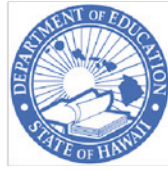




**2022**



To Our Journey 'Ohana,

The 18th year of Journey Through the Universe — which, owing to the COVID-19 pandemic, took place entirely online for the second consecutive year. We continued to share the wonders of the Universe and the exciting career possibilities in science and technology with school students on Hawai'i Island (and beyond)! This year's iteration of NOIRLab's Gemini Observatory's flagship astronomy outreach program was highlighted by a week of live virtual educational programs delivered by our dedicated astronomers, engineers and observatory staff from the Maunakea observatories, NASA, and other organizations.

Journey's 59 astronomy educators virtually engaged over 8000 students in the Hilo-Waiākea, Honoka'a, Waimea, Maui, Molokai and Lāna'i schools during "Journey week." These volunteer educators provided astronomy-focused presentations custom-fit to specific grade levels and career panels for all ages throughout the week. To prepare the astronomy educators for classroom visits, the Journey program hosted an astronomy educator workshop led by the previous years' educators featuring their own lessons learned and presentation examples for the online format. Journey week also included a Welcome Reception hosted by the Hawai'i Island Chamber of Commerce and the Japanese Chamber of Commerce and Industry of Hawai'i on Monday evening. On Wednesday, Journey Through NOIRLab, a cultural and educational exchange program premiered, bringing together (virtually) students from NOIRLab's host sites (Arizona, Chile, and Hawai'i).

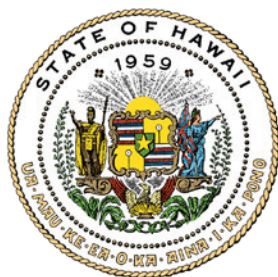
"The Journey Through the Universe partnership with Gemini Observatory is one of the longest and most impactful that I know of for the Hawai'i District Department of Education," stated Department of Education Hilo-Waiākea Complex Area Superintendent, Esther Kanehailua. "For 18 years the dedicated staff from the Maunakea Observatories have visited our classrooms with incredible energy and a passion for exploration and our island, inspiring our future leaders."

The Journey Team would like to thank everyone involved for their continued support of this STEM education initiative. A program of this magnitude could not happen without the dedication of our community partners and your ongoing support. As we enter our 19th year of the Journey Through the Universe program, we will continue to evolve the program and change our student's lives as we advance science literacy through astronomy and encourage all students to reach for the stars!

To keep up to date on what Journey is accomplishing in the community, please visit:  
<https://noirlab.edu/public/education/journey-through-the-universe/>

Much Aloha and our sincerest Mahalo,

Janice Harvey, Journey Team Leader



# Proclamation

**WHEREAS**, the Journey through the Universe program, developed by the Nationals 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 the only ten communities around the nation that are designated Journey through the Universe sites; and

**WHEREAS**, the 18<sup>th</sup> Annual Journey through the Universe program on Hawai'i Island strengthens the community by partnering with the International Gemini Observatory, a Program of NSF's NOIRLab, University of Hawai'i at Hilo, Department of Education's Hilo-Wai'ikea and Ka'u-Kea'au-Pāhoia Complex areas, Waimea and Honoka'a Schools, 'Imiloa Astronomy Center of Hawai'i, Japanese Chamber of Commerce and 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 schools 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 February 28 – March 4, 2022 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 February 2022.

  
\_\_\_\_\_  
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. In 2022 the program celebrates its 18<sup>th</sup> 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 (NCESS), *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 Maunakea astronomy with students, all the while recognizing and acknowledging the very significant cultural role and reverence that this site has to the Native Hawaiian community; and

**WHEREAS**, 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 educational 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 enthusiasm and understanding about the diverse careers available at observatories and within the field of astronomy.

NOW, THEREFORE, I, MITCHELL D. ROTH, Mayor of the County of Hawai'i, do hereby proclaim February 28 - March 4, 2022, as

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

in the County of Hawai'i and encourage all citizens to foster curiosity and wonder about our Universe and the cutting-edge research and technology that allows us to understand our place in the cosmos.

IN WITNESS WHEREOF, I have hereunto set my hand and caused The Seal of the County of Hawai'i to be affixed. Done this 28<sup>th</sup> day of February 2022, in Hilo, Hawai'i.



A handwritten signature in black ink, appearing to read 'Mitchell D. Roth'.

MITCHELL D. ROTH  
MAYOR



# Journey Through the Universe Hawai'i Island

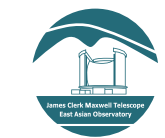
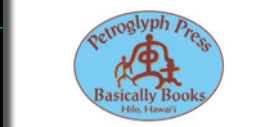
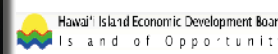


## Astronomy Educators in the Community 2022 (\*virtually)

- Alexis Ann Acohido - EAO/ICMT
- Andy Adamson - Gemini Observatory/NSF's NOIRLab
- Tishanna Ben - National Solar Observatory/DKIST
- Vanshree Bhalotia - UH-Manoa Physics & Astronomy
- Ravinder Bhatta - Thirty Meter Telescope
- Christopher Brownell - AURA/KPNO
- Lars L. Christensen - Gemini Observatory/NSF's NOIRLab
- Devin Chu - UCLA
- Brian Day - NASA SERVI
- Xinnan Du - KIPAC/Stanford
- Angelie Ebberts - Gemini Observatory/NSF's NOIRLab
- Jocelyn Ferrara - Gemini Observatory/NSF's NOIRLab
- Scott Fisher - University of Oregon
- Mimi Fuchs - Graduate student at Drexel University
- Abhimat Gautam - UCLA
- Tom Geballe - Gemini Observatory/NSF's NOIRLab
- Kristina Gibbs - NASA SERVI
- Jeff Goldstein - NCSSE
- Olivier Guyon - Subaru Telescope
- John Hamilton - UH-Hilo Physics & Astronomy
- Janice Harvey - Gemini Observatory/NSF's NOIRLab
- Saeko S. Hayashi - TMT Japan Project & Subaru Telescope
- Stephanie Henry - NASA Marshall Space Flight Center
- Ardis Herrold - Rubin Observatory
- Matthew Hosek - UCLA
- Solveig Irvine - NASA / PMPO
- Paul Jeffers - NSO
- Russell Kackley - Subaru Telescope
- Carolyn Kaichi - UH Institute for Astronomy
- Yuko Kakazu - TMT Japan Project & Subaru Telescope
- Markus Kissler-Patig - European Southern Observatory
- Kelly Kosmo O'Neil - UCLA
- Preethi Krishnamoorthy - Subaru Telescope
- Mary Beth Laychak - Canada-France-Hawaii Telescope
- Fengchuan Liu - TMT
- Alexandra Lockwood - Space Telescope Science Institute
- Jennifer Lotz - Gemini Observatory/NSF's NOIRLab
- Julien Lozi - Subaru Telescope
- Leinani Lozi - Gemini Observatory/NSF's NOIRLab
- Nadine Manset - Canada-France-Hawaii Telescope
- Jameeka Marshall - Gemini Observatory/NSF's NOIRLab
- Callie Matulonis - EAO/ICMT
- Ameerah McBride - AURA (Corporate Office)
- Peter Michaud - Gemini Observatory/NSF's NOIRLab
- Joseph Minafra - NASA SERVI
- Brian Mitchell - NASA Marshall Space Flight Center
- Junichi Nomaru - Subaru Telescope
- Briahyn Onodera - AURA / NSO / DKIST
- Emily Peavy - Imilon Astronomy Center
- Shelby Pelfrey - W.M. Keck Observatory
- Joy Pollard - Gemini Observatory/NSF's NOIRLab
- Claire Raftery - National Solar Observatory
- Laurie Rousseau-Nepton - Canada-France-Hawaii Telescope
- Julien Rousselle - Subaru Telescope
- Theresa Sampia - Gemini Observatory/NSF's NOIRLab
- Tom Schad - National Solar Observatory/DKIST
- Justine Schaen - NSF's NOIRLab
- Doug Simons - Canada-France-Hawaii Telescope
- Robert Sparks - Gemini Observatory/NSF's NOIRLab
- Chance Spencer - CSU Fresno
- Marianne Takamiya - UH-Hilo Physics & Astronomy
- Ichi Tanaka - Subaru Telescope
- Alex Tetarenko - Texas Tech University
- Niki Thomas - UCSC
- Tomo Usuda - NAOJ TMT Project
- Fuchs Usuda-Sato - Subaru Telescope
- Sebastian Vievard - NAOJ
- Andrea Waiters - Subaru telescope
- Connie Walker - SMA
- Cam Whipper - Gemini Observatory/NSF's NOIRLab
- Siyi Xu - CFHT
- Miehitoshi Yoshida - Gemini Observatory/NSF's NOIRLab
- Subaru Telescope

For more information contact Janice Harvey at: [janice.harvey@noirlab.edu](mailto:janice.harvey@noirlab.edu)

[noirlab.edu/public/education/journey-through-the-universe/](http://noirlab.edu/public/education/journey-through-the-universe/)





## Astronomy Educator Workshop Agenda 9:00am - 11:00am, 26 January 2022

*This Journey workshop will provide our Astronomy Educators (AE) with insight into our 18 year partnership with the Department of Education (DOE) and our local community. We will focus on the live virtual classroom presentations and career panels that will take place during Journey Week.*

**9:05 - 9:15 (10 min)** Janice Harvey, Journey Team Leader, will give an overview of Journey for the past 18 years and introduce the Journey team.

**9:15 - 9:30 (15 min)** Hilo-Waiakea Complex Area Superintendent, Esther Kanehailua will speak about Journey's partnership over the past 18 years and looking forward to the future.

**9:30 - 9:40 (10 min)** Leinani Lozi will cover the format of this year's program, new features and events.

**9:40 - 10:40 (60 min)** AEs from previous years will discuss their classroom and career panel presentations alongside their methods and rationale.

**10:40 - 11:00 (20 min)** Closing remarks. Q&A.



*Mahalo for joining us on our [Journey Through the Universe!](#)*

# Journey Through the Universe 2022

NSF's NOIRLab celebrates 18 years of the flagship outreach program in Hawai'i with a packed schedule and a new educational cultural exchange

15 February 2022



**NOIRLab's Journey Through the Universe – returning with an online program this year – will share the wonders of the Universe and career awareness in science and technology with Hawai'i students. In partnership with the Hawai'i Department of Education Hilo–Waiakea Complex Area, this year's implementation of the flagship astronomy outreach program consists of a week of virtual programming along with a new cultural exchange program between classrooms in NOIRLab's host cities in Hawai'i, Chile, and Arizona.**

Hawai'i Island's leading astronomy education and outreach program, *Journey Through the Universe* (*Journey*), will return for its 18th year from 28 February to 4 March 2022. This year's program will consist of virtual science presentations and career panels for classes from kindergarten through to the 12th grade. This virtual implementation of *Journey* (*Journey* was held entirely in-person for its first 16 years) allows additional participation by classes beyond the Hilo–Waiakea Complex Area, in addition to the core partnership with the Hilo–Waiakea schools. *Journey* is also open to teachers partnered with participating organizations, including the [Maunakea Observatories](#), [NASA](#), the [University of Hawaii at Hilo](#), and the [National Solar Observatory](#).

*Journey*, which began as a [Gemini Observatory](#) program and is now coordinated by NSF's NOIRLab, promotes science education and inspires students to explore Science, Technology, Engineering, and Math (STEM) subjects by developing literacy in science. The program endeavors to foster curiosity and wonder about our Universe, possible observatory careers, and the cutting-edge research and technology that is allowing us to understand our place in the cosmos.

Originally developed by the National Center for Earth and Space Science Education ([NCESSSE](#)), *Journey* has expanded each year since its introduction in 2005. The success of *Journey* over the past 18 years is evidence of the support from local community partners across government, business, astronomy, and higher education, as well as the strength of our foundational partnership with the [Hawai'i State Department of Education](#). *Journey* is a long-lasting NOIRLab public outreach program that has only been possible because of NOIRLab's community partnerships, particularly with the Hawai'i Department of Education Hilo–Waiakea Complex Area.

*"The Journey Through the Universe partnership is one of the longest and most impactful that I know of for the Hilo-Waiākea Complex of the Hawai'i Department of Education,"* explained Esther Kanehailua, Complex Superintendent. *"The dedicated staff from all of the Maunakea Observatories have visited our classrooms with incredible energy and a passion for exploration on our island and beyond, inspiring our future leaders."* Kanehailua adds that students who have participated in *Journey* have returned as science educators in local schools which is an indicator of the impact of the *Journey* program.

*"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 at NOIRLab. *"Their continued support is a demonstration of their commitment to our community and the future of science education for students in Hawai'i and beyond."*

Career panels featuring professionals from local observatories and astronomy organizations from around the world are an important part of the *Journey* program. These panels allow students to discover the wide range of educational possibilities and career opportunities available both at observatories and within the wider field of astronomy and space science. According to Jocelyn Ferrara, Science Operations Specialist at Gemini Observatory and frequent astronomy educator for *Journey*, the panels inspire inclusivity and genuine connection: *"Thinking about a career can be a really overwhelming task for some kids, including myself in the past. Journey gives me the opportunity to express that STEM is for everyone, not just 'geniuses'! I hope that sharing my story, getting vulnerable, and simply showing up as an example can make a difference and help them realize that with dedication and support, these jobs are truly within their reach."*

As well as the virtual presentations and career panels, this year's *Journey* program will feature *Journey Through NOIRLab*, a cultural and educational exchange between classrooms in NOIRLab's host cities of Hilo, Hawai'i; La Serena, Chile; and Tucson, Arizona. Participating teachers will benefit from one-on-one teacher partnerships between different locations – based on grade level – and four live Zoom sessions per school year for all participating classes.

*"NOIRLab is leading the way in sharing the wonders of modern astronomy with students in its local communities, an activity that NSF whole-heartedly supports,"* notes Chris Davis, NSF's Program Director for NOIRLab.

In celebration of the many local community organizations, volunteers, principals, and teachers who support *Journey*, the [Hawai'i Island Chamber of Commerce](#) and the [Japanese Chamber of Commerce & Industry of Hawai'i](#) will host its annual *Journey Through the Universe* welcome reception online at the start of *Journey* week. This event will bring the many stakeholders of this program together with its participants to share in our vision of science education for the students of Hawai'i.

## More information

[NSF's NOIRLab](#) (National Optical-Infrared Astronomy Research Laboratory), the US center for ground-based optical-infrared astronomy, operates the international [Gemini Observatory](#) (a facility of [NSF](#), [NRC-Canada](#), [ANID-Chile](#), [MCTIC-Brazil](#), [MINCyT-Argentina](#), and [KASI-Republic of Korea](#)), Kitt Peak National Observatory ([KPNO](#)), Cerro Tololo Inter-American Observatory ([CTIO](#)), the Community Science and Data Center ([CSDC](#)), and [Vera C. Rubin Observatory](#) (operated in cooperation with the [Department of Energy's SLAC](#) National Accelerator Laboratory). It is managed by the Association of Universities for Research in Astronomy ([AURA](#)) under a cooperative agreement with NSF and is headquartered in Tucson, Arizona. The astronomical community is honored to have the opportunity to conduct astronomical research on Iolka Du'ag (Kitt Peak) in Arizona, on Maunakea in Hawai'i, and on Cerro Tololo and Cerro Pachón in Chile. We recognize and acknowledge the very significant cultural role and reverence that these sites have to the Tohono O'odham Nation, to the Native Hawaiian community, and to the local communities in Chile, respectively.



*Journey Through the Universe* is organized by NSF's NOIRLab/Gemini Observatory and supported by the following partners (listed in alphabetical order): Bank of Hawai'i, Basically Books, Big Island Candies, Big Island Toyota, California Institute of Technology, Caltech Submillimeter Observatory, Canada–France–Hawai'i Telescope, Daniel K. Inouye Solar Telescope, DeLuz Chevrolet, Hawai'i Community College, Hawai'i Electric Light Company, Hawai'i Island Chamber of Commerce Hawai'i Island Economic Development Board, Hawai'i State Department of Education, Hawai'i Science and Technology Museum Hawai'i Tribune–Herald, 'Imiloa Astronomy Center, James Clerk Maxwell Telescope, East Asian Observatory, Japanese Chamber of Commerce & Industry, KTA Superstores, KWXX Radio Station/New West Broadcasting, Maunakea Astronomy Outreach Committee, Maunakea Observatories, Maunakea Support Services, Maunakea Visitor Information Station NASA Infrared Telescope Facility, NASA Marshall Space Flight Center, National Astronomical Observatory of Japan, National Center for Earth & Space Science, National Radio Astronomy Observatory National Solar Observatory, Pacific Science Center, Pacific International Space Center for Exploration Systems, Project Astro/Family Astro, Rotary Club of Hilo Bay, Smithsonian Submillimeter Array Subaru Telescope, Thirty Meter Telescope, Thirty Meter Telescope–Japan, UH Hilo College of Pharmacy, UH Institute for Astronomy, United Kingdom Infrared Telescope, University of California–Los Angeles University of Hawai'i at Hilo, University of Hawai'i at Manoa, University of Oregon, Very Long Baseline Array, W.M. Keck Observatory.

# Chamber Connection



Hawai`i Island Chamber of Commerce e-Newsletter



## President's Message - March 2022

On Feb. 28, I had the pleasure of attending the 18th Annual Virtual Astronomy Educators Reception for the Journey Through the Universe program.

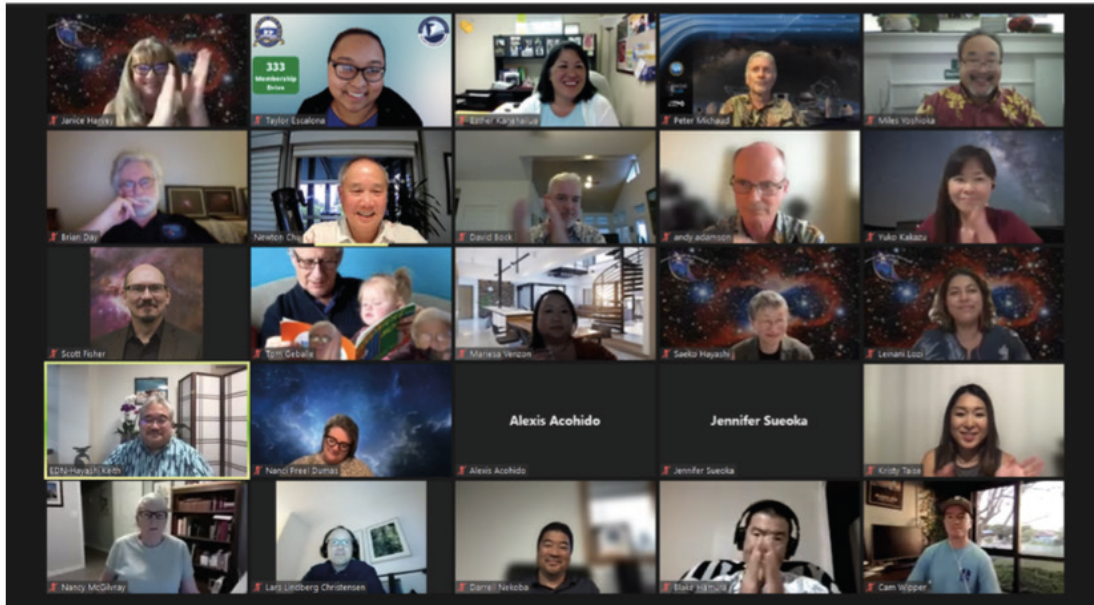
The HICC and the Japanese Chamber of Commerce & Industry of Hawaii co-presented the event, which is held each year to mahalo the teachers, administrators, scientists and business people who participate in Journey.

For those who don't know, Journey Through the Universe brings astronomers and other scientists from around the globe to K-12 schools in East Hawaii. During the weeklong program, the scientists use compelling presentations to share with students the joy and wonder of science.

It's a fantastic program that has exposed thousands of keiki to potential careers in science, technology, engineering and mathematics (STEM).

The educators' reception was a little bittersweet this year, because longtime Journey coordinator Janice Harvey of Gemini Observatory is retiring. Under Janice's tenacious leadership, the program has grown by leaps and bounds over the years, and is truly a remarkable accomplishment.

Mahalo to Janice and everyone else who attended the reception. Despite being held virtually this year, it was a fun event celebrating nearly two decades of the Journey program.



The HICC's membership drive is in full swing. The goal is to have **333 members** by the end of the fiscal year, and we're closing in on that number.

The membership committee, led by Chair Kapaelani Comstock, has done a great job of finding new members, but they still need your assistance. I encourage everyone reading this to help the HICC reach this milestone.

Businesses large and small are welcomed to become members, as are individuals. And current HICC members who bring in new members are eligible for some great prizes.

Visit [www.hicc.biz/join-hicc](http://www.hicc.biz/join-hicc) for membership information, or call (808) 935-7178.

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# 18th Annual Virtual Astronomy Educators Reception

Journey Through the Universe  
Hawai'i Island

Monday, February 28, 2022  
5:30 pm - 7:00 pm via Zoom

Free Admission

Registration Deadline: Thursday, February 24, 2022  
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.

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

Please contact either Chamber's offices to RSVP:

JCCIH 714 Kanoelehua Ave, Hilo, HI 96720 ~ Phone: 934-0177 ~ Fax: 934-0178  
~ Email: [jccih@jccih.org](mailto:jccih@jccih.org) ~ Website: [www.jccih.org](http://www.jccih.org)

HICC 1321 Kinoole St, Hilo, HI 96720 ~ Phone: 935-7178 ~ Fax: 961-4435  
~ Email: [registration@hicc.biz](mailto:registration@hicc.biz) ~ Website: [www.hicc.biz](http://www.hicc.biz)

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



# Journey Through the Universe in Social Media



**noirlabastro** • Following

**noirlabastro** Journey Through the Universe celebrates 18 years this March as our Hawai'i flagship outreach program, which first began at the international Gemini Observatory! In partnership with the Department of Education Hilo-Waikeae Complex Area, this year's program will consist of virtual science presentations and career panels for classes from kindergarten through to the 12th grade.

Learn more about the Journey program in our newest press release (available on our website at the link in our bio).

Credit: International Gemini Observatory/NOIRLab/NSF/AURA/J. Pollard

[Image description: A Journey Through the Universe presenter admires the solar system drawings of students in their classroom.]

**#JourneyThroughTheUniverse #Journey2022 #DiscoverTogether #Hawaii #HawaiiAstronomy #BigIsland #ScienceOutreach @geminiobs @maunakeaobs**

2w

♥ 🔍 📌

Liked by **ghibli\_papercrafts** and 28 others

FEBRUARY 15



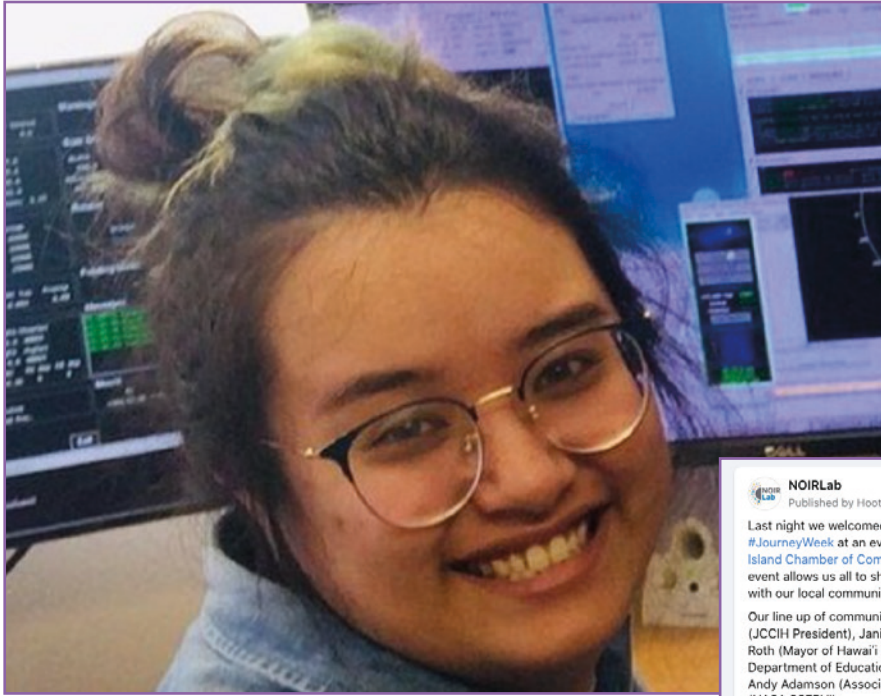
**NOIRLab**  
Published by Hootsuite  
February 28 at 7:00 AM

Journey Through the Universe begins today! This 18 year old Hawai'i Island outreach program features classroom presentations & career panels to thousands of students. This year's virtual program engages keiki on various islands with presenters from around the world thanks to our many partnerships that make this program possible! <http://ow.ly/x8oS50I3FzR>

**#JourneyThroughTheUniverse #Journey2022 #Hawaii #HawaiiAstronomy** Maunakea Astronomy Outreach Committee - MKAOC Canada France Hawaii Telescope Corporation UH Institute for Astronomy W. M. Keck Observatory Space Telescope Science Institute Thirty Meter Telescope Hawai'i Public Schools Gemini Observatory NOIRLab See less

Edit

👍 🗨️ 6



**maunakeaobs** This week we're celebrating @IAU\_org #WomenInAstronomy & #JourneyThroughTheUniverse! We hope you enjoy "meeting" these amazing women and astronomy educators. First is Alexis Ann Keonaonaokalau'e Aochido!

🌟 **Job Description:** Telescope Operator at @eao\_jcmt

🌟 **Fun Fact:** "I like video games and nail art."

🌟 **What do you like most about your job:** "the flexibility and resources to support my 'ohana, cool science, new words in 'ōlelo hawai'i, & the chance to work with really cool people."

🌟 **Favorite Food:** noodles of any persuasion

🌟 **How and why you participate in Journey Through the Universe:** "I've participated in Journey as an Astronomy Educator for 7 years now. I participate and will continue to participate in



community that has our keiki and is always a blast."

the Universe  
obs  
y2022



@IAU\_org  
eUniverse, please  
or our first entirely  
year to inspire &

🌟 **Job Description – @NASA Mission Manager**

🌟 **Fun Fact –** "I love ballet and I started taking lessons three years ago, because it is never too late to try something new."

🌟 **What do you like most about your job –** "working with people from different backgrounds and being able to share scientific discoveries."

🌟 **Favorite Food –** "anything with chocolate"

🌟 **How & why you participate in Journey –** "I enjoy sharing my experiences with the next generation of Engineers and Scientists; as a student, one of my favorite experiences was meeting and working with female engineers and leaders."

For more information on the Journey Through the Universe program, follow @NOIRLabAstro & @GeminiObs

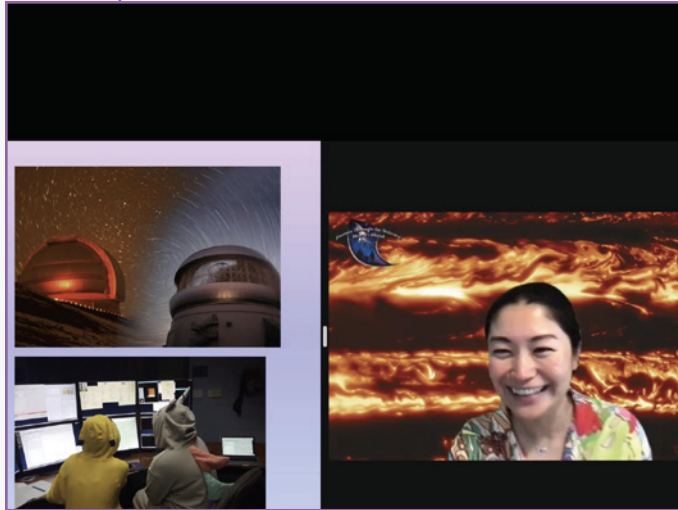
#HawaiiAstronomy #WomenInSTEAM #Journey2022  
#Astronomy #AstronomyOutreach



EAO @eao\_jcmt · Mar 1

It's Journey Through the Universe week! Here is EAO Telescope System and Outreach Program Specialist, Callie, doing her presentation "Singing, Dancing, and Storytelling with the Stars" to K-1st grade classrooms this morning via Zoom!

#JourneyThroughTheUniverse #Journey2022

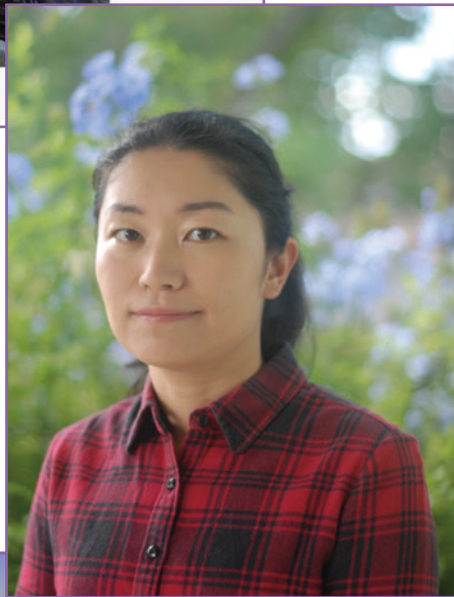


NOIRLab  
Published by Hootsuite  
March 2 at 2:00 PM

"Say yes to new opportunities!" was one of the sage bits of wisdom reiterated in many of our career panels this year for #JourneyThroughTheUniverse. Our #JourneyWeek virtual program continues until Mar. 4 including career panels & classroom presentations to thousands of Hawai'i students!

This image features astronomer, Siyi Xu of Gemini Observatory a Program of NOIRLab, during a virtual career panel on 1 Mar. 2022. For more information on the Journey program, visit <http://ow.ly/8L5850i7Ey5>

#HawaiiAstronomy #Journey2022 See less



Maunakea Astronomy Outreach Committee - MKAOC  
Published by Hootsuite  
March 2 at 10:01 AM

Please meet Siyi Xu, another awesome astronomy educator featured in our celebration of The International Astronomical Union #WomenInAstronomy & #JourneyThroughTheUniverse!

- Job Description: "I am an astronomer based at Gemini Observatory / NOIRLab in Hawai'i"
- Fun Fact: "I have a black & white cat called Oreo, who has her own facebook fan page."
- What do you like most about your job: "I love using telescopes to observe parts of the Universe that nobody else has seen before."
- Favorite Food: Boba tea
- How and why you participate in Journey: "It's always fun talking to the public and helping inspire the next generation of scientists."

For more information on the Journey Through the Universe program, follow NOIRLab & Gemini Observatory See less



Published by Hootsuite  
March 3 at 4:00 PM

#JourneyThroughNOIRLab, a new cultural and educational exchange program between NOIRLab sites (Arizona, Chile & Hawai'i) launched yesterday as part #JourneyThroughTheUniverse! In a live zoom session, students of all ages shared traditional openings from their cultures including songs and dances. This was followed by a free form and live translated question and answer segment in which they asked each other questions about their lives and homes. Students were especially interested in learning about each other's schools.


For more information about the Journey Through the Universe program and Journey Through NOIRLab, read our latest press release: <http://ow.ly/2FBN50i9BKI>

#HawaiiAstronomy #Journey2022 Gemini Observatory Kitt Peak National Observatory - KPNO Cerro Tololo Inter-American Observatory (CTIO) See less



**Maunakea Observatories** @maunakeaobs · Mar 3

Saeko S. Hayashi, another [#JourneyThroughTheUniverse](#) astronomy educator featured in our [@IAU\\_org](#) [#WomenInAstronomy](#) campaign, works on large optics w/ [@TMTHawaii](#)! "I am making a tool for the future generation w/ which they can study the universe & make stunning discoveries."



4 8



**NOIRLab**  
Published by Hootsuite  
March 4 at 4:57 PM

Mahalo nui loa to all of our volunteer astronomy educators and community supporters of [#JourneyThroughTheUniverse](#)! [#JourneyWeek](#) ends today after 7 career panels, 28 classroom presentations and over 8,000 views!

This program would not be possible without the dedication of our astronomy, education and local business communities. Through these many partnerships we have reached students on Hawaii Island, Maui, Molokai, Lana'i, Arizona and Chile and engaged in discussions over careers, black holes, culture, planets, the unique environments that host telescope facilities and more. We hope you'll join us again next year! Aloha! <http://ow.ly/KJEH50laBpi>

[#Journey2022](#) [#Hawaii](#) [#HawaiiAstronomy](#)  
Maunakea Astronomy Outreach Committee - MKAOC Canada France Hawaii Telescope Corporation East Asian Observatory UH Institute for Astronomy W. M. Keck Observatory Space Telescope Science Institute Thirty Meter Telescope Hawaii Public Schools Gemini Observatory NOIRLab See less

Edit

2

**NatiSolarObservatory** @NatSolarObs · 5h

Another successful [#JourneyThroughTheUniverse](#)! Already looking forward to next year's [#JourneyWeek](#) 🌞

**NOIRLab** @NOIRLabAstro · Mar 4

Mahalo nui loa to all of our volunteer astronomy educators & community supporters of [#JourneyThroughTheUniverse](#)! [#JourneyWeek](#) ends today after 7 career panels, 28 classroom presentations & over 8,000 views! We hope you'll join us again next year! Aloha! [ow.ly/KJEH50laBpi](http://ow.ly/KJEH50laBpi)



1 2 3



**maunakeaobs** · Following

**maunakeaobs** We are closing out our week of [@IAU\\_org](#) [#WomenInAstronomy](#) & [#JourneyThroughTheUniverse](#) with our last feature, Preethi. We hope you enjoyed meeting some of the women who participate in the annual Journey program!

- 👉 Job Description: Postdoc
- 👉 Fun Fact: "In 2019, I directly flew from India to Hawaii for this postdoc position. I had to learn to drive a car in 2 days so I could drive to work every day. Since then I have been learning so much here in Hawaii! :)"
- 👉 What do you like most about your job: "Building robots & showing them to kids!"
- 👉 Favorite Food: "That's a very long list, but mostly spicy foods!"
- 👉 How and why you participate in Journey: "We are all children of the same star and astronomy helps bridge our differences with our cosmic similarity."

For more information on the Journey Through the Universe program, follow [@NOIRLabAstro](#) & [@GeminiObs](#)

[#HawaiiAstronomy](#) [#WomenInSTEAM](#) [#Journey2022](#)  
[#Astronomy](#) [#AstronomyOutreach](#)

3d

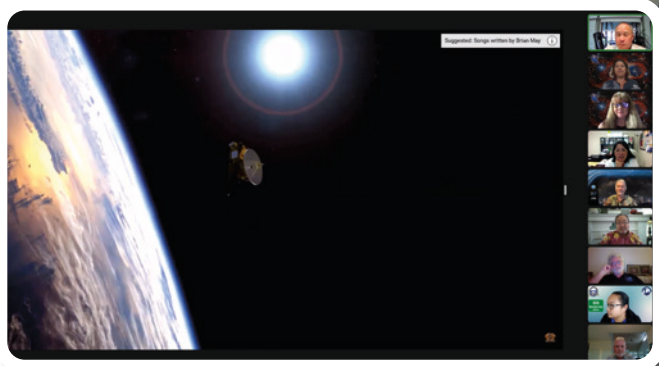
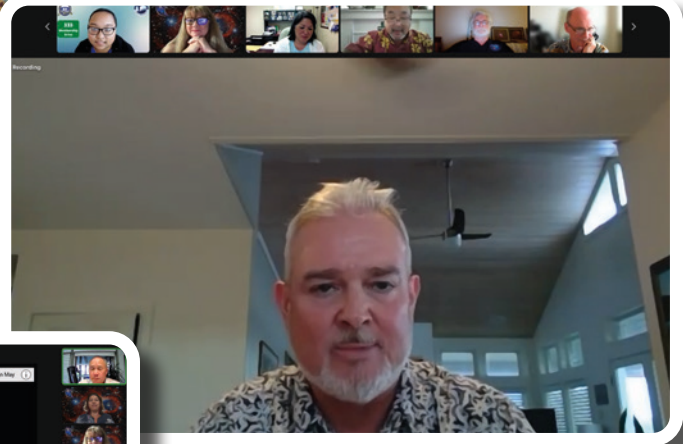
Liked by [ghibli\\_papercrafts](#) and 16 others

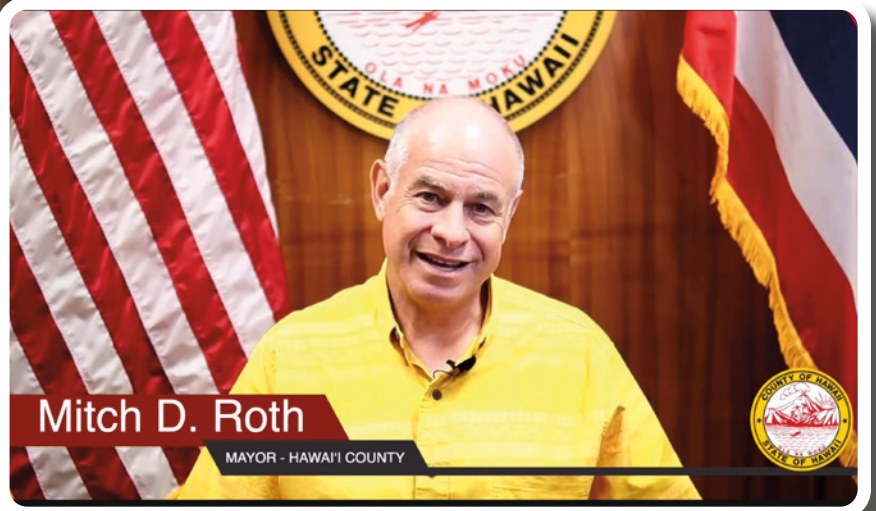
3 DAYS AGO

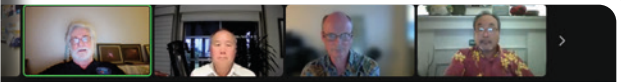
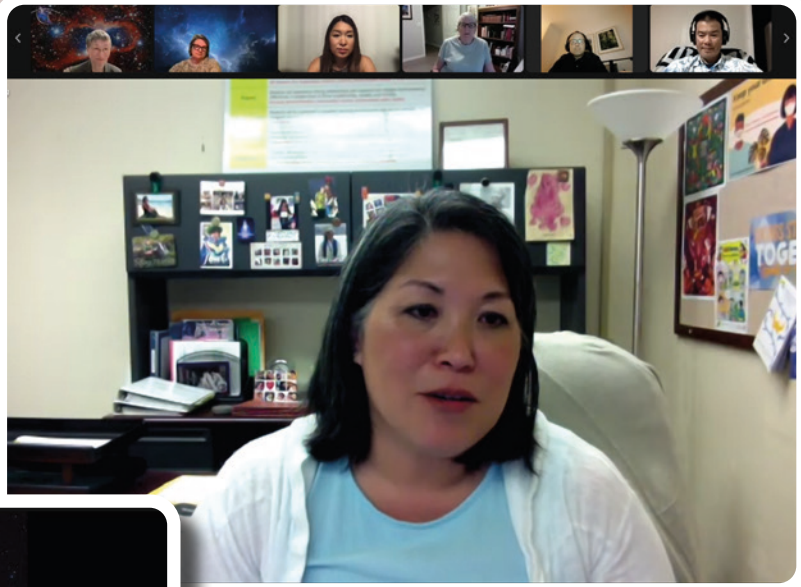


# Astronomy Educator Welcome Reception – February 28

In celebration of the many local community organizations, volunteers, principals, and teachers who support Journey, the Hawai'i Island Chamber of Commerce and the Japanese Chamber of Commerce & Industry of Hawai'i hosted its annual Journey Through the Universe Welcome Reception online at the start of Journey week. This event brought together the many stakeholders of this program to share in our vision of science education for the students of Hawai'i. The night's events included a lineup of speakers followed by prize giveaways via Journey and Hilo-related trivia and a spin-the-wheel contest.

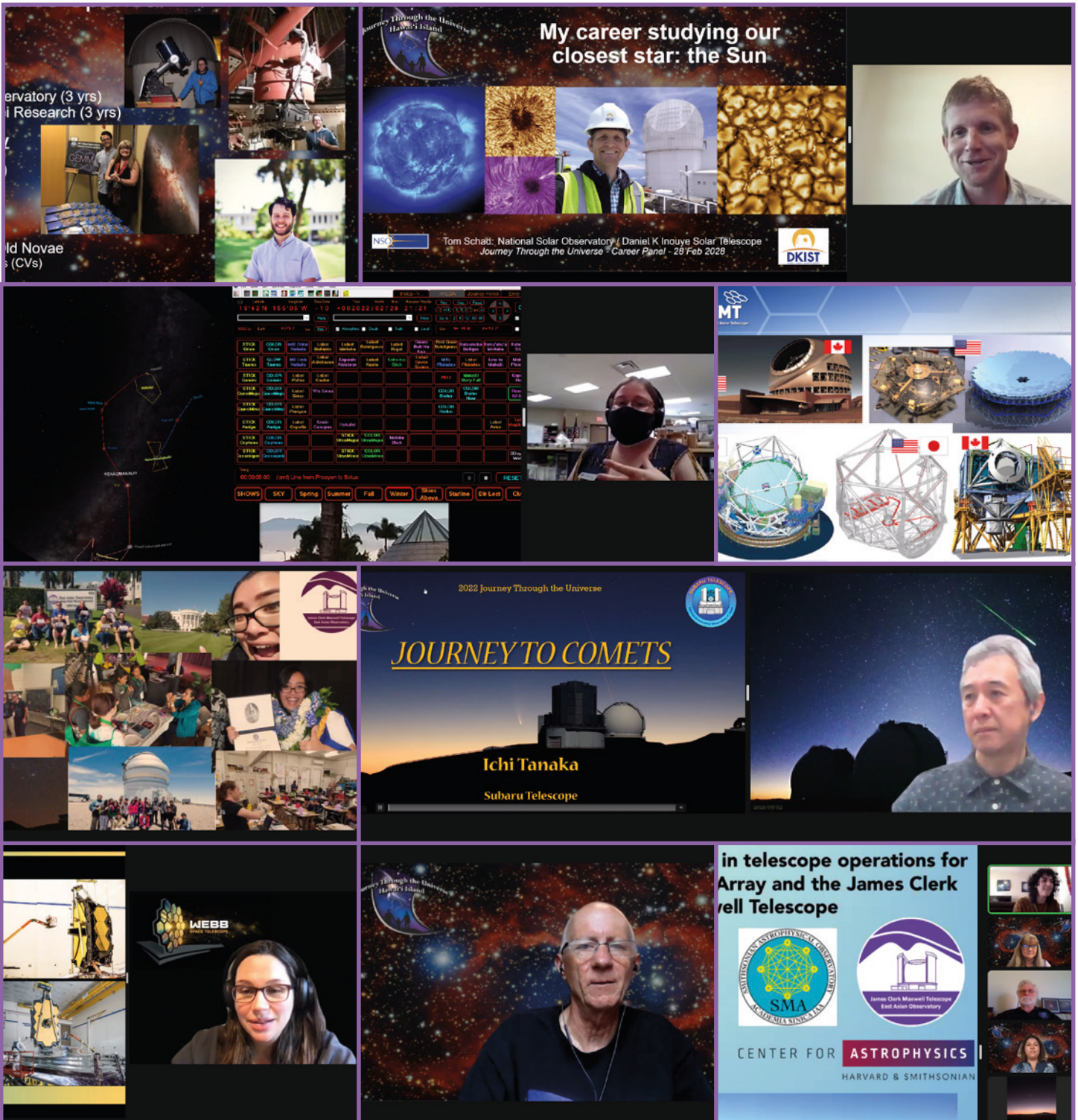






# Journey Week Classroom Presentations & Career Panels, February 28 – March 4

In celebration of the many local community organizations, volunteers, principals, and teachers who support Journey, the Hawai'i Island Chamber of Commerce and the Japanese Chamber of Commerce & Industry of Hawai'i hosted its annual Journey Through the Universe Welcome Reception online at the start of Journey week. This event brought together the many stakeholders of this program to share in our vision of science education for the students of Hawai'i. The night's events included a lineup of speakers followed by prize giveaways via Journey and Hilo-related trivia and a spin-the-wheel contest.





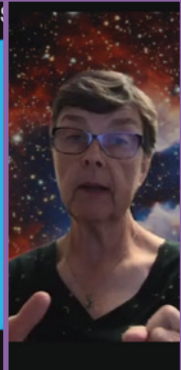
Next:

**MAHALO!**

If your class has more questions, please email me! I'd be happy to answer them.

wipper@cfht.hawaii.edu

Stay Curious! :)



**2020 UO4 – a close approach today!**

This asteroid is approaching Earth at a distance of 3.7 million miles.

Its estimated diameter is 4 - 11 m.

Rocks smaller than 25 m in diameter usually burn up in Earth's atmosphere.

About 100 tons of space rocks and dust enter Earth's atmosphere every day.

Image created using the [JPL Small Body Database Browser](#)

**Early Morning Sky**

Venus  
Moon  
Mars

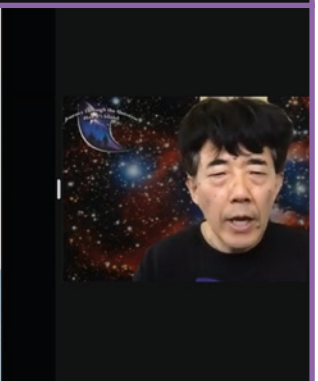
Looking southeast at 6 am last Saturday



**exchange optics (lens)?**

Wide-angle Lens

Telephoto Lens



**Telescope #2 - DKIST**  
Scotland to Arizona to Maui

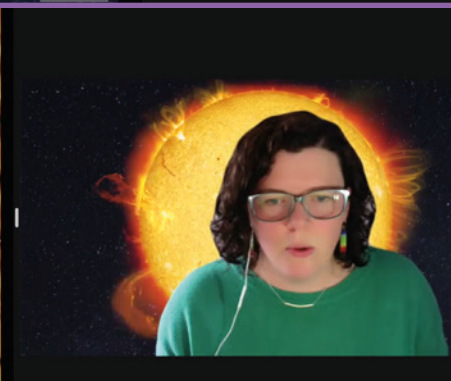
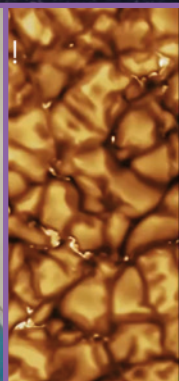
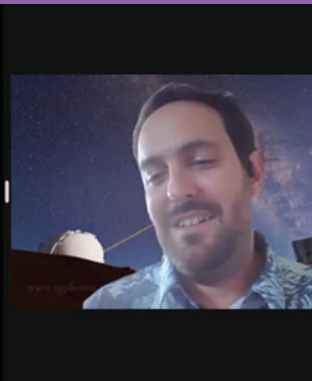
US Government - National Science Foundation Research Project  
Project Office - Tucson, Arizona - 5 years  
Observatory Site - Haleakala - 2015 on.....

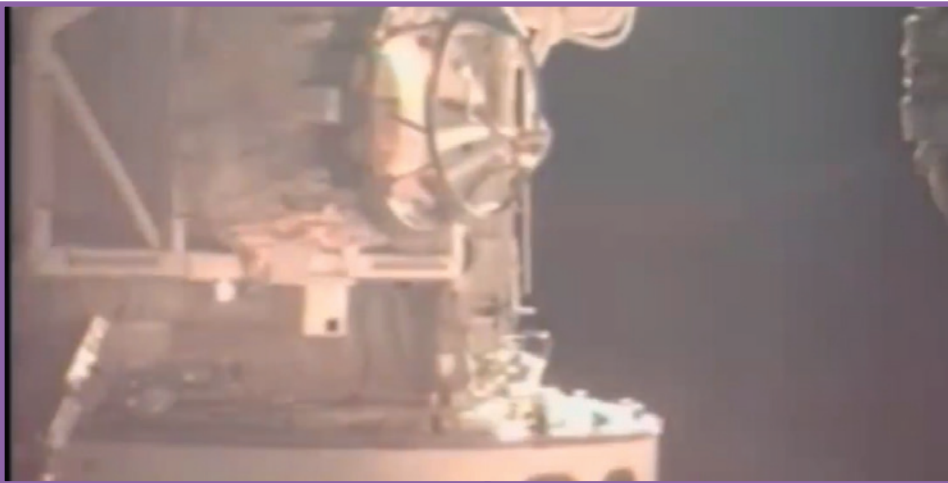


**Laser cutting in SExAO?**

Yes plenty! We use a laser cutter to create masks and prototypes in carbon fiber.

The masks block part of the starlight we don't want to better see companions. Sometimes they create cool patterns!





**THE MOON**



Dr. Tom Geballe  
Observatory/NSF's NOIRLab



How do we do (easily)?

Light pollution sky starts with **YOU!**

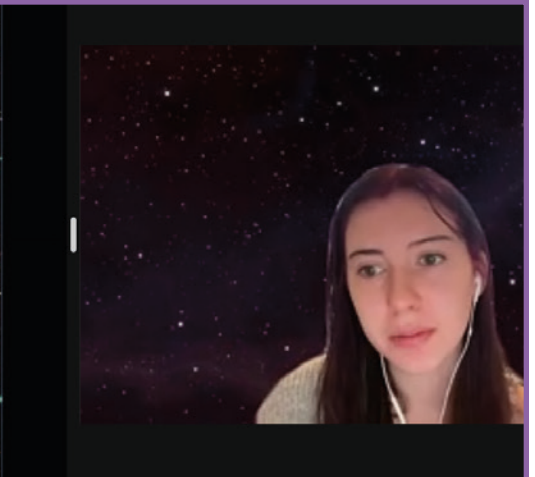
3 Shield lights and direct them down



6 Join IDA!

We need your help to continue the fight against light pollution.

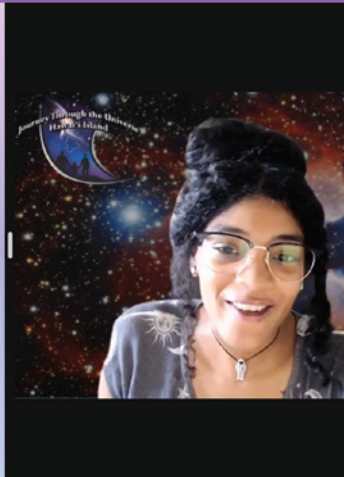
ida  
INTERNATIONAL DARK-SKY ASSOCIATION  
darksky.org



**Our Home Telescopes**





Sea Observatories are all important because different ways, and in different wavelengths




**Light Pollution affects...**


Energy, Safety & Cost




Astronomical Observations




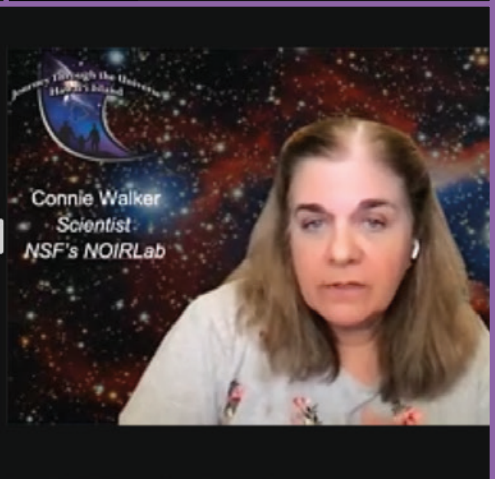
Human Health

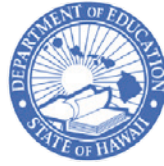


Wildlife



Cultural Heritage



## Mahalo to All of Our Project Partners Involved!

- ★ Association of Universities for Research in Astronomy (AURA)
- ★ Bank of Hawai'i
- ★ Basically Books
- ★ Big Island Candies
- ★ Big Island Toyota
- ★ California Institute of Technology
- ★ Canada-France-Hawai'i Telescope
- ★ California State University - Fresno
- ★ Daniel K. Inouye Solar Telescope
- ★ DeLuz Chevrolet
- ★ Department of Education Hilo-Waiakea Complex Area
- ★ Drexel University
- ★ Gemini Observatory
- ★ Hawai'i Community College
- ★ Hawai'i Electric Light Company
- ★ Hawai'i Island Chamber of Commerce
- ★ Hawai'i Island Economic Development Board
- ★ Hawai'i State Department of Education
- ★ Hawai'i Science and Technology Museum
- ★ Hawai'i Tribune-Herald
- ★ 'Imiloa Astronomy Center
- ★ James Clerk Maxwell Telescope/EAO
- ★ Japanese Chamber of Commerce & Industry of Hawai'i
- ★ KTA Superstores
- ★ KWXX Radio Station/New West Broadcasting
- ★ Mauna Kea Astronomy Outreach Committee
- ★ Maunakea Observatories
- ★ Mauna Kea Visitor Information Station
- ★ NASA Marshall Space Flight Center
- ★ NASA SSERVI
- ★ National Astronomical Observatory of Japan
- ★ National Center for Earth & Space Science
- ★ National Science Foundation (NSF)
- ★ National Solar Observatory
- ★ NSF's NOIRLab
- ★ Pacific International Space Center for Exploration Systems
- ★ Project Astro/Family Astro
- ★ Rotary Club of Hilo Bay
- ★ Rubin Observatory
- ★ Smithsonian Submillimeter Array
- ★ Subaru Telescope
- ★ Texas Tech University
- ★ Thirty Meter Telescope
- ★ Thirty Meter Telescope - Japan
- ★ University of Hawai'i Institute for Astronomy
- ★ University of California - Los Angeles
- ★ University of California - Santa Cruz
- ★ University of Hawai'i at Hilo - Physics & Astronomy Dept.
- ★ University of Oregon
- ★ 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](mailto: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](mailto: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](mailto:baranec@hawaii.edu)

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



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

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



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

**Vanshree Bhalotia** is an artist and Astrophysics Ph.D. student studying supernovae and 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 is passionate about helping everyone feel connected to the sky that we share, with over 9 years of experience in communicating astronomy to the public at schools, assisted living facilities, colleges, pubs and planetaria. Most recently, Vanshree has been mesmerized by the power of art and vulnerability in communicating the intricacies of science to audiences of every skill level. She is interested in continuing to do so by co-creating dance performances, visual art, sharing perspectives on her radio podcast, and ensuring audiences have ample opportunities to tap into their deeply infinite creative insights. When she's not looking for explosions light years away or analyzing ancient rays of light with relatively ancient chunks of computer code, Vanshree enjoys collecting tiny paper umbrellas, taking blurry pictures of her neighbourhood birds, mistaking planes for shooting stars and overanalyzing her fortune cookie predictions.



**Ravinder Bhatia**  
Thirty Meter Telescope

**Ravinder Bhatia** is Associate Project Manager for the Thirty Meter Telescope. Ravinder gained his Bachelor's degree in Aeronautics from Imperial College, his Ph.D in Experimental Astrophysics and Aerospace Engineering from Queen Mary College, and his Master's degree in International Relations from Cambridge University. Previously, he was Project Systems Engineer for the Atacama Large Millimeter/submillimeter Array (ALMA) in Chile. As Senior Thermal/Cryogenics Engineer for the European Space Agency, in The Netherlands, he worked on the Planck Space Telescope, supported the MIRI camera development for the James Webb Space Telescope, and served as Technical Officer for a number of technology research and development contracts with industry and research laboratories in Europe. He was Visiting Research Fellow at the UK National Oceanography Centre, supporting deployment of instrumentation for the Global Ocean Observing System. As Senior Postdoctoral Scholar at Caltech, his research focused on developing instruments to measure the Cosmic Microwave Background. At Lucas Aerospace, he developed cryogenic cooling systems for integration with infrared sensor arrays, for Earth Observation spacecraft.



**Catherine Blough**  
NSF's NOIRLab / international  
Gemini Observatory  
[cblough@gemini.edu](mailto: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  
[jbrower@gemini.edu](mailto:jbrower@gemini.edu)

**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.



**Christopher Brownell**  
NSF's NOIRLab / KPNO  
[chris.brownell@noirlab.edu](mailto:chris.brownell@noirlab.edu)

**Christopher Brownell** is a Technical Associate at Kitt Peak National Observatory (KPNO). His "day job" is keeping the large telescopes and observatories on Kitt Peak operational, in particular the 4 Meter Mayall Telescope and the 3.5 Meter WIYN Telescopes with their Dark Energy Spectroscopic Instrument and the NEID Spectrometer. On his days and nights off, he operates two remote control observatories at his home in New Mexico.



**André-Nicholas Chené**  
NSF's NOIRLab / international  
Gemini Observatory  
[achene@gemini.edu](mailto: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 Concepción and the Universidad de Valparaíso, 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.



**Devin Chu**

University of California Los Angeles

[dchu@astro.ucla.edu](mailto:dchu@astro.ucla.edu)

**Devin Chu** was raised in Hilo, Hawaii and graduated from Hilo High School in 2010. He received his Bachelor's degree from Dartmouth College in Physics and Astronomy in 2014 and Ph.D in Astronomy and Astrophysics from UCLA in 2020. He is currently a Keck All-sky Precision Adaptive optics (KAPA) postdoctoral researcher at UCLA working with Professors Andrea Ghez and Tuan Do. 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](mailto:kcooksey@hawaii.edu)

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



**Lars L. Christensen**

NSF's NOIRLab

[lchristensen@aura-astronomy.org](mailto:lchristensen@aura-astronomy.org)

**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.



**Brian Day**

NASA/SSERVI

[brian.h.day@nasa.gov](mailto: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.



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

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



**Xinnan Du**  
KIPAC/Stanford  
[xinnandu@stanford.edu](mailto:xinnandu@stanford.edu)

**Xinnan Du** is the Outreach and Engagement Manager at the Kavli Institute for Particle Astrophysics and Cosmology (KIPAC) at Stanford University. 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 various in-person and virtual outreach initiatives and created numerous active-learning curricula, Xinnan hopes to inspire the younger generation in STEM through authentic, hands-on experience.



**Angelic Ebbers**  
NSF's NOIRLab / international  
Gemini Observatory  
[aebbers@gemini.edu](mailto:aebbers@gemini.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.



**Jocelyn Ferrara**  
NSF's NOIRLab / International  
Gemini Observatory  
[jocelyn.ferrara@noirlab.edu](mailto:jocelyn.ferrara@noirlab.edu)

**Jocelyn Ferrara** works for Gemini Observatory as a Science Operations Specialist. After earning her B.A. in Physics & Astronomy at Barnard College of Columbia University in New York City in 2014, she started her career at the Space Telescope Science Institute in Baltimore working for the Hubble and James Webb Space Telescopes. A magical observing run on Maunakea at the NASA IRTF during her undergraduate studies had initially sparked her interest in working for telescope operations, so she was thrilled to be able to join the Gemini team in 2017. She recently completed her M.S. in Space Systems Engineering at the Johns Hopkins Whiting School of Engineering, entirely funded by workplace tuition programs. 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](mailto:rsf@uoregon.edu)

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



**Miriam Fuchs**

**Miriam (Mimi) Fuchs** was 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. She likes to spend her time singing karaoke with friends and weaving palm fronds.



**Abhimat Gautam**  
W. M. Keck Observatory  
[abhimat@astro.ucla.edu](mailto:abhimat@astro.ucla.edu)

**Abhimat Gautam** is a Keck All-sky Precision Adaptive optics (KAPA) postdoctoral researcher working at the UCLA Galactic Center Group. His research studies the stars living at the center of the Galaxy and the dynamical environment around the supermassive black hole at its center.



**Tom Geballe**  
NSF's NOIRLab / international  
Gemini Observatory  
[tgeballe@gemini.edu](mailto:tgeballe@gemini.edu)

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



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



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



**Janice Harvey**  
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**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  
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**Saeko S. Hayashi** grew up in a rural part of Japan. Then boldly went on to attend the University of Tokyo as one of the few women undergraduates in STEM majors. After receiving her doctorate in astronomy, she worked at the 15-m James Clerk Maxwell Telescope in Hawai'i and then joined the 8.3-m Subaru Telescope project. She dealt with the main dish/mirror of these telescopes. Then ensured good coating of the Subaru Telescope's optics; initiated and managed the day crew work and later coordinated the Public Information and Outreach Office's work. She hopes to promote the search for 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 mirror fabrication work and is currently based in Pasadena, California.



**Stephanie W. Henry**  
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**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.



**Ardis Herrold**  
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**Ardis Herrold** is the Education Specialist for Vera C. Rubin Observatory. She designs and tests classroom investigations and teacher support materials that will make use of Rubin data once it becomes available. Ardis has a Geology degree from the University of Michigan and still enjoys collecting rocks. Prior to joining Rubin Observatory, Ardis taught physical, Earth and space sciences, worked in various planetariums, and managed night labs and observing nights at the high school and college level. A lifelong amateur astronomer, Ardis has a personal observatory near Tucson, AZ, where she images deep sky objects, comets and supernovae. She also loves hiking, biking, and playing drums and guitar.



**Matt Hosek**  
UCLA  
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**Matt Hosek** is a Postdoctoral Scholar at UCLA, where he works with the Galactic Center Group to study the supermassive black hole and surrounding stellar populations at the center of our galaxy. He received his PhD in 2018 at the Institute for Astronomy at the University of Hawaii at Manoa, where he studied the properties of star clusters near the Galactic Center. His current research examines how these clusters formed and how their stellar populations have been impacted by the Galactic Center environment. He also works on measuring the precise motion of stars near the Galactic Center in order to understand their orbits and interactions with the supermassive black hole. Interested in astronomy from a young age, he is excited for the opportunity to share his enthusiasm through education and outreach. Outside of astronomy, he is a huge football fan and enjoys hiking and playing board games.



**Paul Jeffers**  
DKIST  
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**Paul Jeffers** is a Mechanical Engineer by education / training and experience. He started his career in the UK, after graduating college, training with a gas company before moving into Naval Defense. His first endeavor into the telescope world was as the Telescope work Package Manager for the VISTA project managed by ROE and installed at ESO's Paranal Observatory. After completion of VISTA he moved to the US as part of the DKIST project team in charge of the Telescope Mount Assembly. Paul has stayed on with DKIST in Maui as the IT&C execution Manager and now as the Deputy Tech Ops Manager.



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



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



**Yuko Kakazu**  
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**Yuko Kakazu** joined the Subaru Telescope as an outreach specialist in 2013. She is now the Senior Specialist for TMT - Japan. 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.





**Scot Kleinman**  
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**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.



**Kelly Kosmo O'Neil**  
UCLA  
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**Kelly Kosmo O'Neil** is a PhD candidate in Astronomy and Astrophysics at UCLA working with Professors Andrea Ghez and Tuan Do. Her research focuses on the orbits of stars around the supermassive black hole at the center of the Milky Way Galaxy. She is interested in what these orbits can tell us about how the Galaxy in which we live has formed and evolved, and about how gravity works around supermassive black holes. Kelly is extremely passionate about teaching, education research, and curriculum development. For several years, she has also served as a coordinator for UCLA's graduate-student-run early education outreach program, Astronomy Live!. Outside of academia, she enjoys any activity that allows her to appreciate the outdoors, especially ocean swimming, biking, running, and hiking.



**Preethi Krishnamoorthy**  
Subaru Telescope  
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**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.



**Mary Beth Laychak**  
Canada-France-Hawaii Telescope  
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**Mary Beth Laychak** is the Director of Strategic Communications at the Canada-France-Hawaii Telescope on the Big Island of Hawaii. She also runs the Maunakea Scholars program, an innovative astronomy outreach program for Hawaii public high school students. Mary Beth has an undergraduate degree in astronomy and astrophysics from Penn State University and a masters degree in educational technology from San Diego State. Her passions include astronomy, sharing astronomy with the public, astronomy based crafts, and running. She lives in Waimea, Hawaii with her husband.



**Fengchuan Liu**  
Thirty Meter Telescope

**Dr. Fengchuan Liu** is the project manager of the Thirty Meter Telescope (TMT), where he leads the observatory design and development. He was the deputy project manager from 2015 to 2020. He is currently based in Hilo on Hawaii Island.

Dr. Liu has played an integral role in managing the international partnership's design and production of TMT's many parts, systems and instruments that will allow astronomers to see deeper into space and observe cosmic objects with unprecedented sensitivity. In recent months, Dr. Liu has also focused on TMT's renewed effort to meaningfully connect with the Hawaii community through one-on-one conversations and other outreach.

Dr. Liu completed his bachelor's degree in China, and received his master's and doctorate degrees, both in Physics, from the University of Washington. After conducting post-doc research at the University of California, Santa Barbara, he had a 20-year career at NASA's Jet Propulsion Laboratory, managing development of space missions including space telescope, space radar, and science instruments on the Space shuttle and on the International Space Station. He has received numerous awards, including the NASA Outstanding Leadership Medal, NASA Exceptional Achievement Medal, and JPL Magellan Award.



**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  
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**Dr. 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.



**Leinani Lozi**  
Thirty Meter Telescope  
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As of March 2022, **Leinani Lozi** is the Hawai'i Community Outreach Specialist for the Thirty Meter Telescope. She was born and raised on the island of O'ahu and has lived in Hilo since 2013 where she graduated from the University of Hawai'i at Hilo. She facilitates educational programs, staff participation in community events, and engages all ages of audiences via classroom visits, and public stargazing events. Lozi incorporates Hawaiian language and culture in all of her engagement materials. She has worked in astronomy outreach since 2015 at the international Gemini Observatory, 'Imiloa Astronomy Center of Hawai'i, and the Maunakea Visitor Information Station where she's gained insight into the stories and ecosystem of Maunakea. Lozi is a part of Hālau Leimanu under the direction of Leilehua Yuen and engages in various volunteer activities on Hawai'i Island including planting trees on Maunakea, removing invasive species from the Volcanoes National Park and caring for the park via various tasks at the Lili'uokalani Park and Gardens. When she isn't learning more about Astronomy, Hawaiian culture or various languages, she's in her garden, teaching yoga, hiking or quilting.



**Nadine Manset**  
Canada-France-Hawaii Telescope  
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**Nadine Manset** has been a resident astronomer at CFHT since 1999, right after finishing her PhD thesis at 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**  
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**Callie Matulonis**

EAO/JCMT

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**Callie Matulonis** is currently the Telescope System and Outreach Program 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. For her undergraduate studies, she double majored in Communications and Natural Science while also completing a minor in Astronomy at the University of Hawai'i at Hilo. Callie has worked for several Maunakea observatories over the past 15 years fulfilling a variety of positions including public outreach, laser operations, and telescope operations.



**Peter Michaud**

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



**Brian Mitchell**  
NASA Marshall Space Flight Center  
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**Brian Mitchell** is the Education and Public Outreach manager for NASA's Discovery/New Frontiers/Lunar Quest Program Office. He has more than 25 years at the Marshall Space Flight Center located in Huntsville, Alabama and has worked on various Space Shuttle payload missions including ASTRO, ATLAS, and Spacelab, as well as several experiments for the International Space Station. He has been the Program Office Education and Outreach lead during the LRO, LCROSS, LADEE, JUNO, 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

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alive, competes in shooting events, and occasionally gets to swing a golf club with his two teenagers.

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

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**Brialyn Onodera**  
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**Brialyn Onodera** was born and raised on the Big Island of Hawai'i where she graduated from Kamehameha Schools Kea'au campus, and her proximity to the telescopes on Maunakea throughout her childhood inspired her to pursue engineering. Brialyn received her B.S. in Mechanical Engineering from the University of Hawai'i at Mānoa, holds an FE certification, and is currently pursuing her EMBA from the Shidler College of Business. Brialyn works for the Daniel K. Inouye Solar telescope, where she collaborates with her peers to execute various engineering projects and analyzes data in support of telescope operations. One of Brialyn's greatest passions is supporting the visibility and presence of kama'āina within STEM projects in Hawai'i. In her free time she enjoys traveling, yoga, and concerts.

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**Harriet Parsons**  
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**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  
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**Emily Peavy** is an astronomy educator and planetarium technician at 'Imiloa Astronomy Center. A UH Hilo Astronomy program Alum, Emily completed a Master's in Education focusing on the presentation of astronomy concepts in the planetarium. She could talk all day everyday about the fascinating universe that we all live in.



**Shelly Pelfrey**  
W.M. Keck Observatory

**Shelly Pelfrey** is the Outreach Coordinator for W. M. Keck Observatory and provides administrative support to multiple departments at Keck. She also manages the Observatory's Kalihiao Program, which offers Keck employees resources for learning about Hawaii's culture, history, and place. During the pandemic, she has become a proficient Zoom administrator, running international meetings of up to 500 participants. Shelly has a degree in Geography and Environmental Studies from UH Hilo and is a proud alum of Kamehameha Schools Kapālama Campus. In her free time, crafts shell jewelry exclusively collected from Waialea Bay, and is the chief cook and dishwasher for her husband and two cats in Waikoloa.



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



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

**Joy Pollard** is a Multimedia Graphic Designer, Photographer, and Tour Guide/Coordinator at NOIRLab's international Gemini Observatory. She started at Gemini in November of 2008, where she grew from an entry level/internship position to a full time graphic designer. Joy graduated with a BA in Natural Sciences from the University of Hawai'i at Hilo in 1999. Before finding her home in Astronomy, she toured the US as the technical director and sound engineer for two different Children's theatre musicals (an adaptation of "Sleeping Beauty" and "Addy, An American Girl Story"). In 2006 Joy was the first planetarium technician and presenter at the 'Imiloa Astronomy Center, bridging her love of the arts and science. Now she uses her skills as a graphic designer to share the wonders of the universe with her local community and beyond.



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



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



**Laurie Rousseau-Nepton**  
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**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 a support Astronomer at the Canada-France-Hawaii Telescope and Instrument Scientist for the SITELLE, a Fourier Transform integral field Spectrograph. Her research focuses on newly formed stars in nearby galaxies, especially young and massive stars. Aside from work, she likes hunting, paddling, hiking, and running!



**Julien Rousselle**  
Subaru Telescope  
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**Julien Rousselle** is an instrument engineer at the Subaru Telescope, National Astronomical Observatory of Japan. He earned a Master 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.



**Tom Schad**  
National Solar Observatory /  
Daniel K Inouye Solar Telescope  
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**Tom Schad** is an Associate Astronomer at the National Solar Observatory (NSO) and Daniel K Inouye Solar Telescope (DKIST) located on Maui. Tom earned a Bachelor of Science in Physics and a Bachelor of Arts in Philosophy from the University of Notre Dame in 2007. From there, he moved to Tucson, Arizona, where he completed his PhD at the University of Arizona on advanced methods to measure the magnetic field properties of the solar chromosphere and corona. In 2013, Tom moved to Maui to be the instrument scientist for one of the DKIST first light instruments being built by the University of Hawaii, and in 2015, he joined the NSO and DKIST as a scientist focused on DKIST instrumentation, operations, and coronal physics. When not working on the Sun, he enjoys spending time with his wife Molly and chasing around their two kids, Daniel and Heidi.



**Justine Schaen**  
NSF's NOIRLab  
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**Justine Schaen** is the astronomy education specialist for NSF's NOIRLab. Her background is in earth science and education. Justine earned her Masters of Science in Science Education from Montana State University in 2016. She has been a middle school science teacher for 10 years and served as a practicum teacher for college students interested in science education. She has many years of experience coaching high school athletics along with leading Science Olympiad and Destination Imagination teams.



**Doug Simons**  
Canada-France-Hawaii Telescope  
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**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 Institute for Astronomy 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 served as Executive Director for nearly 10 years. In 2021 he returned to his alma mater where he now serves as Director of the UH Institute for Astronomy. Doug has served on numerous community boards. Currently he is on the Board of the Kona-Kohala Chamber of Commerce and is President Elect of the Hawaii Island Chamber of Commerce. 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.



**Rob Sparks**  
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**Rob Sparks** is in the Communications, Education and Engagement group at NSF's NOIRLab. He earned his B.A. in Physics from Grinnell College and M.S. in Physics from Michigan State University. He has a long career in education which includes teaching at the Good Hope School on St. Croix, Saint Stephen's Episcopal School in Bradenton, Florida, Manatee Community College in Bradent, Florida and the Prairie School in Racine, Wisconsin. He received the Fermilab Teacher Fellowship where he spent a year working on the Sloan Digital Sky Survey. He spent a summer at the National Radio Astronomy Observatory as part of the Research Experience For Teachers program. At night he is frequently onstage at Unscrewed Theater in Tucson and performing cabaret style musical revues with One Rehearsal Short. He can frequently be found running on the trails of Tucson.



**Chance Spencer**

**Chance Spencer** was an intern for the GEMMA project at Gemini Observatory in Hawai'i. He graduated in June 2019 from Cal Poly in San Luis Obispo with a B.Sc. 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 delivering weekly star talks at the Cal Poly Observatory. Chance worked at Gemini 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. Since fall of 2020, he has been working on his M.Sc. in Physics at CSU Fresno while analyzing long-term light curves of low-mass X-ray binaries and classical novae using data from CRTS and NASA'S TESS satellite.



**Marianne Takamiya**  
UHH Physics & Astronomy  
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**Marianne Takamiya** is a 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. Her research explores the star-forming regions in nearby and distant galaxies to tease out one aspect in the evolution of galaxies.



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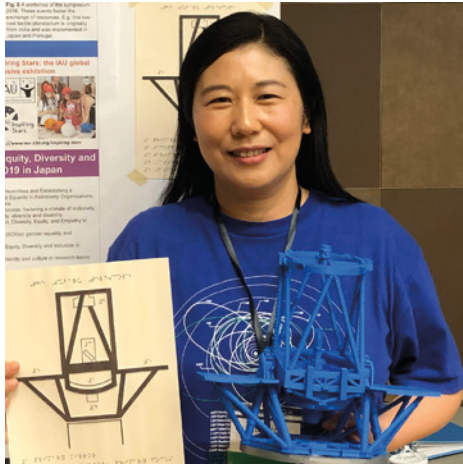
**Ichi Tanaka** is a Japanese astronomer working at Subaru Telescope. He was born and raised in Niigata Prefecture, Japan. The beautiful night sky in his hometown has made him a big fan of stars and constellations since his elementary school days. But the TV series "COSMOS" by Carl Sagan, as well as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



**Alex Tetarenko**  
Texas Tech University

**Alex Tetarenko** is currently a NASA Einstein Fellow at Texas Tech University. Previously, Alex worked as an EAO postdoctoral fellow at the East Asian Observatory's James Clerk Maxwell Telescope. 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.





**Kumiko Usuda-Sato**  
National Optical Astronomy  
Observatory of Japan

**Kumiko Usuda-Sato** is a Japanese astronomer. From 1998 to 2013, she had lived in Hilo on the Big Island of Hawai'i and had had extensive outreach activities at Subaru Telescope. She also volunteered at 'Imiloa Astronomy Center of Hawai'i from 2011 to 2013. After working at the National Astronomical Observatory of Japan (NAOJ) in Tokyo, Japan, for eight years, she returned to Hilo in late August 2021 to work at Subaru Telescope as a public outreach specialist. She is a project coordinator of GALAXY CRUISE, NAOJ's citizen science project, and engages the general public to classify many galaxies captured by the Subaru Telescope. She also enjoys "touching" the Universe with blind and visually impaired (BVI) people using tactile models of the Subaru Telescope and celestial bodies created with a 3D printer.



**Tomonori Usuda**  
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**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 NAOJ TMT (Thirty Meter Telescope) project as the Project Manager since 2014. Previously, he was the associate director of Subaru Telescope from 2006 to 2013. He has moved back to Hilo from 2021. His research interests are telescope & science instruments and spectroscopic studies of interstellar medium and star/planet formations.



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



**Sebastien Vievard**  
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**Sebastien Vievard** is a French post doctoral fellow working at the Subaru Telescope since March 2018, in the SCEXAO team. He returned to the group after his productive visit as an undergraduate student in 2013. As a member of the SCEXAO team, his activities revolve around Interferometry, Wavefront Sensing and Hardware maintenance/operation.



**Andrea Waiters**  
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**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.



**Connie Walker**  
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**Connie Walker** has been a Scientist at NOIRLab, for 21 years, creating (with the education team) innovative programs on dark skies education, as well as optics and astronomy programs through inquiry and research to excite teachers and students in STEM, and then sharing these programs via workshops, talks and events all over the globe. She has also been heavily involved with light pollution issues on the ground and now in space (satellite constellations). A cool thing is that the discoverers Levy and Shoemaker named Asteroid 29292 ConnieWalker, for her efforts in education outreach. Inspired from an early age by astronauts landing on the Moon and the original Star Trek series, her curiosity for anything astronomy propelled her to be the first in her family to go to college and earn a Ph.D.



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



**Cam Wipper**  
Canada-France-Hawaii Telescope  
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**Cam** is a 2013 graduate of the University of Hawaii at Hilo (BSc. Astronomy). He grew up on the west coast of Canada, and has lived on the Big Island for the past 10 years. Since 2015, Cam has worked at the Canada-France-Hawaii Telescope (CFHT); first, as a Remote Observer conducting the nightly science operations of the observatory. Starting in June 2021, Cam has served as the Astronomy Technical Specialist at CFHT, supporting the science operations, managing the fault reporting system, and overseeing a revamp of the Queued Service Observing software and infrastructure. On weekends, Cam enjoys hiking, camping, and off-roading — anything to get outside and enjoy this beautiful island.



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



**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.