

Summer Field Camp class at California Springs, Nevada



## *Greetings from the Chair – Mark Hemphill-Haley*

It is hard to believe I am now in my third year as department chair. The hallways of Founders and Van Matre are pretty much the same as they have been for the past 50 years (that's right, this is the fiftieth anniversary of HSU Geology!). There are new student posters on the walls but the walk down Founders is still a long, straight track! I'm sure you all remember it.



Mark HH at Rock Creek Basin during GEOL 554 trip

So, we knew it would happen but it is hard to believe that Andre Lehre is now fully retired as of the end of last spring semester. I will always remember his classic gait down the hallway, students trying to keep up with him in the field, and his masterful teaching of courses in geomorphology. Fortunately, he volunteers to help out with field trips so we still get to see him from time-to-time.

Sue Cashman and William Miller started the FERP process this fall which places them at half-time teaching. William is teaching in the fall (paleo is now a fall class) and Sue is teaching in the spring.

We've made some long overdue changes to our curriculum starting this fall. We expect this will increase the potential for our graduates to have careers in earth sciences for years to come. First, we've made changes to the BA in Geosciences. It now requires a minor or an approved set of courses in a discipline. This provides a level of expertise in an additional field along with their geoscience skills. For example a student could have additional breadth in Geospatial Studies (GIS), Math, Physics, Oceanography, Chemistry or even Journalism or Business.

We realize the HSU Geology degree is extremely rigorous and it will now solely be a B.S. degree. We will strongly encourage those students who are interested in and capable of conducting research to complete a senior thesis which will be acknowledged on their transcript and, of course, in their letters of recommendation. Those students who show strong proficiency in our newly developed Research Methods course will have the opportunity to pursue the senior thesis.

It has been such a pleasure to work this past year, not only with our existing tenured faculty, but also with our tenure-track faculty, Melanie Michalak, Jasper Oshun and Brandon Browne. Their energy and new ideas have been wonderful. Thus far we have worked on curriculum changes, new field camp locations, and the graduate program. There are big changes happening with their labs as they are developing their research programs!



Small but highly utilized GIS lab in geology department



Jasper (blue shirt and baseball cap) with geomorphology students in community forest

Our lecturers, Amanda Admire and Jason “Jay” Patton have also been great for our department and students. They have been carrying heavy teaching loads while, at the same time, also working on their research, Amanda primarily on her projects in Crescent City Harbor and Humboldt Bay to use Acoustic Doppler Current Profilers (ADCPs) to measure ambient currents in both bays and tsunami currents when they occur. Jay is involved in offshore drilling projects related to analyzing turbidites associated with subduction zone earthquakes and estimation of relative sea level change in Humboldt Bay.

Our staff are, as many of you already know, the best in the world. Laurie Marx still makes sure the department runs smoothly despite my constant efforts to derail things. She provides immeasurable help to the students and just ensures everyone is able to work as efficiently as possible. Steve “Beaver” Tillinghast is still the department technician, field trip leader and field camp manager/teaching assistant. It is always fun to be on a field trip or in

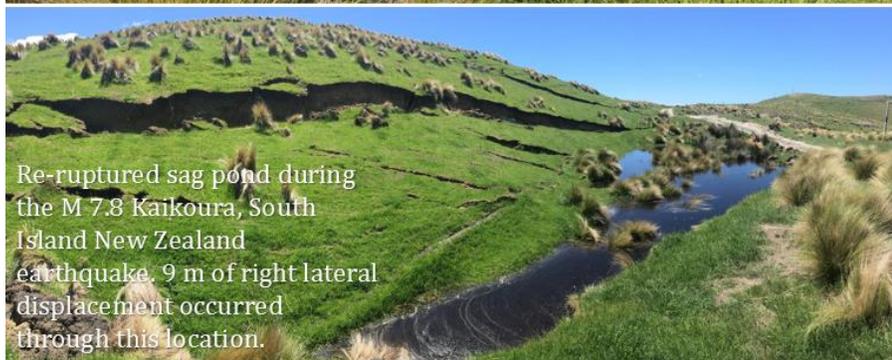
a camp with Beaver there, the students love him and he's always there to make sure broken things become unbroken.

Within the last year some of my students have moved on to new things. Former graduate student Sylvia Nicovich is now at Montana State University working on her PhD; Jessica Vermeer is at the Washington Dept. of Natural Resources (DNR) working for HSU geology alumnus, Michael Polenz. Michelle Robinson is now working for local firm Pacific Watershed Associates. I am working with Robert Cowdrey and Bud Burke presently to develop a map of the elusive aeolian cap (AKA Black Cap) that covers many surfaces along the Pacific coast. By the way, as a note in the past 13 years 100% of our students who have earned a MS are working in earth-science-related jobs (that's 39 students. That is phenomenal!

In October Kevin Furlong (Penn State Univ) and I co-hosted an NSF EarthScope workshop at HSU [http://www.earthscope.org/research/synthesis\\_workshops/mtjo](http://www.earthscope.org/research/synthesis_workshops/mtjo) We held the three-day session at the Telonicher Marine Lab in Trinidad. It included a one-day field trip across the fold and thrust belt southward to the MTJ. Researchers from R1 universities (Oregon, Oregon State, Boise State, Univ, Nevada-Reno, Berkeley, UC Santa Barbara) and USGS along with HSU scientists participated in this opportunity to develop an HSU-centered observatory to focus study on the transition from the San Andreas to Cascadia plate boundaries.



HSU geology alumnus Russ Van Dissen ('83) along M 7.8 surface rupture of Kekerangu fault, South Island, New Zealand. At this location approximately 9 m of right-lateral displacement and lesser reverse.



Re-ruptured sag pond during the M 7.8 Kaikoura, South Island New Zealand earthquake. 9 m of right lateral displacement occurred through this location.

I recently returned from an unanticipated trip to South Island New Zealand as part of the Geotechnical Extreme Events Reconnaissance (GEER <http://geerassociation.org>) rapid response team for the Nov 14, 2016 the M 7.8 Kaikoura New Zealand earthquake. The surface faulting associated with this earthquake are complex and the displacements are enormous (up to 13 m right lateral slip in one location). I worked there with Russ Van Dissen (HSU, 1983) who is a senior geologist with GNS Science out of Wellington. Russ mapped the principle faults involved in this earthquake back in the 80's during his MS thesis at Oregon State and did an amazing job.

Just prior to the earthquake he submitted an abstract to the New Zealand Geological Society regarding the large late Quaternary slip rate on the Kekerangu fault, one of the faults that ruptured after his abstract was submitted. Among the co-authors are a host of HSUers including Bud Burke, Steve Bacon, Ronna Bowers, Joanna Redwine, Diane Sutherland and Steve Tillinghast. These folks were in New Zealand working with Russ in 1999.



Mark HH (right) and Russ Van Dissen (left) stand along right margins of fault paleoseismic trench that Russ and co-investigators excavated across Kekerangu fault only months before M 7.8 earthquake. Trench offset about 9 m right-laterally.

Field camp this year was taught at California Springs in the White Pine Range of Nevada by Jasper Oshun and me. We got trapped in camp for a day from snow - always a tradition! It was a great camp, amazing how I keep learning more each time out there.

On a sad note, we may no longer get to map in the Roberts Mountains because a new gold mine has been proposed and the area we have mapped in for the large project is now within the claim. We are looking into whether this will be the end of mapping there. A lot of folks have tramped over that terrain for many years. It has been a favorite of ours.

We've realized that we need to have more than two locations to hold field camp, so, this summer Brandon and Melanie will be taking students to southwest Montana! They'll head out about a week later than usual. They have already set up mapping projects. It sounds like an amazing place to study geology.

It is always great to hear from those of you who have passed through the doors of HSU geology. I am continually amazed at the reputation and respect our graduates have nationwide, and in fact, worldwide as geologists and geoscientists. We still strive to provide the best education possible for our students, still expose them to the amazing geology here and nearby and try to ingrain in them the importance of being a scientist!

We also thank you very much for supporting the department. Yes, there are still budget cuts and we still work to provide the best for our students. With your help we are able to bring guest speakers from outside Humboldt for our colloquium, we are able to be one of the only departments with field vehicles and we can now provide scholarships for our field camp and geoscience capstone students to offset the ever-increasing costs they have to bear. So, thank you.

## *Faculty/staff updates*

### ***Kenneth Aalto***

I participated in the 2016 International Geological Congress convened this August in Cape Town, South Africa, and presented a paper in the History of Gondwana Studies session: Hermann Karsten, Pioneer of geologic mapping in northwestern South America. Post-meeting was a 10-day train excursion, The Great Southern African Geosafari: Cape Town to Victoria Falls. Lots of geology and anthropology; lots of fun.



Folded Paleozoic Cape Supergroup

### ***Amanda Admire***

Working in the Geology Department is an extremely rewarding experience and opportunity!

As a Research Associate, I have continued to work on the Physical Oceanographic Real-Time System (PORTS®) with Lori Dengler, Jose Montoya and our colleagues with the Humboldt Bay Harbor Recreation & Conservation District, Chevron Corp., and NOAA National Observing System. A main goal of PORTS® is to collect oceanographic and meteorological data that can be used to aid navigation in harbors and ports. Systems are installed in 29 locations throughout the US, and each system is tailored to meet the needs of each harbor. Our system in Humboldt Bay includes Acoustic Doppler Current Profilers (ADCPs) that measure the currents at several locations throughout the bay. We work with several

colleagues to maintain and service the ADCPs in Humboldt Bay, and we have created a customized PORTS page that posts the oceanographic and meteorological data in real-time so that those who frequent the bay can have an overall picture of the currents and conditions in the bay. You can access the Humboldt Bay Mariners PORTS page at [www.weather.gov/eureka/marine/ports](http://www.weather.gov/eureka/marine/ports) or by using our QR code.



As a lecturer for the Geology Department, I continue to teach the online GEOL 106 class (Earthquake Country) and a face-to-face GEOL 106. A new opportunity this fall was to lead the GEOL 465 Geosciences Senior Project course. This is the capstone course for our Geoscience Majors and it involves a learning service experience that is directed at a geoscience topic or problem. My five very motivated and enthusiastic students (all seeking to become science teachers in the future) worked with 6th grade science classes at Sunny Brae Middle School to bring geoscience into the classroom. Their projects involved individually developing lesson plans on a geoscience topic, and as a group they worked to help increase community and campus awareness and participation in the Great Shake Out.

To engage the community our Geoscience students participated in Pastels on the Plaza at the beginning of October. Special thanks to the Redwood Coast Tsunami Work Group for their donation that paid for the square. The GEOL 465 students also worked to involve the campus community in the Great Shake Out by tabling on the quad and spreading the message of preparedness and practice. Lastly, an aspect of their collaboration with Sunny Brae Middle School was to bring the students to campus to participate in the Great Shake Out. This field trip was extremely successful! Not only did our Geoscience students get the Sunny Brae Middle Schoolers practicing their drill down in Redwood Bowl but they also had an opportunity to work through some of the lesson plans they developed. Below is a collection of photos from these events.



Events our Geoscience students have completed this semester. Top row (L-R): Pastels on the Plaza square, Great Shake Out campus outreach, Sunny Brae Middle School students visiting campus to learn about Shake Out, and the Great Shake Out drill in action in the Redwood Bowl. Bottom row (L-R): Earthquake Preparedness Lesson activities, Rocks & Minerals Lesson hands-on lab, and GEOL 465 Fall 2016 students – Brent, Raven, Julie, Jesse and Randi]. Photos courtesy of Humboldt State University, Amanda Admire and Sarah Pennisi.

## **Brandon Browne**

Hello friends of HSU geology! Here are a couple of the highlights from spring and fall 2016... My first MS student at HSU, Mark Szymanski, started this fall. He and I will be collaborating with colleagues at the University of Colorado and University of Oregon to measure radiogenic and stable isotope ratios of basalts from the eastern Sierra Nevada as a means of looking at the role of crustal thickness on the formation and evolution of mafic volcanic fields. Before HSU, Mark earned his Geology degree at CSU Chico, completed the 2015 HSU field camp in the Roberts Mountains, and engaged in a NAGT project with the USGS looking at hot springs in Yellowstone National Park. Welcome Mark!

Raul Becerra, Robert Cowdrey, and Nick Richard all successfully presented their senior thesis projects and earned their BS degrees last spring – congratulations! Raul is on the job hunt, Rob is now a MS student with Mark HH and Bud here at HSU, and Nick is a MS student at New Mexico State Univ. I'm now working with James Sainsbury on his BS thesis project on Miocene ignimbrite deposits in Picacho Mountains of SE California and western Arizona and planning igneous-related thesis projects with Sarah Pearce and Kelsey Walsh.

Mark HH enlightens GEOL 554 students on subtle glacial deposits in McGee Creek



Brandon refreshes GEOL 554 student memories on how to identify sphene and epidote in granodiorite near Rock Creek – a necessity when mapping intrusive contacts!



I co-taught Advanced Field Methods with Mark HH and Steve Tillinghast in August. We mapped faulted moraine deposits at McGee Creek, an igneous intrusive complex in the

Volcanology students examine spatter cones and associated basaltic lavas in Lava Beds NM



Rock Creek basin, and Quaternary lavas, till, and pyroclastic rocks near June Lake. These were very challenging projects and am proud of how hard the students worked.

I also taught a new HSU course – Volcanology – in the fall. A highlight of the course was examining a variety of volcanic deposits and structures resulting from different volcanic eruption styles near Medicine Lake, Lava Beds NM, and Mount Shasta on a 3-day field trip in September.

On a final note, if you happen to find high T and P metamorphic rocks such as sillimanite or kyanite schists or gneisses, granulite, or eclogite, can you please send them my way? Petrology and Mineralogy students and I would appreciate it! Thank you!

## ***Sue Cashman and Harvey Kelsey***

Harvey is part of a team of researchers investigating active faulting and folding in central Washington in the region of the Yakima folds. They're combining geophysical methods and new cosmogenic dating techniques with good old fashioned geologic mapping and detailed stratigraphic work, and are developing an interesting picture of post-Columbia River basalt deformation.

Sue is enthusiastic about a new collaboration she is developing with co-investigator Melanie Michalak and colleagues at Oregon State University, Penn State University, and junior high school teachers at Klamath-Trinity Unified School District. The study aims to unravel the drivers of lithosphere-scale tectonics in the southern Cascadia forearc by



Harvey and Sue helping with a paleoseismology study of the Canyon River fault in southwestern Washington, October, 2016

looking at patterns of rock uplift and exhumation. Participation of junior high school teachers in the research, and of university students in developing and teaching related projects for middle school students, are core components of the project.

Sue started the "Faculty early retirement program" this year. Operationally this means that she is teaching half-time with no classes in the fall, and full-time teaching in the spring.

It was great to see so many HSU geology alumni at the 2016 Geological Society of America meeting in Denver - presenting talks and posters, leading field trips, and engaged in many different geologic endeavors. The next GSA annual meeting will be held in Seattle (October 22-25, 2017), and should be accessible to lots of current and former HSU geologists. Harvey is a co-chairman of the field trips committee for the Seattle GSA; a wide variety of field trips will be offered, so many of you might want to factor this meeting into your long term planning.

Sue is the vice chair of the Cordilleran Section of GSA (not as interesting as the title might suggest). The 2017 GSA Cordilleran Section meeting will be held in Honolulu, May 23-25. If you are one of the lucky folks able to attend the meeting, please consider volunteering to judge student posters - supervising judging and awards for student presentations is one of the responsibilities of the vice chair.

## **Lori Dengler**

Entering the second year of emeritus status and still finding plenty to keep me busy. I currently have four active contracts and one finishing up and come into campus a couple of days a week.

One of the benefits of not being tied to an academic calendar is being able to travel. In March I spent two weeks in Japan – splitting it evenly with work and pleasure. The pleasure was a 6-day trek along the Kumano Kodo traditional pilgrimage trail south of Kyoto staying at traditional inns along the way. The work was giving the keynote talk at the Tokyo National Museum commemoration of the 2011 tsunami (see photo). The talk is posted at <http://humboldt-dspace.calstate.edu/handle/10211.3/179275>.

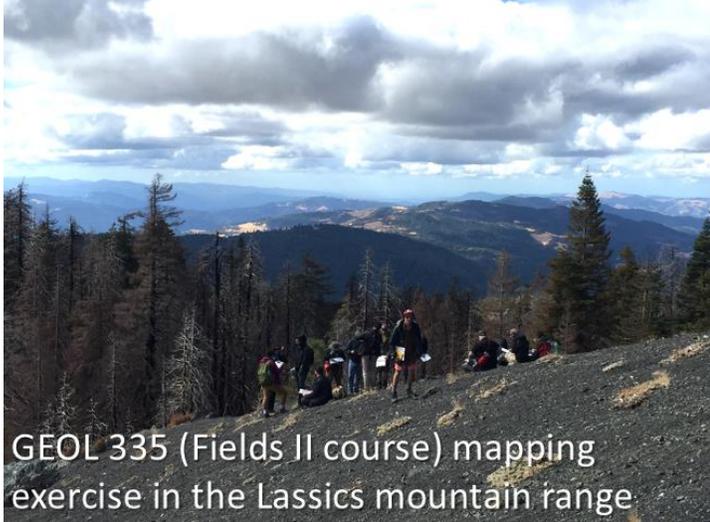


Our little tsunami book continues to make waves. “The Extraordinary Voyage of Kamome: A Tsunami Boat Comes Home” was published in November 2015 – the first publication of HSU Press. It is now in its third printing and is available in Humboldt and Del Norte bookstores, gift shops and museums and on Amazon. I had an amazing 7-day book tour in January with co-author Amya Miller who joined us from Japan and illustrator Amy Uyeki. We visited three states, met with two Japanese Consul Generals, did readings at six schools, two museums and four other venues. In April I got a grant from the California Seismic Safety Commission to develop web-based activities to accompany the book. The first of those activities is soon to be released – a Japanese-Spanish translation of the book. HSU geology senior Hector Flores provided the Spanish translation – an accomplishment noted in his Student Award for community outreach. More about the book and where to find it at <http://humboldt.edu/kamome/> and on facebook at [www.facebook.com/kamomeboat](http://www.facebook.com/kamomeboat).

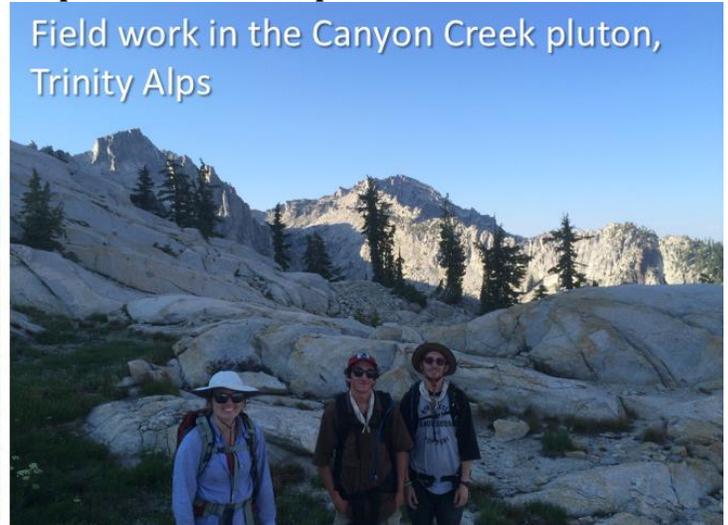
In November, I started a new career of sorts. I now have a bi-weekly column “Not My Fault” with the Times-Standard. I’ve now completed two columns and am wondering about the sanity of volunteering for this duty. If you’ve got any great ideas for a column – please email me.

## **Melanie Michalak**

This past year was the most enjoyable and successful year for me yet. In the past year, I've continued to teach General Geomorphology, Earthquake Country, General Geology, Field Methods and the Spring Break Geology of the Western US course. Pictured below is a field photo from my GEOL 335 (Fields II course) mapping exercise in the Lassics mountain range. Due to a wildfire there in 2015, the outcrop and contact exposures are excellent. I've



GEOL 335 (Fields II course) mapping exercise in the Lassics mountain range



Field work in the Canyon Creek pluton, Trinity Alps

also started two new research projects in the past year; i) a collaborative effort with Sue Cashman and others (Kevin Furlong-Penn State; Eric Kirby- OSU) investigating the subduction character of the Gorda Plate and how it may influence uplift of the Klamath Mountains, and ii) investigating the provenance of the Pliocene-Pleistocene fluvial deposits in the Humboldt Coast using detrital zircon geochronology. Pictured below are two field photos from field recon work with students Taylor Team and Ryan Levinson in the Canyon Creek pluton in the Trinity Alps, and Olivia Helprin and Travis Esquivel taking sand samples from the Prairie Creek Formation along Gold Bluffs road in Prairie Creek State Park. I look forward to seeing these projects materialize into senior thesis projects and presentations next Fall at the GSA meeting in Seattle. I hope to see many of you at the meeting.



Olivia Helprin and Travis Esquivel taking sand samples from the Prairie Creek Formation along Gold Bluffs road in Prairie Creek State Park



My husband and I continue to enjoy all of the beautiful parks and trails with my running habit. At the end of last year I trained specifically for a 100 mile foot race in the

Sierran foothills and used the opportunity to raise money for the HSU Food for Thought program, which supplies students with access to a food pantry on campus. Many people in the HSU Geology community donated to this cause- thank you! I love being a part of the geology community and the greater community of Arcata and I can see why so many of you have treasured this place.

### ***Jasper Oshun***

Now that I have taught field camp, the Geology capstone course, I feel like I am truly part of the HSU-Geology community. I traveled out to California Springs, near the abandoned mining town of Hamilton, to instruct the second half of field camp (Mark



California Springs Field Camp

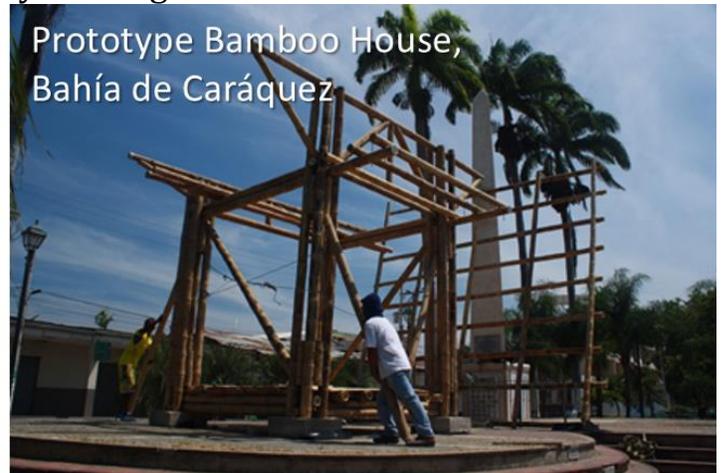


Hector Flores: mapping the geology of the Basin and Range

Hemphill-Haley was the instructor for the first half). We had an excellent crew composed of head TA/camp manager Steve Tillinghast, TA's Mindi Curran and Ben Erickson, and camp cook/HSU Geology Undergraduate, Mallory Garcia. 11 HSU students, and one student from CSUEB mapped an extent of approximately 20 square miles across rugged terrain. From careful observation and field measurements, students pieced together a story that told a geologic history that spanned over a quarter billion years. The group of students impressed me with their sharp field mapping skills, and their ability to think across 4 dimensions to put together a geologically sound history. Spirits remained high throughout camp. After a wet year, the wildflowers were particularly beautiful and the wild horses made a few rounds across Moke Moke above camp. Our department vehicles performed valiantly. Lily, especially was a champion. She is unfortunately nearing the end of her life.



Tensional Cracks due to April 16, Mw 7.9 Earthquake, Ecuador



Prototype Bamboo House, Bahía de Caráquez

Just before field camp I traveled to Bahía de Caráquez, Ecuador to assist my brother and friends in earthquake relief. I had a ticket, and was planning to lead a group of UC

Berkeley/HSU students to investigate the role of root strength in adding cohesion to soils, but the earthquake cancelled the student trip. I decided to travel anyway, and was on the ground for two large aftershocks (Mw 6.8 and 6.9). I assisted the municipality of Bahía in mapping out extensional fissures, and spent the rest of my time discussing earthquake mechanisms with locals, and lending a hand at bamboo building workshops organized by my brother. Bamboo is an earthquake resistant building material that grows rapidly in the wet and warm climate to the north of Bahía. Hopefully, the city will rebuild using this sustainable and strong material.

This fall we have had a particularly vibrant colloquium that has brought in researchers from across the country. Melanie Michalak has done a fantastic job organizing the speaker's visits, including a brown bag lunch in which our undergraduate and graduate students can discuss educational and career goals with the speaker. Our students have expressed gratitude for these informal discussions, and we hope the networking might lead to future job or educational opportunities for our graduates. As always, the budget for colloquium remains tight, and we hope that we can maintain the high quality talks and visits of this semester.

### ***Jason "Jay" R. Patton***

I have been quite busy this past year teaching and doing some research.

Last year I got to teach some exciting classes at HSU including Sedimentary Geology, Quaternary Stratigraphy, Solid Earth Geophysics, Field Methods II, and a General Geology Lab for Dr. Jasper Oshun. In addition, I taught two classes at College of the Redwoods: Historical Geology and Environmental Geology. These were all new classes for me to teach, but the highlight was teaching classes that I took from Drs. Ken Aalto (Stratigraphy and Sedimentation), Bud Burke (Quaternary Stratigraphy), and Lori Dengler (Geophysics). I have continued to work on our U.S. Fish and Wildlife funded study to evaluate the tectonic and geodetic contributions to sea-level rise in northern California (in support of our Humboldt Bay Vertical Reference System Working Group). We completed this funded phase of our project in September and are seeking funding for phase II. We will be submitting our results to Geophysical Journal International. Our transdisciplinary collaborative project is summarized here: <http://hbv.cascadiageo.org>

I was lucky to be invited to participate on two research cruises this year. These cruises were both turbidite paleoseismology cruises. In May and June I went to core along continental slope and subduction zone trench sites along the central and northern Lesser Antilles. We collected over 60 piston and box cores in 5 weeks. I participated on the first 3 week leg of the cruise aboard the French vessel, the N/O Pourquoi pas? I got to work with the chief scientist Dr. Nathalie Feuillet to select core sites using seismic reflection data and using sediment routing analyses with bathymetric maps. I got to work with Dr. Christian Beck (sedimentologist) by describing cores in the core lab.



Based upon preliminary analysis I conducted on the cruise, this project shows promise to result with a long record of subduction zone earthquakes.

The second cruise took place for 12 days in November of 2016. I worked with Drs. Phil Barnes (NIWA) and Jamie Howarth (GNS) on the R/V Tangaroa to collect piston and multicores along the Hikurangi subduction zone offshore of the east coast of New Zealand. We had excellent weather and collected cores at our key sites during the first week. Then, there was an Mw 7.8 earthquake which had a complex surface rupture. We modified our plans to collect cores (looking for the M 7.8 seismoturbidite) along with multibeam bathymetric and subbottom profile data to search for evidence of surface rupture. We found both sedimentary and geophysical evidence for the earthquake. I look forward to continuing to collaborate with my new colleagues in France and New Zealand to develop long and short term records of earthquakes at these plate boundaries. I presented educational material and scientific results about both cruises on a website here: <http://humboldt-jay.blogspot.com/>



To top it all off, my coauthors (Goldfinger et al., 2012) and myself were the recipients of the Geological Society of America, Quaternary Geology and Geomorphology Division's Kirk Bryan Award at this year's GSA annual meeting in Denver, CO. The (two!) award nominations were based upon our publication: USGS Professional Paper 1661-F, Turbidite Event History—Methods and Implications for Holocene Paleoseismicity of the Cascadia Subduction Zone. Dr. Chris Goldfinger (who contributed the bulk of the work on this publication) is also an HSU alum. He holds a joint Geology and Oceanography undergrad degree from HSU.

## ***Steve Tillinghast***

It has been an exciting year, and a period of transition as new faculty settles into the Department. I am working with Brandon, Melanie and Jasper to set up their research and office space. We also continue to explore new places, and ways, to run our summer field camp. Looks like this year we will be running camp in western Montana.



We are also excited about our newest vehicle purchase! After 17 years, it's time to put Lilly out to pasture. We selected a brand new Ford Expedition SUV to replace her. We expect delivery early next year. Your donations helped make it happen!

## ***Other staff news***

- Bud Burke remains active with scholarship and mentoring as he advises several in-progress graduate students as well as new MS student Rob Cowdrey with Mark HH
- William Miller is in his first year of HSU's Faculty Early Retirement Program (FERP), but continues to teach paleontology and other courses as well as describe trace fossils in the southern Appalachia.
- Laurie Marx continues to play an essential role in our department. We are so very lucky to have Laurie as our Department Coordinator!
- Andre Lehre completed his final year of the Faculty Early Retirement Program (FERP) and is now officially emeritus. Fortunately, Andre continues to offer guidance to students and faculty on geomorphological projects
- Kerry Sherrin, our Department Coordinator in 2011-12, continues to work Lori on earthquake and tsunami outreach activities – thanks Kerry!

## ***Student Voices... HSU Geology Club***

### **Thoughts on entering the HSU Geology department...**

"A lot of us came from all across the state specifically to come to Humboldt for the geology program because it is so field-based. I was blown away by how inclusive the department has been and how helpful and accommodating in helping me to tailor my education and career path." - Travis Esquivel, Orange County, CA

"I love the hands-on learning experience you don't get from other schools. The transition to Arcata was intimidating until I met the geology students and department. The professors

and geology students were so welcoming it was easy to adapt to a new environment." - Amy Maharidge, Warrenton, VA

"The first geology club meeting I went to, I felt so welcome and met people who would become my close friends." - Amy Romano

### **On field-based education ...**

"I feel like I get the most learning experience out of the field trips, and I get real life experience working in the field that puts me ahead." - Paige Preston, Folsom, CA

"Watching the sun rise over the Eastern Sierra on a week-long field excursion, John McPhee's 'trap door' analogy latched into place. Every professor goes the extra kilometer to motivate and engage the student body ensuring that such moments are a common component of our Earth Science educations. It's an honor to be a part of the continuing legacy of Humboldt State Geology." - Sarah Pierce, Santa Cruz, CA

"I love that we are always out in the field, learning skills we'll actually use in our careers, as opposed to always being in a classroom." -Rachel Craig

"I love the amount of field work experience that I get in all my major classes. The ability to transfer lectures to real life situations is invaluable." -Daniel Ashman, Long Beach, CA

### **Thoughts on Colloquium...**

"My favorite part about colloquium is that things we learned in class, when you hear it from a professional, I realized how applicable what I'm learning is. And understanding that is empowering and makes me realize how much I've learned." -Amy Maharidge, Warrenton, VA

"Colloquium provides students with the opportunity to make connections with professionals outside the department." -Desiree Otilio, Encinitas, CA

"Going to the colloquium talks has helped me model my own presentations in my classes." - Daniel Ashman, Long Beach, CA

"Colloquium was helpful for me personally because I was able to maintain contact with one of our speakers who helped me get my stuff together for the GIT (geologist-in-training) exam after I graduate." -Amy Romano

### **Thoughts on being an HSU Geology student...**

"Having access to the GIS lab has allowed me to expand in different fields and do an innovative student thesis about the geology of Humboldt County that I couldn't have done without it. One of my favorite experiences was being able to present the work I did while I was at HSU." Evan Hartshorn, Honeydew, CA

"I really like the open-door policy geology professors have adopted to allow first-generation college students like me be able to pick their brain and ask questions about how I can develop my career as a scientist." - Héctor Flores, Orange County CA

"During my time spent in the HSU geology department, the accessible faculty, small class sizes, and abundant field trip localities has facilitated the development of a skill set I'm confident I will use throughout my career." - Jared Walbert, Roseville, CA

"Humboldt geology is the best because we are on a first name basis with all of our instructors in their office doors are always open to help." - Tyler Cole, Cazadero, CA

"The Geology Department is filled with intelligent, amazing people who are always looking out for you and rooting for you. They are willing to do whatever they can in order to make sure that you get to where you need to be. This department also makes you feel as if you are a part of a family." -Elizabeth Nakagawa, Bakersfield, CA

"The HSU Geology Department instilled a feeling of belonging and pride in me from the moment I arrived. This experience has been unique in my college experience and I wouldn't trade it for anything." -Randi Ring, Ventura, CA

"The students of the HSU Geology Department are incredibly dedicated to their major because they have great examples of dedication in their department faculty who are interested not only in their work but in their students as well." -Raven Palomera, Pasadena, CA

### *And now, a word from HSU Geology Alumni*

#### **Mike Diggles (BA Geology, 1976)**

I finished my BA in Geology at Humboldt in 1976 and started work at the U.S. Geological Survey in Menlo Park in an office in Building 2 in 1977. I'm now writing about being at the U.S. Geological Survey in Menlo Park from my office in Building 2. Oh, OK... I had several appointments and moved around campus among several buildings in the last 39 years but it makes a good (and true) story. I've worked in mineral resources/mineral hazards (also my MS at SJSU), written a bit about earthquakes and volcanoes, was the lead geologist on the Sierra Nevada Ecosystem Project, I've done a lot of argon dating, and mapped in a handful of western States. I've published a bit over 100 papers, helped a lot of other folks get their research in print or online, and currently am coauthor with Jim Moore, Bill Evans (both USGS), and Karin Klemic (USFS) on a paper on saline springs in the Sierra Nevada. I got my 40-year pin last March because they count my time on Forest-Service fire crews and driving tugboats in the Army. Best of all, my boss presented me with that pin in front

of 30 other geologists in a bar. My wife Deanna is an RN at UCSF and my daughter Maurie is finishing her thesis for an MSW at CSUN.

### **Sylvia Nicovich (BS Geology, 2012, MS Environmental Systems – Geology, 2015)**

Graduate Women in Science and Engineering



Our goal is to support female graduate students in science, social science, math and engineering by providing opportunities for both professional and social development. WISE has been a treasured part of the Montana State University community in the past and we are excited about its return!

<http://www.montana.edu/wise/index.html>



**Sylvia Nicovich** is a PhD student in Geology, focused on Quaternary and process geomorphology, stratigraphy, and sedimentology of alluvial fans. Sylvia is working on her dissertation in the high desert of southern Colorado's San Luis Valley. Her field-based research, funded through the USGS and NASA's Montana Space Grant Consortium Fellowship, will lead to a greater understanding of land forming and modifying processes, with auxiliary contribution to the improvement of hazard mitigation for applicable environments.

### **George Fitzgerald (BS Geology, 1968)**

One day while working 800 feet underground as a mining geologist, I got to thinking about what is true success in life and could I write about it.

Years later I published my book "Budget, Budget, Budget: A New Way to Find Peace in Your Life" by George FitzGerald; found at [Amazon.com/books](http://Amazon.com/books).

The theme of the book is that you can find inner peace by taking care of yourself physically, emotionally, spiritually, mentally, and financially; but knowing when to ask for assistance. I discuss each of these using examples from teenage through adult and retirement stages of life. Many of the examples are from my years as a geology student at Humboldt State ... and follow up from some of the life lessons I learned while taking classes and using methods taught by Doctors Longshore, Kilmer, and Young in the mid to late 1960s as I became the first geology graduate from our dear Humboldt ... years I will always treasure. One of their best teachings was to always get data, data, data ... and then interpret it ... Keep the horse in front of the cart!!!

I hope you look into my book!!!

**J. Scott Padgett (BS Oceanography w/ geology minor, 2010; MS Environ. Systems – Geology, 2013) and Dr. Juan Gonzalez (BS Oceanography w/ geology minor, 1986)**  
*From Padgett and Gonzalez's "Humboldt Connection"...*

If you're reading this, you probably know how deep our Humboldt roots permeate the essence of our being. Like a badge of honor on my sleeve, I carry with me memories, friendships, knowledge, and a passion for geology that developed during my tenure with the HSU Geology Department. Hence, when I was packing last week for an international meeting in Oman, literally halfway around the world, you're darn right I packed my HSU t-shirt! The last thing I expected from a trip to the other side of the globe was to meet another Humboldt Geology Alumni but that's exactly what happened.

Dr. Juan Gonzalez and I met in an Oman airport tourist visa line; he noticed my lab mate's poster case and asked if we were headed to the sea-level conference. Shortly after customs, we lost each other in-between the only chance for non-Muslim tourists to purchase alcohol and the curbside taxi pick-up. It wasn't until the first day of the conference that we established the mutual Humboldt Alumni relationship. Turns out, HSU Geology has always had strong coastal research interests, so it's no wonder that several leading research experts in relative sea level and coastal hazard have a HSU connection.



Right from the start, almost like family, Juan and I got along. We talked shop about sea-level research, recalled memories of our Humboldt Geology experiences, and field camps, and even shared some good 'ole Gary Carver stories. Over the next week, Juan and I participated in a sea-level research conference that included a workshop on tsunami and earthquake hazards, two days of symposia followed by a three-day field excursion.

The IGCP 639 conference was something of a mix between a small AGU session and a coastal-research based FOP. Over the course of the meeting, we went from professional scientific presentations in a classroom, to field study location visits that were completed around the campfire with plenty of refreshments followed by camping out under the stars and the "super" moon. The field excursion component of the meeting had a striking resemblance to our HSU Geology field trips; needless to say Juan and I were in our element.

Even though Juan and I are separated by a whole HSU Geology generation, our shared heritage means we can strongly relate. This is possible because even though the faces of the HSU Geology Department faculty, staff and students have changed several times over, the Department has always been able to remain quintessentially itself. The place we all know, the place we are all welcome, and the place we can all go and feel a sense of home even when we're half way around the world. Good times and safe travels friends.