

UCLA
Earth & Space Sciences
NEWSLETTER

December, 1994



Chair's message...

It was good to meet so many of you at the last Alumni weekend. An entertaining dinner, where we saw our once and former Dean Clarence Hall off into retirement, was followed by a cliff-hanger football game against USC and on the Sunday a fascinating field trip to San Francisquito Canyon, the site of the famous dam collapse. This year three more faculty have retired. John Christie, Paul Coleman and Ron Shreve, though still active in the Department, have taken on emeritus status. However, we are building up again to our former strength. The Dean has approved 5 new positions and a Rubey fellowship. The first position in planetology has been filled by Paul Tackley, a recent graduate from Caltech. Paul won the Clauser prize for the best Ph.D. at Caltech in his year in all fields. He was a much sought-after candidate and came to us with many offers elsewhere. We are indeed pleased he chose UCLA. The department is presently conducting an extensive search for a seismologist and has an advertisement out for an Earth scientist with interests in field work and continental tectonics. We also will be advertising jointly with the IGPP for a space scientist, and the Dean has approved a future joint position with the IGPP. It is an exciting time to see these vigorous young people joining the Department.

The Northridge earthquake has kept the Earthquake Center hopping. The Department sustained minimal damage; a bookshelf-anchoring program completed before the earthquake was successful and saved us countless hours of reshelving.

Congratulations go to An Yin, who won the Donath prize of the Geological Society of America. This is geology's preeminent prize for a young scientist. Other Departmental highlights include the Rubey symposium held on the Tectonics of Asia by An Yin and Mark Harrison, which attracted experts from all over the world as well as representatives from many oil companies. Galileo, with the UCLA magnetometer aboard, reaches Jupiter this year after measuring the magnetic fields in the vicinity of two asteroids along its way. The ion probe is working well, and some of the first results have been submitted in a paper by Mark Harrison's group to *Nature*.



Undergraduate enrollments are up. We have recently had some oil company hires from the Department, and several oil companies have been by to recruit. Many schools across the nation are canceling extensive field courses. We still maintain our strong field component, including the rigorous summer field. Environmental and oil companies tell us that they value such training, and we hope it will give students the competitive edge.

We hope you will drop by the Department some time. I believe you will be pleased by the energy and excitement you will find as we look forward to a strong future.

Warmest regards,

Paul Davis

Paul M. Davis
Chairman

Eighteen students, two T.A.s and Professor Ted Reed mapped out a section of the Sierra Nevada for Summer Field '94. It was not a luxury



cruise and it was not the Riviera, but it was something the students could afford. However, the Sierra Nevada's unrivaled beauty made for the most deluxe of accommodations.

The purpose of the class was to apply the knowledge and skills learned in the classroom to the actual geological settings. We quickly learned the complexities involved in the process of mapping geology. Following Professor Reed's

advice, common sense, careful observations, and the sharing of ideas proved to be the best tools for attaining a true understanding of the geology. This understanding and the simple beauty of the Sierras made the summer of '94 one to be remembered.

by David Dirkin

NEW
Faculty on Board...

The Department has a new Assistant Professor in the fields of geodynamics and planetology. Paul J. Tackley, a recent PhD from Cal Tech, came on board July 1, and after a moving in and settling in period he can now be found in his new office (Geology 3711). Paul is a theoretician and numerical modeller of dynamical processes in planetary interiors.

He is an expert at incorporating state-of-the-art numerical techniques into codes that work on the latest and most pow-

erful massively parallel supercomputers. His skills at computation and computer visualization of model results have already won him wide acclaim in the geophysics community. Paul's PhD thesis involved the 3-D modelling of convection in the Earth's mantle with special emphasis on how major phase changes in the mantle influence the style of convection. Paul has also studied convection in the mantle of Venus and has proposed a new mechanism (melt instability in the mantle) for

the formation of the unusual quasi-circular features on Venus known as coronae. Paul plans to continue his cutting edge studies of mantle convection and may branch out to consider the modelling of motions and the magnetic field in the Earth's core (the dynamo problem) and circulations in the ocean and atmosphere. We are fortunate to have Paul with us and wish him welcome as he begins his UCLA career.

by Gerald Schubert

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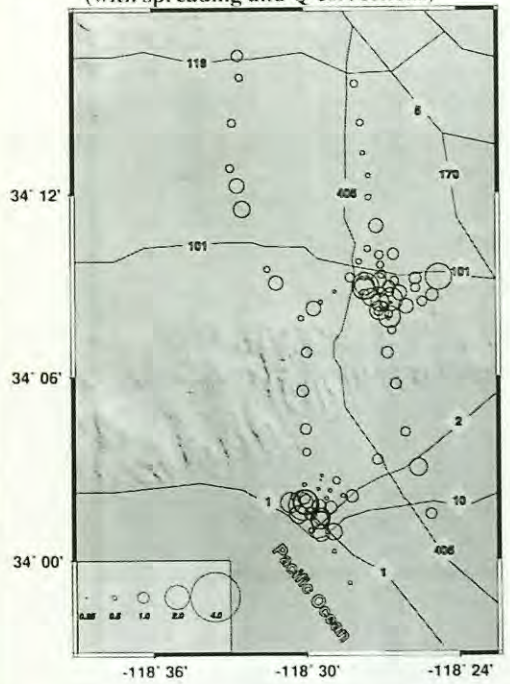
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SEARCHING FOR THE REASONS FOR ENHANCED DAMAGE FROM THE NORTHRIDGE EARTHQUAKE IN SANTA MONICA AND SHERMAN OAKS

by Paul M. Davis

When an earthquake occurs, seismologists expect the damage to be greatest in the vicinity of the epicenter and to decrease with distance in a smooth fashion. However, after the Northridge earthquake, it soon became apparent that the damage, as documented by red-tagged (condemned) buildings, was also concentrated in pockets well away from the epicenter. Two such areas close to UCLA were Santa Monica and Sherman Oaks (squares in Figure 1). We were faced with the questions, why did these areas experience greater shaking, and would this phenomenon repeat for future earthquakes, placing extra requirements on engineering practices in susceptible areas? As a start, we installed a seismograph in Prof. Bill Hutchinson's (School of Arts) backyard, located in the damage zone of Sherman Oaks, and one in Professor Knopoff's back yard, located in a zone of minimum damage in the Santa Monica Mountains.

Averaged S_{wave} Relative Amplitudes (32 events) (with spreading and Q corrections)



eight times greater than in the mountains, suggesting that the geology was causing amplification.

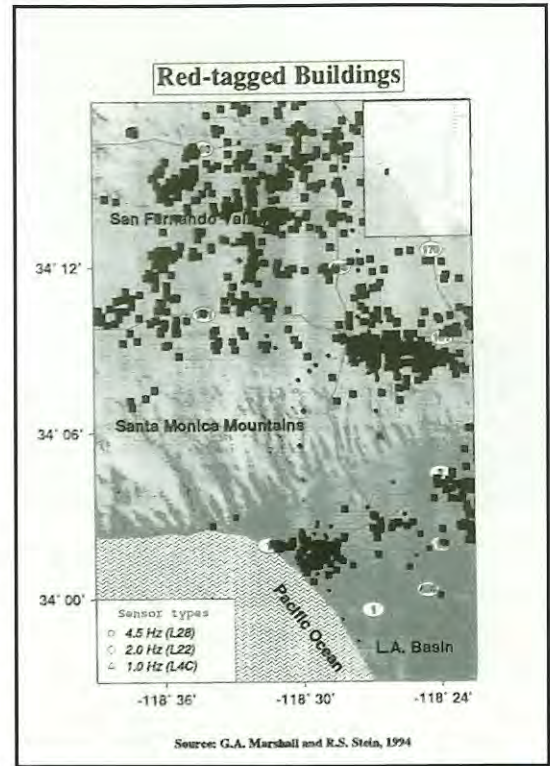
In order to investigate this phenomenon further, we then installed 98 stations in back yards and ran the array for three weeks (dots in figure 1). Stations were clustered in Sherman Oaks and Santa Monica as well as along two linear arrays that extended

through the station clusters into the aftershock zone. Our objective was to investigate whether the weak ground motion from the aftershocks could be used to understand the damage wrought by the strong ground motion. Over 300 aftershocks were recorded. Our analysis reveals that badly damaged areas do indeed see large aftershock amplitudes relative to those of undamaged areas (Figure 2).

Two reasons have been proposed for the enhanced damage in Sherman Oaks. The first involves the pinch-out of the San Fernando sediments against the basement of the Santa Monica mountains, which traps surface waves in the sediments and builds up their amplitude. The second proposes that the region of damage corresponds to the unconsolidated sediments of the LA River bed. If pinch-out is the cause, we need to explain why neighboring Encino, with similar geology and closer to the epicenter, was significantly less damaged. If river bed sediments are the cause, why is the damage confined to only that part of the river in Sherman Oaks? These questions suggest that three-dimensional propagation effects have occurred which need to be assessed in estimating risk.

Enhanced damage in Santa Monica is also difficult to explain. It is confined to a triangle lying immediately south of the Santa Monica fault. The Plio/Pleistocene sediments are elevated and well drained. They may be expected to be more resilient than the alluvium farther to the south in Culver City and Marina Del Rey, which is an area of high liquefaction potential. It has been a puzzle why regions at similar distances from the earthquake and with seemingly similar geology, such as West Los Angeles, Westwood, and Beverly Hills, suffered significantly less damage.

Several reasons have been suggested: 1) The transition from the slates of the Santa Monica Mountains to the sediments of Santa Monica Basin generates the reverse of the pinch-out effect, where body waves (S mainly) convert to high-amplitude surface waves, which decay as the basin deepens. This implies that south Santa Monica lies in the pinch-out region. 2) The topsoil at Santa Monica is made up of highly unconsolidated fan deposits from the Santa Monica Mountains. 3) Critical reflections from the Moho have a peak at Santa Monica. 4) Focusing of arrivals due to the sediments south of the Santa Monica fault causes enhanced amplitudes. In this case too, it is clear that the evaluation of risk in the Santa Monica area is an inverse problem of some difficulty involving three-dimensional wave propagation through heterogeneous materials. ★



...Tectonics in action

At 4:31 am on January 17, 1994, Southern California was once again reminded that active tectonics is not just of academic interest. In a matter of seconds we saw lives disrupted, transportation routes severed, homes destroyed, and the San Fernando Valley become 20 cm shorter and 50 cm higher. The magnitude 6.8 Northridge earthquake was another in the series of seismic events that have rocked the southland in the last 8 years.

The Northridge earthquake provided us with several geological surprises. Probably the biggest surprise to many of us was that it occurred on a south-dipping fault under the San Fernando Valley. Before the Northridge earthquake the prevailing thought was that faults under the valley dipped north like the Santa Monica Fault or the San Fernando Fault. How the newly recognized West San Fernando thrust ramp is related to adjoining faults is not yet fully understood, but its eastern end partially abuts the portion of the San Fernando Fault that moved in the 1971 San Fernando earthquake. The fault began 17-18 km beneath Reseda on the south side of the San Fernando Valley. The fault ruptured upward to under the western valley towards the Santa Susana Mountains, stopping 3-5 km beneath the surface. There was no well-defined rupture related to hills on faults at the surface, but minor cracking, some probably landsliding, was observed in the northwest valley and in the northward to Newhall. In the Santa Susana Mountains rock slides were plentiful and each large aftershock brought more clouds of dust as the slides were reactivated.

Inversion of seismic waves, the geodetic surface deformation, and the aftershocks show that the West San Fernando thrust ramp dips 35° southward and strikes ESE. In the Northridge earthquake the maximum slip on the fault was between 2.0 and 2.5 m of nearly pure thrust. Most of this motion was on the lower portion of the fault below 8 km depth. Seismic ground accelerations in the northern San Fernando Valley were high with peak horizontal ground accelerations of 0.85g and higher. Large accelerations above 1.5g were observed, but these sites typically have unique geological conditions. High accelerations outside the San Fernando Valley, such as the area of the Santa Monica Freeway collapse, were associated with "soft" ground conditions amplifying the seismic shaking.

Although similar in size to the 1971 San Fernando earthquake (magnitude 6.7 in 1971 versus 6.8 in 1994), many people consider the Northridge earthquake a much more powerful earthquake. Two factors contributed to the increased damage in the Northridge earthquake: In the San Fernando earthquake the fault that ruptured was under the San Gabriel Mountains while the Northridge earthquake occurred within the San Fernando Valley. Also, the Northridge earthquake appears to have been a "faster" earthquake releasing a similar amount of energy in a shorter period of time.

With each earthquake in the Los Angeles area we learn more about the

geology beneath our feet and the active tectonics occurring around us. The local hills and mountains are the results of this activity, and each earthquake is a small contribution to their development. Each earthquake also allows us to make contributions to understanding the hazard around us and preparing ourselves for future earthquakes. ✦

by Steve Salyards



The Northridge Bullocks remains from the January 17, 1994 Earthquake

In Memoriam



Written by Christopher Russell and partially reprinted from EOS Bulletin, September 15, 1994

Robert E. Holzer

1906-1994

Born November 21, 1906, in Portland, Oregon

Died May 19, 1994, in Los Angeles California.

Bob Holzer passed away after a career in geophysics spanning six decades. Beginning with studies of atmospheric electricity in New Mexico, his interests evolved through studies of waves in the magnetosphere, especially ELF and VLF waves, both in ground-based records and then *in situ*, as rockets and satellites provided access to the farthest reaches of the magnetosphere. Robert E. Holzer, a fellow of both AGU and the American Physical Society, leaves a legacy to the field of geophysics through the training of students at the University of New Mexico and the University of California, Los Angeles, and through his many publications. He is survived by his wife, Wilma, a daughter, and two sons, one of whom, Thomas E. Holzer, is well known to the geophysical community.

In all his work and in his interactions with his students and colleagues, Bob Holzer was a thoughtful and kind person. He was the prototypical scholar and gentleman. All who knew him remember him for both a fruitful professional relationship and a warm personal friendship. His vast collections of humorous statements, which fit many of life's experiences, are a legacy that we will not forget. The family has asked that any memorial contributions be made to a charity of the donor's choice.



Alfred Richard Loeblich, Jr.

1914-1994

Born August 15, 1914, in Birmingham, Alabama

Died September 9, 1994, in Los Angeles, California

Alfred Richard Loeblich, Jr., Adjunct Professor of Geology and Paleontology, died September 9, 1994, at the age of 80. After receiving his B.S. and M.S. in Geology from the University of Oklahoma and his Ph.D. from the University of Chicago, he joined the geology faculty at Tulane University in New Orleans. During his second year there, he was called to active duty as a Captain in the US Army, with combat duty on Okinawa and in the Philippines. He was a curator of Invertebrate Paleontology and Paleobotany at the Smithsonian National Museum of Natural History in Washington, D.C. (1946-1957), then became a Research Paleontologist for Chevron Oil Field Research Company in La Habra, California. Moving to Los Angeles in 1972, as an Adjunct Professor at UCLA he taught graduate courses, obtained NSF and ACS research grants, and directed M.S. and Ph.D. students as well as postdocs.

Al was elected Fellow of the GSA in 1946, received the SEPM Best Paper Award for an article in the 1957 *Journal of Paleontology*, was elected an Honorary Corresponding Member of the Société Géologique Belgique in 1974, received the Paleontological Society Medal in 1982, the Joseph A. Cushman Award from the Cushman Foundation for Foraminiferal Research in 1982, the Raymond C. Moore Medal of the Society of Sedimentary Geology (SEPM) in 1987, and the 1988 award of the Association of American Publishers for the best professional and scholarly book in the field of Geography and Earth Science.

More than 200 articles and books were published on bryozoa, foraminifera, tintinnids, acritarchs, prasinophytes, dinoflagellates, silicoflagellates, ebridians, and calcareous nannoplankton, and on evolutionary and extinction patterns of the protistan groups, either as publications of the USNM, GSA, AAPG, various universities and state surveys, or in geological, paleontological, micropaleontological, zoological, botanical, and nomenclature and systematics journals in the US, Canada, Britain, France, Spain, Germany, the USSR, and Japan.

He is survived by Helen, his wife and scientific collaborator of 55 years, a brother, four children, 11 grandchildren and one great grandson.



Memorial Donations: Contributions may be made in his memory to ALZHEIMER'S ASSOCIATION
919 North Michigan Avenue, Chicago, Illinois 60611-1676

HISTORY OF SUMMER FIELD

~ A Photo Retrospective ~

Summer Field is the culminating experience for all geology undergraduates at UCLA and holds a fond spot, we hope, in the memory of all its participants. We have begun compiling a history of Summer Field and have found that the official record is surprisingly scanty; much of it we have had to piece together from the memories of various, especially faculty, participants. But there is a lot we don't remember, and thus would like to solicit any stories, photographs (we'll copy and return them) or other memories that you feel are worth preserving in the institutional memory. When it's finished, we'll share the results with all. To get things started, we've included some photos from the past with some very basic information; unfortunately, limited space prevents us from publishing individual student names in this short version.

We hope you are intrigued and, more importantly, that you can help us out with this project. Send your information to Donna Tucker, Summer Field History Project, Department of Earth & Space Sciences, University of California, Los Angeles, CA 90024-1567.



1970

Summer Field was held that year in the Cambria area of San Luis Obispo County with Clarence Hall and Gary Ernst as instructors. Photo was taken on a field excursion to the Sierra Nevada.



1974

This could only be Camp Inyo after (or before?) a hard day's mapping in the Poleta Folds. Clem Nelson and Johnnie Moore were the instructors.

Instructors Hall and Ernst pose with students at an obscure locality in the Sierra Nevada after a Summer Field spent mapping in central San Luis Obispo County.



1972



1976

Another class from the Camp Inyo era. Clem Nelson, Johnnie Moore and Tom Foster put the students through their paces in the Poleta Folds that year.

Reputed to be the smallest ever, the Summer Field class of 1989 mapped the Poleta Folds under the guidance of Ray Ingersoll, An Yin and Dave Diamond. The second half of the course was spent with Mark Barton and Bob Ilchik in the White Mountains.



1989



1982

1982 found Summer Fielders in Camp Inyo/Poleta Folds with Clem Nelson and Ed Morelan, followed by a second-half stay at Crooked Creek in the White Mountains with Gary Ernst, Wayne Dollase and Clarence Hall. David Saxon, President of UC (center below telephone) visited White Mountain Reserch Station & UCLA summer field.



1954

This large class is from the Paleozoic Era of UCLA Summer Field, when students mapped at Mineral Hill, Nevada, under Clem Nelson, Don Carlisle and Jerry Winterer. Bill Daly helped out in camp in those days. These were the years of camping at Bruffy's Ranch with its hot (and very hot) springs for showers and the infamous swimming tank that so concerned the Dean of Women back in Los Angeles. Did that innocent incident happen in 1954?

Another class from the years of two-part Summer Field, 1978 through 1988 to be precise. The first half of this double header was spent mapping Poleta Folds under Ray Ingersoll, Clem Nelson and Dave Diamond, the second in the White Mountains under Gary Ernst and Clarence Hall.



1986

During the summer of the Olympics in Los Angeles, Summer Fielders mapped Poleta Folds under Clem Nelson, Ed Morelan and John Goodge, followed by a stint in the White Mountains at Crooked Creek with Gary Ernst and Clarence Hall.



1984



1971

Clem Nelson and Martin Stout led this year's camp in mapping Poleta Folds. Bivouac was at Camp Inyo, of course. Location of photo and mine (?) building unknown to editor—can anyone help out?

Here's that mining building again. Posed in front of it is another Camp Inyo/Poleta Folds class, led this year by Clem Nelson and Art Sylvester.



1969



1981

Another two-parter: Clem Nelson and Ted Reed led the troops at Camp Inyo/Poleta Folds; Gary Ernst, Warren Thomas and Clarence Hall did the same at Crooked Creek/White Mountains.



1983

Even the injured mapped in 1983. Clem Nelson, Ted Reed and Ed Morelan taught at Poleta folds during the first half; Clem stayed on to assist Gary Ernst and Clarence Hall during the second half in the White Mountains.

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OUTSTANDING TEACHING ASSOCIATE AWARD

Conferred in recognition of excellence in teaching

Frank Calles Ramos

SHERMAN FELLOWSHIP

Presented to graduate/undergraduate students based on their high academic accomplishments. This award was endowed by Wilbur B. Sherman

Heather Lin

JOHN W. & FRANCES R. HANDIN SCHOLARSHIPS

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

*Karen Samara Friedman
 Michael Eugene Oskin*

EUGENE B. WAGGONER SCHOLARSHIP

Awarded for academic excellence, this scholarship honors the memory of Department alumnus Eugene B. Waggoner (BA '38, MA '39).

Kevin Michael Soulé

SABINS/CHEVRON SUMMER FIELD AWARDS

Through the generosity of long-time Departmental friend and adjunct professor, Floyd Sabins, and Chevron Oil Company, these awards are conferred for scholastic excellence to summer field students.

*Stephanie Powell Bason
 John Meigs-McDonald*

HARRIS SUMMER FIELD AWARD

Established to provide support for outstanding summer field students, this award honors the late Departmental alumnus, Walter Stephan Harris (BA '55, MA '58).

Christina L. Camors

CLEM NELSON SUMMER FIELD AWARD

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

Paul Aaron Brown

Degrees Awarded
BACHELOR OF SCIENCE

Stephanie Powell Bason Geology *summa cum laude*
Armando Burciaga Geology
Stephen Daniel Diem Engineering Geology
James Douglas Duncan Applied Geophysics
Mary Elizabeth Ginskey Geology
Dina Aileen Kourda Engineering Geology
Ann Hyonjeong Lee Geology
Lawrence Nelson Levee Geology

Maria Mendiola Earth Sciences (BA)
Michael Andrew Murphy Geology
Julie Jeannine Norris Applied Geophysics *magma cum laude*
David Harold Sarkisian Engineering Geology *cum laude*
Katherine Margaret Schuyler Geology
Stephanie Marie Sibbett Geology
Laura Elaine Webb Geology *cum laude*



Graduating class of 1994

MASTER OF SCIENCE

Ronald David Baker	<i>(By Comprehensive Examination) Geophysics and Space Physics</i>
Gerard Talton Blanchard	<i>(By Comprehensive Examination) Geophysics and Space Physics</i>
Elizabeth Jane Forshee	<i>Evolution of the War Eagle Landslide, Whipple Mountains, Southeastern California</i> (Professor Yin) <i>Geology</i>
Shangxing Gao	<i>(By Comprehensive Examination) Geophysics and Space Physics</i>
John David Pinder	<i>(By Comprehensive Examination) Geophysics and Space Physics</i>
Peter Edwin Rumelhart	<i>Petrology and Provenance of the Modelo Formation, Santa Monica Mountains, California: Implications for Paleotectonic and Paleogeographic Evolution of the War Eagle Landslide, Whipple Mountains, Southeastern California</i> (Professor Yin), <i>Geology Reconstructions</i> (Professor Ingersoll) <i>Geology</i>
Dianne Lynn White	<i>Field, Petrologic and Isotopic Study of the Bishop Creek Dike Swarm</i> (Professor Harrison) <i>Geology</i>
Yuyao Xu	<i>(By Comprehensive Examination) Geophysics and Space Physics</i>

DOCTOR OF PHILOSOPHY

Paul Belasky	<i>Permian Paleogeography of the Tropical Pacific Region: Biogeographic Approaches to the Determination of Longitude</i> (Professor Runnegar) <i>Geology</i>
Wendy Ann Bohrson	<i>Alkaline and Peralkaline Magmatism in the Eastern Pacific Ocean: Socorro Island, Mexico</i> (Professor Reid) <i>Geology</i> <i>Alkaline and Peralkaline Magmatism in the Eastern Pacific Ocean: Socorro Island, Mexico</i> (Professor Reid) <i>Geology</i>
Colette M. de la Barre	<i>An Investigation into the Existence of Asteroids at Saturn's Triangular Lagrangian Points</i> (Professor Kaula) <i>Geophysics and Space Physics</i>
Michael Howard Farris	<i>The Physics of the Collisionless Bow Shock</i> (Professor Russell) <i>Geophysics and Space Physics</i>
Jeffrey Alan Fillipone	<i>Tectonic and Thermochronologic Evolution of the Cabinet and Selkirk Mountains, Northwest Montana and Northeast Idaho</i> (Professor Yin) <i>Geology</i>
Candice Joy Hansen	<i>Seasonal Nitrogen Cycles on Triton and Pluto</i> (Professor Paige) <i>Geophysics & Space Physics</i>
Stephen Michael Petrincec	<i>Solar Wind Dynamic Pressure Effects on the Terrestrial Magnetosphere</i> (Professor Russell) <i>Geophysics and Space Physics</i>
Herbert Francisco Rendon	<i>Uniform Asymptotic Synthetic Seismograms and Teleseismic Tomography of Southern California</i> (Professor Davis) <i>Geophysics and Space Physics</i>
Philip Don Slack	<i>Teleseismic Investigations of the East African and Rio Grande Rifts: Testing Active Versus Passive Models of Rifting</i> (Professor Davis) <i>Geophysics & Space Physics</i>



1946

Bruce A. Dieatrick, B.A., is no longer a lost soul. He has recently retired from teaching for 26 1/2 years in the Los Angeles City Schools.

1947

George H. Davis, M.A., sent an address for lost soul *Perry R. Wood ('49)*.

1952

Jack Cunningham, B.A., sent addresses for lost souls *Robert Critchlow ('56)* and *Lew Schroeder ('52)*.

1953

William Waisgerber, B.A. (M.S., OSU, 1955), who is now semi-retired, spent four summers traveling and participating in archaeological digs and study, including Israel, Egypt, Jordan, Turkey, Greece, Italy and Switzerland. The field studies of ancient history were much superior to stateside classroom lectures!

1956

William L. Adams, M.A., informs us that, after a 38-year career in oil and gas exploration and management, he retired January 1, 1994. His first 25 years were with Amoco, where he served both as Vice President of Exploration and as Regional Vice President. In 1981 he joined Union Pacific Resources and was named Chairman and CEO in 1986.

He is proud that UPRC has become one of the leading independents in America, and in fact has been the leading driller in the US for the past three years. They have also been the most successful in applying horizontal drilling, and about a third of their production now comes from their horizontal wells.

1958

Blase Cylwik, B.A., retired from engineering geology consulting in the Ventura-Santa Barbara areas and is now enjoying cruising inland passages of Washington, British Columbia and Alaska. He also punches a few cattle and consults part time on the Olympic Peninsula in the off seasons. He sent us this photograph. [What kind of a fish is that monster?! ed.]

1959

V.V. Botts, B.A., writes that he is currently Managing Director of Placer Niugini Limited. Placer Niugini operates two large gold mines in Papua New Guinea (Porgera Gold Mine and Misima Gold Mine). Work in this part of the world is interesting and challenging. For those interested in petroleum geology, Papua New Guinea must be the only place in the world that still has untested surface anticlines. This fact demonstrates some idea of the operating logistics in the country's rugged terrain.

1960

Thomas J. Bekey, B.A., writes that after 20 years as Vice President and Principal Geologist with Rittenhouse-Zeman & Associates/RZA AGRA, Inc. in Seattle, Washington, he retired in March 1994. He now does occasional consulting. Also, he wrote two articles and co-wrote a third for *Engineering Geology in Washington*, Vol. I, 1989. This was an AEG/State of Washington Joint Centennial project.

1961

Joe F. Champeny, M.A., retired from Exxon in April of '93, where he was

Vice President of Africa Middle East for Exxon Exploration Company. He was employed for 32 years.



Blase Cylwik

Allen W. Hatheway, B.A., Professor of Geological Engineering, University of Missouri-Rolla, has received the year's top recognition from the Association of Engineering Geologists, the *Floyd T. Johnston Award*.

On 22 June 1994, Allen was featured as *U.S. News'* invasion tunnels expert in its Korean Crisis issue. Hatheway, a recently-retired U.S. Army Reserve Engineer Colonel, tracked the tunnels for five years of periodic duty in South Korea and provides a convincing and shocking scenario of a devastating (moonless-night assault from his estimated threat of 50 or more undetected, deep, hard-rock tunnels strung out across the 375-km broad, largely mountainous peninsula.

In July Allen was married to Diane Rydell Anderson ("Dina") on a Belt-Series, Ravenna Formation argillite cliff overlooking Flathead Lake, Montana. They are partners in historical-technical hazardous waste remediation and maintain

one of the nation's largest computer-based data files on the History of Industrial Waste Management and Remediation, with a matching personal technical library.

In September Allen was called to Los Angeles to represent the Federal Transit Administration in its oversight of the Hollywood Boulevard Segment of the METRO subway. Soft-ground tunneling beneath the Walkway of the Stars resulted in a series of soil collapse

and as much as nine inches of subsidence at street grade, resulting in damage to buildings and adding to the havoc previously caused by the 17 January 1994 Northridge earthquake. Hatheway discovered hitherto unsuspected collapse-prone soil in both the Old and Young Alluvium, as known to occur elsewhere in the Southwest but not reported in the METRO geotechnical studies.

1963

Don Wilhelms, PhD, says that his book, *To a Rocky Moon: A Geologist's History of Lunar Exploration* (University of Arizona Press), has been receiving many favorable reviews. He reports this not to brag but to hint what your next book purchase might be.

1967

Kenneth H. Lister B.S., (M.S. 1970)) works for SCS Engineers in Long Beach.

1969

J. Dale Barry, PhD, is currently manager/director of a software development team of over 100 engineers. Both his son and daughter are married; one is in medical school, and the other is a test engineer at a computer company.

1970

Bill Neill, B.S., sent us the following article from the *Unocal* newsletter, February '93: "On December 4th, Bill Neill received the California Desert Advisory Council Conservation Award from the U.S. Bureau of Land Management. One of four given in California, the award recognized Bill's leadership of volunteer efforts to remove and control the tamarisk, a non-native tree that invades desert springs and streams, reduces the water supply and displaces native vegetation. He has coordinated tamarisk eradication projects and publicized the problem of the tamarisk invasion through speeches and published articles. While personally destroying many acres of tamarisk, Bill has tested and refined various techniques of tamarisk removal. His project was described in the Winter 1991 issue of *Seventy Six* magazine.

1975

Conrad J. McCarthy, B.S., is still working for Shell Development in Houston.

1976

Steven P. Dumas, B.S., DDS 1980, wrote that in July of 1993, at the Academy of General Dentistry's Annual Meeting held in San Diego, he received the honor of Fellowship in the AGD. This represents the



completion of 500 hours of continuing education (approximately 10 years) and passage of an extensive comprehensive examination.

1977

James W.F. Wallace IV, B.S., started Avior Technologies, an engineering firm engaged in coordinating operations in disaster areas around the world.

1978

Elizabeth Erickson, B.S., (Elizabeth Horton Thomas), remarried in 1992 and was also promoted to Director of a not-for-profit Science Education program for minorities called MESA at Cal State L.A. In 1993, she completed her second Master's degree in Environmental Ethics at The School of Theology in Claremont. She currently provides technical assistance to the Angeles National Forest Watershed Management team and the City of Pasadena's Environmental Affairs Office.

Bob Zweigler, B.S., founded The J. Byer Group, Inc., a geotechnical company providing consulting services for hillside and commercial projects in the Los Angeles area with partner John Byer in 1991. Since then the firm has grown to 20 employees, including UCLA alumni *James Tucker* ('90) and *Sean Wilson* ('92). The J. Byer Group has been busy this year evaluating soil and geology-related damage to structures from the Northridge Earthquake. Son Andrew was born on January 26, 1994, joining daughter Kathryn (3 1/2) in the Zweigler household.

1979

Kim Bishop, B.S., completed his PhD in struc-

tural geology at USC and is presently an associate professor at Cal State L.A. in a tenure-track position.

Bob Hollingsworth, B.S., and Dave Grover have a geotechnical firm in Westlake Village. Bob and Dave specialize in engineering geology for hillside development and the evaluation of damaged properties. *Steve Watry* ('79) and *Martin Lieurance* ('85) have been working with Dave and Bob since the Northridge Earthquake.

Steve Watry, B.S., "felt the need for higher education (was tired of work, and my wife had a good job) so I completed my M.S. at Cal State L.A.: a determination of the shear strength of the slip plane of the Portuguese Bend landslide. My advisor was that esteemed

Northridge Earthquake hit. Well, I've always said I've relied on the kindness of strangers and there are few that are stranger than *David Grover* ('75) and *Bob Hollingsworth* ('79) who have allowed me to provide consulting services to them since the semi-big one. "Up in the Bay area I know of three other UCLA alums from my class, *Dave Klimberg*, *Pat Brockman*, and *Ricardo* (that's Dr. Ricardo to you) *Zepeda*. I plead guilty to not keeping in touch with David and Pat, but I have gotten together with Rick a couple of times because he knows the best Mexican restaurants in the East Bay."

"My wife, son Kyle and I moved to San Rafael in September 1992. We moved up here to be closer to family, but since I had already figured out all the geology in southern California, I needed a new challenge as well. Now I look out the back window of my house at Franciscan Melange!!

"After moving up to the Bay Area, I hooked up with William Lettis & Associates, a company that specializes in fault studies (a great place to work for

Northridge Earthquake hit. Well, I've always said I've relied on the kindness of strangers and there are few that are stranger than *David Grover* ('75) and *Bob Hollingsworth* ('79) who have allowed me to provide consulting services to them since the semi-big one.

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1980

Howard J. Singer, PhD., (M.S. 1975), in April '93 moved to the NOAA Space Environment Laboratory where he conducts research on magnetospheric

continue to discover the joys of parenting through Aaron, their one-year-old son.

Leonard "Rip" Ford, PhD., "established the Environmental Services Division at the Richmond, Virginia, office of Draper Aden Associates (consulting engineers and environmental geo-types) in November 1992. As of late 1993, the Division had grown from a group of one to an empire of four. There seems to be a lot more money in cleaning up petroleum than in finding it these days. Had three daughters in spare time (ages 4, 6, 8). Spouse participated. Would love to hear from other secret residents of the geology building (B. Pickthorn, Steve, L., Bill B.) and anyone who might recall spending the night in that crowded hotel room at San Diego GSA. Call (804) 270-7675. Ask for 'Dr. Syncline.'"

1983

Joy (Chen) Kwong, B.S., married Eddie Kwong, a graduate of UCLA's Graduate School of Management in November 1992, and they are happily residing in West Covina. Eddie manages a division of a leisure-time/recreation business in Santa Fe Springs. Joy currently work part time as a geologist for Engineering-Science, Inc., an environmental-consulting firm based in Pasadena. Outside of their main professions, they are actively involved in their church, and they run a business out of their home, selling Christian books, gifts, church supplies, and custom-made gift baskets.



Photo (sent in by Bob Zweigler) summer field class 1978.

UCLA grad Perry Ehlig, who really knows the Portuguese Bend landslide. Poul Lade, former Professor of Soil Mechanics at UCLA (recently fled to Johns Hopkins) gave countless hours helping me. The late Martin Stout, Professor of Geology at CSULA, rounded out my committee. I was really honored to have such outstanding people. I should not forget that Wayne Dollase allowed me

you Quaternary types). Bringing them new engineering geology and geotechnical engineering capabilities and trying to drum up new business. I kept fairly busy for a year (looking at some classic landslides in Vallejo and doing slope stability analyses for a large Bay area dump... I mean sanitary landfill), but after that things had slowed way down for my expertise... and then the

physics and solar terrestrial interaction. He is also the responsible scientist for past and future GOES spacecraft magnetometers.

1981

Carl Mendelson, PhD., was promoted to Professor of Geology in 1993. He and Carol Mankiewicz

Afiattalab, Mr. Firooz '79
 Arthur, Dr. Carlene '71
 Beh, Mr. Richard L. '51
 Berkoff, Mr. Eugene W. '54
 Berman, Mr. Richard E. Lee '77
 Blanks, Mr. Bobby Dale '59
 Brussell, Mr. A. William '48
 Bush, Mr. Gordon Lowell '56
 Chang, Dr. Fong Shun '79
 Cheng, Mr. Hsueh-Cheng '71
 Clements, Mr. James A. '65
 Cooper, Dr. Earl L. '39
 Corvino, Mr. Claude '77
 Crandall, Mr. Bradford G. '61
 Cuong, Dr. Pham Giem '79
 Dailey, Mr. Donald Howard '60
 Diers, Mr. Herman Hamilton '32
 Douglas, Mr. Ben '67
 Ellsworth, Mr. Gregory '75
 Erickson, Mr. Harold D. '58
 Fan, Dr. Robert Jui Lin '77
 Farhat, Dr. Jalal Suleiman '75
 Feldman, Mr. Mark David '81
 Fletcher, Mr. Gregory P. '78
 Fouda, Dr. Ahmed Ali '73
 Freedman, Ms. Karen Leslie '78
 Freitag, Mr. Arthur Elliot '59
 Gaines, Ms. Camille Louise '85
 Gaunt, Mr. Grover C. '42
 Goldstein, Mr. Gilbert '50
 Grouard, Mrs. Mabel '26

Hagerman, Mr. Gerald R. '60
 Haines, ms. Laurie Blanche '84
 Hamelin, Mr. Douglas R. '28
 Hanson, Mr. Bruce A. '53
 Hart, Mr. Robert Louis '67
 Harvill, Dr. Lee Lon '69
 Haugh, Dr. Bruce N. '73
 Haw, Mr. Bruce '51
 Henrickson, Mr. Rex '50
 Higley, Mr. James Christian '59
 Hill, Mr. Harold E. '42
 Hines, Mr. Elmer Theodore '71
 Hood, Mr. Russell G. '53
 Hope, Dr. Robert '66
 Hopkins, Mr. Alfred A. '50
 Horowitz, Mr. Franklin G. '78
 Howell, Miss Doralee Grace '59
 Ihnen, Mr. Steven Mark '78
 Jackson, Mr. James Stephen '60
 Johnson, Dr. Stuart R. '66
 Karpinski, Dr. Anthony Leon '63
 Kim, Mr. David Keyhyun '82
 Klein, Mrs. Marti Lynn Carsel '78
 Knaup, Mr. Thomas Wesley '70
 Krohn, Mr. David George '56
 Lacy, Mr. Kevin V. '80
 Landberg, Mr. Leif C.W. '60
 Landry, Mr. John Joseph '54
 Leach, Mr. Jack Stancell '53
 Mackenzie, Mr. Donald J. '76
 MacKersie, Mr. William A. '48

Martin, Mr. Scott Christopher '85
 Miin, Mr. Shyu-Wanq '78
 Mitchell, Mr. Stanley N. '33
 Morejohn, Mr. Albert R. '51
 Morris, Mr. Anthony E.L. '42
 Mostovoy, Mr. Barry Lewis '58
 Mount, Mr. Jack Douglas '73
 Muradian, Ms. Lynn '83
 Nemits, Mr. Andrew Aldrich '78
 Olaechea, Mr. Julio M. '60
 Olin, Mr. Norman '61
 Oliver, Mr. Garnet W. '38
 Orvis, Mr. Charles Warren '57
 Paver, Mr. C. Courtney '28
 Pavlakozech, Ms. Virginia (Hamer) '83
 Petrie, Mr. Jerome B. '50
 Petrowski, Mrs. Nila Chari '74
 Pierson, Mr. Charles T. '47
 Pine, Mr. Gordon Leroy '61
 Player, Mr. Gary F. '67
 Polski, Mr. William '56
 Reinen, Ms. Elizabeth Helen '79
 Richter, Ms. Jean Marie '85
 Robbins, Mr. Howard Jackson '48
 Robertson, Mr. James William '54
 Robinson, Mr. Donald Milton '58
 Rogers, Mr. Mark David '79
 Rose, Mr. Donald C. '59
 Ross, Mr. Robert '76
 Roubanis, Mr. Aristides '62
 Sams, Mr. Richard H. '64

Sawka, Mr. Wayne N. '81
 Slocum, Mr. Philip Charles '59
 Smith, Mr. Cassius C. '74
 Smith, Mr. Robert C. '50
 Smith, Mr. Todd Stuart '85
 Sonneman, Mr. Howard S. '56
 Sroka, Mr. Paul Joseph '70
 Stitt, Mr. Jack Roberts '59
 Stoops, Dr. Emerson F. '70
 Surany, Mr. Andrew Philips '80
 Tanner, Mr. Richard Dean '79
 Tamowski, Mr. Thomas C. '74
 Taylor, Mr. Scott H. '85
 Terry, Mr. Timothy Michael '83
 Thompkins, Major Gary R. '60
 Torkelson, Mr. Olai I. '36
 Truhlar, Mr. John F. '58
 Uren, Mr. Edward '52
 Van Zele, Miss Mathilda '56
 Varney, Mr. Fred M. '35
 Wall, Ms. Barrie Dayl '80
 Weissberg, Dr. Byron Goodspeed '64
 Westbrook, Mr. Ian Martin '79
 Williams, Mr. John Scott '71
 Winge, Dr. Clarence R. '71
 Wise, Mr. Henry Francis '39
 Withrow, Mr. Gary Gould '79
 Yonkman, Mr. George William '57
 Yost, Dr. S. William '53
 Yudovin, Ms. Susan Mary '79
 Zarn, Mr. Christian '91



1984

Peter R. Kraatz, B.S., plans on getting married on February 25, 1995. Also he misses the "good old engineering geology without all the stinking environmental regulations."

1990

David Croker, B.S., four years after finishing his NAGT fellowship at the USGS, he was promoted to a full-time, permanent position as a Geophysicist. He has been involved in many different kinds of seismic studies: a teleseismic-tomography aftershock study following the Loma Prieta EQ; large-scale, refraction/reflection crustal experiments, including the recent LA Basin profile that many UCLA students were involved with; and everyday seismic activity monitoring and related

hazard reduction programs. His current posi-



David Croker does a quick checkup of a seismic telemetry site on the Hayward Fault Zone

tion primarily involves maintaining and repairing the permanent seismograph network in Central and Northern California, which includes 375 different sites. Some of his most memorable times have

been when he's participated in aftershock response.

"The adrenaline flows rapidly while trying to install new seismographs in as little time as possible, and all the time feeling the aftershocks that I'm there to record." After the Northridge EQ, Dave and a colleague took only eight days to tie five new seismographs and related telemetry to the Pasadena USGS office, while feeling about 10 aftershocks. "The most exciting times I've had are the late nights when I get to

detonate the explosives that are used as energy sources for refraction/reflection profiles. There is nothing more thrilling than the total sensory experience of detonating 2000 pounds of explosives at

200 feet underground." (croker@usgs.wr.gov).

James E. Tucker, B.S., while at UCLA, not only got a degree in Engineering Geology, but found a wife, Donna, among the Departmental staff. Since graduation, Jim has worked in the Geotechnical Engineering field as a project geologist. He currently works at The J. Byer Group with two other UCLA alums, *Bob Zweigler* ('79), and *Sean Wilson* ('92). During the past year Jim has worked on several projects investigating damage to residences and properties caused by the January 17, 1994, Northridge earthquake. He and his wife have recently been fortunate enough to purchase their first home.

Salt Lake City. "Yes, we've both finished our Ph.D.s and joined the real world." They bought a new home and just got a black Labrador puppy. Ellen is working at an environmental engineering firm as a hydrologist. Dave was in Alaska working for AMAZ Gold Exploration in Fairbanks. He'll be back sometime this fall job-hunting and writing papers.

Sean Wilson, B.S., is living and working in the Los Angeles area. For over two years he has been working as a staff geologist for the J. Byer Group, Inc., a geotechnical consulting company. He is contemplating graduate school, but is hooked on making money and having free time.★

1992

David Szumigala, M.S., and his wife *Ellen Daley* ('92) have moved to