

Greetings from the Chair:

We have survived the first year of budget cuts to the University and Department. We not only survived, but thanks to our dedicated staff and faculty, we can look back in pride to many accomplishments and successes. First and foremost, two new Assistant Professors, **Mark Webster** and **Edwin Schauble**, are now officially on board. Our other new faculty were highly successful in obtaining external support for their



research—**Abby Kavner's** new mineral physics lab and **Jon Aurnou's** geophysical fluid dynamics lab are up and running. We now have an operational state-of-the-art remote sensing computer laboratory, which will play an increasingly important role in the training of our graduate students. **David Jackson** has returned with new energy and enthusiasm from a successful sabbatical in Switzerland and Italy. **Alex Robinson**, a graduate student in the Department, received the W. Gary Ernst Fellowship for his work in petrology and tectonics. The fellowship is endowed by Emeritus Professor **W. Gary Ernst** and his colleagues and former students.

John Phillips delivered a superb Distinguished Alumni Lecture. [Please see page 4 for more about John and his lecture.] Warren Hamilton will be our next Distinguished Alumni awardee. Please plan to attend his talk and reception on April 29th, 2004. These events have been enormous successes, and I know you'll enjoy this one, too.

As the new academic year begins, we have to cope with another round of budget cuts to the Department equal to the 2002/03 cuts. To make matters worse, there will be even more cuts, equally large, or perhaps larger, in the

2004/05 budget. It will be difficult to deal with these circumstances, but somehow we will, and we'll have to figure out how to do this while preserving the excellence of our teaching and research programs. I earnestly seek your help in this endeavor. If ever we needed your support, both moral and financial, now is the time. Please keep us in mind, as you plan your end-of-year contributions.

Last, but not least, I want to take this opportunity to say good-bye as Earth and Space Sciences Chair. My term will end on 1 July 2004, so this is my last chance to write the Chair's Greetings. I will not pretend that the responsibilities of the Chair have not curtailed my teaching and research; they have. Nevertheless, I am glad to have served. It is a responsibility no one of us should shirk. I have grown personally in the job, and have learned a great deal about what goes on in the Department and the University. I hope that the experience and knowledge I have gained will be helpful to future Chairs. When I leave, I'll take some satisfaction at having been Chair during a time of unprecedented faculty renewal.

Best wishes to all for the new year,

Very Schubert

Gerald Schubert Professor and Chair

On the cover: Sara Dunbar at work in the 2003 Summer Field Class in the Bristol Range, Nevada. Photo by Holly Caprio.

New E&SS Faculty

Edwin Schauble joined UCLA in July 2003 as an Assistant Professor of Geochemistry and Astrobiology. He received his PhD at Caltech in 2002. Edwin is interested in understanding how natural processes partially separate the isotopes of a variety of chemical elements. His current research focuses on heavy elements and transition metals like iron and chromium, where recent technological advances have for the first time made accurate isotope ratio measurements possible. Many transition metals are critical biological nutrients, and have rich oxidation and reduction chemistries, so a better understanding of their geochemical behavior may provide insights into processes as diverse as the origin and chemical impacts of life, the rise of oxygen in Earth's early atmosphere, and the origins and fate of groundwater pollutants. Using techniques from statistical mechanics and quantum chemistry, he is working out a theoretical framework for planning and interpreting measurements of natural samples. Edwin's theoretical



studies of the chemistry of the isotopes of iron showed that oxidized forms of iron (such as aqueous Fe³⁺) tend to be depleted in ⁵⁴Fe, the lightest iron isotope, when they are in equilibrium with reduced iron (*i.e.*, Fe²⁺). Experiments with inorganic solutions as well as iron-oxidizing and iron-reducing bacteria confirm this tendency. Light-isotope depletion in oxidized substances appears to be a general phenomenon in many geochemical systems, and is a promising tool for studying groundwater pollution. For instance, this property may make it possible to monitor the natural remediation of toxic chromate ($[Cr^{6+}O_4]^{2-}$) in groundwater as it is reduced to benign Cr^{3+} -bearing compounds. Edwin is also interested in using isotopic measurements to study the atmospheric chemistry of greenhouse gasses. For his postdoctoral research, he helped develop a new geochemical measurement to constrain the importance of high-temperature CO_2 sources (*e.g.*, volcanic emissions and fossil-fuel burning) relative to low-temperature CO_2 sources and exchange (biological respiration, ocean-air exchange, leaf-air exchange) in the modern atmosphere.



Mark Webster received his PhD from UC Riverside in 2003, and joined UCLA in July of that year as an Assistant Professor of Paleobiology. He studies the ontogenetic development, morphology, and morphological variability of Cambrian trilobite species in order to understand their paleobiology and evolutionary history in unparalleled detail. His specimenbased research involves using geometric morphometric analyses to rigorously quantify patterns of ontogenetic and evolutionary shape change, and cladistic methods to hypothesize evolutionary relationships among taxa. Fieldwork is a major component of Mark's research programhe makes several trips each year to make new fossil collections at very fine stratigraphic resolution in Cambrian outcrops, primarily in the southwestern United States. Sequence stratigraphic and sedimentological field data allow the collections to be placed into a paleoenvironmental framework. Together with the developmental data, this approach provides insight into the mechanisms of and the driving forces behind evolutionary change in the trilobites.

Mark's current research projects include resolving the early evolutionary history of the Trilobita, refining the Lower and Middle Cambrian biostratigraphic zonation of Laurentia, and using studies of trilobite morphological variability (partitioned into phylogenetic, geographic, and temporal components) to uncover potential constraints in the evolution of the group, which may provide novel insight into the nature of the Cambrian explosion in the diversity of life.

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Lost Souls back cover

To contact us:

Editor: **Barbara Widawski**

UCLA Department of Earth & Space Sciences

PO Box 951567 Los Angeles, CA 90095-1567

phone: (310) 825-1100 fax: (310) 825-2779 email: barb@ess.ucla.edu http: //www.ess.ucla.edu Clockwise from map: Digital elevation model of central Andes showing the trip route; Professor Horton talking with indigenous Bolivians (Aymarans) of the Altiplano; snow-capped peaks (up to 6500 m) of the Cordillera Real, near La Paz; the bus; Isla de Pescadores, Salar de Uyuni,

central Altiplano; Late Cretaceous dinosaur tracks, Sucre; a viscacha of the southern Altiplano; Cretaceous strata of the Miraflores Syncline, Eastern Cordillera; vertical fins of Miocene conglomerate, Tupiza intermontane basin, Eastern Cordillera; Southern Altiplano landscape with "stone tree;" the group riding on a truck to the dinosaur tracks. Photos by David Ayres, Holly Caprio, Lauren Cooper, Mary Kairouz, and Michael McRivette

Central Andes Field Trip—Viva Bolivia! Brian Horton

Bolivia is a land of extremes. It contains the highest, broadest segment of South America's Andes mountains and one of Earth's largest continental plateaus. The physical immensity is a measure of the tremendous Cenozoic shortening and crustal thickening in the central Andes. Bolivia is home to the planet's largest salt lake (Salar de Uyuni), highest navigable lake (Lake Titicaca), and highest city (Potosí). As the poorest country in South America, it also has its share of civil unrest.

In September 2003, thirteen ESS undergraduate and graduate students joined me on an unforgettable three-week expedition to Bolivia as a part of a Field Seminar to the central Andes. Our geological transect across the central Andean plateau involved a thrilling bus journey through the rugged, mountainous terrain of the Eastern Cordillera and the wideopen expanses of the Altiplano. Geological highlights included a plethora of foreland and intermontane basins (my specialty), a guided tour into the depths of the Cerro Rico mine (Earth's largest silver deposit and site of nearly 500 years of mineral extraction), visits to the eruptive centers and voluminous ignimbrites of the Bolivian tin belt and Los Frailes volcanic field, walking in the tracks of Late Cretaceous dinosaurs, and an adventure across the salt lakes and surreal volcanic landscape of the Altiplano and Western Cordillera. There was no shortage of wildlife, with multiple sightings of llamas, alpacas, vicuñas, viscachas, condors, and flamingos.

Pacific

Bolivia

Argentina

Altipland





Cultural opportunities abound in Bolivia, which was home to the Incas and maintains a population of two-thirds indigenous people (mostly Quechuan and Aymaran), with unique traditional dress, customs, food, and music. Moreover, part of our travel loop followed the route of Alcide d'Orbigny, the French naturalist (and a founder of micropaleontology), whose 1820s expedition preceded Darwin's visit, and we also tracked the final steps of famous outlaws Butch Cassidy and the Sundance Kid. Along the way, we visited three UNESCO world heritage sites—the city of Sucre, the city of Potosí, and the Tiwanaku archaeological site. All in all, it was a wonderful trip filled with spectacular geology, great company, and food that was delicious, sometimes. For those alumni who remember their days as students at UCLA, we know that you can appreciate the difficulty of paying tuition, fees, and rent, let alone the costs of an extracurricular activity like this one. We all want to express our deepest thanks for the generous support we received from ESS alumni and the UCLA Office of Instructional Development. These funds helped make our trip possible, providing a lifetime of Andean memories.

Please stay tuned to the Earth & Space Sciences website at *www.ess.ucla.edu* for an upcoming synthesis of the trip, including a day-by-day itinerary, many more photos, music samples, and a slide show.



STS-100 and Expedition Two crew members pose for a traditional in-flight portrait in the Destiny laboratory. Bottom, from left: Chris Hadfield of the Canadian Space Agency, Umberto Guidoni of the European Space Agency, Kent Rominger, and Susan Helms. Middle row: James Voss, Yurv Usachev, and Yuri Lonchakov, both with Rosaviakosmos. Top: Scott Parazynski, John Phillips, and Jeffrey Ashby. Photo and image of the STS-100 mission patch, below, courtesy of NASA

"A Visit to the International Space Station"

For someone who has traveled out in space, John L. Phillips (MS '84, PhD '87), our 2003 UCLA Earth & Space Sciences Distinguished Alumni Lecturer, turned out to be a very downto-earth kind of a guy. He visited with us on Thursday, April 24, 2003—almost exactly two years after his space visit took place—and his lecture and slide show really was like going on "A Visit to the International Space Station" with him.

When John left the Navy in 1982, after ten years as a Naval Aviator (with more than 4,000 flight hours and 250 carrier landings to his credit) he was offered a position managing a big disposable diaper firm! So, when Professor Chris Russell offered him Graduate Student Researcher funding to come study plasma physics at UCLA, he jumped at the chance; it did fit in better with his lifelong dream of becoming an astronaut. John realized that dream when he was selected as an astronaut by NASA in 1996 and started astronaut training in both Houston and Russia—and, yes, he took technical classes in Russian!

On Thursday, April 19, 2001, John Phillips, as Flight Engineer of NASA's STS-100 mission, had a second row center seat just behind and between Commander Kent Rominger and Pilot Jeff Ashby on the Shuttle Endeavour as it lifted off from the Kennedy Space Center. Except for the fabulous views—and perhaps a few other minor details—John described the trip as being like having seven guys locked in a Volkswagon van for three days and nights. After the Endeavour docked with the International Space Station, they still had to wait a day to join Expedition Two Commander Yury Usachev and Flight Engineers Jim Voss and Susan Helms aboard the station until after the first space walk by Chris Hadfield and Scott Parazynski—because the shuttle's lower cabin pressure was needed to support the space walk. John acted as space walk coordinator—or "in-cabin quarterback"—as Hadfield and Parazynski installed the Canadian-built robotic arm, and Jeff Ashby and Umberto Guidoni operated the shuttle's robotic arm to help install the new arm on the outside of the Destiny laboratory. On Monday, having equalized the cabin pressures, they were finally able to open the hatches linking the two spacecraft, allowing the ten crew members to greet one another for the first time.

Besides the installation and activation of the new robotic arm—which was critical to continuing the assembly of the International Space Station—some of the other major objectives accomplished during the mission were berthing the Raffaello logistics module to the station, activating it, transferring cargo between Raffaello and the station, and reberthing Raffaello in the shuttle's payload bay. The crew members also transferred supplies and water for use aboard the space station and items for return to Earth from the station to the shuttle. They also used the Endeavour to boost the station's altitude and perform a flyaround survey of the complex, including recording views of the space station with an IMAX cargo bay camera.

John regaled us with lots of amazing slides taken by himself and his fellow crew members of the above-mentioned events and of their favorite places on Earth, as they orbited on their return journey. Thanks, John, for a wonderful visit!



In Memoriam

James Drynan Aitken (PhD '54) passed away in the late Spring of 2002 at his home on Denman Island, British Columbia. A native of Scarboro, Ontario, he obtained his BSc in geology from the University of British Columbia in 1950, before doing his graduate work at UCLA. After a few years in the petroleum industry in Columbia and Alberta, Jim joined the Geological Survey of Canada in 1960, beginning a 35-year career, during which he authored and coauthored over 150 scientific papers on various aspects of the Proterozoic and Paleozoic geology of the Canadian Rockies, Mackenzie, and Franklin mountains. His research resulted in the development of many concepts pertaining to the accumulation of carbonate platforms, including the "Kicking Horse Rim," a barrier complex at the edge of the ancient Paleozoic shelf of Western Canada. In 1987, he was awarded the R.J.W. Douglas Medal of the Canadian Society of Petroleum Geologists, a career medal honoring his substantial contributions to the understanding of the geological architecture and development of the Canadian cordillera. Jim is survived by his wife Roxanna, his first wife Anne, his three children, three granddaughters, and numerous nieces and nephews. He is also fondly remembered by his many friends, including geologists of the Canadian petroleum industry who benefited greatly from his research and teaching. He is greatly missed. [Chris Yorath]

Charles F. Briscoe (BA '53) passed away peacefully at home on August 23, 2003, at the age of 96. He was born in Fresno, California. After graduating from UCLA, he became a geological engineer for Southern California and Southern Counties gas companies for over 50 years. Charles was elected to the Board of Trustees of Pasadena City College, and later became President of the Board at PCC. He was also a 32nd degree Mason. When the UCLA Department of Earth and Space Sciences needed to start its own small fleet of field vehicles, Charles was one of the alumni who came through with a very generous donation, making the acquisition of our first vehicle, a Chevy Suburban 4 x 4, possible. He is survived by ten grandchildren, eleven great grandchildren, and one great great grandchild. He will be greatly missed by his family and friends. [Norman Bradley]

Edward J. Christensen (MS '76) died on March 19, 2002, of a heart attack. He worked at the Jet Propulsion Laboratories for many years, and is missed by his friends there.

[James G. Williams]

Steven N. Daviess (BA '40, MA '42) died on March 6, 2003. Steve worked his way through school when he was at UCLA, doing various jobs—he worked for five years at the Ralph Reed Library, then helped at the inception of the Geology/ Geophysics Library—and he had the distinction of tutoring Jackie Robinson in Geology 1! After graduating, Steve worked in the oil industry. **Richard L. Hester** (BA '49) passed away January 7, 2002, at his home in Cathedral City, California.

Ernest Lian (BA '49) passed away in January of 2001, in Portland, Oregon. [Harold Lian]

Kenneth Oliver Stanley (BS '64, MS '66) was born in 1941, and died at his home in The Woodlands, Texas, in 2002. When Ken graduated from Ventura High School in 1959, he was already interested in rocks and the outdoors. After graduating from UCLA, he earned a PhD from the University of Wisconsin, Madison. From 1969 to 1975, he was an associate professor at the University of Nebraska, Lincoln, then moved to Ohio State University in Columbus. A highlight of his time at Ohio State was a 1977-78 geological expedition to the central Transarctic Mountains. It was also during this time that he met his wife Judy, and they had their daughter Jillian. Ken started in the Coal and Oil Shale Exploration Section of Exxon Production Research Company in September of 1981. He continued working for various exploration and research groups for Exxon over the years, traveling extensively to many countries-he and his family moved to Oslo, Norway in 1984, where he worked on the Snorre field development; in 1987 he led a major regional evaluation of the hydrocarbon potential of Arabia, North Africa, and the Mediterranean region; he started work on Russia in the early 1990s; he worked on the geology of the central Asian and east Siberian basins in 1995; and was assigned to the Caspian region when the ExxonMobil Exploration Company was formed. All of this was rich fodder for Ken's legendary storytelling ability. He was also a model railroader, and knew the local history of the areas he worked in the western United States, especially as it applied to railroads. Ken was active in several geological societies-he was made a Geological Society of America Fellow in 1981, and served as associate editor of the Environmental Geology Journal, the Journal of Sedimentary Petrology, and the AAPG Bulletin. Ken will be remembered as a superb geologist, a gifted teacher, a role model, and a mentor for many geologists.

> [George J. Grabowski, Jr. and Ian O. Norton, from AAPG Bulletin, v. 87, n. 5]

William B. Young (BA '53) passed away in the summer of 2003. He was retired from the Los Angeles County Flood Control District where he was involved in water conservation and groundwater studies. [Norman Bradley]



Earth & Space Sciences Class of 2003—Bottom row, from left: Rob Givler, Prof. John Rosenfeld, Aaron Schwartzman, Bryan Murray, Jesus Banuelos, Dianne Taylor, Sara Dunbar, Janet Harvey, Rebecca Wakefield, Roopl Chauhan, Student Affairs Officer Lauri Holbrook. Row 2: Sean Xie, Steve Persh, Elizabeth Jensen, Ryan Okerblom, Elizabeth Cochran, Natanya Black, Prof. Ray Ingersoll, Prof. Abby Kavner, Prof. Emily Brodsky, Yongli Wang, David Ayres, Prof. Chris Russell, Madeline Wright. Row 3: Prof. Heidi Houston, Prof. John Wasson, Jimmy Raeder, Prof. Paul Davis, Prof. Paul Tackley, Prof. Jerry Schubert, Prof. An Yin, Prof. John Vidale, Julien Cohen-Waeber, Yoshihiro Kaneko, Prof. Mark Moldwin, Prof. Francis Nimmo, Prof. Kevin McKeegan, Prof. William Newman, Prof. Craig Manning, Prof. Mark Webster, Franky Telles.

Honors and Awards—2003

W. Gary Ernst Fellowship

Supporting a graduate student specializing in petrology and tectonics, this award was endowed by Professor Emeritus W. Gary Ernst and his colleagues and former students. Alexander Clemens Robinson

John & Frances Handin Scholarship

Presented to undergraduates for scholastic excellence, this scholarship was endowed by Department alumnus John W. Handin (BA '42, MA '48, PhD '49) and his wife, Frances.

Yoshihiro Kaneko

Rebecca Harrington Wakefield

Eugene Waggoner Scholarship

Awarded to graduate and/or undergraduate students for academic excellence, this scholarship honors the memory of Department alumnus Eugene B. Waggoner (BA '38, MA '39). Janet Carolyn Harvey Michael Andrew Mischna

Clem Nelson Summer Field Award

Conferred for scholastic excellence to summer field students, this award is supported by Professor Emeritus Clem Nelson's former field students and associates.

> David Thomas Ayres Sara Jane Dunbar

2002-2003 Earth & Space Sciences Degrees

Doctor of Philosophy

Yongli Wang The Plasma Depletion Layer (Professor Russell) Geophysics & Space Physics Shunxing Xie Constraints on Mantle Structure from Geochemistry, Seismology, and Mixing Studies: A Numerical Investigation of the Compositional Heterogeneity in the Earth's Mantle (Professor Tackley) Geophysics & Space Physics

Master of Science

David Berube	(By Comprehensive Examination) Geophysics & Space Physics	
Elizabeth Scott Cochran	(By Comprehensive Examination) Geophysics & Space Physics	
John Milan Hora	Magmatic Differentiation Processes at Ngauruhoe Volcano, New Zealand:	
	Constraints from Chemical, Isotopic and Textural Analysis of Plagioclase	
	(Professor Davidson) Geology	

V

Elizabeth Annah Jensen (By Comprehensive Examination) Geophysics & Space Physics

Bachelor of Arts

Jesus Garibay Banuelos Earth Sciences

Bachelor of Science

Roopl Vallabh Chauhan	Geology
Julien Francois Cohen-Waeber	Engineering Geology
Janet Carolyn Harvey	Geology
Yoshihiro Kaneko	Applied Geophysics
Bryan Patrick Murray	Paleobiology
Ryan Jacob Okerblom	Geophysics & Space Physics
Aaron Dovid Schwartzman	Paleobiology
Dianne Jeanette Taylor	Geophysics & Space Physics
Franky Telles	Geology
Rebecca Harrington Wakefield	Applied Geophysics
Denice Madeline Wright	Geology
Nadia Lisa Yglecias	Geology

7

Crystal Zoning

A very special "Thank You" to all of our 2002-2003 donors . . .

Clem Nelson Summer Field Scholarship Fund

Robert Beatie Bonnie Bloeser (in memory of Robert Horodyski) Norman Bradley Glenn A. Brown The J. Byer Group (John Byer & Robert Zweigler) California Environmental (Charlie Buckley) Stevan Dumas Jeff Farrar David Grover Grover-Hollingsworth & Associates Robert Hollingsworth Edward Hudson Brad & Carole Johnson Steve Lipshie Paul Merifield Eugene D. Michael Joe Nahama J. William Schopf Steve Watry Reed Wicander Glen & Cathy Wyatt

Eugene Waggoner Scholarship Fund

Winifred Waggoner

W. Gary Ernst Graduate Student Support Fund

Gary & Charlotte Ernst Allen Hatheway Liang Chi & Shu Huei Hsu J. William Schopf

For information about the benefits of giving to UCLA's Earth & Space Sciences Department, visit the Campaign UCLA website at http://www.campaign.ucla.edu/ways_to_give.html or call Camille Harper at 310-794-9045

Major Donors

Bonnie Bloeser ExxonMobil Educational Matching Gift Richard Faggioli Liang Chi & Shu Huei Hsu Gene H. Kaula Robert & Jeanette Paschall Winifred Waggoner Mary Watson Reed Wicander

Alumni Foundation Fund

Francis J. Barker Norman Bradley (in memory of Charles Briscoe & William Young) Richard T. Chen ChevronTexaco Matching Gift James Dawson ExxonMobil Educational Matching Gift Richard Faggioli David Ferreira Michael Fleishman Donald W. Hagen Diane & Tom Hunter Kenneth Lister Jerome J. O'Brien A. Thomas Ovenshine Robert & Jeanette Paschall Glenn Shepherd Joseph Murdoch Robert Smart Memorial Fund Parke Snavely, Jr. Scott D. Warner Wavne Wisehart

Kenneth Watson Memorial Fund

Harold K. Stager

Donald Lindsay Shell Oil Educational Matching Gift J. William Schopf Steve S. Sznyter Mary Watson

William Kaula Memorial Fund Ian Kaplan Gene H. Kaula

J. William Schopf

Bolivia Field Trip Fund

Chester E. Baker Francis J. Barker James Dale Barry Jeremy Boyce Glenn A. Brown Paul E. Carlton Richard T. Chen George E. Claypool John W. Cox Kathleen Devaney Charles V. Dobson James Duncan David Ferreira Joe Galbreath Alan Harris Carl Helms, Jr. Kimberly Holland-Chominsky Frank Horacek William F. Hubbard Robert D. Johnston Ed Kiessling Gerald S. Kovacs Douglas C. Martin Robert G. Maynard Paul Merifield Molly & Calvin Miller Mobil Matching Gift Cynthia Ricks Myers Tom W. Redin Stephanie Robbins Peter & Laura Rumelhart Karen Shulman Robert R. Smart Parke Snavely, Jr. Mark Sutherland Joyce Tang John H. (Jack) Van Amringe Mary Watson F. Harold Weber

Alumni News

1934

Russell R. Simonson,

BA (MA '36), does consulting as a geologist and petroleum engineer—his firm, Simex Corporation, looks for gas and oil, and produces oil.

1936

Eugene N. Gottsdanker,

BA (MA '40), retired as a Professor of Geology from the Los Angeles Community College District in 1971. He turned 89 on April 22nd.

Jay G. Marks, AA (AB '38, MA '41, and PhD '51 all from Stanford University), retired from Exxon in 1975 and lives with his wife of 60 years in a retirement community, where he plays golf three times a week.

1941 Robert G. Maynard, BA

(MA '47), is retired from energy mineral exploration for Sun Oil Company and as a consultant for ARCO. He is very proud of his granddaughter, Jennifer Maynard—she received her PhD from the University of Texas, and is now a Post Doc at Stanford University. She and her colleagues are working on developing an antibody for anthrax.

1949

Glenn Shepherd, BA (MA '60), went down the Colorado River with John Warme (PhD '66), who was acting as the trip leader.

1950

Paul E. Carlton, BA, is retired from Getty Oil, and now works on the development and rental of commercial real estate.

1951 Robert L. Beatie, BA

(MA '58), retired in 1989 from the Napa Valley College faculty. He is currently watching his grandchildren grow in two continental locations-both the United States and Sweden. On his annual autumn trips to Sweden (near Stockholm), Robert also studies the growth of mushrooms on a magnificent esker. During the summers, he spends time respecting the effects of wind, waves, tides, and currents at Bodega, Benecia, and Berkeley, while windsurfing!

1952

Donald R. Lindsay, MA, did the bungee jump off the Kawerau Bridge in New Zealand at the age of 76! His explanation—he'd been a diver on the UCLA swimming team!



Dos galapagos-two giant tortoises at the Darwin Scientific Center

1938

Robert Paschall, BA, visited Ecuador with his nephew. They went snorkeling and kayaking in the Galapagos, saw giant tortoises, and stayed at a small inn hosted by Polo and Coque Navarro. A highlight of the visit was having lunch in a lava tube cave on the Island of Santa Cruz, a half-hour drive from the town of Puerto Ayora, where the Darwin Scientific Station is located. The cave was comfortably broad and high, and light came in at both ends, 200 feet apart. Sitting in rough, but sturdy, chairs that his host built, and eating a tasty lunch prepared by their hostess in a lava tube 880 kilometers west of South America, at the juncture of the Carnegie and Cocos submarine ridges, was a delightful experience for a geologist!

1953

Bruce Barron, BA, does geologic environmental and petroleum related consulting for the Strata-Analysts Group. He recently acquired four new grandsons at one time quadruplets!

Joseph Pelline, MA, and his wife are also enjoying being grandparents to a handsome, happy, and fun baby named Mitchell McKenzie, born on April 8, 2002.

1954 Otto F. Strassberger, BA,

is retired, but manages and trades real estate. He attended our Distinguished Alumni Lecture with **Richard Proctor** (MA '58),

at which time he'd been planning a trip to Europe in the summer or fall.

1955

Thomas R. Steiny, BA, is retired, and volunteers as a docent at Point Lobos, where he leads geology walks.

1957 Jack Van Amringe, MA,

retired in 1992 from UNOCAL as Vice President of Exploration. He is currently a board member of the Pasadena City College Foundation. He took a trip to Patagonia, South America, in 2002, and was planning to tour Holland, Belgium, and France in May of 2003.

1958

Ed Kiessling, MA, is retired from the California Geological Survey, which was formerly the California Division of Mines & Geology. He spends time now distributing surplus geology publications to California State University geology libraries. **1960 Ralph Bass**, MA, is retired and still living in Midland, Texas (for 26 years, now). He had plans to drive to Salt Lake City for the American Association of Petroleum Geologists annual convention, and intended to do "a lot of armchair geology along the way!"

1965

James C. Dawson, BA

(MA '67, PhD '70 from University of Wisconsin), is a Distinguished Service Professor in the Department of Earth and Environmental Science at the State University of New York in Plattsburgh.

1967

Alan Harris, MS (PhD '75), retired from the Jet Propulsion Laboratory in October, 2002, after 28 years there. He is continuing his planetary science research, working at home, affiliated with the Space Science Institute in Boulder, Colorado.

Dale S. Kunitomi, BA,

has worked in the oil industry since graduation for various companies in southern California. He has been consulting, specializing in southern California and the Santa Barbara Channel, for the past 15 years hobbies include volleyball, photography, and travel to sites of geologic interest.

1974

Bonnie Bloeser, BA (MS '78, PhD '88 from USC), works for Aera Energy doing geologic surveillance, development, and exploitation drilling for the Coalinga oil field.



How the rest of the world views geologists?!!

Bonnie also participates on innovation teams, data management, and business information teams—special projects include scale analysis, geochemistry, acid simulation treatments, data design teams, and petroleum geology classes. Her daughter, Hillary Cooper, was valedictorian at her June graduation at Centennial High School, and has been accepted for the Fall term at several schools, including UCLA, Berkeley, and some east coast schools. Bonnie accompanied her to Washington DC last April, where Hillary was a team member of her AP Government class's "We the People" team, representing the State of California in the national competition. Bonnie spends her "free" time traveling, gardening, and flying!

1976

Tom Gingell, BS, is currently working as a radar systems engineer. Tom recently had a successful premiere at the San Diego Media Arts Center with three humorous short films he made in his spare time with the help of some friends— Tom plans to submit them to some film festivals.

1977

Richard Redfern, MS, is Director and Vice President of Exploration for Senator Minerals, Inc. They do exploration and consulting for gold, diamonds, and tantalum. His personal company, RMIC, also vends such properties. Richard has one son started at the University of Nevada at Las Vegas, and is still trying to get the other to work with rocks! His wife is an English professor at the Great Basin College in Nevada.

James Wallace, BS, has moved his company to Flagstaff, Arizona. He is presently engaged in Remote Sensing Airborne Research, for NOAA as the principal.

1978

Ken Peters, PhD, recently left the ExxonMobil Upstream Research Company in Houston for a new position as a Senior Research Geologist at the United States Geological Survey in Menlo Park, where he is involved in petroleum system modeling. He saw Brian Rohrback (PhD '79) again at the Denver Geological Society of America meeting, where Ken served as co-chair of the Symposium to Honor Ian Kaplan (Emeritus).

James C. Powers, (BS) is a registered geologist working for an environmental consulting company in

Sacramento. He also has an "unused MS" in petroleum engineering from the University of Southern California, but the petroleum engineering background does come in handy from time to time on non-aqueous phase liquid problems like gas stations and chlorinated solvent sites, and environmental remediation systems. Jim says that he still has his UCLA geology summer field camp class picture on the wall in his office.

1981

Mark Cloos, PhD, is a Professor of Geological Sciences at the University of Texas at Austin.

1982

Steve Swanson, MS, works for Petro-Hunt LLC—he thought we all might get a kick out of the comic strip above. Bill Watterson produced the *Calvin and Hobbes* comic strip from 1985 to 1995.

1983

Roland Mora, PhD, does environmental project management for ChevronTexaco. He is on a 28-28 rotational assignment in Angola, Africa.

Virginia (Hamer)

Pavlakovich, BS, and her family all enjoy the outdoors and geology. Ginny spent her 2002 summer vacation with her husband Walter and their twin 9-year-old sons, Nicholas and Christopher, in the Canadian Rockies visiting the famous Burgess Shale—see photo below.

Joy (Chen) Kwong, BS,

(MS '85) runs a mail order Christian bookstore, called Teddy Herman. She and her husband Eddie (also a UCLA alumnus) just celebrated their 10th anniversary. They have three little girls; Melinda is 7, Rosemarie is 4, and Audrey is 1-year-old.

1985

David Ferreira, BS, has been with MACTEC Engineering and Consulting



Ginny Pavlakovich with twins Nicholas and Christopher at the Burgess Shale.

(and previous incarnations of that company) since 1990. He and his son David, 14, and daughter Darlene, 12, are UCLA fans, attending several games a year-they are also outdoors people and go camping a lot. David has been the scoutmaster of Troop 235 in Tustin for three years. He was also the editor of the Yearly Intrusion, the newsletter for the UCLA Earth & Space Sciences Class of 1985 (and thereabout), for 2003. David came to the E&SS Distinguished Alumni Lecture this year with a copy of the Yearly Intrusion in hand—the following are short excerpts from it: **Camille (Gaines) Anderson** (BS '85) is living in Bremerton, Washington with her boys, ages 8 and 11. while her husband Ian, who is in the US Navy, is on the USS Carl Vinson in the vicinity of Korea. Camille volunteered as a docent at the local museum at her last post in Ridgecrest, California, and had a great time revamping their geology, earthquake, and volcano programs. Melinda A. DeWitt (BS '85) is the operations librarian at the Walter Library of Alliant International University in San Diego, California. She recently bought a condo, and likes to spend vacations traveling with her family. Pat Frascogna (BS '85) lives in Jackson, Mississippi, and misses southern California. Lauri Holbrook (BS '84) is happily dedicated to being the student affairs officer [read advisor, not matchmaker] for the UCLA Department of Earth & Space Sciences. [Of course, we already knew that!] Mike Hunziker (BS '85) still

works for Boeing, and still climbs with a small group of quys who work there. He and his wife Sandy went to New England to check out the fall color last year, but got there just in time for tropical storm Kyle! Neal Lester (BS '85) is now Director of e-Commerce at Brenton Safety in South San Francisco, having changed employers five times in four vears. His wife Ann teaches microbiology at two different junior colleges. They vacationed in Lassen last summer with their daughters, Meera, age 5, and Talia, age 12. Steve Lipshie (MS '74, PhD '84) is still an engineering geologist for the LA County Department of Public Works-also working there are Gerald Goodman (BS '91), Rob Larson (BS '79), and Lidia Lustig (MS '71). Steve recently enjoyed revising and expanding a geologic guidebook to the Long Valley-Mono Craters region that he originally wrote in 1976 for a Geological Society of UCLA field trip. Karen Loomis, BS (PhD '90 from Stanford University), lives with her husband George in Santa Barbara, and works at Kennedy/Jenks Consultants in Ventura, California, as an environmental scientist. They went on a cruise through the inside passage of Alaska with Karen's extended family, and also went for a weekend reunion camping trip at Refugio State Beach with a group of families whose last camping trip together was about ten years ago. Karen McBride (BS '86) loves her work at NASA Headquarters, overseeing missions to Mars. Donald Murphy (BS '85) is

married and has two daughters, ages 12 and 13. He works regulating construction activities to protect receiving waters from construction related pollution; and he volunteers, teaching public speaking at a halfway home for former drug offenders. **Bruce Nelson** (PhD '85) and

Veronique (Roubigou)

Nelson (MS '84) live in Seattle, Washington, where Bruce is a Professor of Earth & Space Sciences at the University of Washington, runs an isotope geochemistry lab, and is setting up a new lab and building new facilities to house the ESS Department. Veronique is still enjoying a challenging research position at the School of Oceanography at the University of Washington, while continuing to spend time at sea studying the hydrothermal systems on Juan de Fuca Ridge. Mike Pope (BS '85) is a Professor of Geology at Washington State University. He and his wife Pauline have a daughter and now two sons, as the adoption of the brother of their first son became official last November. Eric Rehwoldt, BS (MS '89), does geological and geotechnical engineering for Schnabel Engineering, in Gaithersburg, Maryland, and has had the chance to manage several geotechnical studies for new US Embassv and Consulate sites worldwide. His wife Carolyn is a physical therapist at a local physical rehabilitation hospital, and their kids-Miles, 10, Teresse, 8, and Danielle, 4, are involved in soccer, martial arts, dance, and music.

Lily (Fong) Soley (BS

'85) develops software for financial institutions. **Shin Ueno** (BS '85) has taken a new job at Hasbro, in Rhode Island. He and his wife Tina have two daughters— Katie, a fourth-grader, plays softball and clarinet, and Cherie, in the first grade, is a Brownie Girl Scout.

1988

Miguel Moreno, PhD,

works for the LA Community College District, and is the Partnership Coordinator for the University of Southern California (USC) and Los Angeles Trade Technical College (LATTC). Other projects involve NASA and high school programs. Miguel's wife, Gladis Clavel Jameson, recently got US citizenship and graduated from the UCLA Extension Advanced Marketing Certificate Program.

1990

Denise Battles, PhD, was promoted to the rank of Professor of Geology in July, and also serves as Associate Dean of the College of Science and Technology at Georgia Southern University. She recently received National Science Foundation funding to develop a college-level textbook on art and geology, of all things! Her collaborator, Jane Rhoades Hudak, is a Professor of Art at Georgia Southern. Denise is married to Dr. Michael Mills.

1991

Fabio Minervini, BS, is a project geologist with England Geosystem Environmental Engineering



Massimo and Elisabetta Minervini

in Irvine, and lives in Laguna Hills with his wife April, their three-year-old son Massimo, and their new daughter Elisabetta Lily, who was born January 26, 2003—see photo above.

1994

James Duncan, BS, is excited that the high school where he teaches Advanced Placement Physics is finally going to start offering Earth science. James is also taking classes himself, having started graduate school recently. And he and his wife Kirstin had a baby after having adopted a baby girl, so they now have two under the age of one!

1996

Jacquelyn Jones, BS, is shelter manager for the Berkeley East Bay Humane Society and operates her own dog training business.

Tom Meseroll, MS (BS '93 in Astrophysics), was selected in April as the Senior Level Executive for Honeywell Technology Solutions, Inc. When Tom was a member of the Space Plasma group at UCLA, he was responsible for the calibration of

magnetometers for the Fast Auroral Snapshot Explorer (FAST). He was also a member of the test and analysis team at Goddard Space Flight Center, participating with the testing of instruments on FAST in the magnetic field testing site, and he did research for the Astrophysics Department at UCLA, mapping the galactic center using radio wave observations from the Owens Valley Interferometer, as well as the Very Large Array. Tom also received Aerospace Leadership Management Certification from the Anderson School of Business at UCLA.

1998

John Leland, PhD, teaches geology and oceanography at Glendale Community College.

1999

Shirley Baher, MS (PhD '01), has received a Mendenhall Postdoctal Fellowship with the US Geological Survey in Menlo Park, California. The focus of this assignment is to determine the potential of offshore earthquakes to create damage onshore. She will be working with the Coastal and Marine and the Earthquake Hazards groups to define fault structures that are continuous from offshore to onshore, then define the location and geometry of offshore faults and potential for tsunamigenic landslides.

Kelley Moore, BS, is the supervisor of public education programs for Lowell Observatory in Flagstaff, Arizona, and is also doing research for their new telescope.

2000

Stephanie Robbins, BS (MA in Education '01), stopped by on her way to the Sea of Cortez in Baja California, where she was going for a marine biology field course. She has taught Integrated Science and Oceanography at Venice High School for almost four years now.

2002

Matthew Affolter, BS, is now in the graduate program in geology at the University of Montana, where he has already served as a teaching assistant for their summer field class.

Michael Fleishman, BS, is enjoying the geophysics graduate program at Stanford very much!

2003

Elizabeth Jensen, MA, is continuing her research on measuring magnetic fields of corona and field lines of coronal mass ejections, and working toward her PhD in the ESS Department here at UCLA. She was married to Jeremy Schoech on November 28, 2002.

Bryan Murray, BS, and wife Dana (BA in Geography/ Environmental Studies at UCLA) are Peace Corps volunteers assigned to the country of Jamaica, working for the Caribbean Coastal Area Management (C-CAM), which manages the largest protected area in Jamaica, the Portland Bight. Bryan does research/monitoring including beach profiling to monitor for erosion; Reef Check, involving SCUBA diving to monitor fish and coral populations; soil testing; water-quality testing; and GIS work.

Bryan is trying to organize underground mapping of caves in their protected area, which could lead to a lot of spelunking—this may not happen until the agency gets grant money for it—the same is true for crocodile, bird, and sea turtle monitoring. Bryan and Dana are also responsible for creating and updating C-CAM's website at

www.portlandbight.com.

On weekends, they travel around the island, and "do a little bit of the tourist thing". . . and a rasta friend drives them to places that tourists don't go.

Emeritus Faculty

Gary Lane taught in the Geology Department (now ESS) for 15 years, from 1958 to 1973. He related a few memorable experiences about doctoral candidates taking their oral gualifying exams. One mature individual with industrial experience and a Masters degree from another school started his oral exam with a very short discussion of the topic, then barely answered questions put to him, and finally began answering the rest of the questions with "yes" or "no" answers. He had frozen up, and it was agreed (after some contention) that he be allowed to take the exam again in a few weeks time. It turned out that he'd never taken any kind of oral exam before, and after some practice sessions with a mock doctoral committee made up of fellow graduate students, he sailed through the exam with flying colors. The second exam took place early in the morning. The normally quiet and reserved student breezed in, all

smiles, shook hands with everyone, and bounced up to the front of the room. He laughed at some of the questions, gave lighthearted answers, and even cracked jokes. He did a good job at answering questions and passed the exam with no problems. Later, they discovered he had been nervous the night before and had taken tranquilizers, which had a strong secondary effect on his personality. The third exam took place in a lab. with the student standing behind a high demonstration bench. Upon being asked a thought-provoking question, he leaned on the bench, bowed his head in thought, and remained that way . . . he had fainted standing up! They sat him down, walked him around a bit, then he composed himself and finished the exam successfully with no further problems. All three students went on to become very successful scientists. Gary concludes, "You never know what to expect when you enter into a PhD oral qualifying examination!"

Clem Nelson retired in 1989, and left UCLA to settle in Bishop, California, where he enjoys the wonders of the White-Inyos, the Owens Valley, and the Sierras. Though he missed having the help of a secretary [as does everyone else who ever had one in the Department, now], he had an office at the White Mountain Research Station (WMRS), and continued his activities in the region. Clem's wife Ruth died in October of 1989, after which he spent several months traveling to get his

bearings. Clem appreciates regular visits from Steve Lipshie (MS '74, PhD '84), Bruce Bilodeau (MS '81), Gary Ernst (Emeritus), John Christie (Emeritus) and Spring Verity (Emeritus staff), Alan Glazner (PhD '81), and others. His activities are mostly based around field trips he's led to the local mountains, and he's made friends with locals Robert Paschall (BA '38), Ray Gray (a graduate of UC Berkeley), and several other WMRS denizens. Clem's "formal activities" have included publication of a Geologic Map of the Mineral Hill Quadrangle in collaboration with Don Carlisle (Emeritus) in 1990; a paper on Possible Landsliding of the "Elephant" in Deep Spring Valley, California and a collaboration with **Clarence** Hall (Emeritus) and Gary Ernst (Emeritus) on the Geologic History of the White-Invo Range (with geologic map) in 1991; the Geology of the Sage Hen Flat Pluton, White Mountains with Bruce Bilodeau and a Field Guide of the Geology of the Eastern Sierra Nevada, Owens Valley and White-Inyo Mountains with Ray Gray in 1993; a paper with **Ellis Yochelson** on Walcott and the Early Cambrian of Eastern California, a paper on the Waucoba Spring section, and a paper with Gary Ernst on the Bedrock Geology of the Crooked Creek area, White Mountains in 1994; a paper on the Beer Creek-Cottonwood Ingneous-Contact in 1998; and a Field Guide to the Geologic History of the White Mountains with Tom Welch in 1999 . . . Clem has kept pretty busy since his "retirement!"

Please help us find a "lost soul". . . We've lost contact with:

John Adams '52 Louis Alvarez '50 Richard Anderson '56 David Anderton '80 Jerome Ardavanis '53 James Babcock '61 William Bailey '31 Dana Barber '83 Joseph Bell '44 Richard Berman '77 Ronald Bertasi '89 Michael Binder '73 Bobby Blanks '59 Marta Block '77 Susan Block '73 Richard Brown '59 Jacob Bruynzeel '53 Dean Bryson '53 Scott Budd '78 Gerald Burton '37 Rande Burton '73 Rebecca Cave '96 Jean Paul Chavez '58 Hsueh-Cheng Cheng '71 Harold Christler '37 James Clements '65 Horace Cline, Jr. '36 Earl Cooper '39 Pham Giem Cuong '79 Louis Czel '58 Donald Dailey '60 Donald Daniels '88 Richard Daum '37 Richard Delsasso '56 Howard Dohlen '50 Thomas Drescher '52 John Dryden '52 Alan Eastwood '70 Edwin Edwards '63 Leslie Ekas '85 J.H. Ellis '29 Rachel Ellisor '92 Gregory Ellsworth '75 Pamela Endler '84 Harold Erickson '58 Lars Ericson '59 Brian Eytcheson '98 Hossein Farmy '53 Samuel Feldman '79 Walter Foley, Jr. '43 Declan Ford '48 Ahmed Ali Fouda '73

Paul Franklin '50 Karen Freedman '78 Arthur Freitag '59 Paul Garton '41 Grover Gauntt '42 Mary Ginskey '94 John Grady '47 Janet Ann Graff '93 Cliffton Grav '49 Alan Grobecker '68 Mabel Grouard '26 Richard Gunther '76 Gerald Hagerman '60 Douglas Hamelin '28 Donald Hangen '52 Bruce Hanson '53 Heather Hanunian '74 Robert Hart '67 Lee Harvill '69 Bruce Haw '51 Kirk Hayward '81 George Hazenbush '50 Chester Herbst '71 Anthony Hicke '00 James Higley '59 William Hildreth '82 Harold Hill '42 Terry Hirsh '71 Albert Hoblit '53 Roger Hoeger '42 Russell Hood '53 Robert Hope '66 Alfred Hopkins '50 Doralee Howell '59 Donald Hughes '59 Steven Ihnen '78 James Jackson '60 Andrew James '82 Peter Jenden '83 Stuart Johnson '66 Anthony Karpinski '63 Arthur Keene '51 W. Keys '55 Ibrahim Khan '71 David King '59 P. Kinney '39 Marti Lynn Klein '78 John Kneemeyer '58 Robert Koerner '81 Jean Konishi '81 David Krohn '56 Leif Landberg '60 Arthur Lander '58

John Landry '54 Edmond Lawrence '67 Jack Leach '53 Morton Levy '57 Yao Li '96 James Lindsay '55 Anthony Lloyd-Morris '60 John Loofbourow, Jr. '39, '41 Louis Louis '50 William Lumsden '55, '57, '64 Calum MacDonald '86 William MacKersie '48 Lee Madland '70 Kyna Mallery '96 Barbara Mandel '68 Ellen McKay '82 Kelly McSpadden '72 Rov Mead '34 Thomas Meier '76 John Meigs-McDonald '95 Jason Mejia '99 Barbara Meller '85 Shyu-Wang Miin '78 Charles Miller '27 Holmes Miller '32 Kurt Miller '84 Stanley Mitchell '33 Albert Morejohn '51 Billy Moser '62 Barry Mostovov '58 Lynn Muradian '83 Murdock Nicholson '54 Yaw Ntiamoah-Agyakwa '87 Julio Olaechea '60 Norman Olin '61 Garnet Oliver '38, '40 Marie Ong '91 Charles Orvis '57 Eugene Orwig '57 William Pakula '91 Robert Patterson '68 Jerome Petrie '50 Gordon Pine '61 Gary Player '67 Ralph Rampton '36 Jeffrey Rashoff '85 Rudolph Ratliff '71 Sandra Redfearn '82 William Renison '70 Jean Richter '85 Howard Robbins '48 Charles Roberts '82 James Robertson '60

Donald Robinson '58 Karen Robinson '78 James Robison '64 Mark Rogers '79 Donald Rose '59 Deborah Sanders '95 John Sargent '58 John Scott '65 Melvin Scribner '51 Robert Shank '73 Ed Sherman '47 Susan Shoemaker '81 Alexis Smith '94 Robert Smith '50 Susan Smith '83 Daniel Sokol '49 Howard Sonneman '56 Karen Sorensen '87 Paul Sroka '70 Robert Starr '55 Ofra Stauber '84 Robert Stoddard '55 John Sweale '66 Thomas Tahara '66 Richard Tanner '79 Barry Temple '82 Patricia Teston '96 Gary Thompkins '60 Mark Tippets '72 John Todhunter '53 Jack Tompkins '46 Olai Torkelson '36 Roderick Trice '79 John Truhlar '58 Stanley Uehara '66 Edward Uren '52 Jane Vanderaarst '84 Mathilda Van Zele '56 Fred Varney '35, '37 Donald Walls '59 Suzanne Wardenaar '73 Dianne White '92 Cindy Windham '86 Donald Windrim '79 Clarence Winge '71 Henry Wise '39 Elizabeth Witton '96 Charles Wright '39 Victor Wright '55 Yuyao Xu '93 George Yonkman '57 Susan Yudovin '79