



NUHOU KANAKA PUKA

Department of
GEOLOGY & GEOPHYSICS
University of Hawaii, Manoa
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Nuhou Kanaka Puka

Nuhou Kanaka Puka (“Alumni News” in Hawaiian) is published by the Department of Geology and Geophysics of the School of Ocean and Earth Science and Technology (SOEST) for its alumni and friends. Throughout the year, we’d like to hear from you. Contributions of photos, news items, changes in address and monetary donations may be sent to Department of Geology & Geophysics, University of Hawaii, 1680 East West Rd., POST 701, Honolulu, HI 96822.

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TSUNAMI – GG Responds; Lessons Learned

The devastating East Asian tsunamis of December 26, 2004 brought home the destructive consequences of coastal hazards in an absence of effective warning systems for areas both near and far from the wave source. A 2003-2004 Sea Grant award provided the platform for GG scientists Chris Gregg and Bruce Houghton to obtain NSF funding to study the social response to the December 26, 2004 East Asian tsunami. The Sea Grant work explored public perceptions and preparedness to a range of natural hazards in five Hawaiian communities, including a review of understanding of the current siren warning system in conjunction with Brian Yanagi of State Civil Defense and Don Swanson from Hawaii Volcano Observatory. The Sea Grant research was close to completion when NSF posted a solicitation for rapid response investigations to obtain short-lived data following the tragic tsunami late in 2004.

The GG team was one of only six teams funded by the NSF initiative. In detail, the study involves a multidisciplinary and multicultural research team of physical scientists, psychologists, and graduate students from Thailand, Australia, New Zealand, and the U.S., including Roy Lachman and Bill Bonk who pioneered the famous study of tsunami response in Hilo in 1960.

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Phi Phi Don Island in the Krabi Province, Thailand. Resorts supporting the economy of Thailand’s most famous island once blocked this view between the two bays.

A critical factor in the success of the study was that the UH team was able to locate a qualified Thai collaborator through the agencies of the East-West Center and the Pacific Disaster Center. Dr Supin Wongbusarakum, Associate Director at the International Sustainable Development Studies Institute, Thailand, graduated with a PhD in geography from UH in 2002 studying coastal and marine resource management and development, in the same region of Thailand affected by the tsunami.

Chris and a team from Chiang Mai University have collected short-lived social data from people in affected areas of the Andaman coast, Thailand. Their goal was to understand the complex pattern of response to the ground shaking arising from the earthquake of December 26 and the first arrival of the tsunami. Fortunately, a pretest of their survey and interview protocol was scheduled for March 29, 2005, the morning after the 8.7 earthquake that sparked a formal tsunami warning and evacuation by the Thai. Because of the overlapping of these events, the team was able to build a behavioral response to the earthquake and tsunami warning events into their study.

Data from the research was obtained with oral interviews in Thai, which will be translated to English. The study visited all six coastal provinces with varying degrees of impact from the tsunami and collected over 600 surveys. The study examined 1) people's awareness of and response to the natural warning signs of the tsunami of December 26, as well as warnings provided by other people and/or observations of other people's actions, 2) the underlying factors that determined how individuals responded to the December 26 and March 28 events, and 3) the factors that respondents retrospectively believe would have influenced them to act differently. They have also gathered data concerning traditional knowledge of tsunamis.



A field research assistant works on a pre-test of the survey questionnaire with local residents in the seaside fishing village of Ban Bo Chet Luk, near Satun, Thailand.

The findings complement a larger NSF proposal submitted in February 2005, focused on tsunami preparedness in seven U.S. communities from Alaska to Puerto Rico and potentially a UH Chancellor's initiative for tsunami studies in Sri Lanka. When completed, the study will be widely disseminated through scientific publications and the Web. It will be used to frame effective outreach education programs that are essential to prepare communities to respond to the unique demands of warning messages for both distant and local tsunamis.

Bruce Houghton
Christopher Greg

Editor's Note

Mahalo to Gerard Fryer (Associate Professor, HIGP and GG graduate faculty) who was available on campus on December 27, 2004 (and throughout the Christmas Break) to respond to the numerous phone calls and e-mails requesting information from our department. Dr. Fryer was interviewed by various media representatives from newspapers, TV and radio in Hawaii and abroad and made many new friends for GG and the University of Hawaii.

Message from the Chair

Greetings to students, faculty, alumni, and friends of the Department of Geology and Geophysics. With the flight of many students to their post-semester activities, the campus has quieted and the pace of life in the department has slowed. The tradewind-filled days of summer are upon us and it is a good time to reflect on the past year.

We continue to enjoy an increase in geology majors that started a few years ago. Enrollment in the department is stable with 59 graduate and 47 undergraduate students (both increased by 1 over the past year). The academic year 2004/2005 was especially successful in terms of the number of degrees awarded. Eight geology majors graduated this year. Our warmest congratulations!

Nine graduate degrees have been awarded, and two more (Seung Sep Kim, MS; Ayesha Genz, MS) are expected by the end of summer, if all goes as planned. The entire department extends its best wishes!

As I write these words, four students (Nathan Becker, PhD; Matthew Patrick, MS; Lucas Moxey, MS; Sergey Tkachev, PhD) have successfully defended their research and are on track to graduate by the end of summer. Congratulations!

The **Field Trip Fund** (FTF), so generously supported by our alumni, enabled a vigorous itinerary of field studies across the islands and to the mainland. Supported by the FTF, Bruce Houghton and the seven students of GG601 *Explosive Volcanism*, traveled to the Big Island and conducted an intensive analysis of the 1959 Kilauea Iki eruption and analyzed other “unknown” pyroclastic deposits as part of the class exercise.

I spent three days on Molokai with the 12 students of GG420 *Sea Levels, Ice Ages, and Global Change*. We combed the spectacular eolianite sequence at Mo’omomi on the north shore and studied other island carbonate deposits (such as purported “mega-tsunami” deposits).

Perhaps most noteworthy, the FTF allowed Scott Rowland and four students in GG305 *Geological Field Methods* to spend 11 days in the Mojave Desert mapping folds and faults involving igneous, sedimentary, and metamorphic rocks in a continental framework unavailable here in the Hawaiian Islands.



Patty Lee continued her uninterrupted streak of twice-yearly Big Island field trips with the introductory classes. These have become a local classic and are often populated with various alumni of past trips needing a renewed dose of Kilauea magic.

All total, the department spent \$3,114 from the FTF this past academic year. As we all know, field work is one of the hallmarks of our science. Many of our fondest memories as students are from field sites where learning takes on new meaning through direct contact with geology that simply can not be reproduced in the classroom.

Your contributions to the Field Trip Fund are very important to our mission. Please consider making a gift this year.

Exciting News! Through the generosity of Thaïs Bullard, past Chair Paul Wessel and I are overjoyed to announce the *Fred M. Bullard Endowed Graduate Fellowship*. The fund will provide graduate fellowships to assist outstanding students with high potential for scholarship and research in the Department of Geology and

Geophysics. Thaïs honors her father, volcanologist Fred Bullard late of the University of Texas at Austin, whose interest in volcanoes was sparked while spending summers working as a ranger at Volcanoes National Park on the Big Island. The fund will grow in coming years as additional contributions are made.

Curricular changes have transpired in the past year. Perceiving the need for improved computer programming skills among our geology majors, the Geophysics and Tectonics Division asked the department to consider adding a programming course to the core requirements of the BS major. Not wanting to add to an already packed list of required courses, it was decided to combine *Earth History* (GG308) and *Geological Inquiry* (GG200). The revamped GG200 will continue its focus on fundamental issues in the geological sciences, only now it will be within the framework of Earth history. It was also decided to require GG250–*Scientific Programming* in the GG major in lieu of *Geological Data Analysis* (GG313), which will continue to be offered as an elective.

The result of these changes reduces the list of core requirements for the BS from 40 credits to 37 credits and increases the opportunity for majors to take elective courses in geologic fields of interest (from 8 credits to 11

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credits of electives). It is hoped the increased flexibility improves the ability of majors to prepare for the job market and/or graduate school in areas of their choice.

BS in Earth Science and MGeo degree. The department is also working to establish two new degree tracks. The first is the BS in Earth Science, which would be a flexible degree program with high entrance standards for students interested in focusing on undergraduate research and a senior thesis. The second is a MS Professional Degree, which would be a non-thesis graduate degree designed for students focused on professional careers in the geology industry.

I would be remiss in not mentioning that the **Johnny Geeangee Memorial Trophy of Ultimate Righteousness and Supreme Power** went, once again, to the faculty softball team. It would seem however, that age is taking its toll as the old guard (with MVP ringer Ruth Fletcher) managed to win only by the thin margin of 13 to 12. Sensing that next year will bring the bittersweet taste of revenge, the student body is notably restless in anticipation of the great event.

I also want to mention that our own **Fred Duennebier** has been selected as recipient of the UH Alumni Association Distinguished Alumni Award—2005. Fred was recognized for his worldwide leadership in seismology, particularly the development of marine seismic instrumentation.

In closing, I know I speak for the entire Department of Geology and Geophysics in extending our very best wishes to you for your health and happiness over the next year.

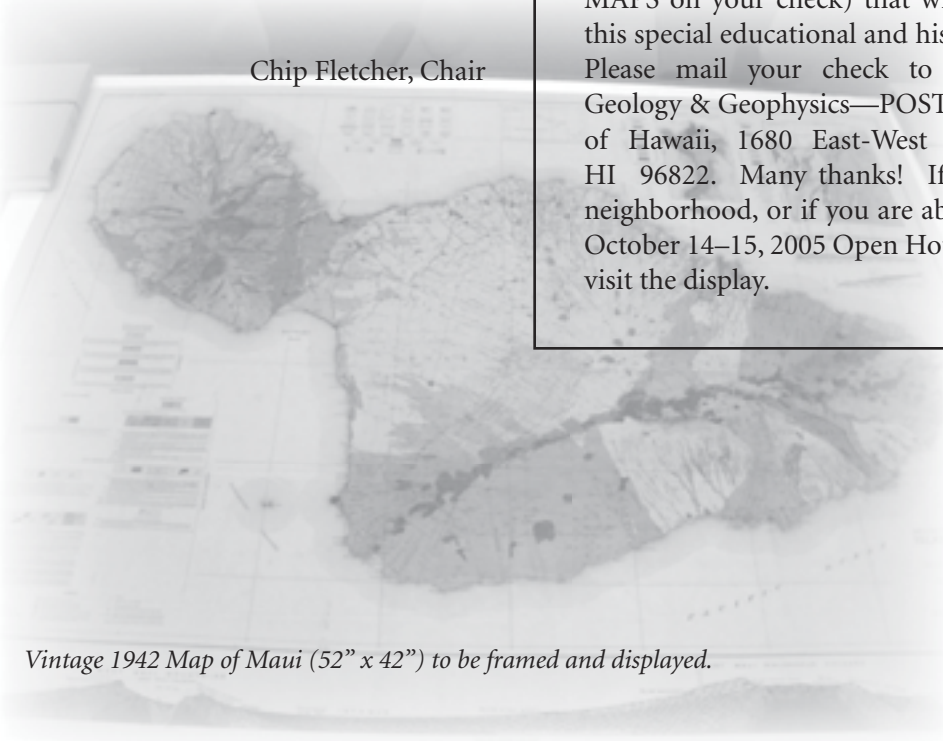
Chip Fletcher, Chair

Donations Needed for Geological Map Display

The GG Department has acquired high-quality digital scans of Harold Stearn's original geological maps of the Hawaiian Islands. These seven beautiful color maps of Kauai, Oahu, Molokai, Lanai, Kahoolawe, Maui, and Hawaii are classics that date to the early 20th Century in some cases. Stearns made these maps in connection with his seminal studies of island ground water during his time with the U.S. Geological Survey.

The maps, in their original large size, are being framed and mounted on a wall that spans 30 feet in the hallway of the 7th floor of the POST Building, outside the department office. With the Stearns maps and new glass cases displaying rock and mineral collections we are developing a "museum wing" on the 7th floor, mixed in with our classrooms, that is quite appealing.

Please consider making a donation to offset the cost of these maps. Altogether, the department will pay about \$2000 for the purchase, framing, and mounting of these classic map displays. You can help by sending a check to the "Geology Club" (please indicate MAPS on your check) that will be applied to this special educational and historical purpose. Please mail your check to Geology Club, Geology & Geophysics—POST 701, University of Hawaii, 1680 East-West Rd., Honolulu, HI 96822. Many thanks! If you are in the neighborhood, or if you are able to attend our October 14–15, 2005 Open House, please come visit the display.



Vintage 1942 Map of Maui (52" x 42") to be framed and displayed.

Confirmation of Degrees & Student Awards

Undergraduates

Matt Dyer (BA, Spring 2005)
James Finan (BS, Fall 2004)
Darcy Hinkley (BS, Spring 2005)
Christina Hirsch (BS, Spring 2005)
Kenneth Natividad (BS, Spring 2005)
Nicole Robinson (BS, Spring 2005)
Mariah Tilman (BS, Spring 2005)
Tamara West (BS, Fall 2004)

Masters of Science

Kate Bridges
Submarine Growth of a Hawaiian Shield Volcano Based on Volcaniclastics in the Hawaiian Scientific Drilling Project 2 Core (Advisor: M. Garcia, Fall 2004)

Marc McGowan
Submarine Groundwater Discharge: Freshwater and Nutrient Input into Hawaii's Coastal Zone (Advisor: C. Glenn, Fall 2004)

Patrick Shamberger
Leucocratic & Gabbroic Xenoliths from Hualalai Volcano, Hawaii (Advisor: J. Hammer, Fall 2004)

Deon Van Niekerk
Characterization of the Lithological Contact in the Shergottite Elephant Moraine A79001: A Record of Igneous Differentiation Processes on Mars (Advisor: K. Keil, Fall 2004)

Virginia Dorsey Wanless
Geologic Mapping and Petrology of the Submarine Radial Vents on Mauna Loa Volcano, Hawaii (Advisor: M. Garcia, Fall 2004)

Jonathan Weiss
A Geophysical Investigation of the Gulf of Corinth, Greece (Advisor: B. Taylor, Fall 2004)

Doctor of Philosophy

Nancy Adams
Magma Degassing During the 1912 Eruption of Novarupta, Alaska: Textural Analyses of Pyroclasts Representing Changes in Eruptive Intensity and Style (Advisor: B. Houghton, Spring 2005)

Doctor of Philosophy (con't)

Jennifer Engels
New Evidence for Ice Shelf Flow Across the Alaska and Beaufort Margins, Arctic Ocean (Advisor: M. Edwards, Fall 2004)

Christopher Gregg
Natural Hazards in Hawaii: Some Studies of Awareness, Risk, Perceptions and Preparedness (Advisor: B. Houghton, Spring 2005)

Student Awards

Agatin Abbott Memorial Award

Presented to an outstanding senior each year in memory of department faculty Agatin Abbott.

Christina Hirsch (2005)

2005 UHM Scholar-Athlete for Women's Volleyball

Melody Eckmier

J. Watumull Scholarship

Awarded annually to the department's outstanding graduate student from an endowment from the Watumull Foundation.

Eric Mittelstaedt

William T. Coulbourn Fellowship in Marine Geology

Endowed by friends and family in memory of department alumnus and faculty member William T. Coulbourn.

(to be announced)

Harold T. Stearns Fellowship

Endowed by longtime department friend, H. T. Stearns, for the purpose of supporting student research on geological and geophysical problems in Hawaii and the Pacific Basin.

(to be announced)

In memory of

Professor George Patrick Leonard Walker FRS

March 2, 1926 to January 17, 2005

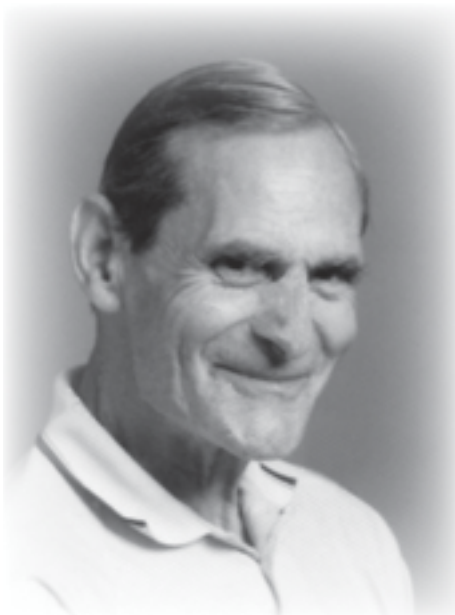
George Walker, the first Gordon A. MacDonald Professor of Volcanology, was the most influential volcanologist in the world. He studied geology at Queens University, Belfast and then completed his training with a PhD in mineralogy in 1956 at Leeds University. He was appointed to a lectureship at Imperial College in 1954 and began mapping Eastern Iceland, where his flair in the field and ability to make fundamental inferences about volcanic processes often from relatively small sets of data emerged. George was one of few foreigners to be awarded the Icelandic Order of the Falcon conferred by the President of Iceland in 1977.

In the late 1960's and through the 1980's George increasingly focused on recent volcanic eruptions and active volcanoes. He combined supreme field observational skills and a remarkable ability to integrate those observations rapidly into coherent conceptual models of the eruptive process. This work is the foundation of contemporary physical volcanology.

George left Imperial College in 1978 to take up a Captain James Cook Research Fellowship of the Royal Society of New Zealand based at the University of Auckland, where he studied eruptions of Taupo and Tarawera volcanoes.

In 1981, George took up the MacDonald Chair and refocused his research on the dynamics of basalt lava flows. George was a tireless and inspirational teacher at all levels at UH. He had a distinctive style which utilized teaching materials printed on large cards which enabled George to abandon the traditional position lecturing from the front of the classroom, choosing instead to roam freely around the theatre. He excelled in finding simple analogue experiments to teaching physical principles decoupled from complex mathematics. Here, and in England and New Zealand, George devoted much of his time to encouraging and nurturing young scientists, including all three authors of this article. He gave his time freely to any form of enquiry and happily led innumerable field

trips for classes and visiting colleagues. George had a long line of eminent graduate students, beginning with Ian Carmichael, in Iceland. All retain vivid memories of Walker field techniques, including his innovative use of motor vehicles. Many of these former students have now trained their own students in George's approaches and philosophies and this remains one of two powerful legacies of his research career. The other is an imposing list of publications which continue to be cited heavily in the 2005 literature.



He retired in 1996 and returned to the UK to live in Gloucester but continued his research until his death earlier this year. George's achievements in science were recognized by many awards, including election as Fellow of the Royal Society of London in 1975, an Honorary Fellowship of the Royal Society of New Zealand in 1987, an Honorary Doctorate at the University of Iceland, the Thorarinsson Medal (the highest award in volcanology), and the Wollaston Medal, which is the highest award of the Geological Society of London.

George was a quiet, happy man, who never sought the limelight. His field observations changed our understanding of volcanoes forever. His research career features a unique level of support and active contribution from his wife Hazel, who worked with him on numerous projects while also quietly ensuring family survival. He will be remembered with admiration for his genius and great affection by everyone who crossed his path. He was a kind, devoted father and leaves his daughter Alison, son Leonard, and grandson Matthew.

B.F. Houghton, C.J.N. Wilson, R.S.J. Sparks

In the news...GG Rocks

Faculty Award Recipient

GG Prof. **Fred Duennebier** was chosen as one of seven recipients of a UH Alumni Association Distinguished Alumni Award. Fred received his MS (1968) and PhD (1972) in geophysics from the UH GG dept. He was recognized for his worldwide leadership in seismology, particularly the development of marine seismic instrumentation. Fred is one of the few scientists on the UH Distinguished Alumni list, which also includes politicians, business entrepreneurs, entertainers, academic administrators and others.



young Indian scientists in recognition of their outstanding contributions in any branch of science. In a December general meeting of the Academy, he will receive a bronze medal and cash prize.

In May 2005, **Nicole Lautze**, PhD student, won the 2005 RCUH Student Excellence in Research award. The awards are made by a committee of the University's top scholars to UH's best researchers at the MS and PhD level. Nicole was nominated

New Scientist-in-Charge at HVO a GG Grad

Dr. Jim Kauahikaua was made the new scientist-in-charge of the USGS Hawaiian Volcano Observatory in September 2004, succeeding Dr. Don Swanson. Jim K., as he is known to many in the department, is another distinguished alumnus who received his MS and PhD from our department (PhD 1982). We wish him luck in this exciting new role.

by Departmental Chair Chip Fletcher and her advisor Bruce Houghton for her studies of explosive eruptions at Stromboli volcano (Italy) in 2002, published in May 2005 in the high profile journal *Geology*. Nicole is a graduate of UCLA, who has divided her time at Manoa between studies on Etna and Stromboli volcanoes. Nicole was admitted to UH after winning the Weather Service Fellowship, made to the top applicants in the School of Earth and Ocean Sciences and Technology. In her second year at UH she applied for and was awarded a highly competitive NSF Student Fellowship, which will provide funding until completion of her PhD in December 2005.

Congratulations to GG Award winners

This past April 2005, GG postdoc **Tarun Kumar Dalai** was notified that he is the recipient of the INSA Medal for Young Scientist (2005) from the Indian National Science Academy, New Delhi, India. This award honors

The Schlanger Ocean Drilling Fellowship award, which offers merit-based awards to outstanding graduate students to conduct research related to the Integrated

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Distinguished Visitor

The GG department and HIGP hosted UH Distinguished Lecturer Jack Horner in January 2005. Dr. Horner (also known for his contributions to *Jurassic Park*, the book and the movie) gave three interesting lectures on dinosaur paleontology to large audiences during his visit—"Cool New Stuff About Old Dinosaurs", "How Dinosaurs Got So Big and So Little", and "Dinosaur Behavior, a Geologic Perspective." The department also sponsored an informal reception and lunch with Dr. Horner for GG, HIGP, and Oceanography faculty, students and staff. It was well attended and people enjoyed having the opportunity to meet informally with Dr. Horner.



Ocean Drilling Program selected GG graduate student **Samuel Hulme** for this year's award. This is a first for a GG student at UH.

In June, graduate student **Erin Diurba** was notified that she is a recipient of the Dai Ho Chun Thesis Completion Fellowship Award. The purpose of this award is to allow students to work full-time on completing their thesis. This year, there were over 80 very qualified applicants for this highly competitive fellowship. Erin will receive a \$5,000 award for Fall 2005.

The Mineralogical Society of America's (MSA) American Mineralogist Undergraduate Award program selected undergraduate **Stanley Dalbec**. This award recognizes outstanding students showing an interest and ability in the discipline of mineralogy. Stan will receive student membership in MSA with access to

the electronic version of *American Mineralogist* and the Monograph entitled *Crystallography and Crystal Chemistry* by F. D. Bloss.

New Look for the Department and School Websites

Some time this summer both the GG department and SOEST will be unveiling broadly updated web sites. The sites are being developed semi-independently by teams of GG and SOEST personnel and promise to greatly expand the functionality and content of our sites, largely developed and maintained over the past decade by **Prof. Ken Rubin** (with help from a number of then current GG students and staff). GG graduate student **Ben Studer** and coastal geology technician **Siang-Chyn Lin** are playing key roles in developing the new database driven GG site.

New Graduate Fellowship

Earlier this year, Ms. Thaïs Bullard was on campus to establish the GG Fred M. Bullard Endowed Graduate Fellowship in memory of her father. Ms. Bullard (whose primary residence is Austin, Texas) often visits Hawaii in the late fall and winter months, always stopping by to meet with her friends on campus, especially former GG Chair Paul Wessel. On this most recent trip, she also enjoyed auditing two GG classes, 105 (*Voyage through the Solar System*) with Pete Mouginis-Mark and 466 (*Planetary Geology*) with Ed Scott, as well as an art class. Her interests in geology and art stem from her adventurous family history.

Her father, Fred M. Bullard, was born in 1901 in a log cabin on a family farm in Kikapoo Indian Territory (Oklahoma). Educated in a one-room schoolhouse, he went on to the University of Oklahoma intending to study law. But, having found a student job as janitor in the geology building, he discovered a compelling interest in the science of geology and earned his BS and MS degrees in geology.

As a professor with a special talent for teaching and exploring, volcanoes became a key interest. With his daughters and wife Bess, an artist/geologist capturing their worldwide travels in her paintings, he traveled extensively doing volcanic research. This opportunity treated Thaïs to a rich childhood of memories and a special love for the people and land of Hawaii.

In establishing the GG Fred M. Bullard Endowed Graduate Fellowship, Ms. Bullard honors the memory of her father by providing graduate fellowships to assist outstanding students with high potential for scholarship and research in our department. The faculty, staff and especially the students extend a big Mahalo to Ms. Thaïs Bullard.



Thaïs Bullard and Fred M. Bullard, 1992

GG Annual Picnic Softball Challenge 2005

On April 17, 2005 the GG faculty met the graduate students for the annual softball challenge during the annual GG picnic at Lanikai park. For years the graduate students have used this game as an opportunity to show how hard they study by displaying tanless skin and atrophied leg muscles, while the faculty have taken advantage of the opportunity to hold one more thing over their students' heads.



The decades passed like clockwork, and while no one is really sure when the first game was played, local GG historian Prof. Michael Garcia claimed this would be at least twenty eight years-- and the grad students have never put up much of a fight. But, as they say, still waters run deep. In 2004, the ante was raised with the creation of the Johnny Geeangee Memorial Trophy of Supreme Power and Ultimate Righteousness, affectionately called the "Emerald Cup." Forged in the fires of Pu'u'O'o and/or the grime of the Waialae Avenue Goodwill, it is fabled that a scroll lost amongst the quad maps prophesied that those who hold the cup, hold the power to redistribute office space. Folklore aside, both teams showed up with their A-game.

As usual, the faculty was looking at a long disabled list, which included perennial all-star Prof. Steve Martel. Martel found himself behind the plate calling the game with recent graduate Matthew Patrick. Still, the faculty sent an admirable team to the field, which relied heavily on hitting power anchored by the league's most powerful hitter Bill Chazey. In 2004, this strategy led the faculty to a 2-0 game victory over the grads. This year, however, the grads were ready in the outfield, containing much of the deep hitting. That's when the faculty turned to placement



hitters like Ruth Fletcher and Garrett Ito to get the rally going. The faculty jumped out to an early 5-0 lead. But, the grads were not ready to call it quits. A solo homerun by Joe Genz looked like it might turn things around, but it was not until an inning later,

when Erin Diurba smacked a three-foot single, that the grads threatened to climb out of the basement. For three more innings, the faculty would raise the bid, and the students would cover.



2005 GG Picnic Softball Awards Recipients. (left to right) Faculty coach Garrett Ito holds the Geeangee trophy. Chip Fletcher accepted the Most Valuable Player award for Ruth Fletcher. Todd Bianco received an award for Most Valuable Coach and Chris Gandy received the Beamer Basher award.

Then the 3 p.m. deadline came, and cars started to roll onto Lanikai field. That's right, cars. BMW's in fact. This forced Martel to consider calling the game, giving the faculty the 11-9 victory, yet something pure and honest in him said, "Give the grads one more chance." and that is just what he did. At the plate was the culmination of grad power, Chris Gandy. A cry from teammate Kolja Rotzoll told Gandy what everyone there already knew he had to do... "nail the BMW." The delivery from pitcher, Julia Sable, was like the opening credits to the best movie anyone has ever seen, and Gandy, equal to the task, sent it deep and into the bumper of the beamer in a manner that can only be described as "convergent-plate-boundary-esque." Fortunately, the beamer did not belong to a faculty member (or anyone attending the GG picnic).



The faculty took their last at-bat down one run. Two easy outs brought grad fans to a near state of ecstasy. That is when the house of cards came down around the grad students. Turning again to Ruth Fletcher and rookie Florian Richter, the faculty sparked a brilliant, last chance rally that gave them the 13-12 victory over the students. And with that, "Faculty '05" will be scribed onto the trophy. Most valuable player award went to faculty star Ruth Fletcher, who was later seen drinking from the Emerald Cup. Most valuable coach went to graduate Todd Bianco, who was later seen crying into a fruit drink.

Todd Bianco
GG Graduate Student

Geology Club

The undergraduate Geology Club had another successful year fund-raising and fun-raising. We combined some old faithful money grabbers with a new one. Grilled hamburgers, hot dogs, and Boca Burgers after the TG's seminar and our coffee/muffin cart outside of POST 701 continue to draw crowds and are our best source of funding. Thank you one and all for those hungry tummies out there who supported the club over the year.

Besides our ongoing GG/SOEST t-shirt sales, we also had our annual bake sale in the spring. Thank you if you brought something for us to sell and thank you if you bought something we were selling. This year we added a new treat—our Halloween Candygrams, which actually sold a lot better than expected. It might be an incentive to try this again next year.

Proceeds from these fundraisers once again helped support educational opportunities for the undergraduates, including the GG 305 field trip to the Mojave desert during Spring Break with Professor Scott Rowland.

For fun, the Geology Club undergrads enjoyed some meetings out to dinner and a weekend at Maleakahana. Maleakahana was a lot of fun, despite some rain, we still got to swim and hang out for a couple of days.

Finally, I would like to thank all of the undergraduates who volunteered their time to the Geology Club this past year. You all made the Geology Club what it is and you are the ones who have made this past year excellent. I would like to especially recognize the hard work of Ken, Stan (and his wife), Mark, Christina, Olaf, Taleah, and Jesse. And, a big mahalo goes out to Carolynn for donating coffee to the club, and Patty Lee for being our wonderful advisor.

For next year's undergraduates, I wish you well with the Geology Club and hope it is as successful for you as it was for me.

Liz Roberts
GG Club President



(above) Spring 2005 GG 305 field methods class in Cronese Hills, California. (below) Carolynn and Liz walking through water (yes, water!!) in Badwater, Death Valley.



Recollections of the GG 103 Big Island Field Trip

Sam Bardo “Rain, rain, and more rain fell. Despite this rain, the Big Island field trip was a very interesting and educational experience....Growing up in New Hampshire, one does not encounter anything but granite and dirt...I thought all the islands had active volcanoes because I had no idea what caused the volcanism. After learning about hot spot theory, everything made sense and I could understand the basic concepts of the theory. After this trip, I can now appreciate the unique environment that volcanoes offer and can understand why people would take the risk to live near such beauty.”

Danielle Ewart “...this place is spectacular and the field trip should last five days...I will go back someday...my favorite part was visiting the southwest rift zone. This looked like a giant scar in the earth, ...land splitting apart in real life and not just a textbook.”

Ginny Seckman “Volcano studies in grade school always emphasized (volcanoes) as explosive, deadly, naturally devastating and a burden to man...I have found that...to be deceiving and rather contradicting...volcanoes bring richer soil for re-growth, and extend the land area of the island...I never thought that I would know so much about volcanoes.”



Spring 2005 GG 305 field methods class learning how to use their bruntons at Makapu'u.

Please consider a tax-deductible donation to support our field trip programs for students. Donations can be made online at the UH Foundation website <http://uhf.hawaii.edu> (Program: UHM School of Ocean and Earth Sci. Account: Geology and Geophysics Field Trip Fund – it's at the end of the list) or by mail to the University of Hawaii Foundation, P.O. Box 11270, Honolulu, HI 96822-0270. (Please indicate Geology & Geophysics Field Trip Fund on your check payable to University of Hawaii Foundation.) Mahalo for your support!

A Very Big Experience GG460 Remote Sensing Field Trip

The Big Island of Hawaii was the setting for our GG460 *Remote Sensing* field trip. It was my first excursion to that island and I found that it truly was big. But that's not the only “big” thing I discovered. My big shoes (brand new size 15s) led to big blisters, which led to big pain while trekking across the big lava fields. Every ounce of pain was worth it though, as we discovered big fields of dunes, big active



flows, big flows of a'a and pahoehoe, and big-time caring from our teachers to keep us safe and healthy.

My skills with a computer keep me out of the field most of the time, but a big trip like this is motivation to keep working towards the next field opportunity and being out in nature, which is the biggest reason I chose geology as my field of study. A very big thank you to all that made this trip possible for a big-time poor student.

Ben Studer
GG Grad Student

Alumni News

1970

Charles Fein (PhD'71) has lived on Maui since leaving UH Manoa in 1979. After 17 years as a principal scientist for the Maui Space Surveillance System, Haleakala, he established KC Environmental Inc., which conducts environmental measurement and planning programs for federal, state, and other agencies. Charles is also the current president of Friends of Haleakala National Park, a non-profit corporation that provides oversight and support to the Park for natural and cultural resource management

Valerie Godley (MS'77) is "retired and loving it!" She and her husband are traveling the mainland in their RV. This summer, they leave Washington State for Maine and the Florida Keys; in the winter, they will be in Arizona.

Don Hussong (PhD'72) is the president of Fugro Seafloor Surveys, Inc., Seattle WA.

Bruce Schenck (MS'78) is a system administrator for Omaha Public Power Dist., Iowa.

1980

Jim Blevins (MS'81) worked for Mobil Oil for a number of years after graduating from UH, but has recently reenlisted with Murphy Oil, Malaysia. His two daughters are now graduate students in geology at Cal State University, Bakersfield.

Robert Cessaro ('87) is a geophysicist at the Pacific Tsunami Warning Center, Honolulu.

Dae Choul Kim (PhD'85) is a Professor at Bukyong National University, Korea.

1990

Stefano Baffi ('99) is a seismic interpreter at Horizon Energy Partners in the Netherlands

Delwyn Ching ('93) graduated in December 2004 with a Masters in Civil and Environmental Engineering. He is currently a Civil Engineer for the US Air Force, Hickam AFB, Honolulu.

David J.P. Foss (MS'93) environmental consultant since 1994, shared this. "In January, I left my old job after

9 years. I'm currently a Senior Project Manager with Fuss & O'Neill Inc. Our headquarters (200+ engineers) are in Connecticut. I work out of our Providence, Rhode Island office (25+ geologists and engineers). I get to work on a wide range of projects, including some legitimate hydrogeology (identifying preferred locations for public water supply wells), as well as assessment and remediation work. Married in 1997, my 5-year old son and 3-year old daughter keep me busy and entertained. I did a two hour presentation on volcanoes for my son's pre-kindergarten class. Although the technical level of the presentation was not high, all the students came away thinking volcanoes are pretty cool. I showed a couple of video clips of eruptions (Mt. St. Helens Groundhog Day 2005) and Kilauea Pu'u O'o, downloaded off the internet. I recommended to the kids that if they want to learn more about volcanoes they should ask their parents to take them to Hawaii.

- Last Interesting Geologic Expedition: Arizona in March 2005. An excellent adventure.
- Last use of rock hammer: Opening manholes during underground storage tank system inspections.
- Weird coincidence #1: My brother married one of Stan Zisk's nieces.
- Weird coincidence #2: My sister married a John Mahoney, no known relation to SOEST's John Mahoney."

Andy Gascho (MS'99) is a Geologist at Parsons Corporation, Kailua, HI.

Tara Hicks (MS'02) and **Paul Johnson** (MS'96) were married in February. It was also a wonderful reunion for alumni **Stephan Bergbauer, Dave Blewett, David Canine, Buffy Cushman, Mary Engels, Jennifer Engels, Todd Ericksen, James Foster, Geoff Garrison, Eric Grossman, Denise Hills and Andrew Goodliffe, Rick Holasic, Jack Kronen, Susanna Mistr, Jordan Muller, Zoe Norcross-Nu'u, Debra (Pardee) and Curt Stiffel.**



Tara is currently an outreach specialist at SOEST and Paul recently rejoined the Hawaii Mapping Research Group. They live in Hawaii Kai.

Lynn Johnson (PhD'91) teaches high school—including a course in oceanography—in San Jose CA. She also has twin boys who are 7 years old.

Timothy McCoy (PhD '94) is a curator of the national meteorite collection at the Smithsonian's National Museum of Natural History, Washington D.C. He recently had an asteroid named for him in recognition of his research in meteoritics. The asteroid is now known as Asteroid 4259 McCoy.



Honorees at the year-end Sweet Success Party, May 6, 2005. (left to right) Melody Eckmeier, Mariah Tilman, Matt Dyer, Christina Hirsch, Ken Natividad, and Stan Dalbec.

Nicholas Mitchell ('98) manages the Maui office of Geolabs, Inc.

Scott ('94) and Deanna **Moncrief** were married in 1999 and had their son, Lain, in 2001. Scott has been working in environmental geology/engineering for the past eight years. Work-related adventures include projects at former sugar plantations, military bases, and industrial facilities across Hawaii, Johnson Atoll, Guam, and Japan. He currently works for CH2M Hill in Honolulu and he still finds time to enjoy surfing, spear fishing, and deep sea fishing.

Brant Tanaka ('91) is a manager at Enviro Services and Training Center, Honolulu.

Marissa Tejada (PhD'98) is an assistant professor at the National Institute of Geological Sciences, University of the Philippines.

2000

Kimberly Artita (BS'03) and Michael Sears are married and, besides taking care of their two baby leopard geckos, they are expecting a child in December 2005. Kimi is currently in graduate school studying geomechanics at University of Nevada, Reno.

Sarah (BS'03) and Scott **Askey** are enjoying their son Thor Andrew Askey, born 27 May 2005.

Brandee (Pang) Brookman (BS'99) lives in Alexandria VA with her husband (as of March 2005), David Brookman

Erica (Klohn) ('00) and **Bobby Muse** ('97) have been happily married for three years. Bobby is a geoscientist at Weston Solutions and a licensed professional geologist. Erica has her commercial pilot license and is currently a multi-engine instrument flight instructor for Anderson Aviation at Honolulu International Airport. Bobby and Erica live in Waimanalo with their foster cat, Chilly.

Tina Mueller ('00) is an earth science teacher at Hawaii Baptist Academy.

Angela Peltier ('03) is a geologist with Mountain Edge Environmental Inc., Honolulu.

Katerina Scholz ('02) is a geology student at RWTH Aachen University.

Thomas Vana ('01) is a hydrologist for the USGS Water Resources, Honolulu.

Missing but not forgotten...

Last summer's newsletter was mailed to the following alumni, but was returned to us. We are looking for the current addresses for the following alumni.

Douglas Bergersen ('89)
John Frisbee Campbell ('66)
Elaine Demian ('81)
Floyd Ferguson ('72)
Thomas Getta ('75)
Richie Huber ('70)
Scot Izuka ('88)
Philip Jarvis ('91)
Charles Kerton ('96)
Robert Mallonee ('89)
Nirendra Maske ('68)
Anne McMillan Guy ('95)
Philippe Nasch ('96)
David Novelo-Casanova ('86)
William Paulk ('96)
Ronald Richmond ('68)
Bryan Terauchi ('84)
Brooks Wallin ('82)
Zhiyong Zhao ('98)

If you know the whereabouts of any of these alumni, please send e-mail to gg-dept@hawaii.edu, or have them contact us to update our files, and receive this newsletter.

Faculty News

F. Scott Anderson joined the UH HIGP faculty and GG graduate faculty in Fall 2002 and is a co-investigator in the UH NASA Astrobiology Institute. He is a planetary geophysicist who studies Mars and Venus using remote sensing, geochemistry and isotope chemistry, to study climate change, astrobiology, tectonics, and planetary lithospheres. He is examining Martian surface mineralogy and atmosphere using the Mars Global Surveyor (MGS) Thermal Emission Spectrometer and 2001 Mars Odyssey (M01) Thermal Emission Imaging System infrared data. He also has funding for tectonics and roughness analyses using the MGS Mars Orbiting Laser Altimeter (MOLA), which partially supports graduate student Aisha Morris. He previously worked on the MOLA and Gamma Ray Spectrometer on MGS and M01 at the Jet Propulsion Laboratory. He is now developing two prototype mass spectrometers (MS) for future missions. The first is a miniature nano-electrospray rotating field instrument for measuring fluids such as planetary ices to search for chemical and biological signatures of life and climate change. The second is a Laser Ablation Resonance Ionization Multi-Bounce Time of Flight MS for in-situ rubidium and strontium isotope analysis to potentially radiometrically date and geochemically characterize the surfaces of rocky planets. Anderson hopes to also use these devices on Earth, for example, to study the chemistry of Hawaiian streams and deep ocean environments, and to determine the age of local geologic features. A new postdoctoral student, Karen Stockstill, and a new graduate student, Mikki Osterloo, will join Anderson shortly.

Robert Dunn continues to focus on the development of seismological techniques for revealing mantle flow and melt generation processes at mid-ocean ridges and associated magmatic systems. A new anisotropic body-wave tomography method was recently used to construct the first three-dimensional image of the magma plumbing system of a slow-spreading segment of the mid-Atlantic Ridge (from the mantle to the seafloor). This image reveals that mantle melts are focused at mantle depths to the segment center and that melt is delivered to the crust via dikes, in sharp contrast to prior results from the faster-spreading East Pacific Rise showing continuous feeding of melts to larger-scale magmatic systems distributed more-or-less uniformly along the rise. In addition, Robert continues to develop surface wave techniques for imaging the mantle beneath ridges and with graduate student Andrew Delorey is examining the uppermost mantle

beneath the Reykjanes Ridge. Their results indicate that plume material from the Icelandic hotspot is spreading out broadly and deeply beneath the Reykjanes lithosphere, in agreement with recent geodynamic simulations by Garrett Ito. This year, he has an undergraduate intern (Carolina Anchieta, from Universidad Simón Bolívar, Venezuela) who is using ocean-bottom seismometer recordings to investigate micro-seismicity along the East Pacific Rise and hopefully detect an eruption at the ridge axis. Future research includes a large-scale 3-D seismic experiment along the Eastern Lau Spreading Center to image mantle flow, melting, and the shallow magmatic systems.

Sarah Fagents joined HIGP in 2002 and subsequently joined the GG graduate faculty. Her research interests lie in numerical modeling of physical volcanic processes, as well as planetary volcanism. This summer Sarah, graduate student Christopher Hamilton, and GG's Thor Thordarson will decamp to Iceland to study the rootless volcanic cone groups. These features form by explosive interaction between flowing lava and a water-saturated substrate and are thought to be analogs for the abundant small cones seen in certain areas on Mars. Understanding their formation conditions on Earth will allow Sarah and Chris (together with GG alum Barbara Bruno, '94) to map the distribution and amount of ice/water on Mars at the time of cone formation and contribute to the planetary community's goal of seeking environments favorable to the development of life. This fall (2005) Sarah will teach a graduate class on the geology of the outer planet satellites.

Gerard Fryer has been busy since the Indian Ocean tsunami of December 2004 with interviews with the news media, testimony before the State Legislature, shoreline hazard advice to development agencies, an on-line teachers' workshop on tsunamis, and a slew of public lectures on geological hazards. With the Pacific Tsunami Warning Center, Gerard has long planned a broadband Hawaiian Islands Seismographic Network that is finally going to be installed. "With the new network, if an earthquake within the islands generates a tsunami, we'll get a warning out in two minutes," says Gerard. He continues his studies of giant tsunamis from underwater landslides in Hawaii, and plans more trips to the Aleutians to study the source region of the enigmatic tsunami of 1946.

Last Fall, Gerard taught his first really large class: 120 students in GG101. To keep the students involved,

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Gerard tried a variety of off-beat approaches, including singing (about the Second Law of Thermodynamics). “They applauded, but I wasn’t very good,” he reported, so he’s taking voice lessons. Now, whenever the POST building has a fire alarm, Gerard sings Mozart arias while descending the stairs. To complete his transition to Phantom, he hopes to land a place on the chorus of the Hawaii Opera.

Eric Gaidos and his U.S. and Icelandic collaborators recently completed a biological investigation of a 20-square kilometer lake lying beneath 300 meters of ice within the Grimsvotn volcanic caldera in Iceland. They report the discovery of a distinct microbial community that inhabits this “extreme” dark, cold, and nutrient-poor environment that may be analogous to those on Mars or Europa. Eric, graduate student Angelos Hannides, postdoc Ketil Sorenson, and collaborator Frank Sansone (Professor, Oceanography) are investigating the microbial diversity and biogeochemistry of coral reef sediments. The microbial community of this biome is completely unexplored, yet may be an important piece of the puzzle of the high biological productivity and diversity of coral reefs. Eric recently launched a project to study the genetics, physiology, and development of placozoans, mm-sized tropical marine organisms that are arguably the most primitive form of animal life known. This poorly-studied form of life may contain important information about the origin of multicellular life and is a potential model organism for medical studies.

Michael Garcia is continuing to pursue research on Hawaii’s active volcanoes with his students, especially the ongoing Pu’u O’o eruption of Kilauea volcano and eight newly discovered submarine volcanoes on the west flank of Mauna Loa. A recent highlight was the completion within a 24 hour period of MS degrees by Kate Bridges and Dorsey Wanless. In collaborating with geochronologists from Kyoto University, a new paper has just been published on the ages of Honolulu eruptions with a speculation that another eruption is possible. Chris Gandy and Mike are continuing on the rejuvenated volcanism theme, determining the volumes and composition of Koloa volcanics of Kauai to help constrain models for the origin of this enigmatic volcanism. In November of 2004, he attended a volcanological conference in Chile and hopes to return this year to start a program of monitoring its active volcano Villarrica with other UH geoscientists. In January, Garcia joined a three-week field workshop in Antarctica to investigate magmatic processes in sill complexes in the Dry Valleys. It was

a remarkable opportunity to see the bowels of ancient volcanoes. When not on trips and writing papers, Mike is teaching igneous petrology (GG302), current events in volcanology (GG606) and various grad seminars including California geology.



Andy Harris (*Associate Researcher, HIGP*) and **Lucia Gurioli** (*Assistant Researcher, GG*) were married on September 25, 2004 in Portovenere, a small medieval village on the Tyrrhenian coast in North Italy.

Victoria E. Hamilton joined UH in the fall of 2002 as an Assistant Professor in HIGP and subsequently joined the GG graduate faculty. She is a planetary geologist interested in the mineralogy, igneous processes, and weathering histories of planetary surfaces. The main focus of her research is understanding the thermal (or middle) infrared spectral features of minerals and rocks and using this knowledge to identify and characterize rocks and minerals both in the laboratory and using infrared data acquired by airborne and orbital infrared spectrometers mapping Earth and Mars. She maintains a thermal infrared emission/reflectance laboratory for basic research and is an affiliate team member of the NASA Mars Global Surveyor Thermal Emission Spectrometer and Mars Odyssey Thermal Emission Imaging System science teams. She advises three GG PhD students: Will Koeppen, Romy Schneider, and Meryl McDowell.

Julia Hammer is busy moving into newly renovated lab space in POST, which will be home to the Experimental Petrology Laboratory. The room now boasts a prodigious electrical panel, improved air conditioning to dissipate heat from the furnaces, and enough compressed air outlets to impress a cadre of

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auto mechanics. Equipment will include a pressure line capable of bringing samples to high temperatures and pressures and modulating these intensive conditions to simulate magma accumulation, equilibration, and volcanic ascent. Traditionally, experimental studies in volcanology are used to determine the depth, temperature, and chemical environments of restless magma prior to eruption. Hammer and new graduate student Carrie Brugger will concentrate on dynamics of magma transport by determining the kinetics of magmatic processes. A recent NSF CAREER award will support these studies over the next five years. Patrick Shamberger received his MS (Fall 2004) for his work with Hammer on unusual xenoliths from Hualalai Volcano, Hawaii. He examined their conditions of crystallization and showed that some of the rocks represent magmatic liquids from a differentiation trend between end-member magmas that erupted from this volcano. Shamberger and Hammer plan to publish a new model of the Hualalai magmatic “plumbing system.” Hammer is also conducting an experimental study of crystallization kinetics of Fe-rich Martian magmas. The study is funded by a three-year award from NASA’s Mars Fundamental Research Program and is yielding insights into the magnetic properties of the Martian crust and the cooling history preserved in a newly discovered Martian meteorite.

Gary Huss joined the HIGP faculty in February 2005. He is a cosmochemist who studies meteorites and other extraterrestrial samples to investigate the origin and history of the solar system (e.g., presolar grains to investigate nucleosynthesis of the elements and to trace the raw materials that formed the solar system, short-lived radionuclides to establish the chronology of the early solar system, and stable isotopes and trace elements to investigate early solar system processes). Dr. Huss is leading the effort to establish a new ion microprobe lab at UHM, which will be located in the POST building basement and feature an IMS 1280 ion probe, the flagship machine of Cameca Instruments, Inc (scheduled for delivery at the end of 2005). It is intended to serve as a catalyst for interdisciplinary research in cosmochemistry, terrestrial geology, volcanology and oceanography between members of HIGP, GG, Institute for Astronomy, and the Astrobiology Institute. Stay tuned for new developments.

Patty Lee has been up to her normal activities, teaching and taking care of the undergrads, chairing a committee, organizing celebrations and just keeping track of everybody! What a task!! She taught GG



Garrett Ito and Kahlil Apuzen-Ito were married on July 25, 2004 at Kualoa Ranch, Oahu.

101 (Fall 2004) and GG103 (Spring 2005) and is still experimenting with ways to teach the classes. And, as usual, she organized the GG 101/103/170 Big Island field trips both semesters. Patty continues as the chairperson of the GG Department Student Committee and the advisor for the undergraduate students’ Geology Club. The Geology Club raises funds to support GG 305 (*Field Methods*) students who spend spring break in Death Valley. Fundraising activities include the daily coffee and muffin cart, selling SOEST and department t-shirts, buying back and reselling lab manuals, and providing food (hot dogs and hamburgers) for TG’s, etc. Patty and the Student Committee organized the grand event of the year, the department picnic, which was held on April 17 at Lanikai Park, where an earth shaking softball game between faculty and graduate students took place. Patty also does outreach to the general public and often hosts visits to the department by classes from local schools. When teachers ask for information or guidance, Patty

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helps them. When people call with “strange” questions, Patty answers them. When people send back rocks stolen from the national park, Patty takes care of the rocks. Currently, Patty and others are getting ready for the 2005 SOEST Open House in October.

Steve Martel is continuing his research on faults and fractures and participated in an AGU Chapman Conference on the physics of faulting this June. Locally, he continues to work on several levels to address rock fall hazards on Oahu.

Greg Moore continued work on the giant landslides around Hawaii, finishing a paper on the Waianae slump with a group from the USGS and working on a second paper on the Nu`uanu slide with Mike Garcia. A third paper on the seismic structure of the Nu`uanu slide is in preparation with Juli Morgan. Greg, along with Assistant Specialist Patrizia Costa Pisani and graduate students Toshi Ike, Melody Eckmier, and Ben Studer continued work on Nankai Trough seismic reflection data. Patrizia’s pre-stack depth migration clarified the structure at the toe of the accretionary prism in the new IODP drilling transect and Toshi defined the basement structure and sediment distribution on the Philippine Sea plate seaward of the Nankai Trough. Melody and Ben are working on quantifying the deformation at the toe of the prism in the Muroto 3D area using critical wedge taper theory. The NanTroSEIZE drilling proposal has been highly ranked and the first legs have been sent for scheduling, with drilling likely to happen in late 2007.

Pete Mouginiis-Mark is currently serving as the Acting Director of the Hawaii Institute of Geophysics and Planetology (HIGP), while Klaus Keil is SOEST Interim Dean. In addition to his own current research interests (which includes the study of meteorite craters and volcanoes on Mars using data from the Mars Global Surveyor and Mars Odyssey missions), Pete is helping kick-off some of the exciting new research programs in HIGP. This research brings new faculty to UH as well as opportunities for graduate student projects and new courses for undergraduates. Sasha Krot and Gary Huss are purchasing a new state-of-the-art ion microprobe for meteoritics research, Paul Lucey’s Hyperspectral Imager for the Coastal Ocean satellite instrument, Ben Brook’s monitoring of Mauna Loa volcano with GPS and InSAR, Scott Anderson’s development of a new mass spectrometer, and the School’s purchase of two new remotely-operated ocean gliders all auger great things for new science for HIGP’s faculty and students

Brian Popp continues his eclectic research interests in stable isotope biogeochemistry, such as the origins of methyl and ethyl ketones (a.k.a., alkenones) in the ocean. These unique compounds are used by the paleoceanographic community to measure past ocean temperatures (U^{K}_{37} Index) and atmospheric CO_2 levels. Recent study sites include Station ALOHA (100 km north of Oahu), the subarctic Pacific, the Bering Sea and the Gulf of California. This work is spearheaded by Richard Wallsgrove, who graduates this summer. Research also continues on the origins of nitrous oxide (N_2O) in seawater with the recent purchase of a third mass spectrometer (with NSF funding) that enables ^{15}N position determinations within the linear NNO molecule. Marian Westley and Brian are using this information to place new constraints on the origins and fates of N_2O in the Black Sea, the subarctic Pacific, and the eastern tropical North Pacific. Brittany Graham and Brian continue to study the isotope biogeochemistry of tropical yellowfin and bigeye tuna to define the trophic structure, establish an isotope-derived biogeography, and characterize large-scale tuna movements in the pelagic western, central, and eastern tropical Pacific. And, Brian did something completely different for his Spring 2005 semester—sabbatical leave in Jim Ehleringer’s laboratory (Dept. of Biology, University of Utah), where he learned terrestrial plant ecology, forensic uses of stable isotopes and brushed up on his downhill skiing skills.

Greg Ravizza is continuing his work on the marine Os isotope record with post-doc Tarun Dalai and with part-time help from Denys Von der Haar. Tarun has recently completed a high resolution Os isotope study of the Eocene-Oligocene transition from two Ocean Drilling Program sites in the equatorial Pacific, demonstrating that this portion of the marine Os isotope record can be used as a tool for global stratigraphic correlation during this time of rapid ice growth and global cooling. Denys and Greg are concentrating their efforts on the mid-Miocene sediment record to document the Os isotope response to Antarctic ice sheet expansion between 13 and 14 million years ago as a proxy record of paleo-weathering rates. They also look forward to welcoming GG alum Nicole Robinson to their group as a new graduate student. Nicole will be working on late Cretaceous paleoclimate records. Early in 2005 a new laser ablation system was installed that interfaces with their magnetic sector ICPMS, allowing for in situ trace element analyses in solid samples (from biogenic carbonates to basalt glasses and meteorites). This spring they’ve been cutting their teeth on student projects that include analyses of serpentine from mud

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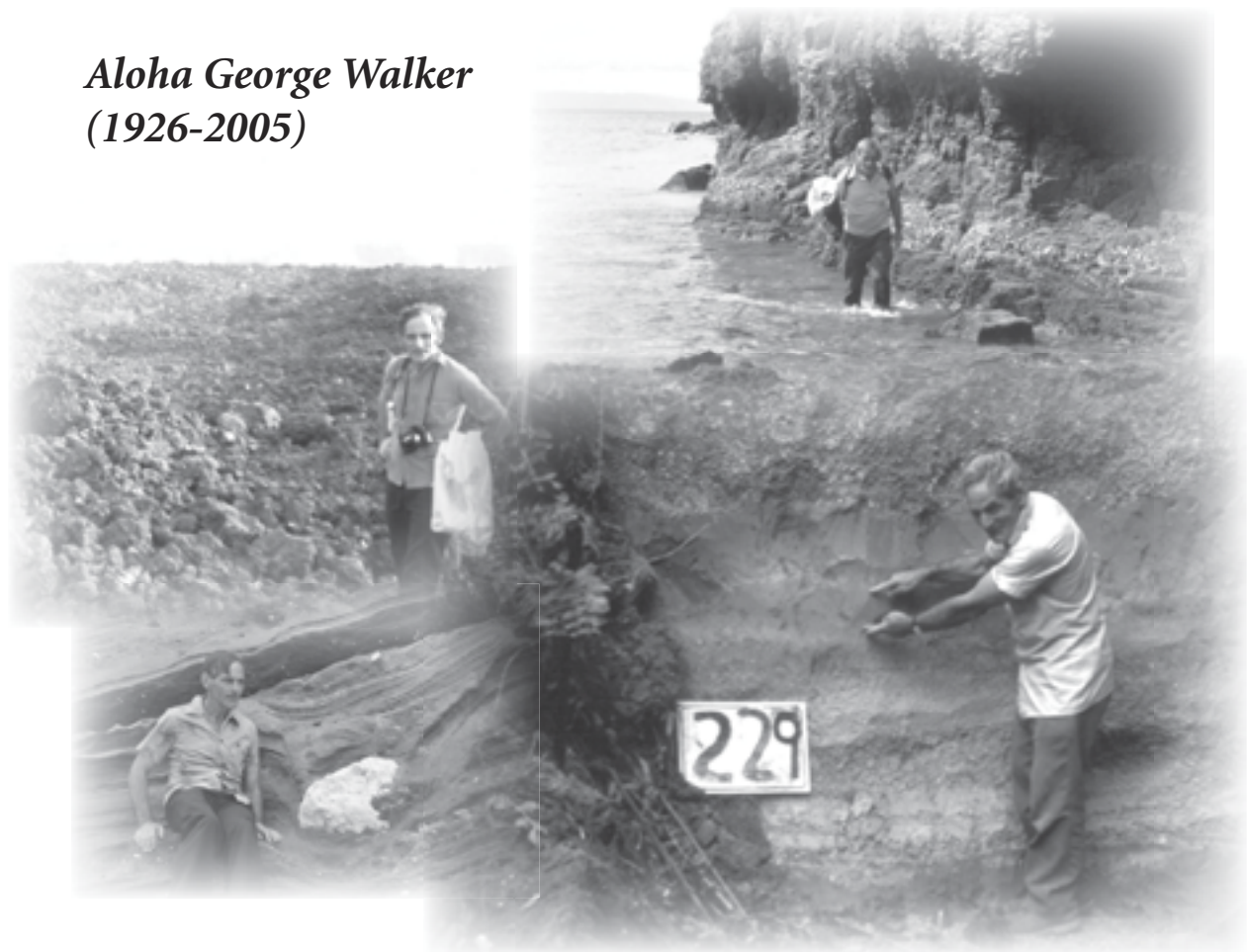
volcanoes above subduction zones and corals as proxy records of sea surface temperature. The arrival of the laser was overshadowed by the arrival of Luke Ravizza, Greg and Kathleen Ruttenberg's (Assistant Professor, Oceanography) new son in December 2004. "We are really enjoying watching him learn and grow, with the help of big sister, Elena," Greg reports.

Scott Rowland officially switched his faculty home base from HIGP to GG in November 2004. He is honored to be working in the department he got his PhD from and the GG Department is very glad he has joined them. However, it was difficult for him to leave HIGP where he'd been for over 15 years (even if it is only one floor away!). He continues teaching courses in *Field Methods*, *Remote Sensing*, and *Hawaiian Geology*, and will also be developing a couple of new courses (*GIS-for-Geologists* and a resurrection of Frank Peterson's *Work of Water*). He is looking forward to the new (but not too different)

teaching position and plans to keep studying various volcanoes and volcanic features.

Ken Rubin continues his work on submarine and subaerial volcanism in each of the major ocean basins and on the North American continent, as well as the records of relative sea level movements recorded by geochronology of coral-bearing deposits. He presented a keynote address at the quadrennial International Geological Congress (in Florence, Italy) on global and local scale compositional and volcanological variations along the global mid-ocean ridge system and their implications for crustal structure (with co-author John Sinton). Ken continues to teach our undergraduate courses in general and environmental geochemistry. This year (and going on seven years now) he and co-faculty members, Mahoney, and Pyle are gleefully awaiting the completion of the new Isotope Lab clean room facility in the POST building slated for completion in 2005.

***Aloha George Walker
(1926-2005)***



Top Ten Signs You Might Be A Geologist

10. You have ever had to respond “yes” to the question, “What have you got in here, rocks?”
9. You have ever taken a 15-passenger van over “roads” that were really intended only for cattle.
8. You have ever found yourself trying to explain to airport security that a rock hammer isn’t really a weapon.
7. Your rock garden is located inside your house.
6. You have ever hung a picture using a Brunton as a level, and your rock hammer as your hammer.
5. Your collection of beer cans and/or bottles rivals the size of your rock collection.
4. You consider a “recent event” to be anything that has happened in the last hundred thousand years.
3. Your photos include people only for scale and you have more pictures of your rock hammer and lens cap than of your family.
2. You have ever been on a field trip that included scheduled stops at a gravel pit and/or a liquor store.

And the #1 sign you might be a geologist

1. You have ever uttered the phrase “have you tried licking it” with no sexual connotations involved.

Your turn!

Help us stay in touch with you. Please update your address and other information using either the form below or online at <http://www.edu/GG/alumni-input.html>. We would also like to hear if you’ve changed jobs, received a promotion, or experienced any notable developments in your professional career or personal life. Please let us know so we can share them with others.

Name _____ Semester/Year Graduated _____

Mailing address _____

Telephone/FAX/E-mail _____

Firm/Organization _____

How would you prefer to read our newsletter? regular mail e-mail our website

Would you like to be able to contact other alumni through an alumni homepage at the G&G website? If so, is it okay for us to list your name and e-mail address? Yes No

Your news:

SOEST Open House this October!

The School of Ocean and Earth Science and Technology at the University of Hawaii at Manoa is pleased to announce that the 8th SOEST Open House will be held on Friday, October 14, 2005 (9:00 a.m. to 2:00 p.m.) and Saturday, October 15, 2005 (11:00 a.m. to 2:00 p.m.). On behalf of the Dean of SOEST and the Open House Planning Committee, we would like to invite you to attend this year's Open House.

SOEST is home to the academic departments of Oceanography, Geology and Geophysics, Meteorology, and Ocean and Resources Engineering, as well as several related research institutes. SOEST's graduate programs in these sciences are highly ranked nationally and SOEST brings in close to \$70 million dollars in research funding per year. The SOEST Open House presents a diverse array of entertaining and educational "hands-on" activities, which highlight the research conducted by our faculty, students, and staff. You will learn about volcanoes, tsunamis, El Niño, planetary exploration,

hurricanes, coastal erosion, and marine ecosystems to mention just a few topics, through a variety of videos, posters, and interactive demonstrations. Visit state-of-the-art laboratories and hear about cutting-edge research from the scientists who are making the new discoveries!

This year's Open House theme will be "**SOEST The Hot Spot for Cool Science!**" Please look for program updates at our Open House website.

<http://www.soest.hawaii.edu/openhouse/>

For more information, please contact Tara Hicks Johnson at 956-3151; email: hickst@hawaii.edu. The SOEST Open House is only offered every two years. We hope that you will be able to join us for this great event!



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Address Correction Requested



**SOEST Open House—Hot Spot for
Cool Science, October 14-15, 2005**