is a member of the Astronomical Society of the Pacific, the International Planetarium Society, and the National Science Teachers Association. Janice has a BS in mathematics and went back for her associate degree in astronomy in 2000 at UHH. She has lived on the Big Island for 46 years and has worked as the Mayor's Executive Assistant, owned and operated Sylvan Learning Centers and three travel agencies in Hawaii. Janice's passion is bringing science and astronomy into the local classrooms.



**Janice Harvey**  
**Gemini Observatory**  
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**Saeko Hayashi**  
**National Astronomical Observatory of Japan,**  
**Mitaka**  
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**Saeko S. Hayashi** grew up in Tohoku, a northeastern rural part of Japan, where she spent part of her childhood in Fukushima. After graduating from a local high school, she boldly went on to attend the University of Tokyo as one of the few women undergraduates in STEM majors; she continued there and became the first woman to pursue Ph.D. in astronomy. She conducted her graduate research at the 45-m radio telescope in Nobeyama, Japan. After receiving her doctorate, she worked at the 15-m James Clerk Maxwell Telescope in Hawaii and then joined the 7.5-m Japan National Large Telescope (JNLT) project, which began at the National Astronomical Observatory of Japan in 1990, and later became known as the Subaru Telescope with 8.2-m diameter. She has performed a variety of roles at Subaru from taking care of telescope optics, managing day crews to currently managing the Public Information and Outreach Office. She hopes to participate in the publication of research that will lead to major discoveries of Earth-like exoplanets, possibly with water and vegetation. She says, "Subaru Telescope, where people from all over the world come together and work with each other [as ancient Japanese word "Subaru" stands for], is a great place to work. The technical and other challenges at work and the laid back life in this beautiful island is an ideal combination for me". After being in Hilo for almost two decades, Saeko moved temporarily to the headquarters of the NAOJ at Mitaka, Tokyo from where she helps by making a big mirror.

**Stephanie W. Henry** serves as a Communications Strategist with Arctic Slope Regional Corporation, Inc. in Huntsville, AL. Stephanie's duties include external communications for the Planetary Missions Program at NASA's Marshall Space Flight Center. Stephanie assists in developing communication products and materials for the programs. She visits schools, museums, and community organizations to excite students and teachers about NASA's mission and encourages the students to study science, technology, engineering, and math. Stephanie is a graduate of the University of North Alabama where she received a Bachelor of Arts degree in Spanish/Political Science and a Master of Arts in Community Counseling. Stephanie also attended Belmont University in Nashville, TN where she earned her teacher certification for kindergarten through eighth grade. Before joining ASRC, Stephanie's experience includes work in a variety of educational arenas. Stephanie spent seven years working in Student Affairs at different universities and seven years teaching in the classroom, formal and informal instruction. Stephanie is a native of Tupelo, MS and has lived in the Huntsville, AL area for the past 13 years. She is married and has a 20-year-old stepson. Stephanie enjoys traveling, shopping, and spending time with her family in her spare time.



**Stephanie W. Henry**  
NASA Marshall Space  
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**Michael Hoenig** is a Science Operations Specialist at Gemini Observatory. He did his undergraduate degree in Astrophysics at the University of Sussex (England) in the last millennium, and then went on to do a Ph.D. at the University of Cambridge, which he completed in 2004. His thesis centered on the construction of a wide field infrared camera called CIRSI, which meant he ended up going on a number of observing trips to Mauna Kea and the Canary Islands. Once all the data from the instrument was properly reduced and calibrated, it was used to search for distant clusters of galaxies - and he is happy to report he actually found some, too. After his Ph.D. he worked in translation and publishing for a few years. But the call of the cosmos was impossible to ignore! Which is why in 2008 he packed his bags and moved to Hilo, and the rest, as they say, is history... When he's not up at the telescope observing the night sky, or reviewing the images back down in Hilo, he likes to paddle canoes, dance Argentine tango or read a good book.



**Michael Hoenig**  
Gemini Observatory  
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**Stewart Hunter** has been the General Manager at Mauna Kea Observatories Services (MKSS) since 2010. MKSS operates and maintains the mid-level astronomy facilities at Hale Pohaku on Mauna Kea. This includes the astronomy dormitories, the dining facility and the Visitor Information Station as well as maintaining the summit roads. Prior to working at MKSS, Stewart spent 24 years in the Navy, serving on submarines as an electronics technician, then after receiving a commission, a logistics officer until retiring in 2004 as a Lieutenant Commander. He received a BS in Earth Science from Oregon State University in 1991 and a MS in Systems Management from the Naval Postgraduate School in 1999. Stewart and his wife Lory have been Hilo residents since 2000, where they also own and operate a local Bed and Breakfast.



**Stewart Hunter**  
Mauna Kea Support  
Services  
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**Carolyn Kaichi** is the Education/Outreach Specialist for Ifa-Hilo. She has always been fascinated by astronomy, and with a background in news media, it was a perfect fit for her to pursue a career in communicating her love of astronomy and space science. Carolyn was born and educated in Hawai'i and enjoys working with students and the public. "It is incredibly exciting to see peoples' eyes light up with wonder when you share the excitement of the Universe with them", she says. Prior positions include: Imaginarium Manager for the Center for Aerospace Studies at Windward Community College, Hawaii State Science Fair Director and Planetarium Manager for Bishop Museum. Carolyn enjoys astronomical observing, travel and has practiced yoga for many years.



**Carolyn Kaichi**  
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**Russell Kackley** holds a Bachelor of Science in Mechanical Engineering from Wayne State University and a Master of Science in Mechanical Engineering from Stanford University. He worked for 16 years on spacecraft design and analysis at Lockheed-Martin before moving to Hawai'i. Here in Hilo, he worked for 11 years at the Joint Astronomy Centre and was responsible for the Telescope Control System software. Since April 2011, he has been working at the Subaru Telescope in the Observation Control Software group. He has mentored several school robotics teams and serves as a judge at robotics competitions.



**Russell Kackley**  
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**Yuko Kakazu**  
Subaru Telescope  
[kakazu@naoj.org](mailto:kakazu@naoj.org)

**Yuko Kakazu** joined the Subaru Telescope as an outreach specialist in 2013. A native Okinawan, she began her journey into astronomy when she attended the NASA U.S. Space Camp program at age 13. Yuko graduated from Tohoku University in Japan and then obtained her Ph.D. at the Institute for Astronomy, University of Hawaii'i at Manoa. Since then she has worked as a researcher in Paris, France (Institut d'Astrophysique de Paris), California (California Institute of Technology), and Chicago (University of Chicago). Her research focuses on metal poor galaxies and distant galaxies with the aim of improving our understanding of galaxy formation and chemical enrichment history of the Universe. At Subaru, Yuko arranges and conducts public outreach events and lectures for the local and the international communities, including Japanese audiences. She is hoping to help fill the gap between scientists and the public and wants to encourage young people, especially women and minorities, to engage in science and technology. When Yuko is not talking about astronomy or playing with her baby galaxies, she enjoys dancing Argentine tango, cooking (as well as eating), listening to piano jazz and classical music, and taking yoga or Zumba class at the gym. She is a certified Zumba fitness instructor.



**Ji Hoon Kim**  
Subaru Telescope  
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**Ji Hoon Kim** is a support astronomer at Subaru Telescope. Born and raised in Seoul, Korea, he became interested in space and time while watching Galaxy Express 999, a Japanese TV series. After finishing his undergraduate and military duty in Korea, he decided to pursue his professional career outside of Korea. He received his PhD in Astronomy from University of Maryland, College Park, then was a postdoctoral fellow at Johns Hopkins University and Seoul National University. He originally studied very faint galaxies dubbed low surface brightness galaxies using optical and near-infrared imaging and declined to be considered as 'AGN guy.' Then he worked on studying how AGN host galaxies make stars using mid-infrared spectroscopy confessing it is impossible to run away from AGNs. Outside of stars and galaxies, he enjoys reading Vonnegut, looking at Escher's works, listening Bach, U2, and Clifford Brown, and watching Niners, and Lakers.





**Scott Kleinman**  
Gemini Observatory  
[skleinman@gemini.edu](mailto:skleinman@gemini.edu)

**Scott** (there was a shortage of "t"s when he was born) **Kleinman** is the Associate Director of Development at Gemini North. He helps developing and bringing to fruition the next generation of Gemini instruments. He joined Gemini from the Subaru Telescope where he served as the Instrument Division Chief. Prior, he served as the Site Science Manager/Deputy Head of Survey Operations for the Sloan Digital Sky Survey. He has been the Associate Director of the Whole Earth Telescope and still sits on its board. Scott received his Ph.D. from the University of Texas in 1995. He studies various aspects of white dwarf stars, the longest lived (and final) stage of most stars in the Universe. Scott also works with data from large astronomical surveys which are ushering in a new era of observational astronomy. When not working (when is that?), Scott likes surfing, live music, and maintaining/modifying his car.



**Shintaro Koshida**  
Subaru Telescope  
[koshida@naoj.org](mailto:koshida@naoj.org)

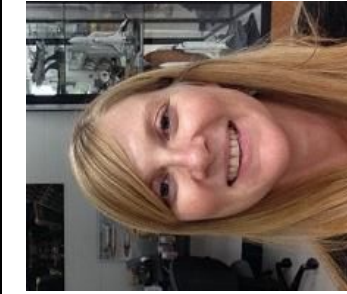
**Shintaro Koshida** is a support astronomer at Subaru telescope since September 2014 and working on supports for observations using a wide field-of-view camera for taking images in visible light, "Hyper Suprime Cam (HSC)". He is originally from Japan and have been interested in looking up night skies and watching the celestial objects since his childhood, which led to his Master's degree and PhD in astronomy at the University of Tokyo. Meanwhile studying about structures around super massive black holes at centers of galaxies, he has been interested in actual operations of telescopes and instruments for astronomy. He has

worked for the telescopes at Maui (MAGNUM telescope), Chile (miniTAO telescope at Atacama Desert, Santa Martina observatory of Pontificia Universidad de Catolica de Chile), and the Big Island (Subaru). He is enjoying very much not only a great quality of HSC data, but also great people, natures and cultures in the islands of Hawaii.



**Sylvia Kowalski**  
National Radio  
Astronomy (NRAO)  
Observatory (NRAO)  
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**Sylvia Kowalski** was a Public Information and Outreach Intern for Gemini Observatory. She graduated from the University of Washington with degrees in Physics, Astronomy and Drama and spent her college career working at science museums, observatories and presenting planetariums shows and public lectures with a dramatic twist! When she is not stargazing, Sylvia can be found eating, singing, playing her trumpet or doing Zumba. Happy Journey!



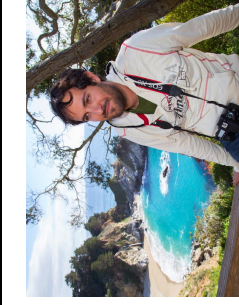
**Mary Beth Laychak**  
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Telescope  
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**Mary Beth Laychak** is the outreach program manager at the Canada-France-Hawaii Telescope, her second time working at CFHT. Previously, Mary Beth was one of CFHT's service observers and outreach coordinator before moving to Oahu. On Oahu, she worked as the manager at the Imaginarium planetarium and astronomy lecturer at Windward Community College. Mary Beth has a BA in astronomy and astrophysics from Penn State University as well as a MA in Education from San Diego State.



**Chien-Hsiu Lee**  
Subaru Telescope  
[leech@naoj.org](mailto:leech@naoj.org)

**Chien-Hsiu Lee** is a Support Astronomer at Subaru Telescope. He obtained a BS in Physics from National Taiwan University, a MSc in Astronomy from National Central University, and a PhD in Astronomy from Ludwig Maximilians University of Munich in 2011. Before joining Subaru Telescope, he was a postdoc research fellow at National Central University in Taiwan (2011-2013) and at University Observatory of Munich in Germany (2013-2015). His research focuses on variable stars and transients in the Milky Way and in our neighboring galaxy M31.



**Julien Lozi**  
Subaru Telescope  
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**Julien Lozi** is a senior optical scientist at Subaru Telescope, National Astronomical Observatory of Japan. Born in France in 1985, he was introduced to astronomy at the age of 10 and has been avidly pursuing this subject ever since. A 6-month internship at Subaru Telescope in 2008 first introduced him to Hawai'i, before he went back to France to study for his PhD in instrumentation for Astronomy. After earning his doctorate from Université Paris-Sud XI in 2012, Lozi worked in Silicon Valley for two years at the NASA Ames Research Center, to work on space telescopes that can look at extrasolar environments. In 2014, he returned to Hilo to accept his "dream job" at Subaru Telescope, where he is currently working on SCEXO, a first generation high contrast imaging instrument dedicated to the direct observation and characterization of exoplanets.



**Nadine Manset**  
Canada-France-Hawaii  
Telescope  
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**Nadine Manset** has been a resident astronomer at CFHT since 1999, right after finishing her PhD thesis at Université de Montréal. Over the years, she has helped astronomers observe in classical mode at CFHT, with spectrographs and imagers. Now in charge of the Queued Service Observing mode, she prepares observations for CFHT's spectropolarimeter and oversees the nightly observations taken with the various instruments. In addition to chairing the Maunakea Astronomy Outreach Committee, Nadine participates to public outreach events a few times every year.





**Callie Matulonis**  
James Clerk Maxwell  
Telescope  
[c.matulonis@eaobservatory.org](mailto:c.matulonis@eaobservatory.org)

**Callie Matulonis** is currently a Telescope System Specialist at the James Clerk Maxwell Telescope. Callie graduated from the University of Hawaii'i at Manoa in the Spring of 2012 with a Master's degree in Educational Technology. Callie has worked for several Mauna Kea observatories over the past ten years fulfilling a variety of positions including public outreach, laser operations, and telescope operations.



**Tony Matulonis**  
[matulonis@ifa.hawaii.edu](mailto:matulonis@ifa.hawaii.edu)

**Tony Matulonis** works at the NASA Infrared Telescope Facility (IRTF). He earned his Bachelor of Science in Astronomy from the University of Hawaii'i at Hilo in 2002. After working as an Interpretive Guide at the Ellison Onizuka Center for International Astronomy Visitor Information Station, Telescope Operator at the UH 2.2-meter telescope, Science Operations Specialist at Gemini Observatory, he joined IRTF in 2013.



**Peter Michaud**  
Gemini Observatory  
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**Peter D. Michaud**, Gemini's Public Information and Outreach Manager, has pursued a career that has provided a broad set of experiences in education, media relations and photography. These have ranged from the initiation and management of many informal science education programs to the authoring of a monthly newspaper column on astronomy. Prior to moving to Honolulu in 1989 to manage the Bishop Museum Planetarium, Peter obtained his Bachelor's Degree in Atmospheric Physics and certification in Physical Science Education in 1985. This led to his selection for the highly competitive annual planetarium education internship at the Strassenburg Planetarium in Rochester N.Y. in 1985 - 86. During almost a decade at the Bishop Museum Planetarium, Peter worked closely with local educators as well as the Mauna Kea astronomical community and initiated many new projects that included a NASA-funded project to produce a nationally distributed planetarium program about Mauna Kea. In June 1998, Peter accepted his current position at the Gemini Observatory in Hilo. Since arriving here, Peter has been involved in a variety of projects that have included the management of multiple outreach, education and media relations initiatives. An example of the innovative products produced by his office is the Gemini Observatory Virtual Tour CD-ROM/Kiosk which is currently being translated into multiple languages and has been installed in a variety of public facilities around the world.



**Joseph Minafra**  
NASA Ames Research  
Center  
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At the NASA Ames Research Center, **Joseph Minafra** serves as Lead of Technical Systems and Collaborative Technology Specialist for the NASA Solar System Exploration Research Virtual Institute (SSERVI). Joe has an extremely diverse background that ranges from Meteoritic studies, biology, project management, software development including web design, collaborative technology development to Scientific Illustration and graphic design, even a few years as a professional Chef. With his varied background, Joe has been responsible for a broad set of technical tasks for the NASA Ames Center Director as well as the Space and BioSciences Divisions, Astro and Synthetic Biology workshops just to name a few. Currently, his work is to oversee technology innovation and Robotics education initiatives in order to enable collaboration and communication between competitively selected science and research teams across not only the United States but internationally as well. Joe has a long history of integrating government work with commercial enterprises and bringing that message to the public through the education and public outreach sectors. He is excited to share his NASA experiences with the Journey through the Universe communities! Ad Astra!



**Brian Mitchell**  
NASA  
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**Brian Mitchell** is the Education and Public Outreach manager for NASA's Discovery/New Frontiers/Lunar Quest Program Office. He has more than 25 years at the Marshall Space Flight Center located in Huntsville, Alabama and has worked on various Space Shuttle payload missions including ASTRO, ATLAS, and Spacelab, as well as several experiments for the International Space Station. He has been the Program Office Education and Outreach lead during the LRO, LCROSS, LADEE, JUNO, GRALL, and IML missions to our Moon, Jupiter and Mars. Future missions in his Office include the asteroid sample return mission OSIRIS-REx, INSIGHT seismic mission to Mars, and the New Horizon spacecraft nearing Pluto now. Brian is tasked with communicating Planetary Missions Program Office (Discovery, New Frontiers, and Solar System Exploration programs) science goals and objectives to the public in order to promote STEM participation and inspire the general public by using new and existing opportunities. He spends much of his time speaking in classrooms and public venues, as well as designing innovative interactive exhibits that travel the country. When not talking about space, Brian keeps his 1965 Ford tractor alive, competes in shooting events, and occasionally gets to swing a golf club with his two teenagers.





**Junichi Noumaru**

**Subaru Telescope**

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**Junichi Noumaru** is the Associate Professor, Subaru Telescope, National Astronomical Observatory of Japan. He was born in Japan, graduated from Kyoto University, Japan and earned Ph.D in Astronomy. Junichi studied optical property of young stellar object such as emission nebulae and Herbig-Haro objects. He also joined instrumentation such as prototyping fiber-fed multi-object spectrograph and control system of the telescope. At National Astronomical Observatory of Japan in Tokyo, he joined the team to design control system and instrument interface of Subaru Telescope. He moved to Hilo in 1996 for Subaru Telescope Project and oversaw progress of construction of Subaru Telescope. After the first light of the telescope, he was in charge of operator's group and Instrument Division. Currently he is the division chief of Computer and Data Management Division and the Safety Officer of Subaru Telescope.



**Emily Peavy**

**'Imiloa Astronomy Center**

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**Emily Peavy** is a recent graduate of UH Hilo's Astronomy program and a full time Planetarium Support Facilitator and Technician at 'Imiloa Astronomy center; where she worked as a student employee since January 2012. Emily also enjoys volunteering at the Maunakea Visitor Information center whenever she gets some free time. Emily plans on going into the outreach and education side of astronomy but is still intrigued and excited by much of the research that is occurring in the field.



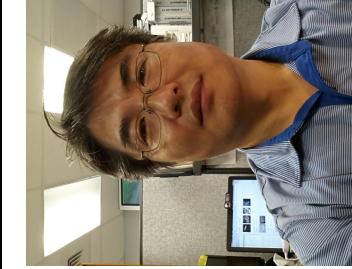
**Andreea Petric**

**Canada-France-Hawaii**

**Telescope**

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**Andreea Petric** is the Institute for Astronomy's, UH resident astronomer at CFHT. She has received her PhD from Columbia University with a thesis on X-ray scattering halos and was a postdoctoral fellow at Caltech working on IR and millimeter observations of interacting galaxies and galaxies hosting growing supermassive black holes. Her current research focuses on optical and near-IR observations of the impact growing black holes have on the interstellar medium of their host galaxies and the fate of molecular gas in merging galaxies. She has been a mentor for the Maunakea scholars program since its inception. A. Petric taught Galaxies and Cosmology, Quantum Mechanics at UH Hilo, and is currently teaching a seminar on the Co-evolution of Supermassive Black Holes and Host Galaxies at UH Manoa. She also makes regular classroom visits both on the Big Island and Oahu.



**Tae-Soo Pyo**  
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**Tae-Soo Pyo** is an Assistant Professor at the Subaru Telescope. His research focuses on star and planet formation, especially outflows and jets from young stellar objects. He has been working at Subaru Telescope since 2000 December. He was a Support Astronomer engaging in management and night support of InfraRed Camera and Spectrograph (IRCS) and Adaptive optics system (AO188) and other instruments. He got Bachelor and Master degrees in Astronomy from Seoul National University at Seoul in South Korea in 1992 and a PhD in Astronomy from the University of Tokyo at Tokyo in Japan in 2003. Tae-Soo loves Ukulele and various music including heavy metal and reading books.

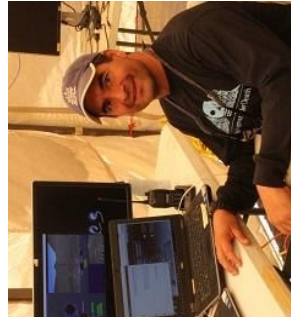


**Bo Reipurth**  
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**Bo Reipurth** graduated from the University of Copenhagen in Denmark. After spending some years as a postdoc there, he took up a position as staff astronomer with the European Southern Observatory in Chile for 11 years. Subsequently, he worked at CASA in Colorado as a Research Professor, and later joined the Institute for Astronomy at the University of Hawaii in Manoa in order to pursue studies of star and planet formation. "One of my first astronomical experiences as a small kid was to see the craters of the Moon and the rings of Saturn through the telescope at the public observatory on top of the Round Tower in Copenhagen. After that I was never in doubt that I had to become an astronomer. Conditions in Copenhagen were already in those days not ideal for looking at the night sky, but instead I spent innumerable hours with my small telescope drawing sunspots as they crossed the Sun. I took out a subscription to Sky and Telescope, which I then painstakingly read through with the help of a dictionary. One day I read an article about small mysterious blobs called Herbig-Haro objects which might be signposts of stars in the making. I was completely captivated by the possibility that we might actually be able to see stars in the process of being born, and I have spent most of my professional career trying to learn about how stars are formed."

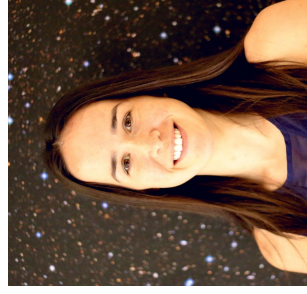


**Rodrigo Romo** is the Director at the Pacific International Space Center for Exploration Systems (PISCES). Besides overseeing PISCES' operations, he has been directly involved with the development of PISCES' planetary exploration rover. Other areas in which he has been involved includes robotic construction and utilization of Hawaiian Basalt as a source for ISRU manufacturing. Romo began his career near Tucson, Arizona at Biosphere II - the largest fully enclosed facility dedicated to researching climate change, ecosystem interactions, and space colonization during its time. From 1992 through 1997, he held several key positions including being a crewmember of the second manned mission overseeing instrumentation and air monitoring systems, as well as working in research and engineering departments. He is originally from Guadalupe, Mexico and earned his undergraduate degree in Chemical Engineering from ITESO University in 1992. He later obtained his Master's degree in Business Administration from the University of Arizona.



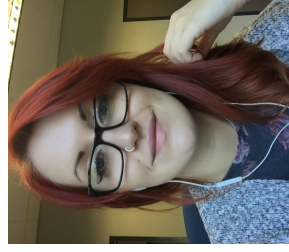
**Rodrigo Romo**  
**Pacific International**  
**Space Center for**  
**Exploration Systems**  
**(PISCES)**  
[rfvromo@gmail.com](mailto:rfvromo@gmail.com)

**Laurie Rousseau-Nepton** obtained her PhD in Astronomy in 2017. She received the FRQNT fellowship the same year to conduct research at the University of Hawaii in Hilo. Originally from Quebec, she is the first Woman from the First Nation of Canada to get a PhD in Astronomy. She is currently working as a support Astronomer at the Canada-France-Hawaii Telescope. Her research focus on resolved star-formation in nearby galaxies, massive stars and ionized gas properties. Aside from work, she likes hunting, paddling, hiking, and running!



**Laurie Rousseau-Nepton**  
**Canada-France-Hawaii**  
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**Jessica Stasik** is currently working as an intern at the Institute for Astronomy. She will be working in Hilo for a year, before moving back to the UK to finish her Degree in Astrophysics. This year she is looking at astero seismic data and working on various projects. In England, she studies at the University of Hertfordshire just north of London and works at the university observatory, Bayfordbury giving planetarium shows to curious members of the public as well as working with the telescopes. Her hobbies include music, which she studied before moving to astrophysics, and photography.



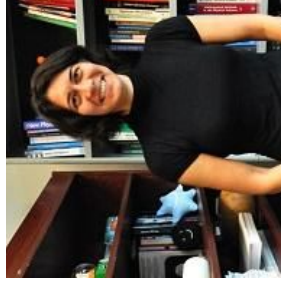
**Jessica Stasik**  
**UH Institute for**  
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**Doug Simons** received his B.S. in astronomy at the California Institute of Technology in 1985, and a Ph.D. in astronomy at the University of Hawai'i in 1990, before working as a staff astronomer at the Canada-France- Hawai'i Telescope (CFHT) for 4 years. Doug joined Gemini in May of 1994 as the Systems Scientist, then managed Gemini's instrument development program for 5 years before becoming Gemini's Director from 2006-2011. Doug returned to CFHT in 2012 where he now serves as Executive Director. Principal areas of interest include infrared instrumentation and studies of the Galactic center, low mass stars, and star formation regions.



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**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 the nature of the dark matter and dark energy that fills space.



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**Ichi Tanaka** is a Japanese astronomer working at Subaru Telescope. He was born and raised in Niigata Prefecture, Japan. The beautiful night sky in his hometown has made him a big fan of stars and constellations since his elementary school days. But the TV series "COSMOS" by Carl Sagan, as well as the astronomy books by Akira Fujii, has fixed Ichi's strong interest in Science and Astronomy. After getting his Bachelor's degree from the Niigata University, Ichi enjoyed teaching at a public high school as a full-time Science teacher. Then his passion for astronomy led him to move to the graduate school of science, Tohoku University, where he got his PhD in Astronomy in 2000. He moved to Hawaii in 2005 as a support astronomer. Ichi's scientific interest is in the beauty of galaxies in the universe. His current field of study is in how galaxies grow in their surrounding environments, such as groups and clusters of galaxies, in the young universe. In Hawaii, Ichi lives in Hilo with his wife and 3 kids. In his off-time he enjoys classical music as well as the great nature of Hawaii.



**Matt Taylor**  
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**Matt Taylor** is a Gemini Science Fellow at Gemini Observatory since June 2017. He did his undergraduate degree at University of Victoria on the west coast of Canada before completing his PhD at Universidad Católica de Chile in Santiago, Chile and as a student fellow at the European Southern Observatory's Chilean headquarters. His research interests revolve around studying low mass star systems like globular clusters, ultra-compact dwarfs, and dwarf galaxies orbiting giant galaxies beyond the Milky Way. When not

researching or supporting Gemini operations he enjoys hiking, swimming, and playing board games. Now in Hawai'i he hopes to be a positive contributor to the astronomy community through outreach and educational endeavors like Journey Through the Universe.



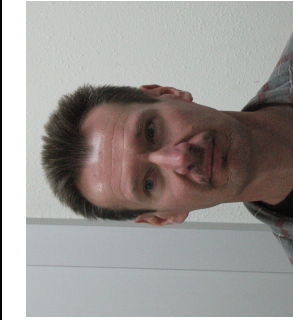
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**Alex Tetarenko** is currently an EAO postdoctoral fellow at the East Asian Observatory. She completed her MSc and PhD at the University of Alberta in Edmonton, Alberta, Canada. Her research focuses on studying relativistic jets launched from black hole systems in our Galaxy. When she is not doing science, Alex is an avid runner and like all good Canadians loves hockey.



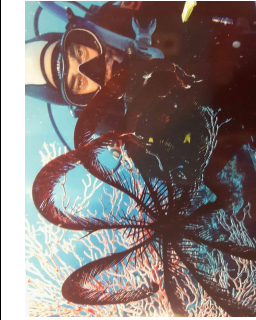
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**Tomo Usuda** earned his PhD in Astronomy at the University of Tokyo in 1997. He is an Optical-Infrared astronomer at NAOJ (National Astronomical Observatory of Japan) currently leading TMT (Thirty Meter Telescope) project as the director of TMT-Japan project. Previously, he was the associate director of Subaru Telescope from 2006 to 2013. His research interests are telescope & science instruments and spectroscopic studies of interstellar medium and star/planet formations.



**John Vierra**  
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**John Vierra** was born and raised in Hilo and graduated from Hilo High School. He joined the United States Air Force after graduation and spent the next 10 years in the US Air Force as a firefighter, earning a degree in Fire Science. He left the Airforce in 1992 to move back home and be close to his family. Upon returning to Hilo he was hired as a firefighter at Pohakuloa Federal Fire Department. He spent 22 years with the Federal Fire Department retiring as an Assistant Fire Chief. During his time at the Fire Department he also worked as a Flight Medic/Rescue Specialist with Priority 1 Air Rescue simultaneously teaching Emergency Medical Responder classes around the island. He has been a CPR instructor since 1989. Since 2008 he has worked with Gemini as a Safety Trainer. In November 2014 he starting working full-time as Gemini's Safety Manager and ensures the Safety of all Gemini employees at the telescope and base facilities in Hawaii and Chile.



**Tom Winegar**  
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**Tom Winegar** works as the archive administrator for the pictures of the Subaru Telescope in Hilo, Hawaii. After graduating from UC Berkeley in 1982, Tom has worked as a database programmer and administrator for 30 years - the last 17 at the Subaru developing web-based query and archive software used by astronomers to retrieve observation data from an international-mirrored 100TB archive. In his spare time, he submerges himself in the ocean and mows.



**Christian Wong**  
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**Christian Wong** is the director of the Hawaii Science and Technology Museum, a STEM education nonprofit based in East Hawaii. Through Christian's guidance the Hawaii Science and Technology Museum delivers a wide array of STEM education outreach programs to the community including science camps, after school STEM programs, student research support, math tutoring, science exhibits, science nights at the local schools, and special events like the Hawaii Explorations Expo (HE'E) to promote innovation in the community. Christian's day job is with the Hawaii Fire Department as a Fire Captain at the Honokaa Fire Station and the Operations Section Chief for the Hawaii Island Incident Management Team. He graduated from the University of Hawaii at Hilo with a B.A. in Natural Science and a minor in Earth and Space Sciences in 2001. Christian has had a lifelong love of science and science education, loves to spend his free time with his family and enjoys reading, hiking, playing tenor sax with the Hawaii County Band, and coaching youth robotics teams.





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**Siyi Xu** joined Gemini Observatory in 2017 as an assistant astronomer. She is mostly interested in the end stage of planetary systems. Siyi grew up in Kunshan, a beautiful town of one million people in the east coast of China. She received a bachelor's degree in Astronomy from Nanjing University before moving across the pond to pursue a PhD in astronomy at the University of California, Los Angeles (UCLA). After that, she worked for the European Southern Observatory (ESO) in Germany for three years, before joining the Gemini family. Siyi enjoys all kinds of outdoor activities when she is not looking at the stars.



**Sherry Yeh**  
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**Sherry Yeh** currently works at W. M. Keck Observatory as a Support Astronomer. She knew she wanted to become a scientist at a young age, and she made up her mind to become an astronomer after attending summer schools at the Ken-Ting Observatory and Academia Sinica Institute of Astronomy and Astrophysics in Taiwan. Sherry received her PhD at the University of Toronto in Canada, and her research focuses on the interplay between massive star clusters and their interstellar medium in nearby galaxies. Sherry has used near- and mid-infrared instruments on telescopes around the world and in the stratosphere. When Sherry is not exploring the Universe, she enjoys knitting and wandering in the volcano park.



**Michitoshi Yoshida**  
**Subaru Telescope**

**Michitoshi Yoshida**, Director of the Subaru Telescope, received his PhD from Kyoto University. His career as a professional astronomer started at Okayama Astrophysical Observatory (OAO), which is a branch of National Astronomical Observatory of Japan (NAOJ). In 1995, Dr. Yoshida stayed in Hilo to support initial construction of Subaru Telescope. He also joined the development team of one of the spectrographs of Subaru, FOCAS, at the headquarters of Subaru, FOCAS, at the completion of Subaru construction, he moved back to OAO and became its director. Dr. Yoshida worked for Hiroshima Astrophysical Science Center, Hiroshima University as the director from 2010 to 2017. He was then appointed as the director of Subaru from this April. Dr. Yoshida's main research field is optical-infrared observational astronomy of galaxies and high energy transient objects. Recently, he is interested in gravitational wave and its related astronomical/physical phenomena.