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Earth Science Newsletter

JUNE 2009

Inside This Issue

UCSB
UNIVERSITY OF CALIFORNIA
SANTA BARBARA

EARTH SCIENCE
University of California,
Santa Barbara
Webb Hall, Room 1006
Santa Barbara, CA
93106

Faculty News! News! News!

EMERITUS PROFILE: BILL WISE

Most alumni will remember Bill Wise for teaching them about minerals, for guiding them over Pisgah Crater during 104A trips, for working with them during summer field camp in the Tahoe/Donner Pass area, and by a select few for co-leading the Volcanology Seminar on three study excursions to Hawaii. As curator of the Charles Douglas Woodhouse mineral collection, he frequently regaled interested students with world-class specimens during Friday lunch hours. His picture hangs in the department conference room among those of previous department chairs from 1977 to 1979.

Sometimes regarded as the geologist who never ages, Bill was born and raised in Carson City, Nevada, where his father was an engineer for the fabled Virginia & Truckee Railway. He completed his bachelor's degree at Stanford University, and then at Johns Hopkins University he did his 1961 doctoral research on the zeolitic alteration of the Eocene volcaniclastic underpinnings of the Cascade Range of Washington state.

Many mineralogists consider Bill to be the world's expert on the occurrences and crystal chemistry of zeolite minerals. Among his many notable papers liberally sprinkled throughout the mineralogical literature are his descriptions of the first known occurrence of clinoptilolite crystals and of two new zeolite minerals. He is an expert on vanadium minerals, skarn, and industrial minerals at New Idria and Boron. His work also includes extensive geologic mapping and volcanologic studies of Mt. Hood, Oregon, Mauna Kea, Hawaii, and Pisgah Crater in the Mojave Desert.

After retiring from teaching and administrative duties in 1993, Bill wrote the zeolite section of Deer, Howie, and Zussman's 2004 volume 4B of *Rock Forming Minerals, Silica Minerals, Feldspathoids, and the Zeolites.* Currently, he is a member of the Commission on Natural Zeolites of the International Zeolite Association and a Senior Fellow of the Mineralogical Society of America.

OH CAPTAIN, OUR CAPTAIN: LETTER FROM THE CHAIR...

Ralph Archuleta

Dear Friends,

If one were to view the past year only through the financial looking glass, it would be doom and gloom. The UC financial outlook continues to be grey with only a hint that a rainbow might appear sometime next year. Of course, the financial world has had a significant detrimental impact on our Department. Fortunately we have other, equally important, metrics by which one can measure success.

In this newsletter you will find brief profiles of three new distinguished faculty members who bring fresh ideas and excitement for the entire department. Professor John Cottle from Oxford University is a structural geologist with current interests in the tectonics of the Himalaya and Antarctica; Professor Lorraine Lisiecki, from Brown University via Boston University, a paleoclimate scientist whose research interests include the spatial effects of solar radiation on the ocean circulation and its effects on climate; and Professor Syee Weldeab, an expert in marine geochemistry and paleoclimate, whose current research involves understanding how the African monsoon has evolved over the last glacial climatic change. These three open new doors for our students and our department.

As these three arrive, we are actively recruiting another faculty member who will spearhead new research in coastal processes. I will fill you in on this recruitment in the next newsletter.

Lest anyone be mistakenly thinking that we are expanding, a graph of new hires versus retirements dispels any notion of that. We would have to hire one new faculty member each year through 2012 to break even with the retirements. However, we are doing our level best to maintain our strength and develop new areas of research and teaching relevant to our changing world.

It has been a superlative year for awards that recognize the outstanding quality of our Department in research and teaching. Two of our graduate students, Jessica Thompson and Chris Farwell, received NSF graduate student fellowships. Professor Liesieki was named the 2008 Subaru Outstanding Woman in Science Award from the Geological Society of America. Professor David Lea was named a 2009 Leopold Leadership Fellow for his contributions to educating the public about global climate change. Professor Doug Burbank has been selected as the 2009 winner of the Don J. Easterbrook Distinguished Scientist Award by the Quaternary Geology and Geomorphology Division of the Geological Society of America. This award, established in 1999, has been given 9 times. Our department now has 1/3 of the recipients!!! Besides Doug, Professors Ed Keller and Tom Dunne have been honored as the Don J. Easterbrook Distinguished Scientists. Professor David Valentine earned the Chancellor's Award for Excellence in Undergraduate Research and Professor Doug Burbank earned the UCSB's Academic Senate Outstanding Graduate Mentoring Award. These are all highly competitive awards for which the Department takes pride in knowing that the awardees are our colleagues and friends.

Each year the Department selects two outstanding alumni who represent the academic and the public side of our program. The 2009 outstanding alumni are Professor Steven Wesnousky, a Foundation Professor and Director of the Center for Neotectonic Studies at the University of Nevada, Reno, and Mr. Joseph Acaba, astronaut at the NASA Space Flight Center in Houston. We congratulate both on their achievements and illustrious careers.

Another person who has had a long list of accomplishments that are often hidden from view but recognized by the smooth running of our Department, is our Business Officer (used to be called MSO) Leslie Edgerton. She has decided that golfing during the middle of the day, reading books at the beach and otherwise enjoying her life is a sane approach and has decided to retire at the end of the 2008-09 academic year. Leslie has dedicated 37 years to UCSB, saving her best and last nine years for our Department. There are many aspects to a Department as diverse as Earth Science. I think that only the Business Officer understands the full range of complexity, dealing with the minutiae to the sublime. Like a baseball player she used to be, she earns a "Golden Glove" for catching everyone's problems and making the right throw each time. Our Department enjoys a very good reputation on this campus because Leslie has kept the Department functioning at a high level. We all wish the very best for her. Congratulations on a job very, very well done!

In our semi-annual newsletter we try to highlight many aspects of the Department. Anyone reading this will know that in spite of all the financial hardships that the University and the Department have faced and will face, we have done everything to maintain the quality of the education that we provide to our students. We have been able to succeed because of the generous donations that you give to our Department. Please look over the possible funds where you might contribute again this year. There will be a direct plea in November, but nothing like planning ahead. You might even want to make your donation early (hint, hint). In case you forget, you can check our website http://www.geol.ucsb.edu/ for this information and other information about the Department.

This Department has always been resilient. We know that there are good times and hard times. We can and will adjust to both. Unfortunately, next year is going to be tough. We will deal with it by keeping our focus on what really matters: an excellent education in a strong research environment.

I end with a stanza taken from "Invictus*" by William Ernest Henley:

In the fell clutch of circumstance
I have not winced nor cried aloud.
Under the bludgeonings of chance
My head is bloody, but unbowed.

*Invictus is Latin for invincible. My Latin disappeared after high school, but the internet is wonderful.

Distinguished Alumni

Every year, the department honors two of its alumni—one each from industry and academia—celebrating their accomplishments and providing our current students with exemplary role models.

Joseph Acaba

Born in 1967 in Inglewood, California and raised in Anaheim, California where his parents Ralph and Elsie still reside. Enjoys outdoor activities such as camping, hiking, mountain biking, kayaking, and scuba diving. Also enjoys reading, especially science fiction. Worked as a hydro-geologist in Los Angeles, California. Primarily worked on Superfund sites and was involved the assessment and remediation of groundwater contaminants. Spent 2 years in the United States Peace Corps as an Environmental Education Awareness Promoter in the Dominican Republic. Manager of the Caribbean Marine Research Center at Lee Stocking Island in the Exumas, Bahamas. One year of high school science teaching experience at Melbourne High School, Florida and four years of middle school math and science teaching experience at Dunnellon Middle School, Florida.

Selected as a Mission Specialist by NASA in May 2004. In February 2006 he completed Astronaut Candidate Training that included scientific and technical briefings, intensive instruction in Shuttle and International Space Station systems, physiological training, T-38 flight training, and water and wilderness survival training. Upon completion of his training, Acaba was assigned to the Hardware Integration Team in the Space Station Branch working technical issues with European Space Agency (ESA) hardware. STS-119 Discovery (March 15-28, 2009) was the 125th Shuttle flight, the 36th flight of Discovery and the 28th Shuttle flight to the International Space Station. The primary objective of this flight was to deliver the final pair of power-generating solar array wings and truss element to the International Space Station. The mission also delivered and returned with an expedition crew member. Acaba accumulated 12 hours and 57 minutes of EVA in 2 spacewalks. STS-119 returned to land at the Kennedy Space Center, Florida, having traveled 202 orbits and 5.3 million statute miles in 12 days 19 hours and 29 minutes.

Steve Wesnousky

Dr. Steve Wesnousky entered UCSB in 1972 upon transferring from UCD after his Freshman year. At UCD while a Freshman he was a starting pitcher for the varsity baseball team, where his claim to fame was losing to Stanford two times by the scores of 1-0 and 2-1, the latter being in extra innings at that. A little pain in his shoulder nixed that aspect of his career, so he transferred to UCSB and serendipitously chose geology as a major, somewhat influenced by an introductory class in geology at UCD where the professor started things out with a slide show of volcanoes accompanied by the music of Jimi Hendrix. Along the way he had some shoulder surgery to fix up that ol' biceps tendon (to which the doc said 'it should be as good as new'). Taking the doctor by his word, Steve decided Gaucho's baseball might be cool. And it was: a year later he was the number 1 pitcher in the Gaucho's rotation. This endeavor led to missing an untold number of labs in favor of enjoying the sunshine out on the baseball field as well as the acquisition of a perhaps not so complimentary nickname of 'Baseball' among his classmates. But that little shoulder pain rose up again and he decided to call it quits after visiting the surgeon, who upon hearing of his exploits commented, 'I really didn't mean good as new to throw baseballs.' So, Steve resigned to limp along and finish his studies in geology.

UCSB's Dr. Webb was of course the first and perhaps most influential person in Dr. Wesnousky's undergraduate career. Having ignored that idea that a student needs an advisor, but bold enough to still walk the hallways of the geology department, Steve, the shirtless, sweaty, Frisbee-playing student, was no less than stiff-armed by Dr. Webb in the hallway and thrown into his office, where Dr. Webb immediately planned out Steve's entire undergraduate career. Along the way, Dr. Wesnousky garnered fond memories from, among others, Dr. Fuller, who allowed him to enroll in a graduate class in paleomagnetism (now I realize he took anybody he could get to boost enrollment), Dr. Norris, wearing that little bow-tie and looking so perfectly geological, Dr. Crowell with that secretary standing sentry to his office, and Dr. Bruce Luyendyk, so smoothly and intimidatingly dishing out geophysics on those cool blue mimeographs. Getting close to graduation and fearing the idea he might have to work for a living, Wesnousky asked Luyendyk if he had any ideas, to which he responded I might apply to 'Lamont.' Well it took awhile for Steve the student to realize that 'Lamont' was actually Columbia University in New York City. Wesnousky didn't know much about the University, but did know that basketball on the streets of New York was the best in the world. So, he applied, he was accepted, and after a long tenure, no doubt enhanced by his basketball playing on those streets he was awarded a Ph.D in seismology.

Subsequently, Wesnousky spent several years as a post-doctoral researcher at Cal Tech in southern California, followed by a few years as an Assistant Professor at the Center for Earthquake Research and Information in Memphis, until he found his way to his current position as Director of the Center for Neotectonic Studies at the University of Nevada, Reno. There he has been fortunate to write a number of papers, guide a few students to graduate degrees, maybe help push along the science of earthquakes and seismic hazard analysis a bit, travel the world, and even garner a couple of awards along the way, of which the details for the interested can be found at http://neotectonics.seismo.unr.edu/. But perhaps most importantly, at home, he is 'the dude, the pop, and the father'.

Listing includes donors from December 2007 through March 2009. Every effort has been made to insure accuracy. Please notify our office of any errors or omissions at (805) 893-4604 or at edgerton@geol.ucsb.edu

2008/09 Earth Science Fund Drive

We had a great response to our funding appeals last year. It is gratifying to see our alumni taking a lasting and consistent interest in their department. When I explain to potential donors that we have substantial commitment of support from our alumni, it makes us believable about our needs and we are taken seriously. The department has benefited in particular from employer matching gift programs. Be certain to check with your company when you make your gift this year!

Donors to Earth Science December 2007 to March 2009

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Continued on Page 5

Donors, (Continued from Page 4)

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Art Sylvester would like to thank all of the alumni for their support of the AGS summer field camp fund over the several years. Your contributions have made it possible to offset the continually increasing tuition so that the total cost to the students has hardly risen over what it was five years ago. He knows about 70 students who thank you, too.

AGS

WHAT ARE THE ALUMNI DOING?

Jose Constantine is now an assistant professor in the Earth and Ocean Sciences Department at Cardiff University in the United Kingdom.

Brian Campbell is currently employed at the Chicago office of Stantec Consulting working as a Geologic Staff in Environmental Remediation.

Nicholas Barth is currently working on his PhD. at the University of Otago, New Zealand, studying fault mechanics of the southern most Alpine Fault Zone.

Steve DeOreo will be working at Schlumberger in Bakersfield starting this fall.

Marco Ojeda is currently employed for Padre Associates, Inc. as a staff geologist. Padre Associates is an environmental consultant company based out of Ventura, CA.

Hannah McKay will be attending Cal State Northridge to pursue a Master's degree in tectonic geomorphology. Hannah's advisor will be another former student by the name of Richard Heermance.

Colin Amos will be starting a NSF Postdoc at UC Berkeley in September to work on active faults in the southern Owens Valley.

Lee Harrison has accepted a position with NOAA starting in June. Lee will be working as a geomorphologist/hydrologist on the Matilija and Klamath dam removal projects, as well as working on the Merced River restoration project with Tom Dunne.

Megan Gambs will be attending graduate school at the University of Washington School of Oceanography. Megan will be studying the Missoula Floods, which she will be fully funded for.

Sarah Jones has been accepted into graduate school at the University of California, Santa Cruz, where she will be working with Quentin Williams in their Geology Department.

Brianne Catlin is working as a geoscientist for Hess Corporation in Houston, Texas.

New Faculty

John Cottle is originally from near Dunedin on the south island of New Zealand. He completed a B.Sc. and M.Sc. at Otago University in Dunedin, working on the structure, petrology and geochronology of Neo-Proterozoic^Ordovician granitoids and their amphibolite-grade host rocks. After finishing his M.Sc. he worked for three years in the outdoor industry as a ski patroller, mountain guide and Antarctic field guide. In 2004 he moved to the U.K to start a Ph.D. at the University of Oxford working with Mike Searle on the Mt. Everest region in the South Tibetan Himalaya. His dissertation focused on understanding the kinematics and history of a large-scale detachment fault system (the South Tibetan Detachment System) as well as the timing of metamorphism and melting in the Greater Himalayan crust. During his Ph.D. he became very interested in geochronology, specifically laser-ablation U-Pb geochronology of accessory phase minerals e.g. zircon, monazite, and rutile. This interest led him to a post-doctoral fellowship at the NERC Isotope Geoscience Laboratories of the British Geological Survey in Nottingham U.K., where he became an expert in laser-ablation inductively coupled plasma mass spectrometry. His current research focuses on collisional orogenic systems and understanding the timescales over which they evolve. He uses primarily field mapping coupled with petrological and geochronological (U-Pb) analyses to gain insights into how mountain belts work. He is particularly interested in the Himalaya, the Southern Alps of New Zealand, Antarctica and the Canadian Cordillera.

Dr. Lorraine Lisiecki was a Ph.D. student with Tim Herbert at Brown University (2005) and a post-doctoral scholar at Boston University with Maureen Raymo. She received both a masters and bachelors degree in Earth, Atmospheric and Planetary Sciences from MIT. Dr. Lisiecki specializes in computational approaches to the comparison and interpretation of paleoclimate records. Her current research focuses on the evolution of Plio-Pleistocene climate as it relates to orbital forcing, glacial cycles, and deep ocean circulation. She also develops and distributes software related to age model development and stratigraphy. Dr. Lisiecki grew up in Lexington, South Carolina.

Dr. Lisiecki developed an automated stratigraphic alignment algorithm so that she could align the benthic oxygen isotope stratigraphy of 57 globally distributed sites. This averaged oxygen isotope record (known as "LR04"), which Dr. Lisiecki published with co-worker Maureen Raymo in 2005, provides the paleoclimate community with an important stratigraphic tool to aid in the comparison of widely distributed marine and terrestrial climate records. Her paper is widely known and cited in paleoclimate research. Her current research focus is the analysis of spatial gradients in benthic carbon and oxygen isotope records to reconstruct changes in deep ocean circulation over the past 2 Myr.

Dr. Lisiecki has already received a number of awards for her research, including the: Subaru Outstanding Woman in Science Award, Geological Society of America, 2008; a NOAA Climate and Global Change Postdoctoral Fellowship, September 2005 – August 2007; the Brown University Joukowsky Outstanding Dissertation Award, May 2005 (the sole dissertation award presented by Brown for the physical sciences.); and a Schlanger Ocean Drilling Fellowship, September 2002 – August 2003.

Dr. Syee Weldeab was a Ph.D. student with Prof. Dr. Christoph Hemleben and Prof. Dr. Kay-Christian Emeis at the University of Tübingen in Germany. After he received his Ph.D. in 2002, he was a post-doctoral scholar at the University of Bremen, Germany (2002-2005), at UCSB, where he joined David Lea's group (2005-2007), and at IFM-GEOMAR in Kiel, Germany. He received his undergraduate diploma in Geology and Paleontology from the University of Tübingen in Germany. Dr. Weldeab was born in Keren, Eritrea and has lived in Germany since he was 14.

Dr. Weldeab is an expert on marine sediment cores, application of marine geochemistry to paleoclimate records, coring and marine stratigraphy, and the African monsoon. His work includes field-based research on oceanographic research vessels, laboratory-based studies of marine sediments, the application of advanced geochemical techniques for paleoceanographic work, and the development of conceptual models of tropical climate change. Dr. Weldeab plans to focus his research efforts at UCSB on the study of tropical monsoon history.

Dr. Weldeab has published a number of important papers, including a major research article in 2007 that appeared in the prestigious journal Science on the evolution of the African monsoon over the last glacial climate cycle. This article is recognized as the definitive study on the climate history of this region because it provides a highly detailed history of the how the African monsoon has varied during both cold and warm intervals of earth history.

As part of Dr. Weldeab's research, he has participated in seven oceanographic research cruises, including three in the Red Sea and Mediterranean, two in the Atlantic Ocean and two in the Indian Ocean. Dr. Weldeab has also received a number of awards for his research, including the European Commission and German Science Foundation Emmy-Noether Young Researchers Programme, which funded his UCSB post-doctoral visit and an award for "Outstanding research work and excellent standard of presentation" from the International Conference on Paleoceanography VII Science committee.

HIGHLIGHTS

2007-2008 Departmental Graduate Awards

G.K. Gilbert Award
Emily Peterman, Sarah Fowler, Brian Clarke

Harry Glicken Memorial Award
Benjamin Martin

Richard and Eleanor Migues Graduate Field Research Award
Burch Fisher, Joseph Goode

George Tunell Endowed Fellowship
Sarah Medley

Wendell Woodring Memorial Award
Molly Redmond

Preston Cloud Memorial Award
Elizabeth Lovelock, Nicolas Barth, Brianne Catlin, Bryan Murray, Burch Fisher, Jessica Thompson, Christopher Stubbs

Lloyd and Mary Edwards Field Studies Fellowship
Richard Lease

Alumni Graduate Award for Research Excellence
Emily Peterman

Geophysics Award
Tomoko Yano

Fugro West Award
Sheila Morrissey

Coast Geological Society Award
Brian Clarke

Award winners Tess Mayall, Carolyn Gorny, Ryan Thress, Brandon Henke and Tanya Taylor

Brian Clarke and Emily Peterman

A mixture of both graduate and undergrads socializing at the awards ceremony BBQ

Department MSO Leslie Edgerton mingling with undergrad students at the Awards Ceremony BBQ

2007-2008 Departmental Undergraduate Awards

William Bushnell Memorial Scholarship
Adam Ginsburg

Robert M. Norris Prize in Field Geology
Tanya Taylor

Outstanding Graduating Senior
Ryan Thress, Tess Mayall, Carolyn Gorny, Brandon Henke

Outstanding Academic Achievement
Tanya Taylor, Ryan Thress, Carolyn Gorny, Brandon Henke, Joanna Fantozzi, Tess Mayall

Distinction in the Major Award
Carolyn Gorny, Tess Mayall

Charles Douglas Woodhouse Award
Tanya Taylor

Venoco Field Scholarship
Ryan Thress, Richard Shore, Marco Ojeda, Loriel Holmes, Morgan Soloway

Fugro West Award
Richard Shore

Department Field Award
Belinda Roder, Tess Mayall, Jordan Lewis, Michael Baranowski, Ethan Carlisle, Cavan Ewing, Joanna Fantozzi, Megan Gambs, Spencer Lapiers, Jessica Lovecchio, Hannah McKay, Tyler Davis

Coast Geological Society Award
Carolyn Gorny

Earth Science POINTS OF INTEREST

Graduate student
Alice Koerner

Undergrade student
Jessica Lovecchio

Undergrad students Hannah McKay and Belinda Roder

Joseph Goode and Jessica Thompson in Northwestern Argentina

Undergrad Megan Gambs expresses her love for Geology

Hannah McKay and Loriel Holmes taking a break from Summerfield 2008

Earth Science POINTS OF INTEREST

LIST OF MS/PH.D DISSERTATIONS (2008-PRESENT)

Barth, Nicolas MS S08 Hacker
Strain within the Ultrahigh-Pressure Western Gneiss Region of Norway Recorded by Quartz LOPs

Catlin, Brianne MS M08 Spera
The Source of Volcanic Ash in Late Classic Maya Pottery at El Pilar, Belize

Constantine, Jose Ph.D M08 Dunne
Meander Cutoff and the Controls on the Production and Evolution of Oxbow Lakes

DeVecchio, Duane Ph.D W09 Keller
Late Pleistocene to Holocene Geomorphic and Structural Evolution of the Camarillo Fold Belt, California

Fowler, Sarah Ph.D M08 Spera
Phase Equilibria Constraints on the Chemical and Physical Evolution of Basalt to Rhyolite Magmas

Kinnaman, Frank Ph.D F08 Valentine
Microbial Comsumption of Natural Gas in Marine Sediments: Rates, Distributions and Isotope Effects

Kline, Kimberly MS W09 Clark
Single Well Push-Pull Tests for Determining In-Situ Biodegradation Rates of Ethanol by Sulfate-Reducing Microbial Populations at Vandenberg Air Force Base

Lamb, David Ph.D S08 Awramik
Evidence and Significance of Eukaryotic Diversification in the ~1800 Million-year-old Changzhougou Formation, North China

Nevins, Dean Ph.D W09 Spera
Understanding Silicate Geoliquids at High Temperatures and Pressures Through Molecular Dynamics Simulations

Peterman, Emily Ph.D W09 Hacker
The Development and Use of Monazite and Garnet Geochronology with Applications to Tectonic Processes

Earth Science POINTS OF INTEREST

ROYAL GEOLOGICAL SOCIETY OF GOLETA

Royal Geological Society Goleta

2008-2009 was quite the eventful year for the Royal Geological Society of Goleta. While most members have moved to downtown Santa Barbara, a fresh new batch of graduate students understood Goleta's superiority, strengthening our core in the "Good Land", and once again making sense of our name. Some highlights of the activities to follow:

Similar to years past, a herd of graduate students made their way to the Anza-Borrego desert in order to attend the Pacific cell meeting of the "Friends of the Pleistocene". Students learned about slip rates on the San Jacinto fault, observing some classic examples of tectonic geomorphology hocus-pocus. Offset channels, alluvial fans, etc. Fun was had by most, in light of the loss of personal items. Most importantly the graduates learned that cosmogenic dating is mostly bogus when many who employ the method have a limited understanding of proper sampling techniques. Other notable field trips included the annual grad trip to Santa Cruz Island, led by Dr. Jim Boles. An excellent trip once again, filled with all sorts of tomfoolery and learning. Many thanks go out to Jim for holding it down even though he has joined the ranks of the retired. Cheers Jim.

Our students really demonstrated the caliber of their research at the AGU and GSA meetings this year. While some reported a more mellow AGU experience, fun was still had by all at the local watering holes. Our students presented their work through posters and oral presentations. A strong pat on the back goes out to Christopher C. Farwell (adv: D. Valentine) and Jessie Thompson (adv: D. Burbank) who were both awarded NSF Graduate Research Fellowships. Richard Lease (adv: D. Burbank) was awarded the 2009 Richard Chambers Memorial Scholarship from the Northern California Geological Society. A slightly weaker pat on the back goes out to those other graduates who I am sure received awards but were too modest to report their winnings to me. Kudos goes out to your modesty and achievements.

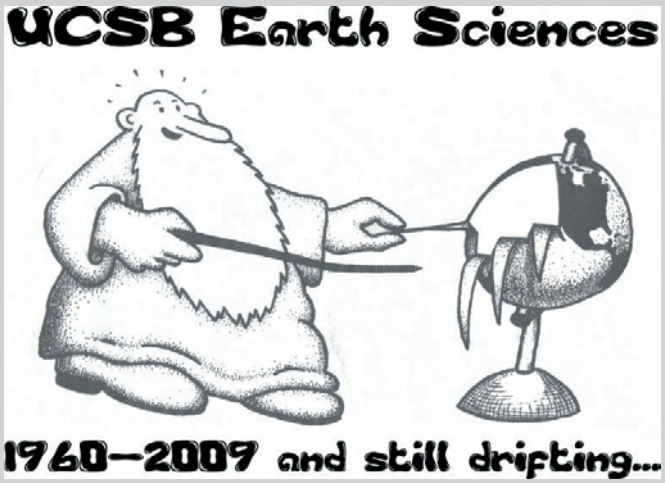
Other notable actions RGSG members have taken part in is their continued support of outreach programs throughout the county, helping out with judging science fairs, teaching young children about dinosaurs, and general community outreach goodness.

This year the RGSG has developed a fantastic t-shirt. After many discussions involving foxes, Dr. Boles's cannons, portals, portholes, etc... the design that won the most cheers was the classic Mr. Natural peeling away the rind of the earth. While there are many (counter)cultural references involving Mr. Natural... the "official" reasoning behind the design is that he is trying to figure out how the planet works, much like what we do as geologists or earth scientists. Get yours while supplies last, buy them for your kids, grandkids, and neighbors!

Signing off in the final months of my regality and the final days of the American Century,

King Joseph James Lalicata I the Grand and Noble leader

RGSG T-Shirt (Front)



RGSG T-Shirt Back

For ordering info, please contact Joseph Lalicata at jlalicata@geol.ucsb.edu

Earth Science POINTS OF INTEREST

Muckers Corner

Meet the Muckers!

The Muckers Coterie is the rowdy crew of geology undergraduates at UCSB. Bonded over the trials of field trips to remote places and the identification of tricky minerals, we are a close-knit group full of a diverse range of characters.

In the Fall, the Muckers take an annual trip to Trona, CA to look for evaporite minerals like pink halite. Although this year, the trip fell through, next fall will likely see a gang of young geologists with rock hammers trekking around the desert in Southern Califonia.

In March of this year, some of us attended the Annual Ventura Gem and Mineral Show. With impressive fossil fish and beautiful crystals of epidote (plus many very cool rocks and minerals that none of us could afford), it proved to be a diverting afternoon.

In order to fund field trips and our quarterly bowling at Zodos, we feed the hungry professors, staff, and students bagels and coffee in exchange for monetary funds. The bagel table is a friendly place for breakfast where acquaintances are made and the most recent field trip and weekend stories are traded. This ritual of bagel eating happens every Tuesday in Webb Hall and is a must for anyone who has not yet experienced it.

The Winter and Spring Bowling at Zodos this year had a great turn out. In the Spring, along with bowling, we even celebrated a birthday in true Muckers fashion with a Volcano cake. Generally, our bowling skills are not always impressive but no one can say that we lack enthusiasm.

Another way that Muckers wind down after long afternoons looking at thin sections of rocks or using stereo-nets to figure out the structure of a basin, is by watching really inaccurate movies about Earth science. This Spring quarter a few of us got together to watch movies like Journey to the Center of the Earth and 10.5 (where LA experiences a really big earthquake).

To finish off the year right, the Muckers had a rock auction at the end of the year award ceremony bbq that raised additional field trip funds as well as giving us an excuse to cut up a bunch of rocks. Hopefully next year will be as eventful and as full of adventures as this one was. The Muckers Coterie: a crazy bunch of kids who know how to enjoy life and the outdoors.

Jamie Persico

IN MEMORIAM

Seena Hoose

State Mining and Geology Board (SMGB) board member and world-renowned expert on groundwater geology Seena Hoose passed away September 16, 2008 after a brief illness.

Seena Hoose was the second woman in the University of California system to receive a Bachelor of Science degree in Geology. She earned her undergraduate degree at University of California, Santa Barbara and her master's in geology from San Jose State University. She was a member of the Geological Society of America, Association for Women Geoscientists, Association of Engineering Geologists and Groundwater Resources Association.

Seena Hoose was an engineering geologist for the Santa Clara Valley Water District when appointed to the SMGB by Governor Schwarzenegger in March 2005. From 1993-2001, she served on the Board for Geologists and Geophysicists at the San Francisco Bay Regional Water Quality Control Board and research geologist for the United States Geological Survey. She was a registered geologist. She authored one of the leading papers about the phenomenon of earthquake-caused liquefaction while with the United States Geological Survey.

She served on the SMGB's Geohazards, Minerals and Geologic Resources, and Policy & Legislation committees. The SMGB operates within the Department of Conservation and has certain autonomous responsibilities and obligations. The SMGB serves as a regulatory, policy, and appeals body representing the state's interest in geology, geologic and seismologic hazards, conservation of mineral resources, and reclamation of lands following surface mining activities.

Mrs. Hoose is survived by her husband Robert, sons Shawn and Rowan, and Shawn's wife, Dori.

Ethan Carlisle says"aaaaaaaaaaaah"

(Right Pic) Ph.D. candidates Jeff Creamer (left) and Richard Lease (right) on the summit of volcano Pico de Orizaba (18,490 feet), the highest point in Mexico and third highest peak in North America.

From left to right, Nic Barth (MS, 2008), Karen Vasko (BS, 2004), and Richard Lease (Ph.D. candidate), rock climbing Fairview Dome in Tuolumne Meadows, Yosemite N.P.

David Arellano, Roy Mari, Alix Williams and Imo Ehimika

Jessica Thompson giving her support for geologists in training at El Camino Schools Science Night.

Hannah McKay, Belinda Roder and Megan Gambs enjoying some friendship time out in the field.