

Greetings from the Chairs

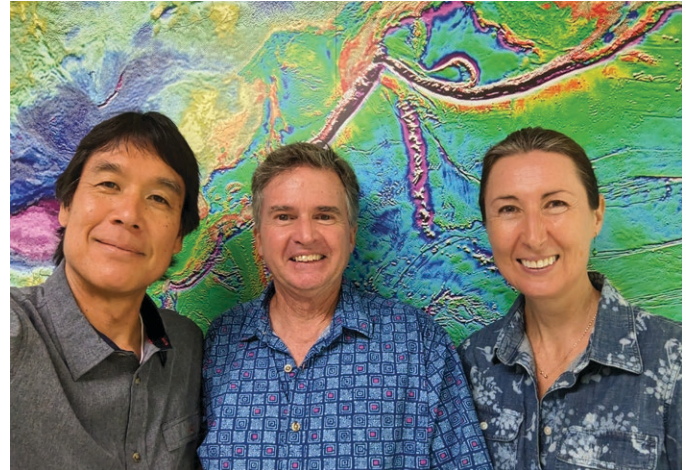
Aloha mai kākou!

It is a pleasure to present the Department of Earth Sciences' (EARTH's) 2023 Newsletter. The past two years have come with a whirlwind of happenings and activities. As you will read about below, five of our faculty were recognized with top UH awards in research, teaching, and advising. We also commemorate the career and life of **Prof. Jasper Konter**, and are so glad that **Bridget Smith-Konter** returned to work after a year-long recovery from the injuries sustained in their July 2022 car accident.

With bittersweet regards, we celebrate the retirements of **Brian Taylor, Greg Moore, Michael Garcia, Aly El-Kadi, Neil Frazer, and Paul Wessel**, and we enthusiastically welcome new faculty team members **Peng Jiang, Haunani Kane, Aaron Pietruszka, and Xiaolong (Leo) Geng**, as well as **Alyssa Kamanu and Sin-Mei Wu** as new arrivals in 2024. The doubling of our undergraduate majors since 2020 (now 100+) is telling of an increasing appreciation for the Earth and Environmental Sciences. This extraordinary growth during a time of reduced faculty numbers has been a challenge, but the outlook is bright with the onboarding of our new faculty, and with more to come. We are also excited to announce our revised undergraduate degree program. Beginning Fall 2023, BS majors will be able to choose among six concentrations and complete a research project with a faculty mentor, while the B.A. degree will provide more options for coursework in environmental science.

With great pride, we celebrate the inspiring successes of our graduate and undergraduate students in research and scholarship. Congratulations to our 50 degree earners and 44 scholarship/ fellowship awardees since 2021! We also extend a very warm mahalo to our generous donors to the UH Foundation, who have supported student fellowships, seminar speakers, field trips, and numerous other community-building activities. Our 2022 Alumni and Friends Days event was a great time to reconnect with so many of you. We hope to stay connected through activities like this in the future.

Garrett Apuzen-Ito, Department Chair
Henrietta Dulai, Graduate Chair
Scott Rowland, Undergraduate Chair



Aloha mai kākou from Garrett, Scott, and Henrietta!

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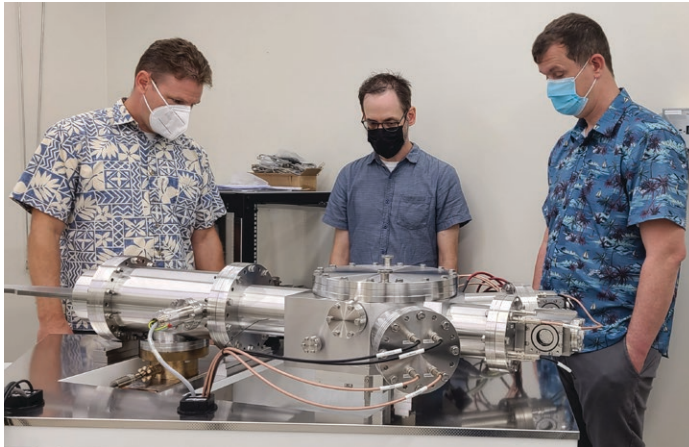
EARTH Awarded for Excellence

Profs. **Bruce Houghton** (far left) and **Brian Popp** (second from left) received the UH Board of Regents' Medals for Excellence in Research for 2021 and 2022, respectively. Prof. **Scott Rowland** (not pictured—yes, because he was teaching during the ceremony) and **Bridget Smith-Konter** (2nd from right) received the Board of Regents Medal for Excellence in Teaching in 2021 and 2022, respectively. Prof. **Henrietta Dulai** (far right) received the 2022 Peter V. Garrod Award for Excellence in Graduate Mentoring.

Congratulations Bruce, Brian, Scott, Bridget, and Henrietta, and mahalo for the excellence you bring to EARTH!



A New Instrument for the SOEST Isotope Lab

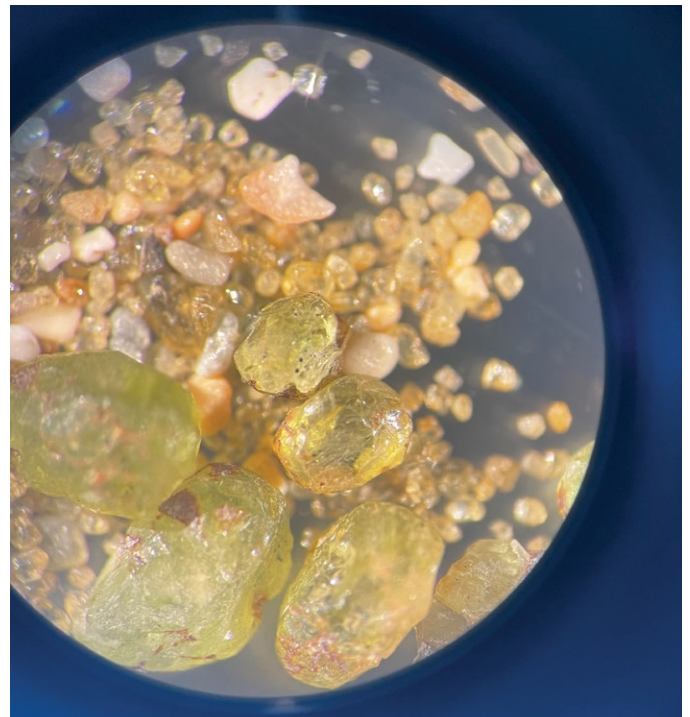


LEFT: Jasper Konter (left) and Aaron Pietruszka (center) admiring the new Nu TIMS machine. RIGHT: Reed Mershon (PhD student), Caroline Neh Ngwa (Visiting Scientist), Aaron Pietruszka, Mahinaokalani Robbins (PhD student), and Natália Gauer Pasqualon (PhD student).

We welcomed the arrival of a new mass spectrometer for the SOEST Isotope Lab in 2022, the Nu TIMS (thermal ionization mass spectrometer). This instrument will allow us to push our current and future geochemistry research into new frontiers, and greatly enhance our ability to train students in the development and use of modern isotopic methods.

Learn more about the NU TIMS machine

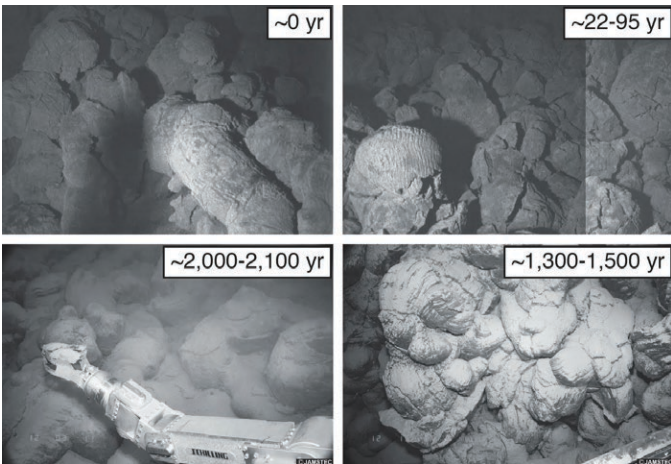
Read more about it by clicking [here](#) or by scanning the QR code.



EARTH RESEARCH



Helen Janiszewski and two HVO scientists make their way to a helicopter after a day of deploying seismometers in Hawai'i Volcanoes National Park. Photo credit: Jade Wright



Aaron Pietruszka and colleagues estimated the ages of the most recent eruptions of Kama'ehuakanaloa (formerly Lō'ihi Seamount), as well as the ages of eight additional older eruptions at this volcano going back about 2,000 years. Shown here, undersea images of Kama'ehu lava, contrasting young (top) and old (bottom) lava (Pietruszka et al., *Geology*, 2023).

Learn more about the eruptions

Read more about it in the SOEST News article by clicking [here](#) or by scanning the QR code.



Geophysics and Tectonics

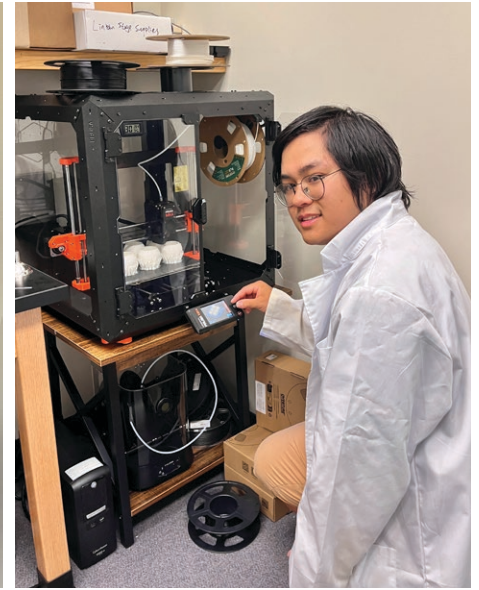
In summer 2022, GT Assistant Professor **Helen Janiszewski** and MS student **Jade Wight** deployed a nodal seismic array on the southwest flank of Kīlauea. This project is a collaboration with scientists at the Hawaiian Volcano Observatory, many of which accompanied the field deployment. The goal of the project is to produce high resolution seismic images in the region nearby the enigmatic swarm of deep seismicity near the town of Pāhala. It is hypothesized that the seismicity is caused by magma transport into the upper mantle and lower crust; however, previous seismic data in the region was too sparse to allow direct imaging. The project will allow testing of these hypotheses. The group presented preliminary findings at the 2022 AGU Fall Meeting, and at the 2023 IAVCEI conference.

Volcanology, Geochemistry, & Petrology

VGP faculty and graduate students are keeping busy with a variety of projects. **Annie Chien** (MS student working with **Peng Jiang**) is working on mid-ocean ridge basalt samples from the southern East Pacific Rise. In **Aaron Pietruszka's** lab, **Reed Mershon** (PhD student) is using trace elements and isotopes to track trends in the Hawaiian-Emperor seamount chain to better understand how rejuvenated volcanism may have taken place in ancient volcanoes. **Mahinaokalani Robbins** (PhD student) is also using trace elements and isotopes to model magma reservoir residence times to better understand the dynamics of the voluminous phase of the 2018 Kīlauea eruption. Many VGP grads like **Will Nelson** (PhD student) are close to wrapping up. He has been investigating the behavior of phosphorus in olivine using experimental petrology and atom probe tomography with **Julia Hammer**. **Natália Gauer Pasqualon** (PhD candidate) is collaborating with **Bruce Houghton** and **Tom Shea** to acquire high-resolution videos of eruptions. They are extracting qualitative and quantitative parameters to better understand eruptive dynamics of recent eruptions at Kīlauea, Mauna Loa, and Fagradalsfjall.

Planetary

In the Planetary division, **Shuai Li's** lab (PhD students **Tanner Hayes**, **Nina De Castro**, and **Jordan Ando**) are investigating important processes on Europa and the Moon. They are interested in understanding how the interior and surface processes alter the surface



compositions on Europa, a moon of Jupiter. The interior processes on Europa can be identified by its unique morphology on the surface. However, many surface processes, such as strong radiations by electrons and ions, may not cause observable change of morphology, but can strongly alter the surface compositions. Li's lab experiments, in conjunction with the analysis of remote sensing data from Europa's surface, will help us unveil these processes.

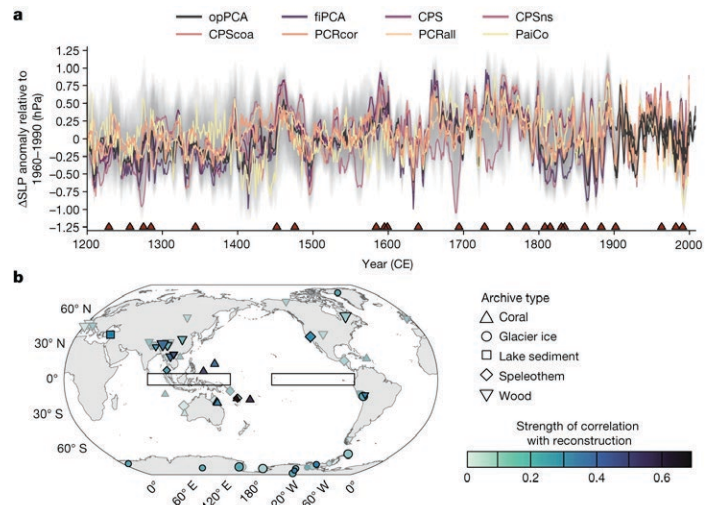
Li's group is also focused on understanding the distribution and abundance of water on the Moon. The processes of formation, destruction, and sequestration of water can help us understand the surface and interior evolution of the Moon. Earth may also play important roles in some of those processes. Additionally, water on the Moon can be used as in situ space resources for future exploration of the Moon and other bodies. Mapping the spatial and temporal variations of lunar surface water can reveal all major processes involved. The lab experiments carried out by Nina and Jordan are useful to interpret the remotely acquired data from the lunar surface, including the recently acquired Shadow-Cam images in the lunar permanently shaded regions to search for the presence of water ice.

Marine and Environmental Geology

MEG Assistant Professor **Sloan Coats** and his team published a study in *Nature* that found that volcanic eruptions trigger El Niño-like Pacific Walker Circulation weakening, similar to the response simulated by climate models. Sloan and his team used data from ice cores, trees, lakes, corals and caves to investigate Pacific Ocean weather and climate over the past 800 years.

From left to right: PhD student Tanner Hayes is examining his water and sulfuric acid ice samples for studying Europa. PhD student Nina de Castro is setting up her spectrometer for collecting reflectance spectra of water ice. PhD student Jordan Ando is checking his 3D printing parts that will be used in his experiments.

This allowed them to compare the Pacific Walker Circulation—the atmospheric part of the El Niño Southern Oscillation and a major influence on global weather—before and after the human-caused rise in greenhouse gasses.



Panel A shows the reconstructions of the Pacific Walker Circulation over the past 800 years with each line reflecting a different methodological approach and treatment of uncertainties. Panel B shows the distribution and type of archives that were used to produce the reconstructions in Panel A.

Learn more about these multi-year events

Read the UH News article by clicking [here](#) or by scanning the QR code.



NEW FACULTY HIRES

Peng Jiang

Peng Jiang officially joined the Earth Sciences Department in mid-October 2022 as an Assistant Specialist to manage the Electron Microprobe Laboratory. Right after earning his PhD at the University of Florida, Peng came to Hawai'i to pursue his passion in oceanic magmatism and techniques and applications of in-situ microanalysis.



An overarching theme of Peng's research is exploring fine-scale mineral growth details to gain insights into plate-scale petrologic and tectonic processes, and deep Earth dynamics. He has been interested in microanalysis and has developed the analytical protocols for in-situ analyses by EPMA and LA-(MC-)ICP-MS. Peng has been actively involved in a variety of research programs that study cratons, subduction zones, hot orogens, mid-ocean ridges, etc. He looks forward to continuing and expanding his research interests and collaborating with the vibrant research community here at UH Mānoa and beyond.

Leo Geng

Xiaolong "Leo" Geng officially joined the Earth Sciences Department and the Water Resource Research Center in May 2023 as an Assistant Professor. Geng's research focuses on developing a comprehensive and quantitative understanding of coastal groundwater dynamics governing various biogeochemical processes in nearshore aquifers. His current research investigates the impact of evaporation and waves on groundwater dynamics in tidally influenced beaches. He is very excited to start his new position at UH Mānoa and looks forward to contributing to the research and academic community at UH Mānoa.



Haunani Kane

Haunani Kane returned to the Earth Sciences Department this fall as an Assistant Professor. Haunani was raised at the foot of Olomana mountain in the coastal community of Kailua, O'ahu, Hawai'i and is a proud alumnus of the Department (PhD in 2019).



Haunani's research combines coastal geomorphology, paleo environmental reconstructions, spatial analysis, and the perspectives of a native islander to investigate how islands, reefs, and island people are impacted by changes in climate. She is currently working in Pāpāhānaumokuākea and Hawai'i island to explore the bio-geological linkages that enable or limit reef-island resiliency to sea level change. She looks forward to mentoring and teaching Hawai'i's next generation of Earth scientists and working alongside the amazing faculty in the Department.



Download the PDF!

Download *Nuhou Kānaka Puka* as a PDF **here** or scan the QR code.





Changes to the Curriculum

Starting Fall 2023, the Department is unveiling changes to the curriculum following two years of discussion and development. Our curricular redesign emphasizes what students should know and be able to demonstrate when they have completed the programs. The changes align the course content with the needs of society, leverage faculty expertise, reach outside the Department to units across campus, and convey to students how the degree programs lead to specific career paths in geoscience.

The new EARTH degree “tree” consists of a coursework trunk that introduces and develops the concepts and skills to support diverse disciplinary branches. For the BS in Earth Sciences, students can enter concentrations in Environmental & Hydrology, Geophysics & Tectonics, Volcano Science, Planetary Science, and Research. For the BA in Environmental Earth Science, we curated course selections for Environmental Systems, Natural Hazards, Coastal Geology, and Geotechnical Consulting, and continue to offer a five-year post-baccalaureate program in Earth Science Education in partnership with the College of Education.

See page 17 for more on EARTH undergraduate degrees.

Earth Science on Volcanic Islands (ESVI) Research Experience for Undergraduates (REU)



2022 ESVI REU cohort.

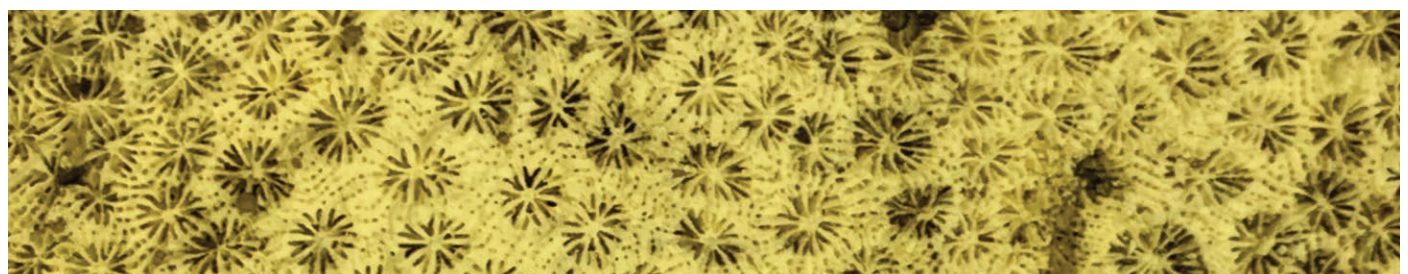
Congratulations to our 2022 ESVI REU students on an inspiring nine weeks of summer research, team building, and exploring the islands of O’ahu and Hawai’i. Thirteen undergraduate students from across the state of Hawai’i and the mainland U.S., mentored by SOEST faculty and researchers, participated in cutting-edge geoscience research projects spanning a diverse range of sub-disciplines in volcanology, environmental science, (bio)geochemistry, geophysics, oceanography, and atmospheric science.

At the end of their exhilarating summers, ESVI REU students presented their results at the **UHM SURE Symposium**.

Congrats to all of our REU interns on their perseverance and accomplishments!

Learn more about the ESVI REU

Visit the ESVI REU website by clicking [here](#) or by scanning the QR code.





Mike Jackson (back row, in red coat) met up with the 2022 Geological Field Methods class at the famous "Charlie Brown" outcrop near Shoshone, California. Helena Andrade (current PhD student) and Molly Cunningham (MS '22) joined Julia Hammer to lead 13 students in completing two mapping projects over five days in the Resting Springs Mountains.

Off to a Distinguished Start

We launched the **Distinguished Visitor Program** to encourage eminent scholars from around the world to spend a month or more with us, collaborating with faculty and inspiring our students. This past summer, the Department welcomed our inaugural "Distinguished Visitor," **Helge Gonnermann**, formerly a postdoc in the Department and now a professor at Rice University in Houston, Texas.



Helge is a world-leading numerical modeler of volcanic processes on length scales from bubbles in magma to the plumbing system of entire volcanoes. He brought with him two PhD students, who with Helge interacted widely across the Department and HIGP and sketched out a new collaborative NSF EAR proposal.

The visitor program was the brain-child of Emeritus Chair **Paul Wessel**, who also designed and equipped our new Visitors Office for them and other short-term visitors. We look forward to welcoming many more distinguished colleagues from afar in the future!

Congratulations, Paul!

Emeritus Chair **Paul Wessel** was announced as American Geophysical Union's (AGU) 2022 Earth and Space Science Informatics Greg Leptoukh Lecture recipient. Being selected as a Section Honoree is bestowed upon individuals for meritorious work or service toward the advancement and promotion of discovery and solution science.

Paul is recognized by the global Earth and space sciences community for his tremendous personal sacrifices and selfless dedication to advancing Earth and space sciences, and for his pioneering effort in developing widely used open-source software for the Earth science community—specifically the globally recognized Generic Mapping Tools (GMT).



Learn more about Paul's award

Read the SOEST News article by clicking [here](#) or by scanning the QR code.



Neighbor Island Field Trips Have Returned!

Now that we can travel safely again, we can go on geology field trips to other islands. In 2022–23 there were three trips: two to Hawai'i (Oct. 2022 and 2023) and one to Kaua'i (Sept. 2023). The trips included major and non-major undergraduates, graduate students, faculty, staff, and a few Departmental friends. In Oct. 2022 we saw active lava within Kīlauea caldera and visited lower Puna, site of the 2018 eruption. In Sept. 2023 we hiked the Nu'alolo trail to see the Nāpali coast and visited Waimea canyon to learn about concentrated erosion and the evolution of Kaua'i volcano. In Oct. 2023 we visited the 2022 Mauna Loa lava flow and hiked in the clouds on Mauna Kea.

These trips allow majors to nerd-out and bond, allow non-majors to see how great an Earth Sciences major can be, and allow everybody to learn in the field.

Mahalo to all the van drivers who made these trips possible: **Helena Andrade, Luis Dasilveria, Henrietta Dulai, Wayne Miyashiro, Marllon Faria, Shellie Habel, Chris Amado, Heather Saito, Jennifer Meehan, Jordan Ando, Kayley Rolph, Ryan Harris, Anay Shende, and Sebastian Rice.**

These extracurricular trips are open to all students, faculty and staff in the Department.



An outcrop of the 2018 Leilani Estates lava flow, near 4 Corners.

Waimea Canyon overlook, with thick flat-lying Olokele-plateau lavas in the background.



Pu'u Kalepeamoa at ~9000' elevation on Mauna Kea.



Retirements

2022–2023 were big years for changing of the guard with six retirements! We celebrate the careers and retirements of **Brian Taylor, Greg Moore, Michael Garcia, Aly El Kadi, Paul Wessel, and Neil Frazer**. Brian is now the Emeritus Dean of SOEST, Greg, Mike, Aly, and Paul are Emeritus Professors, and Neil will soon join the Emeritus ranks.

Congratulations and mahalo for your many decades of service to Hawai'i and beyond!

Pictures are from the celebration of Paul and Neils' retirement at College Hill in May 2023.



Congratulations, Sarah!

Congratulations to **Sarah Glancy** on receiving UH West Oahu's Lecturer Excellence in Teaching Award!

Sarah has been teaching at UH West O'ahu since 2015.



Learn more about Sarah's award

Visit the West O'ahu article by clicking [here](#) or by scanning the QR code.



A L U M N I ' O H A N A

"Semi-retired to Hawai'i in 2012 after 30 years in oil/gas. Realized retirement means one doesn't have to do what someone else expects you to do (assumes one is not married). Usually off Island 7-10 days a month— never gave up traveling. Still stare at rocks— guess it's a habit that's hard to give up..."

Michael Jackson



"I recently started a job at Reykjavik Energy as a senior geoscientist. I am not 40 and got the word 'senior' into my job title. I wonder if it will be 'senior senior' at the age of 60 ;). Reykjavik Energy is a company that runs and owns two high-temperature geothermal fields close to Reykjavik and a dozen low-temperature geothermal fields. The water from the low-temperature fields is mainly used for district heating. My jobs are to make sure that the natural resource is well maintained, new wells are drilled when needed and that the well siting is done in such a way that the resource continues to thrive. I am also planning a trip to Hawai'i in the summer of 2024!! I haven't been back since I finished



my masters in 2011. My family will come along, Tryggvi (husband) and Anita (born in 2012) and Tanja (born in 2014). So I am looking forward to seeing you there! Perhaps an alumni event can take place in June 2024???"

Asdis Benediksdottir

"Currently employed by the Department of Education as a substitute teacher and working primarily at Keaau Middle School."

Mahealani Kaawaloa-Okita

"Received my MS in Construction management and engineering from ASU. Now working at PCL Construction as a Project Engineer 2 in Baltimore on a CSX railroad bridge."

Brian Swilley



"Working as a technologist at Corning to help enable hyperspectral sensors and optical systems for ground, air and low earth orbit (LEO) space-based systems for commercial and defense applications."

Rick Holasek

"Fifty-one years after obtaining a PhD in G&G at Mānoa, I'm still the senior environmental planner for my company, KC Environmental Inc. on Maui! I'm proud of the environmental and cultural conservation and restoration programs in which we've played a role through the decades."

Charles Fein

"Kim Kim (formerly **Kim Rottas**) married the love of her life, had two beautiful children—Maeve and Mars—and recently purchased the environmental consulting company where she once worked as a registered professional geologist. Kim specializes in the characterization and management of contaminated soil and



groundwater during redevelopment in Hawai'i and the Pacific basin and has enjoyed working on several UHM upgrades, the HART commuter rail, and the Kwajalein ballistic missile range."

Kim Kim (Rottas)

"Recently promoted to a Senior Geologist position at Element Environmental, LLC."

Angela Peltier

Keep in touch!
Send us a note of hello, news, and/or updated contact information with this **Google Form**.



"Kendra (PhD 2017) and Isaac (BS 2013) Ishihara welcomed their son Ross Kiyoshi Charles to the world in October 2022. Little Ross has experienced three eruptions (two Kilauea and one Mauna Loa) since that time, already a little volcanologist."



Kendra Lynn

"Jacque Kelly finished serving as Interim Department Chair of the Department of Geology and Geography at Georgia Southern University and will be promoted to the rank of full professor at the beginning of the 2023–2024 academic year."

Jacque Kelly

"retired"

Kevin Au

"Since leaving UH, I have begun working with FEMA in the Seattle area and have recently joined the Environmental & Historic Preservation Branch, working in environmental compliance. I am working toward becoming a Floodplain Specialist within the Branch, using the hydrology skills picked up from my time with Geology (Earth Sciences) at UH!"

Eric Welch

"I'm still in Seattle in charge of the operations, research and development for AltaRock Energy, a geothermal energy technology company. We've just organized a new company, Mazama Energy, whose mission is to pull heat from the hottest geothermal reservoirs



ever: - 450+ °C rock at 4 km depth (Newberry Volcano, Oregon). My wife Carolyn is a couples' therapist and building a couples' coaching practice, while Kate is a musician in Nashville, Anna is rowing at UT Austin, Margaret is studying chemistry at Montana State, and Carter is finishing up his Junior year in HS. "

Geoff Garrison

"After 10 years developing photovoltaics, I transitioned to biofuels in 2021 and am Program Manager for the project development team of SkyNRG, a company seeking new sustainable aviation fuel (SAF) production pathways. We're hoping to break ground on our first U.S. plant in early 2024!"

Brian James

"Retired! Floyd McCoy (BS, 1962; MS 1965) retired from Windward CC as Professor in Geology, Geophysics and Oceanography this past October. And thus the third member of the first graduating class in G&G in 1962, and current Department Alumnus of the Year, has migrated to Emeritus status (Fris Campbell the other member of that class has already retired and we know little concerning the third member of our class). Floyd continues to pursue research in Greece (pending funding). His professional journey represents 30 years with/at UH including MS work in 1963–65 with Gordon Macdonald in Manu'a, American Samoa, and various research programs locally with **Ralph Moberly**. Following this were ~ 30 [+/- 5] oceanographic cruises, comingled with stopovers/interventions/employment/fellowship episodes at UCSB, Scripps, WHOI, Smithsonian MNH, LDGO/Columbia, DSDP, ODP, Harvard, MIT, Univ. Milan, Israel Ocn. Inst., Univ. Athens, Hellenic Ocn. Ctr., Am. School Classical Studies at Athens, Wiener Geoarchaeology Lab. Athens, and E. Crete Study Ctr. Next stop = Kailua!"

Floyd McCoy

"As of this prior August, I began my PhD at UNLV. I'm currently developing a technique to load ammonia into a diamond anvil cell for high pressure experiments."

Logan Magad-Weiss

"I returned to Hawai'i in 2020 just in time for the pandemic. I still work at the USGS where I'm the Center Director of the Pacific Island Water Science Center. Since returning I've been fortunate to work with some awesome UH G&G alumni such as **Scot Izuka, Todd Presley, Delwyn Oki, Jill Nishimura (Torikai), Adam Johnson, Kolja Rotzol, Alan Mair, Chui Cheng, Uli'i Miyajima, Lhib Pagaduan, Brytne Okuhata, Joe Kennedy, James Mifflin, Wes Tobias, and Hunter Polhemus.**

The list keeps growing! These folks are the core of our science center."

John Hoffman



Alumni and Friends Days

Our Spring 2022 Alumni and Friends Days event was a wonderful time to reconnect with old friends and to make new ones. It was also great to reconnect during our Spring 2023 Research Extravaganza.



Spring 2022 Alumni and Friends Days event.



"I am still the Professor in volcanology at Uni. Iceland, but shifting my research focus from the Holocene explosive eruption history of Iceland back to flood lava events and smaller effusive eruptions. In the photo above, Thor (red jacket and red hat in lower group) and Bruce (orange jacket and black hat, upper group) with students on a Field trip to the Hreppar Formation South Iceland May 2023."

Thor Thordarson

"Regan Austin is (still) working as a geologic map editor at the USGS—now from the Moffett Field office. Maps and reports by fellow alumni and other SOEST folks regularly come through her group for publication."

Regan Austin



"Toshi Ike, PhD 2007, lives in Chiba, Japan with his wife and two children and continues to work for the Japan Organization for Metals and Energy Security (JOGMEC) in Tokyo, Japan. JOGMEC is in

charge of securing a stable supply of oil, natural gas, non-ferrous metals, and mineral resources for Japan. JOGMEC recently added Hydrogen, Ammonia, Carbon Capture and Storage (CCS), and Offshore Wind Power projects to their scope. Toshi is currently a director in the Energy Business Unit, working on domestic and overseas projects involving geological risk assessment, petroleum reserves estimation, and carbon storage capacity estimation. He is also a project director in the digital transformation team. Recent standout projects he was involved in were offshore 3D seismic reflection data acquisition, and a reprocessing project with depth migration of a large, "legacy" seismic reflection data. These projects deeply reminded him of what he had learned from his encouraging advisors and colleagues in SOEST. Toshi and his family met his PhD advisor, **Greg Moore**, in Chiba in September, 2023 during Greg's time as a Visiting Professor at Tokyo University. Toshi spends his leisure time swimming long-distance and taking photos of his family."

Toshi Ike

Check out what our Alumni have been up to!

"2022 was a busy year—and one of change! While I still work for EnviroServices and Training Center, I've recently moved my focus from public education and outreach to technical writing and editing for our Storm Water Management Program. I also married my long-time partner, Val, in October 2022 at my grandma's home in Oregon!"

Katie Bunao



"Sarah continues to teach geoscience classes at the University of Hawai'i–West O'ahu, where she won the 2022–2023 Lecturer Excellence in Teaching Award (see page 9). She has kept busy during her time at UHWO, including proposing two new courses and writing an OER (Open Educational Resource) tsunami reading."

Sarah Glancy

"Steve Spengler (PhD '90) and Mark Underwood (PhD '90) spent two weeks in the Canary Islands and the Alicante region of Spain exploring the area's geology from a bicycle seat while riding up selected mountains with bars at their summits. Mark has spent the past twenty years based out of Saint Louis remediating contaminated sites throughout the United States and



Canada. Steve is currently working on quantifying the spatial variability of rainfall at the watershed scale in windward O'ahu. Martha Spengler (MS '90) works at maintaining and restoring military firing ranges throughout the Pacific."

Steve Spengler

"Retired in January 2022 from a 41-year career in Energy Exploration & Production and Morgan Stanley Energy Investment Banking. Now split time between Houston, TX and the Blue Ridge of western NC!"

Geoffrey Davis



"I recently started working as a research associate for WestEd, a non-profit educational research and service agency, supporting the California Community Colleges Chancellors Office with data visualization. I'm living in San Diego with my partner and two dogs!"

Maria MacNeill

"Keeping busy generating new lidar-derived hydrography, riparian zones, fish use, landslide and debris-flow modeling for the entire state of Oregon as required for the Private Forest Accord passed last year. This is culmination of research ongoing since I left UH in 1987 now applied to a multistakeholder negotiated agreement for managing private forest lands. Very satisfying."

Dan Miller



"I recently quit my job in conservation and am graduating from UH with my master's this May! I am traveling to France and Italy this summer after graduation and hope to come home with a job waiting (fingers crossed)."

Amy Kitchner

Save the Date!
2024 Alumni and Friends Days
will be May 3–4! Check for details here!





Jim Kauahikaua

We proudly celebrate the life of our friend, colleague, and EARTH alumnus **Jim Kauahikaua**, who passed away on October 8, 2023. Jim was a Kamehameha Schools–Kapālama graduate (1969), earned his Bachelors in Geology from Pomona College (1973), and his MS and PhD in Geophysics from UHM (1976, 1982). After interning with the USGS (1976–77), Jim became the first Native Hawaiian scientist at Hawaiian Volcanoes Observatory. Under Jim’s leadership as Scientist-in-charge at HVO, webcams were first installed to allow for real-time remote viewing of HVO eruptions and lava flows. Jim graduated from our Dept. of Geology & Geophysics and he was truly both a geologist and a geophysicist. He mapped recent Hualālai lava flows, he measured and observed thermal erosion in active lava tubes, he used VLF to determine volumetric flow rates, and he mapped subsurface volcanic structures with gravity data. Most recently Jim used ‘Ōlelo Hawai‘i and English accounts of the 1880–81 eruption to write a compelling narrative of the flow’s path through present-day Hilo that is both accessible to the general public and valuable to volcanologists.

“All he knew was his passion for his work, understanding volcanoes, and looking to the past so we could better understand the present and the future.” Jeri Gertz (spouse)



Murli Manghnani

Murli Manghnani, emeritus professor in the Hawai‘i Institute of Geophysics and Planetology, passed away on August 6, 2023 in his home country of India.

Murli joined the HIGP in 1963 as a geophysicist, focused his career on high-pressure mineral physics research. Among his most significant accomplishments, is the discovery of unique properties and structures of silicate melts in Earth’s mantle and core-related iron-rich melts. This work provided a fundamental understanding of the properties of small planetary cores, including properties of the liquids of Earth’s core.

“With a rare combination of deep interest, dedication, enthusiasm and collaborative spirit, Murli has been able to creatively help in establishing a world-class facility in high-pressure mineral physics research at UH Mānoa along with a cadre of faculty and researchers,” said Robert Wright, director of HIGP.

Jasper Konter

Sadly, but with fond and meaningful memories, we bid farewell to our friend and colleague, Prof. **Jasper Konter**.

Jasper Konter earned his bachelor's and master's of science degrees from the Free University of Amsterdam and his doctoral degree from the Institute of Geophysics and Planetary Physics at Scripps Institute of Oceanography, where he met his wife Bridget Smith-Konter, who is also a professor of Earth Sciences. After conducting post-doctoral research at San Diego State University (SDSU), he joined the faculty of the University of Texas at El Paso. Jasper was then recruited to UH Mānoa in 2014, where he had the honor of living out his dream job as a scientist, mentor, and explorer of Pacific seamounts. Jasper was killed by a drunk driver during a family vacation in Colorado and Arizona on July 3, 2022. Jasper is survived by Bridget and their two sons, Ryan (13) and Wesley (10).

Jasper was so much to so many as told by photos and writing in his **In Memoriam** pages.

Here are excerpts...

"My friend Jasper was incredibly honest and forthright, he had a foundational moral sense for what is right and wrong, and he was so very generous with friends, colleagues, and students."

"Jasper was an immensely kind and caring individual, giving much of his time to help others. He selflessly taught isotope geochemistry to students that were not his own (my students and even myself included)"

"Jasper will always be remembered by me not only as a mentor, but as someone who has changed my life... He taught me geochemistry and how to do lab work from scratch and we always had fun doing work together."

"I have never met anyone else as talented with the technical aspects of instrumentation as Jasper. He could fix just about anything! ...Together, we accomplished a lot in a short amount of time."

"Jasper was one of those scientists who was not just brilliant, but also a fantastic human — always there for his family and friends, and his students and colleagues."

"Jasper was an exceptionally creative, smart, considerate, and valuable colleague and friend..."



"Jasper was incredibly detail oriented in all things scientific. He was a very deep thinker who executed near perfection in his research. Beyond that, he was a dedicated father and husband and a valued friend. His impact on my career was significant and I miss him greatly."

DEGREES

AWARDED

Undergraduate Students

Fall 2021

Aziz Agis	BA	EES
Wilson Sink	BA	GEOL
Hunter Polhemus	BS	GG
Lynzee Hoegger	SC	EPET
Evan Takushi	SC	EPET

Spring 2022

Alan McFall	BS	ESCI
Christopher Dekker	BA	EES
Gabriela Hamm	BA	EES
Aiyana Kleefisch	BA	EES

Fall 2022

Risa Scott-Smith	BA	EES
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Spring 2023

Kim Buenaflor	BS	ESCI
Haley Currier	BS	ESCI
Isai Isas	BS	ESCI
Nicolai Phocas	BS	ESCI
John Sulecki	BS	ESCI
Nicole Cluff	BA	EES
Emma DeBenedictis	BA	EES
Sebastian Rice	BA	EES
Shengnan Zeng	BA	EES
Zack Kennedy	BS	GG

Summer 2023

Sarah Becker	BA	EES
Ryan Harris	BA	EES
Gisele Henry	BA	EES
Maxwell Kimball	BS	ESCI

Graduate Students

Fall 2021

Theodore Brennis	MS
Anna Mikkelsen	MS
Adrien Mourey	PhD
Noah Paoa Kannegiesser	MS
Hannah Tilley	PhD
Lauren Ward	PhD

Spring 2022

Chiara Ferrari-Wong	MS en route
Abigail Flom	MS en route
Brandon MacGregor	MS en route
Maria Daniella MacNeill	MS
Kelly McCartney	MS en route
William Nelson	MS en route
Brytne Okuhata	PhD
Diamond Tachera	PhD

Summer 2022

Jonathan Cameron	MS
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Fall 2022

Liliane Burkhard	PhD
Francesca Cary	MS
Wendy Cockshell	MS
Molly Cunningham	MS
Rena Lee	MS
Casey McKenzie	MS

Spring 2023

Marley Chertok	MS en route
David Frank	PhD
Thomas Giguere	PhD
Amy Kitchener	MS

Summer 2023

Kelly Truax	PhD
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STUDENT AWARDS

Undergraduate Award Recipients

Agatin Abbott Memorial Award

Hunter Polhemus (2022)
Haley Currier (2023)

2023 NOAA Hollings Undergraduate Scholarship

Allison Yamakawa (2023)

Stefan Seyb Fellowship

Casey Wandasan (2023)

Earth Sciences Department BA and BS Degrees

As of Fall 2023, the Dept. of Earth Sciences will be offering two tracks in our **BA in Environmental Earth Science**, and six concentrations in our **BS in Earth Science**. Existing students can stay in the program they are in currently and do *not* need to switch to any of these. But they can if they want to.

What's the difference between the BA and BS?

The BA offers a few more electives and is for students who plan on joining the workforce right after finishing (although it doesn't prevent you from applying to graduate school).

The BS is a little more prescribed (fewer electives) and prepares you a little better for pursuits in scientific research including graduate school.

BA in Environmental Earth Science (two tracks)

- **General (EES) Track:** For students who are interested in positions with geotechnical and environmental companies
- **Earth Science Education (ESE) Track:** For students who want to become Earth Science teachers in Middle or High School

BS in Earth Science (six concentrations)

- Environmental/Hydrology Concentration (EH)
- Geophysics and Tectonics Concentration (GT)
- Planetary Concentration (PS)
- Volcano Science Concentration (VS)
- General Concentration (GEN)
- Research Concentration (RES)

Graduate Awards Recipients

Toby Lee Arcs Award

Marley Chertok (2022)
Evan Kelly (2023)

Fred M. Bullard Graduate Fellowship

Liliane Burkhard and Keng-Hsien Chao (2022)
Sasithorn Chornkrathok and
Natália Gauer Pasqualon (2023)

William T. Coulbourn Fellowship

Chloe Obara (2023)

Stefan Seyb Fellowship

Daniel Thorhallsson (2022)

Harold T. Stearns Fellowship

Rose Gallo (2022)
Reed Mershon (2023)

Donald A. Swanson Graduate Fellowship

Brandon MacGregor (2022)
Nabila Nizam (2023)

J. Watumull Merit Scholarship

William Nelson (2022)
Eleni Ravanis (2023)

Hau'oli Mau Loa

Aston Benjamin Ramos

JEDI Committee Award

Diamond Tachera, Maria Daniella MacNeill, and
Brytne Okuhata (2022)
Chiara Ferrari-Wong, Samuel Kei Takazawa, and
Kelly Truax (2023)

EARTH Graduate Fellowship

Megumi Fujimoto, Yunxuan Zhong (2023)

Graduate Student Awards For Best Short Research Video

Jordan Ando (1st), Andrea Tonato (2nd),
Jade Comellas (3rd)

Graduate Division Achievement Scholarship

Elizabeth Benyshek, Theodore Brennis, Joy Cline,
Wendy Cockshell, Thomas Giguere, Robert Lee,
Warren McKenzie, Lautisha McKinney, and
Diamond Tachera (2022)
Elizabeth Benyshek, Theodore Brennis,
Wendy Cockshell, Thomas Giguere, and
Warren McKenzie (2023)

Huliāmahi

Huliāmahi, a student-led Diversity, Equity, and Inclusion (DEI) group within the Department of Earth Sciences, was established in 2020 by **Diamond Tachera**. It emerged in response to the pressing need for a safe and inclusive space for students to gather amidst the Black Lives Matter movement and the COVID-19 pandemic.

Over the years, Huliāmahi has initiated several impactful projects and events. This includes hosting Department-wide bystander training and participation in the Unlearning Racism in GEosciences (URGE) curriculum. With the help of UH Mānoa SEED funding, Huliāmahi has hosted TG seminar speakers like **Kat Gardner Vandy**, a professor at Oklahoma State University and a member of the Choctaw Nation, enriching our community with their insights.



Justice
Equity
Diversity
Inclusivity

To cultivate a learning community within our group, Huliāmahi organizes a reading group, where members gather to discuss ideas. In Spring 2023, our focus was on addressing Hawai'i-centered critical race theory.

Beyond this, Huliāmahi has successfully advocated for important changes within our academic spaces. This encompasses securing gender-neutral bathrooms on floors five to eight of the POST building and ensuring the provision of free menstrual products in all the SOEST building bathrooms. In addition, members of the group have produced a white paper outlining recommendations for fostering an inclusive academic environment within SOEST, created a field trip safety form for professors in the Department to utilize for their students, and consulted with the Department's **JEDI committee** on Department-led initiatives.

Learn more about Huliāmahi

Visit the Huliāmahi website by clicking [here](#) or by scanning the QR code.



EP'IK Summer

Congrats also to our 2022 EP'IK Summer high school student & teacher cohort!

EP'IK, or **Earth, Planets, 'Ike, and Kuleana**, is an NSF-funded program for Hawai'i high school students. In June 2022, fourteen high school students and two teachers from across the islands of O'ahu, Maui, and Hawai'i came together for a two-week Earth Science summer camp. We learned about Hawaiian volcanoes, the Hawaiian water cycle, geology of Hawaiian beaches, ocean exploration, and the Solar System. Field trips to explore East O'ahu and Windward O'ahu geology, and a tour of the UH/SOEST campus and laboratories, were a highlight of our EP'IK summer program. We can't wait for EP'IK Summer 2024!

Learn more about EP'IK Summer

Visit the EP'IK website by clicking [here](#) or by scanning the QR code.



The EP'IK Experience
EP'IK Summer is a two-week summer experience for high school students with exposure to a variety of topics that integrate chemistry, physics, biology, environmental, and computer science with Earth science.

Earn \$\$
Find out how to receive a course in Science and Art plus while learning! Each participant selected for the EP'IK Summer program will receive a \$600 stipend.

Field trips
EP'IK field excursions will include activities like water-walk sampling at Waialeale in Hanalei, Hawaii, observation of marine volcanic features on southeast O'ahu, and much more...

'Ike and Kuleana
EP'IK Summer emphasizes the role and importance of ecosystems within our community, emphasized by the value of indigenous, the Hawaiian, and the Native Hawaiian, respect for Native Hawaiian, and the Earth's responsibility for the Earth.

Hands-on 'Ike
Connective high school course work with state of the art science, EP'IK curriculum will include a variety of hands-on experiments, computer modeling, and data analysis workshops.

Kuleana
EP'IK curriculum and activities will promote awareness, expertise, and responsibility for Hawai'i's natural, cultural, and environmental resources.

EP'IK Summer
Earth Planets 'Ike Kuleana

- Hydrology
- Coastal processes
- Earth and human activity
- Hawai'i's natural resources
- Plate tectonics
- Planet Earth and the solar system
- Earthquakes
- Volcanism and volcanic processes



Your Donation Helps

Remember when...

You held your first rock specimen in a class or took your first geology field trip?

You made your first map, learned about a useful isotope, or looked at a seismogram?

The Department of Earth Sciences/GG became your academic home, a place of learning with friends and colleagues?

Help others have that experience with a gift to the Department of Earth Sciences. Your donation will help maintain and provide modern teaching infrastructure; support field excursions, research experiences, and fellowships for students; and support out-of-state visits and in-house, TGIF seminars by world class Earth scientists.

Please contribute to any number of the Department of Earth Sciences funds at the University of Hawai'i Foundation and help make those geo-dreams come true for a new group of emerging geoscientists.

Consider giving online today
to **UHM Earth Sciences.**



Mahalo!

CONTACT US

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Nuhou Kānaka Puka (Alumni News) is published by the Department of Earth Sciences (previously the Department of Geology and Geophysics) of SOEST for its alumni and friends.

To download *Nuhou Kānaka Puka* as a PDF click [here](#) or scan the QR code.





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