



2021



To Our Journey 'Ohana,

Our 17th year of Journey Through the Universe — which, owing to the COVID-19 pandemic, took place entirely online for the first time in 2021 — continued to share the wonders of the Universe and the possibilities of a career in science and technology with school students on Hawai'i Island! This year's iteration of Gemini Observatory's flagship astronomy outreach program was highlighted by a week of live virtual educational programming delivered by our dedicated astronomers, engineers and observatory staff from the Maunakea observatories, NASA and other organizations.

During Journey "Week", 48 astronomy educators virtually visited almost 6000 students in the Hilo-Waiākea, Honoka'a, Waimea, Maui and Lāna'i area schools. These volunteer educators provided astronomy-focused presentations custom fit to specific grade levels and career panels for elementary and secondary school students throughout the week. To prepare the astronomy educators for classroom visits, the Journey program hosted an astronomy educator workshop led by the Department of Education Hilo-Waiākea Complex Area which focused on the Next Generation Science Standards (NGSS) and engaging students in an online format.

"The Journey Through the Universe partnership with Gemini Observatory is one of the longest and most impactful that I know of for the Hawai'i District Department of Education," explained Department of Education Hilo-Waiākea Complex Area Superintendent, Esther Kanehailua. "For 17 years the dedicated staff from the Maunakea Observatories have visited our classrooms with incredible energy and a passion for exploration and our island, inspiring our future leaders."

Journey Week also included two evening events to engage the local community outside the virtual classrooms. On 1 March, the Hawai'i Island Chamber of Commerce and the Japanese Chamber of Commerce and Industry of Hawai'i hosted a virtual welcome reception for the Journey Through the Universe participants and supporters with attendance from the Hawai'i Island business and education communities and Journey astronomy educators. On 3 March NSF's NOIRLab and KWXX radio station streamed live to YouTube for a public talk featuring the future of modern astronomy followed by stargazing from Hawai'i and Arizona.

"Journey Through the Universe would not succeed without the help of our community partners and sponsors, including the Department of Education, Hawai'i Island business community, Maunakea Observatories, and NASA, among many others," said Janice Harvey, Journey Through the Universe program coordinator. "Their continued support is a demonstration of their commitment to our community and the future of science education for Hawai'i students."





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 one of only ten communities around the nation that are designated Journey through the Universe sites; and

WHEREAS, the 17th Annual Journey through the Universe program on Hawai'i Island strengthens the community by partnering with the Gemini Observatory on Maunakea, University of Hawai'i at Hilo, Department of Education's Hilo-Wai'ākea and Ka'u-Kea'au-Paho 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 as well as many 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 help to ensure science literacy; and

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

WHEREAS, members of the local community are provided with an intensive week of programs that include teacher workshops, classroom visits by astronomers and scientists, public lectures and family science nights;

THEREFORE I, DAVID Y. IGE, Governor of the **State of Hawai'i**, do hereby proclaim March 1–5, 2021 as

“JOURNEY THROUGH THE UNIVERSE WEEK”

in Hawai'i and ask the people of the Aloha State to join me in recognizing the national importance of science education and encourage our keiki to pursue the explorers within them.

Done at the State Capitol in the Executive Chambers, Honolulu, State of Hawai'i, this twenty-eighth day of January 2021.



DAVID Y. IGE
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 2021, the program celebrates its 17th 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,

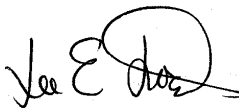
NOW, THEREFORE, I, LEE E. LORD, Acting Mayor of the County of Hawai'i, do hereby proclaim March 1-7, 2021, as

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 22nd of January, 2021, in Hilo, Hawai'i.




LEE E. LORD
ACTING MAYOR



Astronomy Educator Workshop Agenda 8:30am - 10:30am, January 21, 2020

This Journey workshop will provide our Astronomy Educators (AE) with insight into our 17 year partnership with the Department of Education (DOE) and our local community. The DOE will lead this workshop focused on the virtual live and pre recorded talks for Journey 2021.

8:30 - 8:45 (15 min) Janice Harvey, Journey Team Leader, will give an overview of Journey for the past 17 years and introduce the Journey team.

8:45 - 9:00 (15 min) Hilo-Waiakea Complex Area Superintendent, Esther Kanehailua will speak about Journey's partnership with the DOE.

9:00 - 10:10 (70 min) School Renewal Specialist, Darrell Nekoba and Resource team Mariesa Venzon and Jodie Menino will share:

- Performance expectations of the Next Generation Science Standards;
- Scientific phenomena & Sensemaking

To assist AE's in engaging students in experiencing the wonder of science

10:10 - 10:30 (20 min) Closing discussion.



Mahalo for joining us on our Journey Through the Universe!



noirlab2109 — Organization Release

Journey Through the Universe 2021

NOIRLab celebrates 17 years of the flagship outreach program in Hawai'i with a packed online educational schedule

22 February 2021



Journey Through the Universe — which, owing to the COVID-19 pandemic, will take place entirely online for the first time in 2021 — will share the wonders of the Universe and the possibilities of a career in science and technology with school students on Hawai'i Island. This year's iteration of the flagship astronomy education and outreach program is highlighted by a week of virtual educational programming from 1 to 5 March 2021.

Journey Through the Universe, an education program of NSF's NOIRLab, promotes science education across the east and north Hawai'i Island school districts and fosters curiosity and wonder about our Universe. The program shares the cutting-edge research and technology that allows us to understand our place in the cosmos, inspiring students to develop scientific literacy and explore their interest in Science, Technology, Engineering and Math (STEM). This year's online format is designed to recreate the inspiration of past years while limiting the risk to educators and participants.

"This is an incredibly exciting time in astronomy to be inspiring young students", said Jen Lotz, director of the international Gemini Observatory, a program of NOIRLab. "New instruments, new ways of examining data, and new large collaborative astronomy programs are revolutionizing how we study the Universe — there has never been a better time to inspire young people to join the field."

"It has been a challenge to adapt Journey's usual face-to-face format to the demands of the pandemic," explained Janice Harvey, NOIRLab's Hawai'i Education and Engagement Manager. "But the Journey team and our volunteer educators have put together an outstanding program and we're looking forward to inspiring more students to learn about astronomy and our place in the Universe."

Outside of the classroom, part of the team behind Journey Through the Universe was featured on 3 February 2021's Live from NOIRLab, a weekly live educational event on the NOIRLab's YouTube channel. In this event, Alyssa Leinani Lozi, Outreach Assistant,

Esther Kanehailua, Hilo-Waiākea, Complex Area Superintendent of the Hawai'i State Department of Education, and Angelic Ebbers, Astronomy Educator and Software Operations Group Lead at Gemini Observatory discussed the Journey program and its long history of successes.

“The Journey Through the Universe partnership with Gemini Observatory is one of the longest and most impactful that I know of for the Hawai'i District Department of Education,” explained Kanehailua. “For 17 years the dedicated staff from all of the Maunakea Observatories have visited our classrooms with incredible energy and a passion for exploration and our island, inspiring our future leaders.”

As well as educational experiences, Journey astronomy and science educators will also provide career panels throughout the week to inform students about educational possibilities and career opportunities available at observatories and within the field of astronomy.

“This is an important opportunity to make contact with kids at an earlier age, exposing them to the opportunities that exist in their local community, and encouraging them to aim high,” explained John Vierra, Gemini’s Safety Coordinator and career panel participant. “The panels are planned to inspire students to think outside the box and about what they want to accomplish later in life.”

Journey Through the Universe is also partnering with local radio stations on 3 March 2021 to broadcast a free public talk, which will also be streamed live to NOIRLab’s Youtube channel. The talk features Lars Lindberg Christensen, NOIRLab’s Head of Communications, Education & Engagement, who will describe the exciting future of ground-based astronomy. The online audience will be able to ask questions and discuss the talk before enjoying virtual stargazing from Hawai'i and Arizona.

Another annual Journey event will be taking place virtually this year, the Astronomy Educators Reception presented by the Hawai'i Island and Japanese Chambers of Commerce celebration on 1 March. This thank you celebration will include over 40 staff members from the Department of Education, our astronomy community and the broad business community on the Big Island.

Originally developed by the National Center for Earth and Space Science Education (NCESE), Journey has expanded each year since its introduction in Hawai'i by the staff of the Gemini Observatory in 2004. Last year alone, the Journey program reached over 8800 students in 300 classrooms thanks to the combined efforts of more than 80 astronomy educators sharing their passion for science and the generous support of sponsors at the local and national level. This year sees **the second year that Journey has been extended to the island of Maui by the Daniel. K. Inouye Solar Telescope team at the National Solar Observatory.**

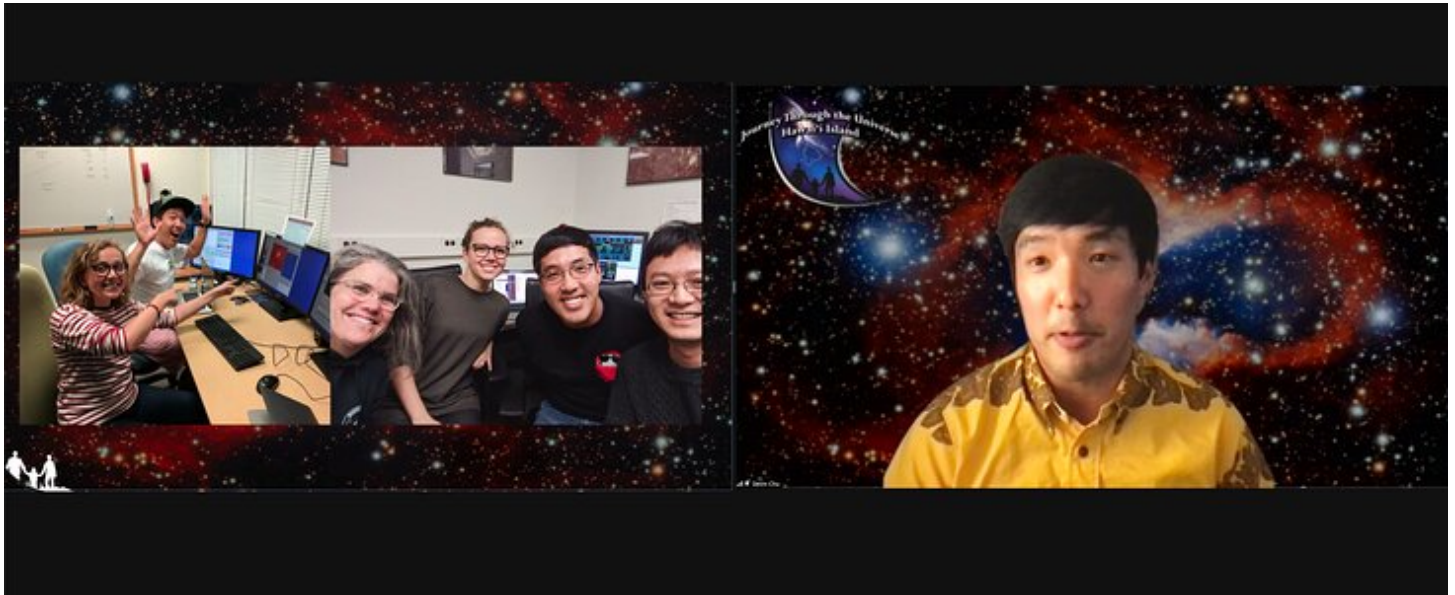
“Journey Through the Universe would not succeed without the help of our community partners and sponsors, including the Department of Education, Hawai'i Island business community, Maunakea Observatories, and NASA, among many others,” concluded Janice Harvey. “Their continued support is a demonstration of their commitment to our community and the future of science education for Hawai'i students.”

Journey Through the Universe begins on Monday, 1 March 2021. This year’s first presentation will be by Alex Lockwood at Space Telescope Science Institute (STScI) — STScI is taking part in Journey for the first time. Grade 7 and 8 students will hear about NASA’s next space telescope in Unfolding Cosmic History with the James Webb Space Telescope.

ann21009 — Announcement

Celebrating 17 Years in Hawai'i Island Classrooms

4 March 2021



This year's virtual Journey Through the Universe program, running from 1 to 5 March 2021, is nearing completion with stunning results. Owing to the pandemic, the event took place entirely online for the first time to limit the risk to educators and participants. Together with about 50 local and national partners and collaborators, NSF's NOIRLab leads this annual program.

By the end of the week, the Journey astronomy educators will have reached almost 6000 students in almost 300 virtual classrooms across Hawai'i who are introduced to the wonders of the Universe and the possibilities of a career in Science, Technology, Engineering and Math (STEM) fields.

On Monday, the Hawai'i Island Chamber of Commerce and Japanese Chamber of Commerce and Industry

virtual reception was attended by around 60 members of our local community, demonstrating the strong support from the region for Journey.

Wednesday's public talk by Lars Lindberg Christensen entitled Exciting Revolution Ahead for Ground-Based Astronomy, and hosted by local radio celebrity, Darrin "DC" Carlson, attracted over 75 members of the public, many of whom stayed for live virtual stargazing after the event.

This is the 17th consecutive year of Journey Through the Universe. More details of the program can be found in the 2021 Journey Through the Universe press release on the NOIRLab website, as well as in the B-roll video for broadcasters.

Ke Kalaheia

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[COVID-19 Updates](#)

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Journey Through the Universe

Educators Share Passion for Science



Writer: *Lauren Okinaka*

Photo Courtesy of: *Joy Pollard, Devin Chu*

[Top](#)

Journey Through the Universe (Journey) returns to Hawai'i Island this month. The astronomy education and outreach program inspires and teaches students to explore science, technology, engineering and math (STEM) fields by developing literacy in science.

It will feature educational programs, workshops, and career panels from March 1-5. Due to the COVID-19 pandemic, educators will connect with students in East and North Hawai'i Island schools virtually. UH Hilo Department of Physics and Astronomy faculty members are participating as educators in this year's

Hawai'i Island business community, Maunakea Observatories, and NASA, among many others," said Janice Harvey, Journey Through the Universe program coordinator. "Their continued support is a demonstration of their commitment to our community and the future of science education for Hawai'i students."

Career panels featuring local observatory professionals are an important aspect of the Journey program. These panels allow students to discover the wide range of educational possibilities and career



program. They include Kathy Cooksey , Richard Griffiths , John Hamilton , Marianne Takamiya , and Andrea Waiters. Also participating are Christoph Baranee and Carolyn Kaichi from the UH Institute for Astronomy and Emily Peavy from 'Imiloa Astronomy Center. The university is also one of about 50 sponsors of the program.

"Journey Through the Universe would not succeed without the help of our community partners and sponsors, including the Department of Education,

opportunities available at observatories and within the field.

"Journey endeavors to foster curiosity and wonder about our Universe, and the cutting-edge research and technology that is allowing us to understand our place in the cosmos like never before," according to the National Science Foundation website.

The program was developed by the National Center for Earth and Space Science Education. In 2004,

Gemini Observatory introduced Journey to Hawai'i and the program has expanded each year. Last year, the program reached more than 8,800 students in 300 classrooms, and more than 80 astronomy educators shared their passion for science with students.

"This is an opportunity to make contact with kids at an earlier age, exposing them to the opportunities that exist in their local community, and encouraging them to aim high," said John Vierra, Gemini's Safety Coordinator and career panel participant. "It inspires them to think outside the box about what they want to accomplish later in life."

Devin Chu, a postdoctoral researcher at UCLA, said Journey had a positive impact on his life and inspired him to study astronomy. He recalls attending a talk by a planetary scientist. "He talked about the Cassini Mission, which was a space satellite that orbited Saturn," he said. "I was super fascinated by the science, images, and future missions."

Chu grew up in Hilo and graduated from Hilo High School in 2010. He earned his bachelor's degree from Dartmouth College in 2014 and his Ph.D. from the University of California, Los Angeles (UCLA) in 2020.



He is participating as an educator in the program this year. "Journey not only kept me interested in science but also taught me the importance of giving back to the community," Chu said. "As a scientist, we must do more than just our research. We have a responsibility to engage with the community."

Chu believes that scientific literacy is important for students in Hawai'i. "We live in such a unique place where there are opportunities to study interesting science all around us," he said. "Even if students do not pursue a career in science, having an understanding of how science works, the scientific process, and using evidence-based reasoning is important." Chu's advice to STEM students is to take advantage of opportunities around them. "Take the initiative and talk to professors or others in the community about what they work on," he said. "There are so many unique resources, especially at UHH!"

UH Hilo students who are interested in participating in Journey through the Universe can contact Janice Harvey at jharvey@gemini.edu for an opportunity to work alongside their astronomy educators in the classroom.

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THROWBACK THURSDAY

2020 Journey Through the Universe Astronomy Educators Reception

Don't forget to register for the
2021 [Journey Through the Universe Virtual Reception!](#)

\$10 Registration includes a Journey Through the Universe facemask and virtual tour of the Gemini Observatory Control Room



17th Annual Virtual Astronomy Educators Reception

Journey Through the Universe
Hawai'i Island

Monday, March 1, 2021

5:30 pm - 7:00 pm via Zoom

\$10 Registration Fee

Registration Deadline: Monday, February 22, 2021

****A free Journey facemask will be reserved for each registered attendee****

Zoom Link will be emailed to registered participants

We invite you to celebrate **Journey Week!** Zoom-meet and greet National Science Team members, astronomers, and educators and thank them for their commitment and support to the Journey Through the Universe program. Join us for a virtual spin the wheel prize giveaway (must be present to win) and a live connection to Gemini's control room.

**Presented by the Hawai'i Island Chamber of Commerce and
Japanese Chamber of Commerce & Industry of Hawai'i**

**Payments accepted at either Chamber's offices.
Please register by paying online or contacting us:**

**JCCIH 714 Kanoelehua Ave, Hilo, HI 96720 ~ Phone: 934-0177 ~ Fax: 934-0179
~ Email: jccih@jccih.org ~ Website: www.jccih.org**

**HICC 1321 Kinoole St, Hilo, HI 96720 ~ Phone: 935-7178 ~ Fax: 961-4435
~ Email: registration@hicc.biz ~ Website: www.hicc.biz**



**Journey website for additional information
<https://noirlab.edu/public/education/journey-through-the-universe/>**



LIVE from NOIRLab @ HAWAI'I

FEBRUARY 03
2pm HST
HILO

JOURNEY THROUGH THE UNIVERSE



Janice Harvey
Hawai'i Education & Engagement Manager, NSF's NOIRLab



Esther Kanehailua
Hilo-Waiakea Complex Area Superintendent, DOE



Angelic Ebbers
Software Operations Group Lead, NSF's NOIRLab

Watch on YouTube: **NOIRLabAstro**



NOIRLab
Published by Hootsuite · February 3 ·

Join us today on our YouTube channel at 2pm HST (<https://ow.ly/m5S50DpuEJ>) for a live Q&A about Gemini Observatory's flagship outreach program, Journey Through the Universe. Now in its 17th year, the Journey program brings astronomy and STEM education directly to Hawai'i island classrooms.

#Journey2021 #LiveFromNOIRLab #Astronomy #JourneyThroughTheUniverse #AstronomyOutreach

9 · 6 Shares

Like Comment Share

Comment as NOIRLab

Journey Through the Universe in Social Media.

NOIRLab
Published by Hootsuite · February 8 ·

#LiveFromNOIRLab, Journey Through the Universe edition is now uploaded to our YouTube channel. If you missed it live, now is your chance to learn about @GeminiObs flagship outreach program on Hawai'i Island. <http://ow.ly/v3XC50DsYWL> #Journey2021



NOIRLab
Published by Hootsuite · March 1 at 8:00 AM ·

The 17th year of Journey Through the Universe officially starts today! This week we'll be facilitating 35 live virtual classroom presentations including career panels with our K - 12 students in Hawai'i. <https://noirlab.edu/.../edu.../journey-through-the-universe/> #Journey2021 #JourneyThroughTheUniverse

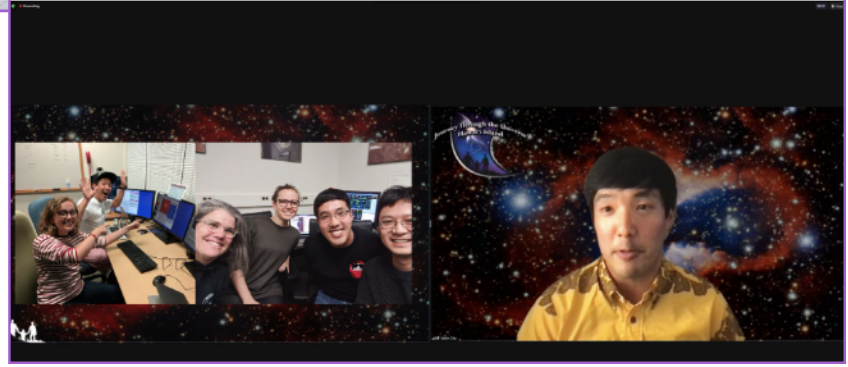
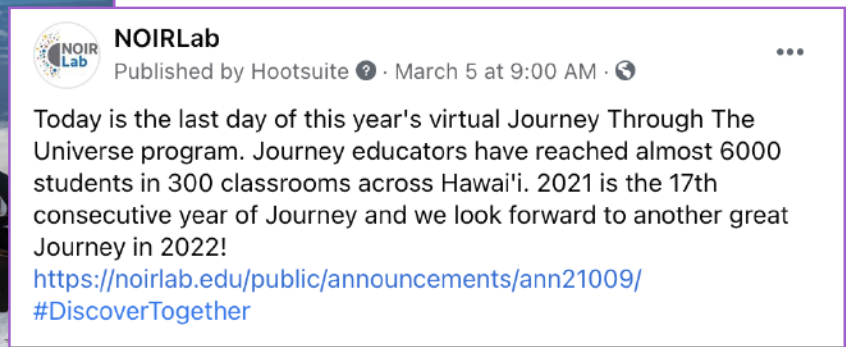
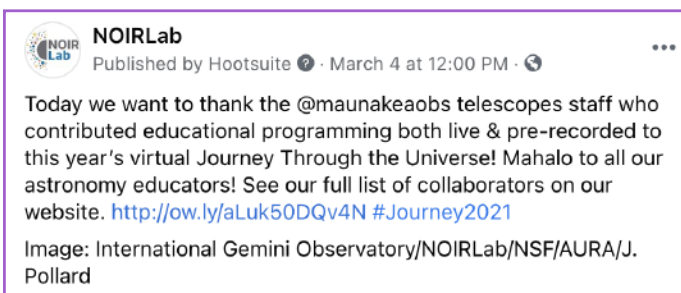
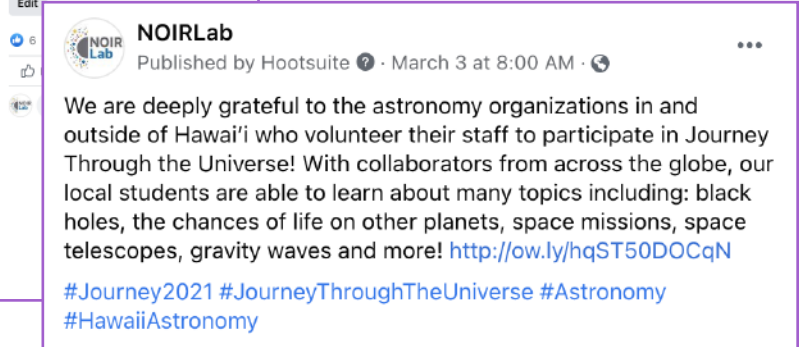


NOIRLab
Published by Hootsuite · March 2 at 4:31 PM ·

Yesterday was the 1st day of Journey Through the Universe, @GeminiObs's flagship Hawai'i education program. While previous years were centered on Big Island, this year's virtual Journey has allowed us to reach Maui with the collaboration of @NatSolarObs! #Journey2021

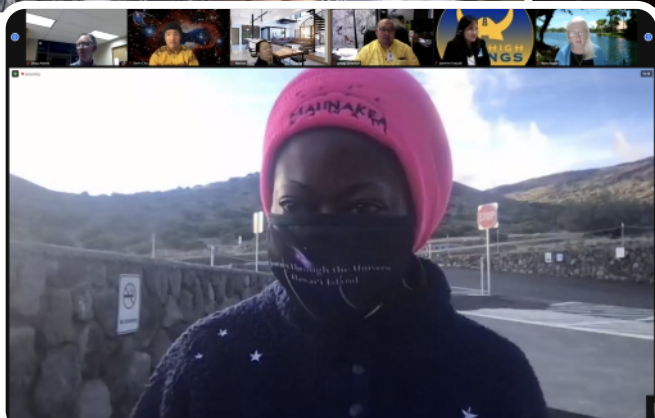


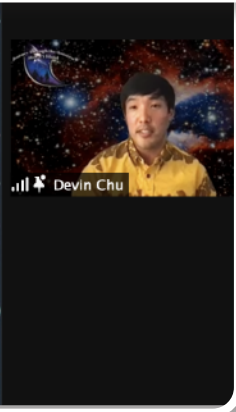
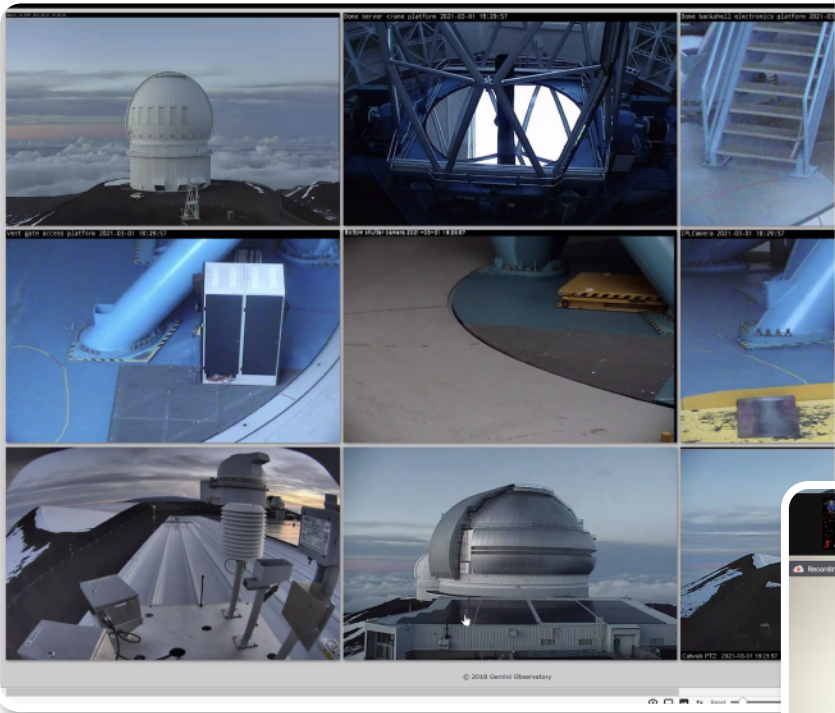
Journey Through the Universe in Social Media.



Astronomy Educator Welcome Reception, March 1

On the evening of March 1 2021, the Hawai'i Island Chamber of Commerce and the Japanese Chamber of Commerce and Industry of Hawai'i hosted a virtual welcome reception for the Journey Through the Universe astronomy educators. This annual event brings together the Department of Education, business and astronomy communities to usher in the week of classroom presentations and career panels, all held virtually this year due to the covid-19 pandemic. This year's featured speaker was Devin Chu, Hilo High School Alum and UCLA postdoc who highlighted the importance of supporting local youth as a community.





Public Talk and Stargazing, March 3

Wednesday's public talk by Lars Lindberg Christensen entitled Exciting Revolution Ahead for Ground-Based Astronomy, and hosted by local radio celebrity, Darrin "DC" Carlson, attracted over 75 members of the public, many of whom stayed for live virtual stargazing after the event.

JOURNEY THROUGH THE UNIVERSE PRESENTS:
EXCITING REVOLUTION AHEAD FOR GROUND-BASED ASTRONOMY

MARCH '21
03
7-8:30 pm HST
Watch on YouTube:
NOIRLabAstro

LARS LINDBERG CHRISTENSEN
GEMINI OBSERVATORY/NSF'S NOIRLAB
HEAD OF COMMUNICATIONS EDUCATION & ENGAGEMENT

OVER THE PAST DECADE, discoveries have been made with "messengers" from space that go beyond light: particles from distant galaxies, neutrinos from the Sun and supernovae, and most recently gravitational waves. These Messengers and the Universe's dynamic nature are two of the most rapidly advancing areas of astronomy, and will likely redefine modern astronomy.

SPECIAL GUEST EMCEE:
DARRIN "DC" CARLSON FROM KWXX RADIO STATION

STARGAZE WITH US!
Experience the night sky live from
Hawai'i & Arizona

GEMINI OBSERVATORY
Engineering the Universe. Sharing Its Wonders.

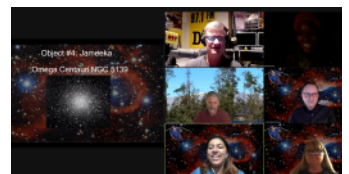
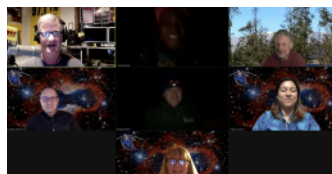
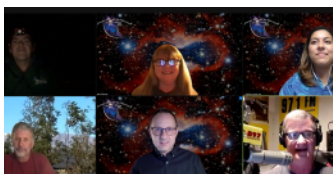
MAUNAKEA OBSERVATORIES
Inspire... Then Educate.
National Center for Earth and Space Science Education

NOIRLab

NewWest BROADCASTING CORP.

KWXX
B93 & B97

KPUA



Project #2: Jameeka Orion Nebula M 42

Exciting Revolution Ahead for Ground-based Astronomy

Lars Lindberg Christensen, NSF's NOIRLab
A Journey Through the Universe Presentation

NOIR Lab

1 Where Did we Come From?

Lars Lindberg Christensen

2 What is the Universe Composed of?

Normal Matter

Dark Matter

Library | Develop | Map | Book | Slideshow | Print | Web

Canon EOS 6D

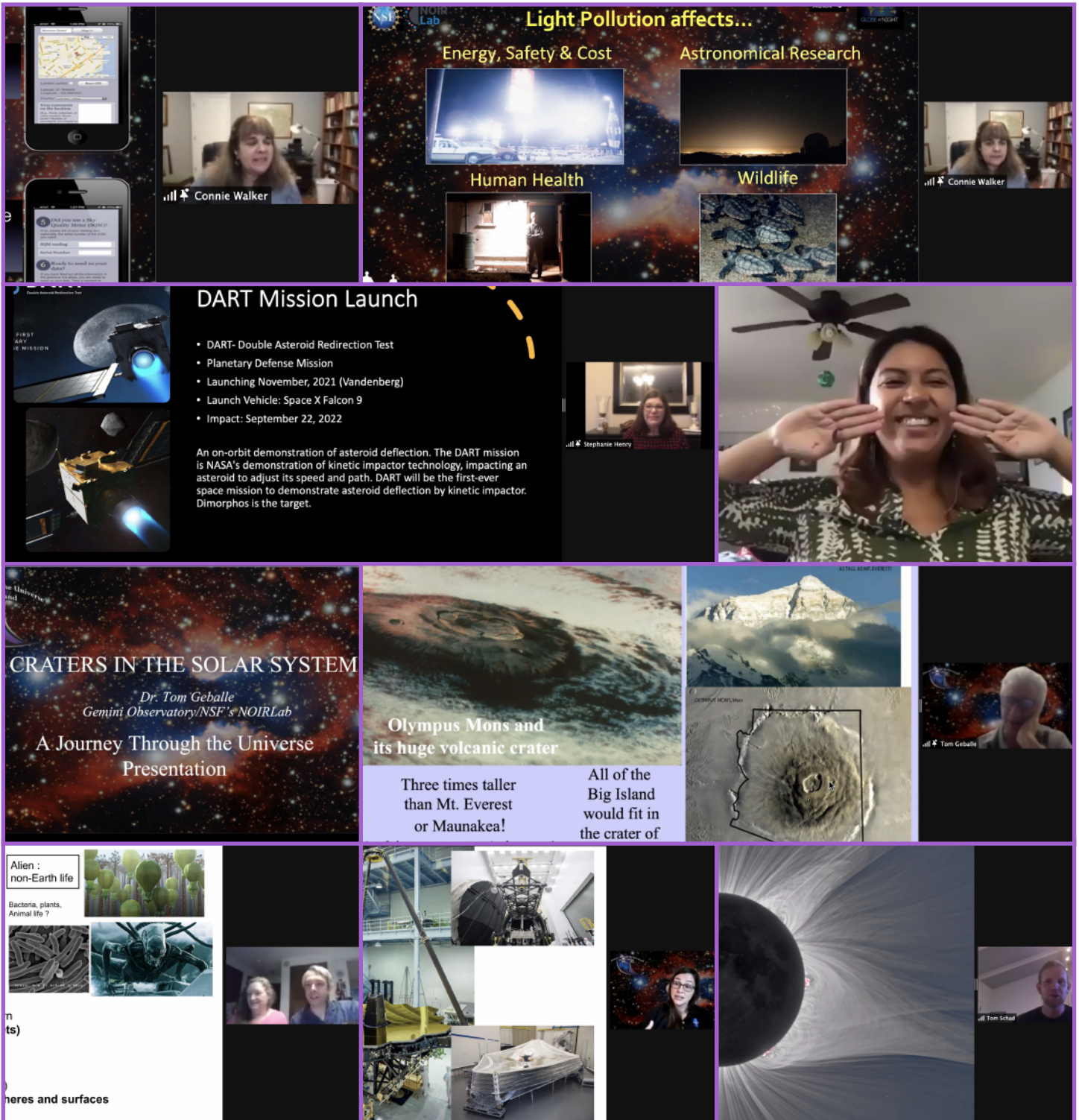
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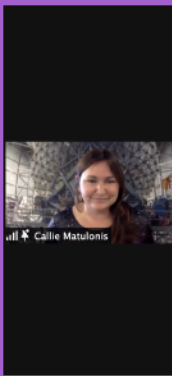
Journey Week Classroom Presentations, March 1 – 5

Journey Through the Universe reached nearly 6,000 students this year from Hawai'i Island, Maui and Lana'i through live online educational programming. With collaborators from across the globe, our local students were able to learn about many topics including: black holes, the chances of life on other planets, space missions, space telescopes, gravity waves, parts of a telescope, moon phases, the solar system, constellation stories from around the world and more!



Twinkle Twinkle!

How I wonder what you are.



The Earth goes around the Sun!



Observing Our Star the Sun: Collecting the Many Colors of the Sun

Tom Schall: National Solar Observatory / Daniel K Inyue Solar Telescope
Journey Through the Universe - Virtual Talk - 2 March 2021

W. M. KECK OBSERVATORY
Maunakea Island of Hawai'i

Shelly Pelfrey Outreach Coordinator & Administrative Assistant

Interpretive exploration (Zoom edition)

ning	Plant mai'a, 'ulu, and other trees
ning	Plant mai'a, 'ulu, and other trees
ning	Plant mai'a, 'ulu, and other trees
ning	Unproductive planting; preparation day
ning	Unproductive planting; preparation day
ning	Unproductive planting; preparation day

ut Computers

ween Stars and Gas
dense, cold Hydrogen

Journey Through the Universe:
Parts of a Telescope

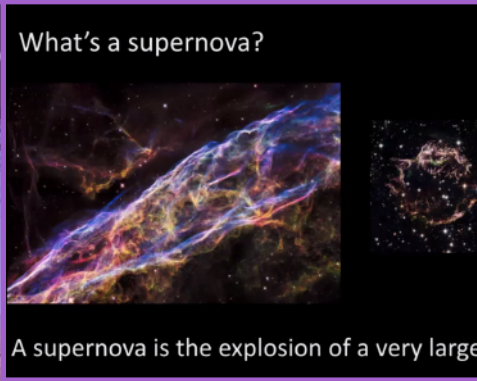
My Collections

Layers

andrealord

Sara, Naiya & I.

Emily Feavy (Cimosa Astronomy...)

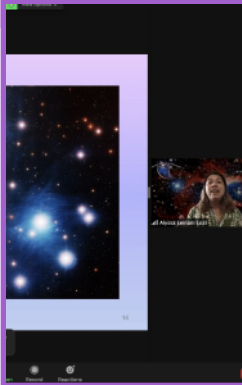


Every stage of a star's life is a dance between GRAVITY and FUSION

GRAVITY PULLS IN

FUSION PUSHES OUT

Jul Mimi Fuchs



How Origami Can Help Us Explore Other Worlds

Julien Lozi

Subaru Telescope

mi for exoplanetary science

AO-like instrument in space, we could detect planets on a 4-m telescope

graphy is not the only solution. Another is a starshade, a giant sunflower structure, to bright

Julien Lozi

Journey Week Career Panels, March 2 – 4

For the first time, Journey hosted career panels for not only secondary school students but also elementary schools. Attendees learned about the many career opportunities at the Maunakea Observatories, NASA, the University of Hawai'i at Hilo, and the National Solar Observatory on Haleakala.

Education History

- Kamehameha Schools
- University of Hawai'i at Mānoa
- Kapi'olani Community College
- Hawai'i Community College
- University of Hawai'i at Hilo
 - BA – Geography and Environmental Studies





Writer






Used DOE telescope for Hilo Intermediate Science Fair





A Typical Day



Lots of email, including from Chile!
Often something about science and engineering!
Quite a lot of administration, planning...
Sometimes, celebrating!
Asking for help!



*a few people in
of astronauts. That's
rybody's business to*

er Astronaut













Big Dreams

Small Things

nice Harvey

2020.4

0.24"

Supermassive Black Hole!

Keck/UCLA Galactic Center Group

Journey Through The Universe 2021
Presenter: Ms. Marshall

About Me...

- From Memphis, TN
- Important center of the Civil Rights Movement
- Taught me the importance of not giving up, especially when things are hard!

As A Kid, I wanted to work for Kitt Peak

© Robert Sparks

High School
Age 16 - 18

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Janice Harvey

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

Bank of Hawai'i	Mauna Kea Visitor Information Station
Basically Books	NASA Infrared Telescope Facility
Big Island Candies	NASA Marshall Space Flight Center
Big Island Toyota	National Astronomical Observatory of Japan
California Institute of Technology	National Center for Earth & Space Science
Caltech Submillimeter Observatory	National Optical Astronomy Observatory
Canada-France-Hawai'i Telescope	National Radio Astronomy Observatory
Daniel K. Inouye Solar Telescope	National Solar Observatory
DeLuz Chevrolet	NSF's National Optical-Infrared Astronomy
Gemini Observatory	Research Laboratory
Hawai'i Community College	Pacific Science Center
Hawai'i Electric Light Company	Pacific International Space Center for
Hawai'i Island Chamber of Commerce	Exploration Systems
Hawai'i Island Economic Development	Project Astro/Family Astro
Board	Rotary Club of Hilo Bay
Hawai'i State Department of Education	Smithsonian Submillimeter Array
Hawai'i Science and Technology Museum	Subaru Telescope
Hawai'i Tribune-Herald	Thirty Meter Telescope
'Imiloa Astronomy Center	Thirty Meter Telescope - Japan
James Clerk Maxwell Telescope/EAO	UH Hilo, College of Pharmacy
Japanese Chamber of Commerce &	UH Hoku Ke'a and 2.2 Meter Telescopes
Industry	UH Institute for Astronomy
KTA Superstores	United Kingdom Infrared Telescope
KWXX Radio Station/New West	University of California - Los Angeles
Broadcasting	University of Hawai'i at Hilo
Mauna Kea Astronomy Outreach	University of Hawai'i at Manoa
Committee	University of Oregon
Mauna Kea Observatories	Very Long Baseline Array
Mauna Kea Support Services	W.M. Keck Observatory

<https://noirlab.edu/public/education/journey-through-the-universe/>



Astronomy Educator Profiles



Alexis Ann Acohido

EAO/JCMT

a.achido@eaobservatory.org

Alexis Ann Acohido is a Telescope Systems Specialist at the James Clerk Maxwell Telescope/East Asian Observatory. Prior to this, she was a Media Relations and Local Outreach Assistant at Gemini Observatory. She graduated from the University of Hawai'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.



Virginia Aragon-Barnes

CFHT

a-barnes@cfht.hawaii.edu

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 Hawai'i to pursue and successfully obtain a Bachelor's in Geology at the University of Hawai'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 Manager for the Canada-France-Hawai'i Telescope. Virginia continues to pursue her personal commitment of inspiring Hawai'i's



keiki to become future scientists through educational outreach.



Christoph Baranec
UH Institute for Astronomy
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 Hawai'i 2.2-meter telescope which will achieve resolutions approaching that of the Hubble Space Telescope.



Tishanna Ben

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



**National Solar
Observatory/DKIST**
tben@nso.edu

taught middle and high school science courses at Ka'u High and Pahala Elementary School on the Big Island.



Vanshree Bhalotia
**UH Mānoa Physics &
Astronomy**
vanshree@hawaii.edu

Vanshree Bhalotia is a Ph.D. student studying "starquakes" at the University of Hawai'i at Mānoa. She is an American Physical Society Bridge fellow and an American Astronomical Society Astronomy Ambassador. Vanshree obtained her Bachelor's degree at UCLA and her Master's at DePaul, and is passionate about helping everyone feel connected to the sky that we share. Vanshree has over 6 years of experience in communicating astronomy to the public at schools, assisted living facilities, colleges, pubs and planetaria. Most recently, Vanshree has started a radio-show and podcast that combines astronomy with art and culture. She interviews artists on the details of their work and discusses its connections to astronomical phenomena. She broadcasts every Monday at 90.1FM in Honolulu, but also uploads recordings through her twitter @stardiscoshow. Along with the radio show, Vanshree uses her astrophysics skills in collaboration with the UH Mānoa Dance dept. and has been involved in the creation of various on-stage performances. When she's not looking for quakes on stars or helping spread wonder, Vanshree enjoys writing poetry and connecting to the 'aina.



Catherine Blough
NSF's NOIRLab / international
Gemini Observatory
cblough@gemini.edu

Catherine Blough thought about becoming a teacher in third grade. Then life happened. After a Bachelor's degree in Criminal Justice, and a stint as a probation officer; a Master's degree in Social Work, a stint doing research with the mentally ill, Cathy graduated with a Master's degree in teaching. Those work experiences were incredible teaching and learning opportunities continuing to add to an eclectic background in non-profit management. Cathy worked in HIV-AIDS organizations as a community organizer and educator, and with the American Civil Liberties Union helping to found a local marriage equality chapter doing education and outreach to the Delaware state legislature. Settling in Tucson in 2004, she began working for NOAO. In 2015 she began working in the Gemini Development department doing project support. In 2018, she became the Program Manager for the Gemini in the Era of Multi-Messenger Astronomy (GEMMA) program at Gemini. She enjoys island life, hiking, swimming, gardening, and cruising the farmers markets.



Jerry Brower
NSF's NOIRLab / international
Gemini Observatory

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 be found in such cyber places as Tatooine, Azeroth, or Jita in The Forge.

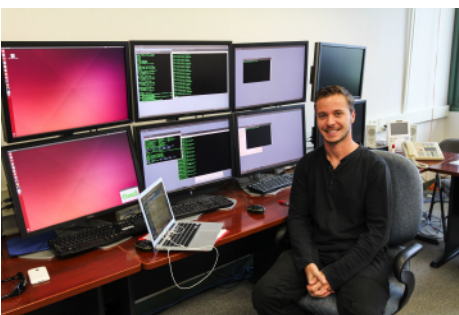


jbrower@gemini.edu



André-Nicholas Chené
NSF's NOIRLab / international
Gemini Observatory
achene@gemini.edu

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 Hawai'i are long observing runs at Mauna Kea, and his daily bike ride to work up and down Puainako St.



Christophe Clergeon
Subaru Telescope
christophe@naoj.org



Devin Chu
University of California Los Angeles
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.



Kathy Cooksey
UHH Physics & Astronomy
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).



Christine Copes has been an educator in Hawai'i for over 30 years. She has taught field courses for UCSC, taught on a Navajo reservation, been a math/science resource teacher, and now works part time at Gemini Observatory. She was selected by Gemini as one of the original StarTeachers, who travelled to Chile to participate in a teacher exchange. Many educational and cultural lessons were developed to share with the



Christine Copes
NSF's NOIRLab / international
Gemini Observatory
ccopes@gemini.edu

students from Hawai'i and Chile! She now helps out with the Journey program, bringing Astronomy Educators and Ambassadors to the students in East Hawai'i, to share the wonders of the Universe. When enjoying her semi-retirement, she loves to hike, travel and spend time with family!



Iain Coulson
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.



Lars L. Christensen
NSF's NOIRLab

Lars L. Christensen is the Head of Communications, Education & Engagement (CEE) at NSF's National Optical-Infrared Astronomy Research Laboratory. He received a Master's degree in physics and astronomy from the University of Copenhagen, and is an award-winning astronomer and science communicator. He has 200 publications to his credit, most of them in popular science communication and its theory, and has authored and co-authored a dozen popular books. Lars directed more than ten documentaries and planetarium movies that have received critical acclaim around the world. He is a press officer for the International Astronomical Union and received the Tycho Brahe Medal for his achievements in science communication.



christensen@aura-astronomy.org



Callie Crowder
Canada-France-Hawaii
Telescope
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.



Sandra Dawson
TMT International
Observatory
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
NASA/SSERVI
brian.h.day@nasa.gov

Brian Day is the Lead for Lunar and Planetary Mapping and Modeling at NASA's Solar System Exploration Research Virtual Institute (SSERVI). He is SSERVI's project manager for NASA's Solar System Treks Project (<http://trek.nasa.gov>), a set of online data visualization and analysis portals 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. In 2007 he flew on NASA's Aurigid MAC mission to study fragments of Comet Kiess burning up in Earth's upper atmosphere.



Jessica Dempsey
EAO/JCMT

Jessica Dempsey is a proud member of the Breakthrough Prize winning Event Horizon Telescope team which brought the world Powehi, the first image of a black hole, in 2019. Dempsey has a passionate commitment to creating greater diversity and gender equity at all levels of astronomy and to enhancing opportunities for girls to become future leaders in science and technology careers.



Aaron Do

Univ. of Hawaii at Mānoa

ado@hawaii.edu



Jerry Dobek

**Northwestern Michigan
College**

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.

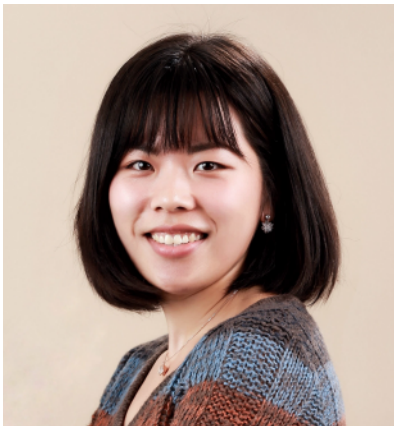


Jeff Donahue

**NSF's NOIRLab / international
Gemini Observatory**

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/UC Riverside**
xinnan.du@ucr.edu

Xinnan Du is the manager and the outreach director 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 developed numerous K-12 and college-level curricula, Xinnan hopes to inspire the younger generation in STEM through authentic, hands-on experience.



Trent Dupuy

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.



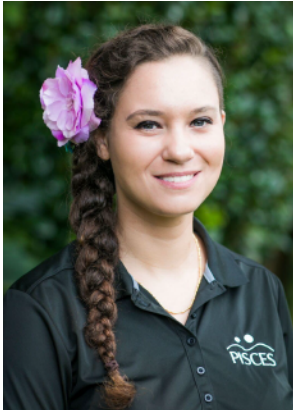
'Āhia Gay Dye, born and raised in Kailua, O'ahu, who graduated from ASSETS School, Honolulu, holds a Bachelors of Science degree in Astronomy from the University of Hawai'i at Hilo. She currently works full-time as a programmer, technician and operator at the 'Imiloa Astronomy Center of Hawai'i's planetarium.

'Āhia Gay Dye
'Imiloa Astronomy Center
adye@hawaii.edu



Angelic Ebbers 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.

Angelic Ebbers
NSF's NOIRLab / international
Gemini Observatory
aebbers@gemini.edu



Kyla Edison
Pacific International Space
Center for Exploration
Systems (PISCES)
deforeky@hawaii.edu

Kyla Edison 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.



Jocelyn Ferrara
NSF's NOIRLab / international
Gemini Observatory
jferrara@gemini.edu

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.



Scott Fisher
University of Oregon
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 (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



Miriam Fuchs

to spend her time singing karaoke with friends and weaving palm frond.



Tom Geballe
NSF's NOIRLab / international
Gemini Observatory
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 Earth and
Space Science Education
jeffgoldstein@ncesse.org

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>.



Alyssa Lozi
NSF's NOIRLab / international
Gemini Observatory
agrace@gemini.edu

Alyssa Lozi is an Outreach Assistant at Gemini Observatory and graduate of the University of Hawai'i at Hilo (UHH). She has had many different outreach-based roles at Gemini since 2015. Her role now primarily consists of facilitating educational programs (ie. Journey Through the Universe), organizing Gemini's participation in community events (ie. Astro Day), and further engaging all ages of audiences via Gemini press releases, social media, classroom visits, and Starlab planetarium shows. Lozi has also worked in astronomy outreach at the 'Imiloa Astronomy Center of Hawai'i, the Maunakea Visitor Information Station and assisted teaching at the Astronomy and Physics Department of UHH. When she isn't learning more about Astronomy, Hawaiian culture or various languages, she's teaching yoga, writing novels, or playing with her cats.



Richard Griffiths
UH Hilo Physics and
Astronomy Dept.
griff2@hawaii.edu

Richard Griffiths has been interested in astronomy since he was about 10 years old, and saved to buy his first telescope a few years later. He obtained his B.Sc. in Physics from Imperial College of Science and Technology, University of London, and his Ph.D. in experimental space astrophysics (X-ray astronomy) from the University of Leicester, UK. He came to the USA in 1976, when he worked as an astrophysicist at the Harvard-Smithsonian Center for Astrophysics in Cambridge, MA, before moving to the Space Telescope Science Institute and Johns Hopkins University in Baltimore. He was Instrument Scientist for the Wide Field and Planetary Cameras on the Hubble, and was also Mission Scientist for the European X-ray Observatory XMM-Newton. He was a Co-Investigator for the charge-coupled device camera on the Chandra X-ray Observatory. Prof. Griffiths became a full professor at Carnegie Mellon University in Pittsburgh where he taught introductory and postgraduate courses in astronomy and astrophysics. He served for five years at NASA Headquarters in Washington DC before retiring from CMU and becoming Emeritus Professor there. Prof. Griffiths is an affiliate professor in the UH Hilo Physics and Astronomy Dept. His research is in deep surveys, specialising in the cosmic evolution of massive black holes and galaxies. He enjoys running, swimming and he speaks French and some Welsh.



Olivier Guyon
Subaru Telescope
oliv.guyon@gmail.com

Olivier Guyon is an astronomer at the Subaru Telescope. He started looking at stars from the age of 10, and he is now both an avid amateur astronomer and a professional astronomer. Olivier graduated from University of Paris 6 in 2002 (Ph.D. research topic: wide field interferometry), and now works with other scientists to directly observe exoplanets. Olivier has been developing new techniques for imaging exoplanets (planets around other stars) from telescopes on Earth and also future telescopes in space. With these new techniques, astronomers will soon be able to observe planets like ours and start to find out if there is life elsewhere in the Universe. In 2007, Olivier received a Presidential Early Career for Scientists and Engineers award from President Bush at the White House. Olivier received in 2012 the MacArthur fellowship (nicknamed the "Genius grant") for his innovative work in astronomical optics. In his spare time, he builds telescopes which he then uses to observe from the clear skies of Mauna Kea and Mauna Loa.



John Hamilton
UHH Physics & Astronomy
jch@hawaii.edu

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
NSF's NOIRLab / international
Gemini Observatory
jharvey@gemini.edu

Janice Harvey is the NOIRLab Education and Engagement Manager in Hawai'i 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.



Saeko Hayashi
TMT Japan Project/Subaru
Telescope
saeko@naoj.org

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 obtained Ph. D. in astronomy by studying mm-wave emission lines from the star forming regions using the 45-m radio telescope in Nobeyama, Japan. After receiving her doctorate, she worked at the 15-m James Clerk Maxwell Telescope in Hawai'i and then joined the 8.3-m Subaru Telescope project. She moved back to Hawai'i to wait for the primary mirror's arrival, then ensured good coating of the telescope optics, started and managed the day crew group work and later the Public Information and Outreach Office. She hopes to



take part in search of the Earth-like exoplanets that have ocean and vegetation. She says, "Subaru Telescope is blessed with the people from the local community as well as from all over the world working together [as ancient Japanese word "Subaru" stands for, that is "come together" or "gather"]." After being in Hilo for almost two decades, Saeko joined yet another telescope project and currently based in Pasadena, California.



Stephanie W. Henry
NASA Marshall Space Flight Center
stephanie.w.henry@nasa.gov

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.



Russell Kackley
Subaru Telescope
rkackley@naoj.org

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.



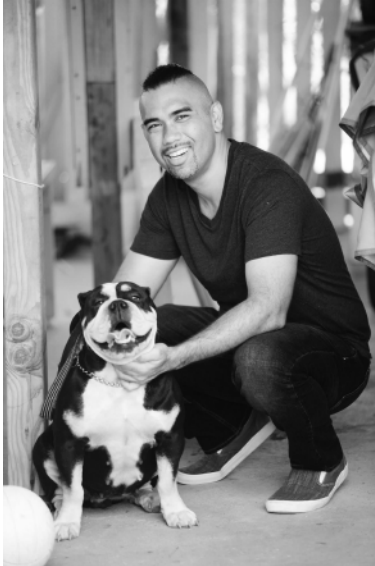
Carolyn Kaichi
UH Institute for Astronomy
kaichic@ifa.hawaii.edu

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.



Yuko Kakazu
TMT Japan Project/Subaru
Telescope
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 Hawai'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.



Jason Kalawe
NSF's NOIRLab / international
Gemini Observatory
jkalawe@gemini.edu



Scot Kleinman
NSF's NOIRLab / international
Gemini Observatory
skleinman@gemini.edu

Scot (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. Scot 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. Scot also works with data from large astronomical surveys which are ushering in a new era of observational astronomy. When not working



(when is that?), Scot likes surfing, live music, and maintaining/modifying his car.



Shintaro Koshida
Subaru Telescope
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.



Preethi completed her PhD in Astrophysics from India and had worked on the topic 'Interstellar Medium' for her thesis. She is now employed as a postdoctoral scholar at the Subaru Telescope. Her current research is in Project PANOPTES, which is a citizen science project to build and operate robotic telescopes to find transiting exoplanets.



Preethi Krishnamoorthy

Subaru Telescope

preethi524@gmail.com



Samuel Lai

**NSF's NOIRLab / international
Gemini Observatory**

samuel.lai.18@alumni.ucl.ac.uk

Samuel Lai recently joined the white dwarf group at Gemini Observatory as a short-term research scholar. He grew up in Hong Kong, then traveled to the United States to study astrophysics. Samuel received his bachelor's degree in astrophysics from University of California, Los Angeles (UCLA) and his master's degree in astrophysics from University College London (UCL). His research revolves around accreting compact objects, such as contaminated white dwarfs and synchrotron emission from the vicinity of supermassive black holes. Outside of astronomy, Samuel enjoys playing tennis, biking, and hiking.



Mary Beth Laychak

**Canada-France-Hawaii
Telescope**

mary@cfht.hawaii.edu

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.



Jennifer Lotz
NSF's NOIRLab / international
Gemini Observatory

Dr. Lotz received her PhD in astrophysics from Johns Hopkins University in 2003. Prior to her appointment at Gemini, she held a tenured associate astronomer position at STScI and a joint appointment as a research scientist at Johns Hopkins University. Previously, she was a Leo Goldberg Fellow at the National Optical Astronomy Observatory, and a postdoctoral fellow at U.C. Santa Cruz. She is a leading expert in the field of galaxy mergers, and makes use of both ground-based and space telescopes to track the growth of galaxies over cosmic time.



Julien Lozi
Subaru Telescope
lozi@naoj.org

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 SCEXAO, a first generation high contrast imaging instrument dedicated to the direct observation and characterization of exoplanets.



Nadine Manset
Canada-France-Hawaii
Telescope
manset@cfht.hawaii.edu

Nadine Manset has been a resident astronomer at CFHT since 1999, right after finishing her PhD thesis at Universite de Montreal. 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.



Jameeka Marshall
NSF's NOIRLab / international
Gemini Observatory
jmarshall@gemini.edu



Callie Matulonis

EAO/JCMT

c.matulonis@eaobservatory.org

Callie Matulonis is currently a Telescope System Specialist at the James Clerk Maxwell Telescope. Callie graduated from the University of Hawai'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.



Peter Michaud

NSF's NOIRLab / international Gemini Observatory

pmichaud@gemini.edu

Peter D. Michaud, NOIRLab's Education and Engagement 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 Strasenburg 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/SSERVI
joseph.minafra@nasa.gov

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 Marshall Space Flight
Center
brian.k.mitchell-1@nasa.gov

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, GRAIL, 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
noumaru@naoj.org

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.



Harriet Parsons
EAO/JCMT
h.parsons@eaobservatory.org

Harriet Parsons is the Senior Support Astronomer for the James Clerk Maxwell Telescope (JCMT). Her day-to-day job varies widely. She assists visiting astronomers obtain high quality astronomical data. She assists in monitoring instrument performance, and is the acting head of operations. When she has time, her research focuses on cold dense clouds (made of gas and dust) within our own Milky Way galaxy looking at where massive stars may be forming. These stars are more than eight times the mass of our sun and end violently in supernovae; however the way they form is shrouded in mystery (well, OK, dust!). Using the JCMT astronomers can “see” through the dust helping to unlock the secrets of these clouds. Away from astronomy she enjoys paddling with Puna Canoe Club,



hiking and spending time with her hanai nieces and nephews.



Emily Peavy
‘Imiloa Astronomy Center
Emily.Peavy@hawaii.edu

Emily Peavy is a 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.



Shelly Pelfrey
W.M. Keck Observatory

Andrea 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





Andreea Petric
IfA/Canada-France-Hawaii
Telescope
petric@cfht.hawaii.edu

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.



Joy Pollard
NSF's NOIRLab / international
Gemini Observatory



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



Tae-Soo Pyo
Subaru Telescope
pyo@naoj.org

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.



Odysseus Quarles

Odysseus Quarles is a science communication intern interested in bringing the excitement and importance of astronomy to the broadest possible audience. He has a degree in astronomy from the University of Colorado, Boulder, with a minor in philosophy, and brings extensive experience sharing his enthusiasm for space science with all ages of astronomy fans.

Lucio Ramos
Subaru Telescope
lucio@naoj.org



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



Bo Reipurth
UH Institute for Astronomy
reipurth@ifa.hawaii.edu

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
Pacific International Space
Center for Exploration
Systems (PISCES)
rfvromo@gmail.com

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 Guadalajara, 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.



Laurie Rousseau-Nepton
Canada-France-Hawaii
Telescope
r-nepton@cfht.hawaii.edu

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 is on resolved star formation in nearby galaxies, massive stars and ionized gas properties. Aside from work, she likes hunting, paddling, hiking, and running!



Julien Rousselle
Subaru Telescope
jpr@naoj.org

Julien Rousselle is an instrument engineer at the Subaru Telescope, National Astronomical Observatory of Japan. He earned a Master's degree in Astrophysics and space sciences and later a Ph.D. in Astrophysics and instrumentation from the University of Toulouse, France. He went on to work for 6 years in the Very-High Energy Astrophysics lab at UCLA in California to develop a new kind of Cherenkov telescope, and build a first prototype at the Fred Lawrence Whipple Observatory in Arizona. In 2017 Julien Rousselle moved to Hawaii with his family to work on Subaru's new major instrument; the Prime Focus Spectrograph, which is currently being installed on the telescope.



Ananya Sahoo



Doug Simons
**Canada-France-Hawaii
Telescope**
simons@cfht.hawaii.edu

Doug Simons received his Bachelor of Science degree in Astronomy at the California Institute of Technology in 1985, and his 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 the Gemini 8 m. Telescope Project in 1994 as the Systems Scientist, then as the Associate Director for Development managed Gemini's instrumentation program for many years before becoming Gemini Observatory's Director from 2006-2011. Doug returned to CFHT in 2012 where he has been serving as Executive Director. Doug serves on the Maunakea Management Board, as well as the Boards of the Hawai`i Island Chamber of Commerce, Kona Kohala Chamber of Commerce and the Pacific Center for Advanced Technology Training. He is an avid supporter of education and community outreach and has helped develop a



number of programs including EnVision Maunakea, Maunakea Fund, Maunakea Scholars, and A Hua He Inoa.



Chance Spencer

Chance Spencer is currently an intern for the GEMMA project at Gemini Observatory in Hawai'i. He graduated in June 2019 from California Polytechnic State University in San Luis Obispo with a B.S. in Physics and a minor in Astronomy. In January 2016, he became a certified remote observer for Lick Observatory's 1m Nickel Telescope. Chance then helped lead Cal Poly's remote observing team for the Seoul AGN Monitoring Project (SAMP) which contributed data towards a reverberation mapping campaign. He also spent three years working at the Cal Poly Observatory both delivering weekly star talks as well as being the telescope tech for observational research. Chance is now working at Gemini Observatory North helping to define and popularize Multi Messenger and Time Domain Astronomy to both the science community and the public while enjoying the amazing opportunities and networking that the internship offers in science communication. After his internship, he hopes to continue down a path of communicating astronomy to the public and is planning on attending grad school in the Fall of 2020.



Gordon Squires
Thirty Meter Telescope
squires@tmt.org

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.



Hyewon Suh

Hyewon Suh is a Subaru fellow at the Subaru Telescope. She completed her Ph.D from the Institute for Astronomy at University of Hawai'i at Manoa. Her research mainly focuses on, but not limited to, the most energetic and obscured phase of accreting black holes to prove the crucial observational constraints on a missing-link phase in the early universe.



Marianne Takamiya
UHH Physics & Astronomy
takamiya@hawaii.edu

Marianne Takamiya is associate professor of Astronomy at UH Hilo where she teaches General Physics, General Astronomy, and Stellar Astronomy. Dr. Takamiya obtained her B.Sc. in Physics and M.Sc. in Astronomy from the Universidad de Chile and her M.Sc. and Ph.D. in Astronomy and Astrophysics from the University of Chicago.



Ichi Tanaka
Subaru Telescope
ichi@naoj.org

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.



Alex Tetarenko
EAO/JCMT

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.



a.tetarenko@eaobservatory.org



Tomonori Usuda
TMT Japan Project
usuda@naoj.org

Tomonori 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
NSF's NOIRLab / international
Gemini Observatory
jvierra@gemini.edu

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.



Sebastien Vievard
Subaru Telescope
vievard@naoj.org

Matt Wahl
Subaru Telescope
wahl@naoj.org



Andrea Waiters
UH-HiloPhysics & Astronomy
awaiters@hawaii.edu

Andrea Waiters is a senior at the University of Hawaii at Hilo pursuing her BA in Physics and BS in Astronomy, and is also the current President of the University Astrophysics Club. She is passionate about planetary science, and hopes to pursue solar system research in graduate school. Andrea enjoys volunteering with younger students, and believes it is important to talk to students about STEM careers and expose them to the possibilities they could pursue in the future.



Tom Winegar
Subaru Telescope
winegar@naoj.org

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.



Siyi Xu
NSF's NOIRLab / international
Gemini Observatory
sxu@gemini.edu

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.



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 the 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 NAOJ from 1998 to 2000. After 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 April 2017. 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.
