



2023



To Our Journey 'Ohana,

After two years of being entirely online, the Journey Through the Universe program has made a wildly successful return to in-person classroom visits for its 19th year. We can not begin to express what it meant to us to see you all engaged in local classrooms with our keiki. With your kōkua and passion, together we shared the wonders of the Universe and the exciting career possibilities in science and technology with K-12 students on Hawai'i Island. This year's Journey was made possible through a partnership between NOIRLab's Gemini Observatory, the Thirty Meter Telescope, the Hawai'i Department of Education, the Maunakea Observatories, and a host of other individuals and organizations ranging from NASA to dozens of local businesses.

Between February 27 and March 3, 2023, Journey's 59 Astronomy Educators engaged over 3,000 students in the Hilo-Waiākea schools during "Journey Week." These volunteer educators provided astronomy-focused presentations custom-fit to teacher requests, and specific grade levels. Career Panels were held at both Hilo and Waiākea High Schools with alumni from both schools featured on each panel. To prepare the astronomy educators for classroom visits, the Journey program hosted an Astronomy Educator Workshop led by previous years' educators featuring their own lessons learned and presentation examples. 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 at the 'Imiloa Astronomy Center.

"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 19 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 look forward to our 20th year of Journey, the program will continue to evolve to meet the needs of our teachers and students 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, and our plans for next year, please visit: <https://noirlab.edu/public/education/journey-through-the-universe/>

Much Aloha and our sincerest Mahalo,

The Journey Team

Leinani Lozi, Christopher Phillips and Peter Michaud



Proclamation

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

WHEREAS, Hilo, Hawai‘i is one of the only ten communities around the nation that are designated Journey Through the Universe sites; and

WHEREAS, the 19th Annual Journey through the universe program on Hawai‘i Island strengthens the community by participating with the International Gemini Observatory, a program of NSF’s NOIRLab, the Thirty Meter Telescope Project, the University of Hawai‘i at Hilo, the Department of Education’s Hilo-Waiākea and Ka‘ū-Kea‘au-Pāhoa Complex areas, Waimea and Honoka‘a Schools, the ‘Imiloa Astronomy Center of Hawai‘i, Japanese Chamber of Commerce and Industry of Hawai‘i, the Hawai‘i Island Chamber of Commerce as well as many others sponsors, organizations and businesses; and

WHEREAS, this fun-filled educational program has engaged tens of thousands of students in Hawai‘i, giving them forefront access to the entire sky and allowing them to gain 21st century skills that help 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; now, therefore,

I, **Josh Green, MD**, Governor of the State of Hawai‘i, do hereby proclaim February 26 – March 4, 2023, 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 in encouraging our keiki to pursue the explorers within themselves.

Done at the State Capitol in Executive Chambers, Honolulu, State of Hawai‘i, this 26th day of February, 2023.


Josh Green, MD
Governor, State of Hawai‘i



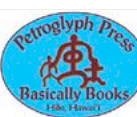
Journey Through the Universe Hawai'i Island

Astronomy Educators in the Community 2023



- Alexis Ann Acobido
- Andy Adamson
- Fishanna Ben
- Vanshree Bhaloria
- Sharmila Bhattacharya
- Christopher Brownswell
- Lars L. Christensen
- Devlin Chiu
- Christopher Clerjoun
- Brian Day
- Xinman Du
- Angie Dobers
- Scott Fisher
- Mimi Fuchs
- Tom Gadelle
- Kristina Gibbs
- Jeff Goldstein
- Oliver Guyon
- John Hamilton
- Zachary Hartman
- Janice Harvey
- Sachio S. Hayashi
- Mutsumi Hayashi
- Stephanie Henry
- Andis Herrold
- Soheli Irvine
- Paul Jeffers
- Russell Tackley
- Camryn Kaichi
- Yuko Kakazu
- Shintaro Koshida
- Preethi Krishnamoorthy
- Mary Beth Laychek
- Ellen Lee
- Brian Lenzau
- Fengchuan Liu
- Alexandra Lockwood
- Jennifer Lotz
- Julien Lodi
- Leimani Looi
- Nadine Marset
- Janicka Marshall
- Clara Martinez-Vazquez
- Callie Marudonis
- Natalia McCarthy
- Peter Michael
- Joseph Minfra
- Brian Mitchell
- Satoshi Miyazaki
- Junichi Nomura
- Briahna Onodera
- Emily Peavy
- Shelly Palfrey
- Christopher Phillips
- Joy Pollard
- Laurie Rousseau-Scpton
- Julien Roussele
- Justine Schwab
- Doug Simons
- Robert Sparks
- Marijanne Takamiya
- Ichii Tanaka
- Alex Teraranko
- Tomoo Usuda
- Kumiko Usuda Sato
- Schustien Vieland
- Maria Vincent
- Andrea Walters
- Connie Walker
- Eisa Wells
- Cam Whipper
- Siyi Xu

- Canada France Hawai'i Telescope
- Gemini Observatory NSF's NOIRLab
- National Solar Observatory DKIST
- UH Manoa Physics & Astronomy
- NASA Headquarters
- URA KPNO
- Gemini Observatory NSF's NOIRLab
- UCLA
- Gemini Observatory NSF's NOIRLab
- NISSERV
- KIPAC Stanford
- TMT International Observatory
- University of Oregon
- Drexel University
- Ampliforan LLC
- Gemini Observatory NSF's NOIRLab
- NISSERV
- UCFSI
- Sabara Telescope
- UH Hilo Physics & Astronomy
- Gemini Observatory NSF's NOIRLab
- Gemini Observatory NSF's NOIRLab
- retired
- NIJ
- University of California Irvine
- NASA Marshall Space Flight Center
- Rubin Observatory
- NISSA PUPPO
- NSO
- Sabara Telescope
- UH Institute for Astronomy
- TMT Japan Project & Sabara Telescope
- Sabara Telescope
- Sabara Telescope
- Sabara Telescope
- Canada France Hawai'i Telescope
- UH Institute for Astronomy
- Gemini Observatory NSF's NOIRLab
- TMT International Observatory
- Space Telescope Science Institute
- Gemini Observatory NSF's NOIRLab
- Sabara Telescope
- TMT International Observatory
- Canada France Hawai'i Telescope
- Shadoc: the Scientific U.C. Santa Cruz
- Gemini Observatory NSF's NOIRLab
- UOJCAT
- Gemini Observatory NSF's NOIRLab
- Gemini Observatory NSF's NOIRLab
- NISSERV
- NASA Marshall Space Flight Center
- Sabara Telescope
- Sabara Telescope
- URA NSO DKIST
- India's Astronomy Center
- W.M. Keck Observatory
- Gemini Observatory NSF's NOIRLab
- Gemini Observatory NSF's NOIRLab
- Canada France Hawai'i Telescope
- Sabara Telescope
- NSI's NOIRLab
- UH Institute for Astronomy
- NSI's NOIRLab
- UH Hilo Physics & Astronomy
- Sabara Telescope
- Texas Tech University
- NIJ/TMT Project
- Sabara Telescope
- Sabara Telescope
- UH Institute for Astronomy
- SIU
- Gemini Observatory NSF's NOIRLab
- Canada France Hawai'i Telescope
- Canada France Hawai'i Telescope
- Gemini Observatory NSF's NOIRLab



For more information contact Journey@NOIRLab.edu

noirlab.edu/public/JTTU/



Journey Through the Universe Astronomy Educator Workshop Agenda 11:00am - 1:00pm, 7 February 2023

This Journey workshop will prepare Astronomy Educators for in-person classroom visits with insights from our partners at the Department of Education, example presentations from previous presenters, and an overview of the logistics of Journey Week.

Zoom link: <https://noirlab-edu.zoom.us/j/95837604239?pwd=RTFsY3pyaHZxTIVlVXFSNkpvcmJwUT09>

11:05 - 11:15 (10 min) Journey Team introduction and a brief history of the program.

11:15 - 11:30 (15 min) Hilo-Waiakea Complex Area Superintendent, Esther Kanehailua - Journey's partnership over the past 18 years and looking forward to the future.

11:30 - 11:40 (10 min) Leinani Lozi - format of this year's program, new features and events.

11:40 - 12:30 (50 min) AEs from previous years will share their classroom and career panel presentations alongside their methods and rationale.

12:30 - 1:00 (30 min) Closing remarks. Q&A. Lunch served (courtesy of TMT).



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

Journey Through the Universe Returns to Hilo Classes

info@noirlab.edu

noirlab2305 — Organization Release

Celebrating its 19th consecutive year on Hawai'i Island, the flagship Journey Through the Universe program is back in person with a jam-packed schedule

16 February 2023



Journey Through the Universe — a partnership among NSF's NOIRLab/Gemini, the Hawai'i Department of Education Hilo-Waiākea Complex Area, and the TMT International Observatory — returns to its in-person format to share with Hawai'i students the wonders of the Universe and awareness of careers in science and technology. This year's exciting program includes classroom presentations, career panels, a teacher workshop and more!

Hawai'i Island's leading astronomy education and outreach program, [Journey](#)

[Through the Universe](#) (Journey), is returning for its 19th year from 27 February to 3 March 2023. And after two years of virtual programming, there is high anticipation from students and teachers who will be back in person for interactive lessons and hands-on activities. This year's program will consist of science presentations and career panels for classes from pre-kindergarten through 12th grade. Journey Week — which last year was an entirely virtual experience reached over 8,000 students in Hilo-Waiākea, Honoka'a, Waimea, Maui, Molokai and Lāna'i schools — will offer students a fun way to engage with the wonders of our Universe, from the worlds and moons of our Solar System to the most distant galaxies.

Journey, which began as an [International Gemini Observatory](#) program and is now coordinated by [NSF's NOIRLab/Gemini](#), the [TMT International Observatory](#) (TMT) and the [Department of Education Hilo-Waiākea Complex Area](#), 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.

"I'm thrilled to see the Journey Through the Universe program return to classrooms across Hawai'i this year. This ambitious and celebrated program would not succeed without the help of our community partners and sponsors, including the Thirty Meter Telescope, the Department of Education, Hawai'i Island business community, Maunakea Observatories, and NASA, among many others," said Christopher Phillips, NOIRLab's Engagement and Education Manager for Hawai'i and *Journey Through the Universe* co-lead. *"These critical collaborations, both local and from across the nation, are a demonstration of the commitment to our community and the future of science education for students in Hawai'i and beyond."*

"TMT is honored to be a part of the core Journey Through the Universe partnership for the first time this year," said Leinani Lozi, Hawai'i Community

Outreach Specialist at TMT located in Hilo, Hawai'i, and Journey Through the Universe co-lead. *"I worked behind the scenes on Journey for seven years with Janice Harvey, the now retired lead for this program, and I couldn't be more proud of the growth and adaptability of Journey Through the Universe. After two years of being entirely virtual, we're all very excited to be back in person supporting and connecting with our community."*

Originally developed by the National Center for Earth and Space Science Education ([NCESSE](#)), Journey has expanded each year since its introduction in 2005. The success of Journey over the past 19 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 public outreach program that has only been possible because of NOIRLab's community partnerships, particularly with the Hawai'i Department of Education Hilo-Waiākea Complex Area.

"The Journey Through the Universe partnership continues to be 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 science educators from the Maunakea Observatories and beyond 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.

While individual classroom science presentations make up the majority of the Journey programming, career panels continue to be an impactful part of Journey Week. *Journey Through the Universe 2023* career panels will feature professionals from local observatories and astronomy organizations from around the world. Some presenters or career panelists are even alumni of the schools they will be visiting! These panels allow students to discover

the wide range of career opportunities available both at observatories and within the wider STEM fields and provide an opportunity to engage with professionals in their fields of interest.

Journey events outside of the classrooms this year include a Welcome Reception hosted by the [Hawai'i Island Chamber of Commerce](#) and the [Japanese Chamber of Commerce & Industry of Hawai'i](#) at the 'Imiloa Astronomy Center on 28 February 2023 and a [NASA Lunar and Meteorite Sample Certification Workshop](#) hosted by NASA SSERVI at the Gemini North Base Facility on 25 February 2023. In celebration of the many local community organizations, volunteers, school principals, and teachers who support Journey, the annual *Journey Through the Universe* welcome reception 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. The NASA Lunar and Meteorite Sample Certification Workshop will provide an awesome opportunity for Hawai'i Island teachers to be introduced to the science of the study of astromaterials, learn how to bring this exciting topic into their classes, and become certified to borrow lunar samples from the historic Apollo missions that are available to lend to teachers.

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/International 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-Hawaii 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, TMT International Observatory, 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, and W.M. Keck Observatory.

19th Annual Astronomy Educators Reception



Journey Through the Universe
Hawai'i Island



Tuesday, February 28, 2023
5:00 p.m. to 8:00 p.m.

'Imiloa Astronomy Center Exhibit Hall

Cocktail Reception \$40
R.S.V.P. by Tuesday, February 21, 2023

Presented by:



Journey Through the Universe Information -- <https://noirlab.edu/public/education/journey-through-the-universe/>

Journey Through the Universe in Social Media



geminiobs • Follow



geminiobs A Banner Year: Now in its 19th consecutive year, the annual Journey Through the Universe program, led by @NOIRLabastro/@Geminiobs, @TMTHawaii, and the Hawai'i Department of Education, begins on Monday Feb 27, 2023 in Hilo-Waikeke classrooms. Here, a banner celebrating this program hangs on the Gemini North Hilo Base Facility. We can't wait to see you all!

Photo Credit: NSF/NOIRLab/Gemini Observatory/P. Michaud

[Image description: A banner celebrating Journey Through the Universe program hangs on the Gemini North Hilo Base Facility.]

6w



41 likes

FEBRUARY 24

Log in to like or comment.



geminiobs • Follow



geminiobs Each year the Hawai'i Island and Japanese Chambers of Commerce host a special Journey Through the Universe Welcome Reception for teacher, educators, observatory staff and others to celebrate the scientists and educators who share the excitement of science and specifically astronomy with K-12 students. Here @noirlabastro's Education and Engagement Manager Peter Michaud addresses the crowd of



46 likes

MARCH 1

Log in to like or comment.



gemiobs · Follow

program Journey Through the Universe returns to its in-person format! Journey is a partnership among @NOIRLabastro, the Hawai'i Department of Education Hilo-Waiākea Complex Area, and the @tmthawaii that shares with Hawai'i students the wonders of the Universe and awareness of careers in science and technology. This year's exciting program from 27 February to 3 March 2023 includes classroom presentations, career panels, a teacher workshop and

25 likes
FEBRUARY 16

Log in to like or comment.



gemiobs · Follow

gemiobs Mahalo nui to our partners and collaborators! We celebrate the successful conclusion of the annual Journey Through the Universe program led by the @GeminiObs, @TMTHawaii and the Hawai'i Public Schools, in collaboration with our partners @Maunakeaobs and @NASA. The program reached 3000+ students across Hawai'i Island!

Credit: @gemiobs

66 likes
MARCH 6

Log in to like or comment.



gemiobs · Follow

gemiobs Among the highlights of the annual Journey Through the Universe program are Career Panels where @maunakeaobs staff share their work and careers with local Hawai'i students. This year, three Career Panels engaged students with the career paths of observatory staff. The Journey Through the Universe program has been led by the @gemiobs and the Hawai'i Department of Education for the past 19 years and this year,

21 likes
MARCH 3

Log in to like or comment.

NOIRLab Internal Announcement about Journey Through the Universe, March 22 2023



Peter Michaud in a classroom during Journey Through the Universe 2023. Image: J. Pollard

19th Annual Journey Through the Universe Concludes

March 22, 2023

We mark the successful conclusion of the 19th annual Journey Through the Universe (<https://noirlab.edu/public/education/journey-through-the-universe/>) program led by Gemini/NOIRLab, in partnership with the Thirty Meter Telescope, and the Hawaii Department of Education, and in collaboration with our partners at the Maunakea Observatories and NASA. The program reached 3100+ students in 160 classes across Hawai'i Island, and hosted a career panel and teacher training event. With the successful completion of the 19th Journey, we look forward to the 20th anniversary of Journey in 2024, with new partners and new programs that will expand and enrich Journey Through the Universe.

Thank you to staff who participated in Journey 2023, including André-Nicholas Chené, Brian Lemaux, Christopher Phillips, Clara Martínez-Vázquez, Garima Singh, Jennifer Andrews, Jerry Brower, Joy Pollard, Pablo Martin Ravelo, Peter Michaud, Robert Sparks, Siyi Xu and Zachary Hartman as well as former staff Leinani Lozi (now at TMT).

NASA Lunar & Meteorite Sample Certification Workshop

Saturday 25 February;
9:00 A.M. – 12:00 P.M.
Gemini Hawai'i Base Facility Lecture Hall

Contacts:
Christopher Phillips
christopher.phillips@noirlab.edu

Peter Michaud
peter.michaud@noirlab.edu

Participation is limited. RSVP to reserve your spot.
Lunch will be provided for all participants.
RSVP by filling out this [google form](#).



Journey Through the Universe
Hawai'i Island

noirlab.edu/public/JTTU



Rocks from space help us understand how the Solar System formed, how individual planets and moons formed and evolved, and even how life may have begun on Earth. The excitement of these concepts is brought to life when a teacher is able to bring actual samples of space rocks into the classroom. In this workshop, K-12 teachers will get the opportunity to examine firsthand samples of material from the Moon, Mars, and asteroids. They will get an introduction to the science of the study of astromaterials, learn how to bring this exciting topic into their classes, and become certified to borrow lunar

samples from the historic Apollo missions that are available to lend to teachers. NASA also lends samples of meteorites for students to examine. Teachers attending this workshop will learn how to use NASA online tools to explore and visualize the surfaces of the Moon, asteroids, and Mars as seen through the eyes of many different instruments aboard a great range of spacecraft. Teachers must attend a certification workshop such as this to bring the excitement of real NASA Moon rocks and meteorite samples to their students. This workshop will be conducted by Brian Day and Joseph Minafra of NASA's Solar System Exploration Research Virtual Institute.



Brian Day



Joseph Minafra



Journey Through the Universe

Feedback Summary



Journey Through the Universe Deliverables

Journey Through the Universe is a local education and outreach program led by NSF's NOIRLab, the Hawai'i Department of Education Hilo-Wai'kea Complex Area, and the Thirty Meter Telescope International Observatory. The program promotes science education in Hawai'i Island school districts and inspires students to explore Science, Technology, Engineering and Math (STEM) fields by developing literacy in science. *Journey* endeavors to foster curiosity and wonder about our Universe, and the cutting-edge research and technology that is allowing us to understand our place in the cosmos like never before. The success of *Journey Through the Universe* over the past 19 years is evidence of the support from our local community partners across government, business, astronomy and higher education, and our foundational partnerships.



Connections

Journey Week establishes effective relationships between STEM professionals and local teachers and their students.



STEM Careers

Career Panels and STEM professional presentations in classrooms provide opportunities for students to explore a variety of careers in STEM.



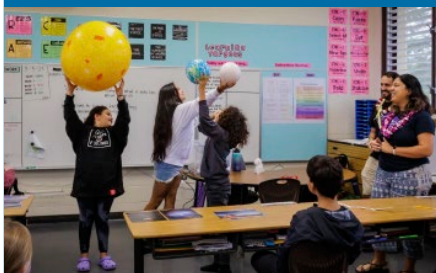
Scientific Literacy

Classroom presentations support grade-level standards and provide a space for practicing science skills.



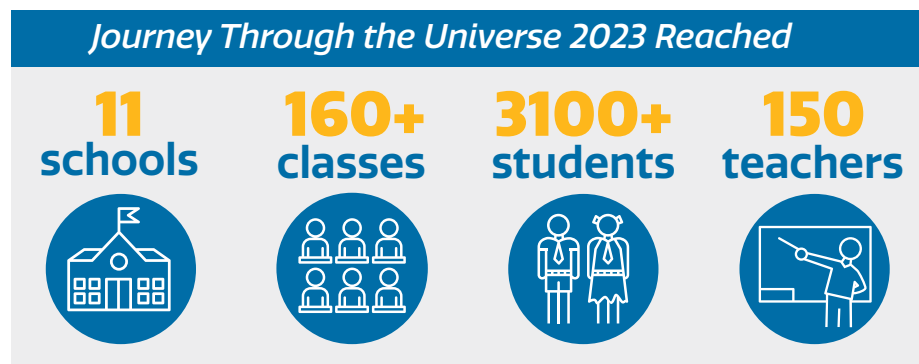
Wonder

Journey Week's hands-on experiences for students foster curiosity and wonder about our Universe and our place in space.



Evaluating the Impact of the Program

Celebrating its 19th year, from 27 February to 2 March 2023, *Journey Week* included in-person classroom presentations and career panels. This Feedback Summary is a collection of the data obtained from *Journey Through the Universe* teacher and astronomy educator surveys. Every year we collect and evaluate these data to find new ways to improve our program; we hope this summary will help to make our 20th year even better!

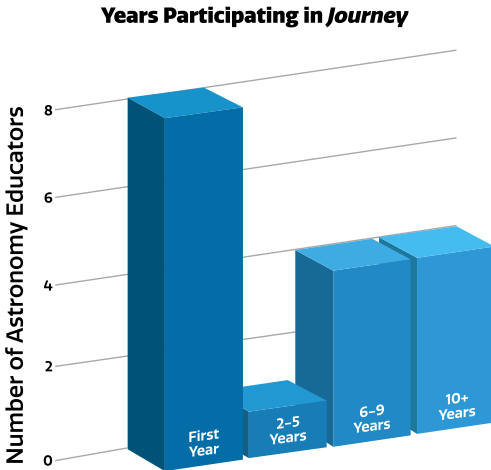


Astronomy Educator Results

Astronomy educators volunteer to visit classrooms during *Journey Week* and offer 30–60-minute hands-on presentations and/or participate in career panels for various grade levels. Astronomy educators differ in their professions, as astronomers, engineers, information and technology services, outreach specialists, and more. Seventeen astronomy educators submitted feedback for their entire *Journey Week* experience. While the majority of the astronomy educator's feedback was positive, their valuable responses have led the *Journey* Team to focus on developing new strategies to better prepare all presenters for *Journey Week*.

Developing Lasting Relationships (Astronomy Educators)

How many years have you been involved with *Journey Through the Universe*?



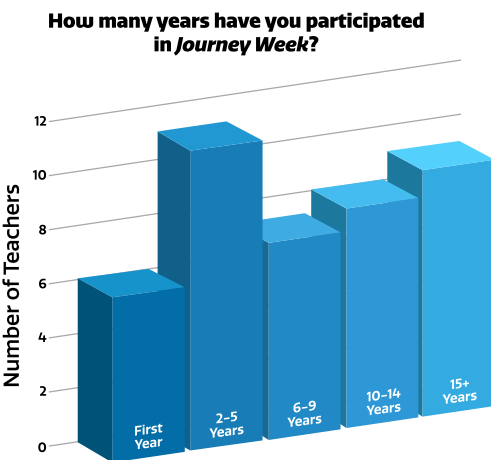
100%
of astronomy educators would like to participate again next year

Teacher Results

Every teacher is asked to complete one survey per presentation done in their class. The teacher feedback form was designed to obtain quantitative and qualitative feedback from participating teachers. About 155 teachers took part in *Journey 2023*, of whom 49 completed the feedback form.

Developing Lasting Relationships (Teachers)

How many years have you participated in *Journey Through the Universe*?



Overall Satisfaction with Journey

My overall satisfaction with the *Journey* program is...



Developing Positive Attitudes in STEM

Journey Week helped my STUDENTS to develop positive attitudes toward STEM careers.

98% Agreed or Strongly Agreed

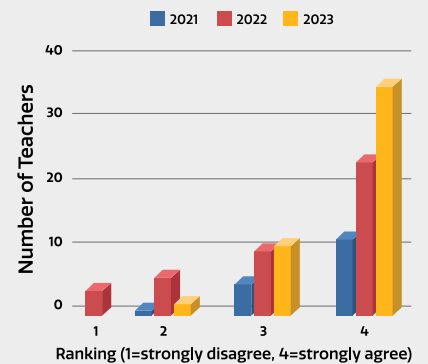
Mahalo to Everyone Involved!

For the full summative evaluation report including recommendations for the future, visit this [document](#). For a highlight of all activities during *Journey Week* visit this [report](#). Additional information can be found on the *Journey* [website](#).

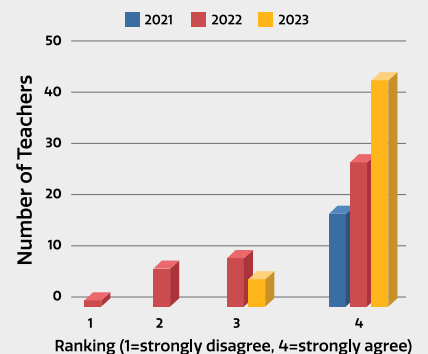
Comparing Feedback From 2021-2023

Journey 2023 went back to in-person activities after two years of virtual experiences. In 2021, 5515 students participated in the virtual *Journey Week*, compared to 8000 in 2022. Fewer students participated in *Journey Week 2023* (3100+ students) compared with the virtual years, a result of going back to an in-person format. However, **results from the feedback forms show the educational impact and overall experience were greater in 2023**, with both engagement and grade-level appropriate presentations being scored higher. We attribute this increase to the in-person experiences and emphasis from the *Journey Team* for the astronomy educators to provide a hands-on experience.

The presentation was appropriate for this grade level - content and vocabulary supported student understanding



I would encourage other teachers to participate in Journey Through the Universe



Journey Through the Universe Welcome Reception, February 28, 2023

In celebration of the many local community organizations, volunteer astronomy educators, 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 on Tuesday, February 28, 2023 at the Imiloa Astronomy Center. This event brought together the many stakeholders of this program to share in our vision of science education for the students of Hawai'i.

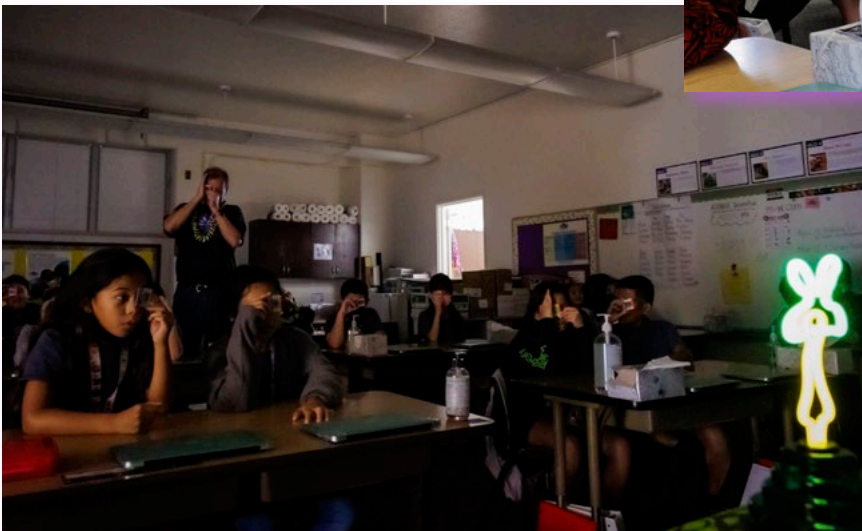


Journey Week Classroom Presentations & Career Panels, February 27 – March 3, 2023

Journey Through the Universe reached over 3,000 students this year in the Hilo-Waiakea complex area. With collaborators from the Maunakea Observatories, NASA and more, our local students were able to learn about many topics including: black holes, the chances of life on other planets, space missions, space telescopes, gravity waves, parts of a telescope, moon phases, the solar system, and Astronomy in Hawai'i! Career panels were held at both the Hilo and Waiakea High Schools with alumni from each school featured on the panel. Seeing alumni return to their schools had a tremendous impact on students, teachers, administrators and our own Journey Team!





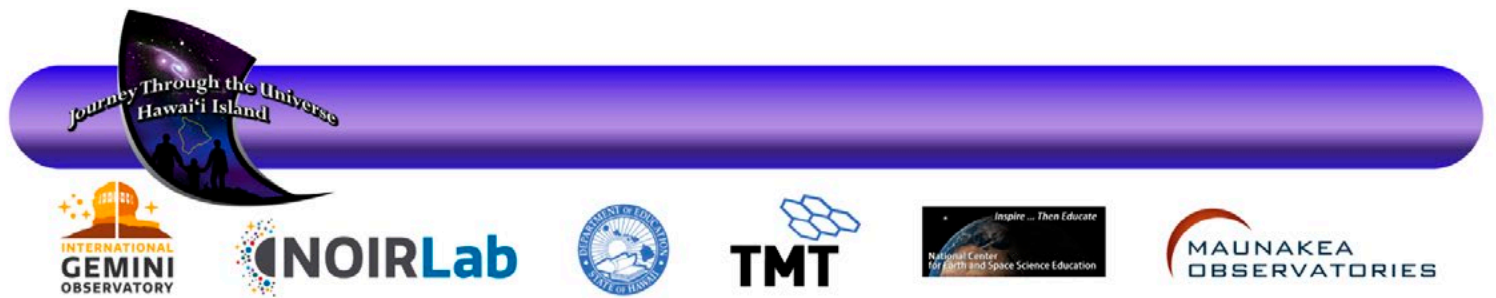




Mahalo to All of Our Project Partners Involved!

- ★ 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-Waiiaka 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
CFHT
acohido@cfht.hawaii.edu

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



Virginia Aragon-Barnes
CFHT
a-barnes@cfht.hawaii.edu

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



Christoph Baranec
UH Institute for Astronomy
baranec@hawaii.edu

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



Dana Backman
SETI Institute / NASA AAA P.I.
dbackman@seti.org

Dana Backman is currently the Principal Investigator of NASA’s Astronomy Activation Ambassadors science teachers professional development program. Dana received a Ph.D. in astrophysics from the University of Hawai’i at Manoa, then was an Infrared astronomy post-doctoral researcher at Kitt Peak National Observatory in Tucson, Arizona and NASA’s Ames Research Center in Mountain View, California. He was a professor of physics & astronomy for 12 years at Franklin & Marshall College in Lancaster, Pennsylvania. Dana was hired by the SETI Institute as director of education and public outreach for NASA’s Stratospheric Observatory for Infrared Astronomy (SOFIA) at NASA-Ames, serving from 2003 to 2016. He has taught courses on introductory astronomy at Santa Clara University and on global climate change in Stanford University’s Continuing Studies Program. Dana is a co-author of three college introductory astronomy textbooks: “Foundations”, “Horizons”, and “ASTRO”.



Tishanna Ben
National Solar Observatory/DKIST
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

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.



Sharmila Bhattacharya
Biological and Physical Sciences
Division, NASA Headquarters
sharmila.bhattacharya@nasa.gov

Sharmila Bhattacharya is the Senior Program Scientist for Space Biology in the Biological and Physical Science Division at NASA Headquarters. Prior to joining NASA headquarters, Dr. Bhattacharya served a one-year term as the Space Policy Advisor to the US Senate Committee for Commerce, Science, and Transportation.

Sharmila has been a Principal Investigator and senior scientist at NASA conducting scientific research on the space shuttle, the International Space Station, and small satellites journeying beyond low Earth orbit. In addition to her research, she has helped develop and test biological habitats and managed science payloads for spaceflight missions on multiple platforms, including the shuttle, Progress, commercial rockets, and autonomous satellites since 1999. Dr. Bhattacharya has received numerous awards, such as the Top-Flight and Nova awards from Lockheed Martin, and awards for Superior Accomplishment, Honor Award, Technology Transfer, and the Exceptional Scientific Achievement Medal from NASA.

Before joining NASA, Sharmila Bhattacharya conducted her post-doctoral research work in Neurobiology at Stanford University and earned her Ph.D. degree in Molecular Biology at Princeton University. She received her BA degree in Biological Chemistry from Wellesley College. Her research interests at NASA have focused on the effects of altered gravity and radiation on biological systems.



Jerry Brower
International Gemini
Observatory/NSF's NOIRLab
jerry.brower@noirlab.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 Brownewell
NSF's NOIRLab / KPNO
chris.brownewell@noirlab.edu

Christopher Brownewell 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
andre-nicholas.chene@noirlab.edu
[u](#)

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

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.



Coral Clark
SETI Institute Education
NASA
cclark@seti.org

Coral Clark currently co-manages Education efforts for NASA's Airborne Astronomy Ambassadors, which includes flight opportunities for teachers aboard the world's only flying observatory (SOFIA). Previously for NASA, she served as PI and manager of the Education Associates Program (EAP) at NASA Ames, which supported higher education opportunities for over 300 students annually.

Ms. Clark has over 25 years experience in education, including 10 years of middle school science instruction and 20 years in teacher professional development. She has served as Science Teacher-in-Residence at the Exploratorium's Teacher Institute and Director of Education at the Resource Area for Teaching (a hands-on education support and innovation non-profit). She also has contributed to the SETI Institute's integrated science curriculum, Voyages Through Time, as a science writer. In 2014, Coral contracted with Questacon (Australia's National Science Center) to help launch their SmartSkills Initiative. Ms. Clark feels blessed with opportunities that allow her to continue positively impacting the future through a spectrum of contributions to the field of education.



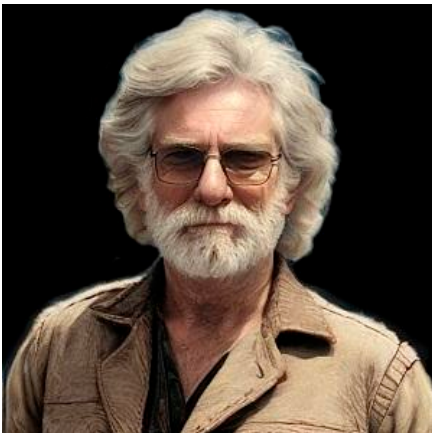
Kathy Cooksey
UHH Physics & Astronomy
kcooksey@hawaii.edu

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



Lars L. Christensen
NSF's NOIRLab
lars.christensen@noirlab.edu

Lars L. Christensen is the Head of Communications, Education & Engagement (CEE) at NSF's NOIRLab. 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

Brian Day currently serves as Acting Staff Scientist at NASA's Solar System Exploration Research Virtual Institute (SSERVI). He is also SSERVI's Lead for Lunar and Planetary Mapping and Modeling. In this role, he serves as program office level project manager and science lead for NASA's Solar System Treks Project (<https://trek.nasa.gov>). Brian has participated in various lunar and Mars analog field studies in extreme environments here in Earth. He previously served as Education and Public Outreach Lead for the LCROSS and LADEE robotic missions to the Moon. In 2007 he flew on NASA's Aurigid MAC mission to record debris from Comet Kiess entering Earth's upper atmosphere.



Jerry Dobek
Northwestern Michigan College
jdobek@nmc.edu

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



Xinnan Du
KIPAC/Stanford
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
Thirty Meter Telescope

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.



Scott Fisher
University of Oregon
rsf@uoregon.edu

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



Miriam 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 received her dual MS in Systems and Environmental Engineering from Drexel University and currently works at a renewable energy start up. In her free time, she likes to spend her time singing karaoke with friends and weaving palm fronds.



Abhimat Gautam
W. M. Keck Observatory
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
International Gemini
ObservatoryNSF's NOIRLab
tom.geballe@noirlab.edu

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



Jeff Goldstein
National Center for Earth and
Space Science Education
jeffgoldstein@ncesse.org

Jeff Goldstein is a nationally recognized science educator and planetary scientist who has dedicated his career to the public understanding of science and the joys of learning. As Center Director for the National Center for Earth and Space Science Education, Jeff oversees the creation and delivery of programs that engage entire communities, train 3,000 teachers annually, and emphasize family learning. He led the inter-organization team that permanently installed the Voyage model Solar System on the National Mall in Washington, D.C., in front of the Smithsonian. The Voyage National Program is permanently installing low-cost replicas in 100 communities world-wide. Jeff also oversees the Student Spacelight Experiments Program (SSEP) that provides real research opportunities for pre-college students on the Space Shuttle and International Space Station. Jeff was the Keynote Speaker 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
oliv.guyon@gmail.com

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

he then uses to observe from the clear skies of Mauna Kea and Mauna Loa.



Janice Harvey
Retired from International Gemini Observatory/NSF's NOIRLab

Janice Harvey retired after being the NOIRLab Education and Engagement Manager in Hawai'i and serving as the director of the nationally recognized Journey through the Universe Program on the Big Island for 18 years. Janice was the National Team Site Leader for the Family Astro/Project Astro program in Hawai'i and served 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 was 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 50 years and prior to joining Gemini Observatory 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 and assisting with the Journey through the Universe program for years to come!



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

Saeko S. Hayashi is an associate professor with the National Astronomical Observatory of Japan, having been working mostly outside of Japan. She grew up in a rural part of Japan. Then boldly went on to attend the University of Tokyo as one of the few women 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 large optics fabrication, shaping, and coating. Other efforts involved connecting different groups, such as the day crews and engineers, or the observatory and broader community. She hopes to find the Earth-like exoplanets that have oceans and vegetation, practically Hilo 2.0. She says, "Subaru Telescope is blessed with people from the local community as well as from all over the world who are working together side by side, as the ancient Japanese word Subaru stands for, namely, 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. [Photo: Saeko measuring the reflectivity of the primary mirror of the Subaru Telescope]



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

Stephanie W. Henry serves as a Communications Strategist with Media Fusion at NASA's Marshall Space Flight Center 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. Stephanie has been at NASA for the past 15 years. Stephanie is a native of Tupelo, MS and has lived in the Huntsville, AL area for the past 17 years. She is married and has a new grandchild. Stephanie enjoys traveling, shopping, and spending time with her family in her spare time.



Ardis Herrold
Vera C. Rubin Observatory
AHerrold@lsst.org

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
mwhosek@astro.ucla.edu

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.



Solveig Irvine
Planetary Missions Program Office
NASA
solveig.a.irvine@nasa.gov

Solveig Irvine is a Mission Manager for the Planetary Missions Program Office at NASA's Marshall Space Flight Center. She is responsible for the OSIRIS-REx Mission, the OSIRIS-APEX Mission, and the Near-Earth Object (NEO) Surveyor Mission. As a Mission Manager, she oversees her missions to ensure that the science goals, schedules, and budgets of each mission are fully met. Prior to her role as a Mission Manager with NASA, Ms. Irvine worked as a lead engineer on the Interim Cryogenic Propulsion Stage (ICPS) and the Exploration Upper Stage (EUS) for the NASA Space Launch System (SLS). She has previously worked as a Senior Chemical Engineer and Subject Matter Expert for aviation, aerospace, and marine fuels, including being one of the country's leading hydrocarbon fuel sulfur research experts. She has helped create several aviation and space vehicle fuel and emission specifications, has authored or co-authored numerous technical papers, and has been a technical reviewer for the Journal of Propulsion and Power. She also was a leading engineer on the US Air Force Alternative Fuel Initiative, and has designed, built, and evaluated several rocket engine cooling channel and injector test rigs.

Ms. Irvine is active in Scouts BSA and the Huntsville Ballet. She and her family enjoy spending their time together by hiking, cooking, and playing with their cats.



Paul Jeffers
DKIST
pjeffers@nso.edu

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
rkackley@naoj.org

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



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

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



Yuko Kakazu
TMT Japan Project/Subaru
Telescope
kakazu@naoj.org

Yuko Kakazu joined the Subaru Telescope as an outreach specialist in 2013. 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
International Gemini
Observatory/NSF's NOIRLab

Scot (there was a shortage of "t"s when he was born) **Kleinman** was 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
kkosmo@astro.ucla.edu

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
preethi524@gmail.com

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

mary@cfht.hawaii.edu

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.



Brian C. Lemaux

Gemini Observatory/NOIRLab

brian.lemaux@noirlab.edu

Brian C. Lemaux is a scientist at the Gemini North International Observatory. He is part of the science operations staff, a position that includes helping to prepare and support astronomical observations for scientists from all over the world, observing on the telescope, helping to maintain and upgrade instruments, and conducting astronomical research. His research focuses on finding and characterizing some of the first galaxies formed in the universe and understanding the relationship between the evolution of galaxies and their environment. Prior to arriving at Gemini in 2021, Brian was a researcher at the Laboratoire d'Astrophysique de Marseille in the south of France and at the University of California, Davis working with observations from many large ground- and space-based telescopes. Among other outreach activities, Brian is involved with Shadow the Scientists, a University of California, Santa Cruz based initiative focused on bringing anyone with curiosity and an Internet connection inside the observing room of large telescopes to watch and interact with world class scientists as they are performing astronomical observations. When he is not doing astronomy things, Brian spends most of his time watching or playing baseball, hiking, backpacking, brewing, reading, traveling, swimming, or trying to get in a nap before his two-month-old wakes up.



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 Univ. of Washington. After conducting post-doc research at the UC 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
**International Gemini
Observatory/NSF's NOIRLab**

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



Julien Lozi
Subaru Telescope
lozi@naoj.org

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
llozi@tmt.org

Leinani Lozi is the Hawai'i Community Outreach Specialist for the Thirty Meter Telescope Project, Outreach Coordinator for 'Ohana Kilo Hōkū, and cultural advisor to the International Lunar Observatory Association Hawai'i. Leinani is passionate about indigenous knowledge systems, native plant restoration and providing opportunities for Hawai'i keiki. 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 leads educational and cultural programs for various audiences and venues including 'Ohana Stargazing and Journey Through the Universe. Leinani 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 mo'olelo and ecosystem of Maunakea. Leinani is a part of Hālau Leimanu under the direction of Leilehua Yuen and volunteers regularly on Hawai'i Island including planting trees on Maunakea, removing invasive plant species from the Volcanoes National Park and caring for Lili'uokalani Park and Gardens.



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

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



Clara Martinez-Vazquez
Gemini Observatory/NOIRLab
clara.martinez@noirlab.edu

Clara Martínez-Vázquez is a Science Fellow at Gemini International Observatory in Hawai'i since 2021 where she is part of the science operation team helping with user support, night observing, and optical & infrared instrument check-outs. She obtained her Ph.D. in 2016 at Instituto de Astrofísica de Canarias (IAC) and Universidad de La Laguna (Tenerife, Spain). Afterwards, she held a postdoctoral fellowship at INAF-Osservatorio Astronomico di Bologna (Italy) to study the potential of multi-conjugate adaptive optics. She then moved to Chile until 2021 where she was a Science Fellow at Cerro Tololo Observatory (CTIO) and a member of the Dark Energy Camera scientific support team. While in Chile, she also participated in the Spanish version of Journey through the Universe (Viaje al Universo). Clara's research focuses on the study of the resolved stellar population in nearby galaxies, mainly using pulsating variable stars, in different environments, and on the study of very faint systems to understand the formation and evolution of our Galaxy and other smaller galaxies in the Local Group. She enjoys the peaceful landscapes of the Big Island and its astonishing skies.



Callie Matulonis
EAO/JCMT
c.matulonis@eaobservatory.org

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 17 years fulfilling a variety of positions including public outreach, laser operations, and telescope operations.



Natalia McCarthy
International Gemini
Observatory/NSF's NOIRLab
natalia.mccarthy@noirlab.edu



Peter Michaud
International Gemini
Observatory/NSF's NOIRLab
peter.michaud@noirlab.edu

Peter D. Michaud, NOIRLab's Education and Engagement Manager, has pursued a career that has provided a broad set of experiences in education, media relations and photography. These have ranged from the initiation and management of many informal science education programs to the authoring of a monthly newspaper column on astronomy. Prior to moving to Honolulu in 1989 to manage the Bishop Museum Planetarium, Peter obtained his Bachelor's Degree in Atmospheric Physics and certification in Physical Science Education in 1985. This led to his selection for the highly competitive annual planetarium education internship at the Strasenburg Planetarium in Rochester N.Y. in 1985 - 86. During almost a decade at the Bishop Museum Planetarium, Peter worked closely with local educators as well as the 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
NASA/SSERVI
joseph.minafra@nasa.gov

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



Junichi Noumaru
Subaru Telescope
noumaru@naoj.org

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



Brialyn Onodera
Daniel K. Inouye Solar Telescope

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.



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

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



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

Emily Peavy is an astronomy educator and the Senior Planetarium Educator and 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.



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

Andrea Petric is the Institute for Astronomy's, UH resident astronomer at CFHT. She has received her PhD from Columbia University with a thesis on X-ray scattering halos and was a postdoctoral fellow at Caltech working on IR and millimeter observations of interacting galaxies and galaxies hosting growing supermassive black holes. Her current research focuses on optical and 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.



Christopher Phillips
International Gemini
Observatory/NSF's NOIRLab

Christopher Phillips is the Engagement and Education Manager in Hawai'i, for NSF's NOIRLab. Christopher has an extensive background in science communication, and astronomical research. Previous to his appointment at NOIRLab, Christopher was a research scientist at the University of Washington, where he supported the Zwicky Transient Facility (ZTF), the Bright Transient Survey (BTS), and the DECam Deep Drilling Survey. Christopher's research interests lie in the time domain, and he can often be found using different meter class telescopes around the world to find things that go bump in the night, such as extragalactic supernovae, cataclysmic variable stars, and transiting exoplanets. When he is not staying awake all night observing, Christopher likes to revisit his restaurant industry days by cooking French Bistro fare, and brewing dark beers with an astronomical theme. He also enjoys hiking, painting, and his vast library of video games.



Joy Pollard
International Gemini
Observatory/NSF's NOIRLab

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
Subaru Telescope
pyo@naoj.org

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
UH Institute for Astronomy
reipurth@ifa.hawaii.edu

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

Laurie Rousseau-Nepton obtained her PhD in Astronomy in 2017. She received the FRQNT fellowship the same year to conduct research at the University of Hawaii in Hilo. Originally from Quebec, she is the first Woman from the First Nation of Canada to get a PhD in Astronomy. She is currently a support Astronomer at the Canada-France-Hawaii Telescope and Instrument Scientist for the SITELE, 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
jpr@naoj.org

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
tschad@nso.edu

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
justine.schaen@noirlab.edu

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
UH Institute for Astronomy
dsimons@hawaii.edu

Doug Simons received his Bachelor of Science degree in astronomy at the California Institute of Technology in 1985, and his Ph.D. in astronomy at the University of Hawai'i 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 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.



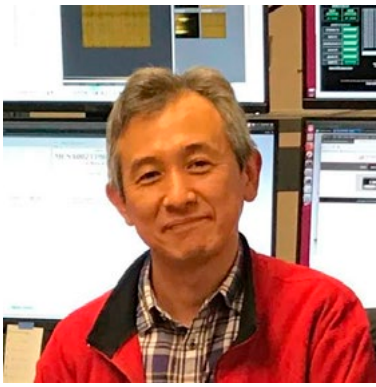
Rob Sparks
NSF's NOIRLab
robert.sparks@noirlab.edu

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.



Marianne Takamiya
UHH Physics & Astronomy
takamiya@hawaii.edu

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.



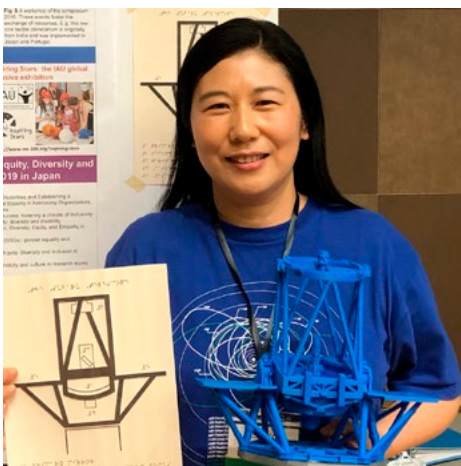
Ichi Tanaka
Subaru Telescope
ichi@naoj.org

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



Alex Tetarenko
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.



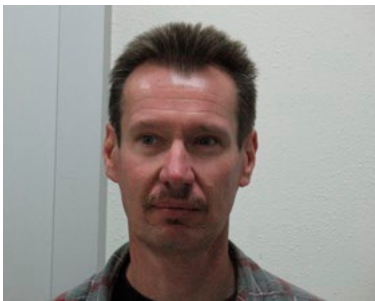
Kumiko Usuda-Sato
**National Optical Astronomy
Observatory of Japan**

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
NAOJ TMT Project
usuda@naoj.org

Tomo Usuda earned his PhD in Astronomy at the University of Tokyo in 1997. He is an Optical-Infrared astronomer at NAOJ (National Astronomical Observatory of Japan) currently leading 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
International Gemini
Observatory/NSF's NOIRLab
john.vierra@noirlab.edu

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



Sebastien Vievard
Subaru Telescope
vievard@naoj.org

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.



Connie Walker
NSF's NOIRLab
connie.walker@noirlab.edu

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.



Lisa Wells
Canada-France-Hawaii Telescope
lwells@cfht.hawaii.edu

Lisa Wells is a remote observer working for the Canada-France-Hawaii Telescope (CFHT). Lisa has been working here in Hawaii for over 23 years. She has a Master's degree in Astronomy from the University of Arizona. Previous to obtaining her masters, Lisa was a Data Reduction Specialist for 5 years at the Cerro-Tololo-Inter-American Observatory (CTIO) in Chile, and several years for Kitt Peak National Observatory (KPNO) also as a summit assistant. Her field of expertise is in Supernovae which is the end of the life of a star, and observational astronomy.



Tom Winegar
Subaru Telescope
winegar@naoj.org

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



Cam Wipper

Canada-France-Hawaii Telescope

wipper@cfht.hawaii.edu

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

International Gemini

Observatory/NSF's NOIRLab

siyi.xu@noirlab.edu

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