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The Newsletter of the
Geological Sciences Dept.
Calif. State Polytechnic University
Pomona, Calif.
Issue 13
November 2005

The Mylonite

NEWS FROM THE CHAIR

The 2004 – 2005 academic year has gone by very rapidly. This past year was highlighted by the successful completion of our faculty search; field vehicle problems; significant curriculum changes; successful grant acquisition; continued faculty and student successes. Our May 14th alumni reunion was another enjoyable event.

The winter and spring quarters were dominated by the interview phase of our tenure track sedimentary geology faculty search. Faculty evaluated an international pool of over fifty applicants. Nine telephone interviews were conducted. Four candidates were brought on-campus for formal interviews. After this exhaustive, enlightening, challenging, and enjoyable search, Dr. Brook Riley was selected as Cal Poly Pomona's newest Geology faculty member. You can learn more about Dr. Riley in her *Mylonite* article. Suffice it to say that Dr. Riley is a 2004 PhD from the University of Texas at Austin. She has a year and a half experience in the "oil patch" working as an exploration geologist for Exxon-Mobil. She is a thermochronology specialist who is interested in studying the thermal history of sedimentary basins. She has both strong field and laboratory abilities. She represents an excellent bridge between the traditional field-oriented aspects of Geology and modern lab / analytical studies. Dr. Riley will be busy this year establishing her research lab. She will take on the responsibility of teaching field methods and sedimentary geology. It is hoped that in the very near future, students will be conducting senior thesis research under her direction.

The field vehicle is busy shaking itself apart. Last summer (2004) tire tread separation issues led to over \$3,000 in body damage. This past December 2004 the fuel pump failed while Dr. Nourse was returning from his field module – the vehicle is only five years old! Dr. Nourse had to pay out-of-pocket (aka credit card) over \$1,200 in towing fees, repair costs, extra lodging, etc. Fortunately we were able to pay Jon back. This past July, Dr. Marshall was returning from a GIS conference in San Diego. While on I-15 in Norco, there was a total electrical failure. What a shock (I guess you get no shock when there is no electricity) to be speeding along (no faster than 65 of course) and lose all power! The vehicle had to be towed back to campus – at Dr. Marshall expense (we too paid him back) -- and repaired. This 2001 Subur-

ban is a soccer mom vehicle masquerading as a true field vehicle.

The Geological Sciences units to degree were reduced from 194 quarter units to 180. This reduction in units to degree was done in all departments across campus. Similar cuts in degree requirements were made at all CSU campus. This process was mandated by the Trustees and endorsed by the Chancellor. In effect it reduces the time to degree for a full-time student by about a quarter. The unit reductions could not be removed from General Education. Support, and core requirements in combination with unrestricted elective losses were the only choices. So, Hand Specimen Petrology was reduced from a four unit sophomore level class to a one unit freshman level lab. We removed the statistics and the introduction to GIS requirements from the Geology degree. The Integrated Earth Studies degree also saw a similar change to Hand Specimen and statistics, but retained the GIS requirement. The Department also replaced the lower division Computer Graphics class with an upper division GIS course focused on geologic applications. We sincerely hope no further erosion of units to degree will occur.

In late June we were very pleased to learn that the Ralph M. Parsons Foundation had decided to fund the purchase of new earthquake monitoring instrumentation (see separate article). In a few months the Geology Department will have modern digital instrumentation with some earthquake wave computer processing capabilities. This will permit use of real-time data and studies in classes such as Natural Disasters, Engineering Geology I, Principles of Geology Lab and Science Education courses. This is a wonderful and most needed acquisition.

Geology faculty continue to do remarkable things. Dr. Nourse, to his great relief and satisfaction, completed work on a GSA Special Paper dealing with the Mojave - Sonora Megasear. Dr. Marshall has been working on a chapter for a book on Central American Geology / Tectonics. Both Drs. Marshall and Nourse were recipients of 2005 Research, Scholarly and Creative Activity (RSCA) grants. This enabled Dr. Marshall to continue his Costa Rican field research and to support travel for two undergraduates (Eli and John see below) to Costa Rica to work on their senior theses. Dr. Nourse's RSCA grant permitted him to continue his

(Continued on page 2)

SHRIMP age dating of Sonoran and San Gabriel pre-Cambrian rocks. Drs. Marshall and Nourse have also gotten involved in Science Education. They are working with public school science teachers to improve physical science education in the high schools.

Our Geoscience students continue to shine. Miguel Espinoza ('06) and Cami Anderson ('05) presented their senior thesis research at the May 2004 Cordilleran section meeting of GSA in San Jose, CA. Senior, Randal Burns was a Quadra Mining Company summer intern at a copper / gold mine in northern Nevada. Randal gained valuable experience planning expansion of the mine, monitoring slope stability (not standing at the base of the bench) and mine mapping. Jessica Strand ('06) was the recipient of the Ernest Prete Geoscience Scholarship for 2005. You may recall Randal's and Jessica's names from last year's *Mylonite*. Then, they were coming off a summer in Italy searching for elusive gravity waves. Junior, Allison Ruotolo was the recipient of the 2005 California Federation of Mineralogical Societies award. Seniors John Utick and Eli Lafromboise shared a \$500 award from the Puente Hills Gem and Mineral Society.

Two significant equipment purchases were made this year. Most importantly for the program, a Nikon digital photomicroscopy unit was acquired. It replaced the 35 mm Nikon film camera system which has been used by many petrography classes and senior thesis studies. The new digital system clearly by-passes the film stage so images can be directly inserted into publications, presentations, theses, etc. Images can be edited: bar scale, annotation, identification marks, etc. The Department Office acquired a new 27 page per minute digital, networked, Lanier copier. It replaced the old Panasonic copier which was so dear to us for a very long time. The new Lanier is versatile and has many "neat" functions which have made life in the office much easier and faster.

In general enrollments in geoscience classes continues strong. The numbers of majors continue to be low. We continue to offer an excellent undergraduate program in Geology. Through our growing and vibrant network of alumni we continue to have strong relations with various geotechnical firms and greatly appreciate their efforts of offer intern training for our majors.

Finally, this will be the last *Mylonite* edited and prepared by Rosalie Giroux. The May 2006 reunion will be her last as the Administrative Coordinator of the Geological Sciences Department. After 30 years of exceptional service in the College of Science, 29 years of devotion to the Geological Sciences Department and the only Department Secretary that has served this Chair, Rosalie will be retiring in August of 2006. She will be sorely missed.

John A. Kleit

**CONSIDER GIVING TO THE
GEOLOGICAL SCIENCES PROGRAM**

In past issues of the *Mylonite*, "ads", like the ones here, have asked for your donations to the Geoscience Program at Cal Poly Pomona. Now, on behalf of the students and faculty of the Department, I ask you to seriously begin and regularly contribute to Cal Poly Pomona Geology.

We offer many opportunities for giving. We are most fortunate to have three major annual awards: the Margaret Claire Van Buskirk Memorial Award, the Henderson – Valles Geoscience Award, the Ernest Prete, Jr. Geological Sciences Award. You may give an

unrestricted contribution to the Department. Unrestricted contributions are especially important because they permit us to support endeavors not funded by state monies. Student and faculty travel to professional organizations are only partially funded, on a very limited basis, by state monies. Student field studies, Geology's guest lecture

**SUPPORT STUDENT TRAVEL
TO
PROFESSIONAL MEETINGS**



series, and, yes, publication of the cherished and most anticipated *Mylonite* do not use state funds.

If you think these are important endeavors which serve to give our students a fine undergraduate education and keep us competitive with other programs then consider giving. No matter how large or small, your support is most important and needed.

**ASSIST NEW
FACULTY—
HELP ESTABLISH
RESEARCH PROGRAMS!**



SPECIAL ANNOUNCEMENTS

THE 2005 ALUMNI REUNION

The 2005 Geology Alumni Reunion was held on May 14th -- wedding day for many of you. This 12th annual reunion was held at the Mount Baldy Lodge, the site of the 10th reunion. The day's activities followed the order of the previous San Antonio Canyon alumni event. In the morning there was a field trip. In the afternoon we had our "eats" and awards ceremony.

In 2003, Drs. Nourse, Marshall and Herber lead us on a morning field trip to the lower reaches of San Antonio Canyon and the inner workings of San Antonio Dam. This past May, Drs. Nourse and Marshall (Herber was there) gave us phase two: The Geology of the Upper San Antonio Canyon. Using the steep, rugged cliffs, just up-canyon from the Buckhorn Lodge and on the west side of the creek, Jon Nourse recounted the early geologic history and tectonics of the central San Gabriels. He related the outcrop geology to some of his SHRIMP radiometric age dates. As always there were significant questions, discussions and input by various faculty and alumni. Dr. Marshall discussed the stream geomorphology. There were some big changes due to the immense rainfall received in the local mountains, more than 60 inches, over the winter of 2004 - 05.

The lower reaches of Ice House Canyon were the second and last stop of the morning. Dr. Nourse brought along is Master Map. We all marveled at the detail, beauty and tremendous work over fifteen years that it took to make this one-of-a-kind map. College of Science Information Technology Director and Geology Alumnus, Brent Norum ('97), added fond field work memories and commentary based upon his field mapping senior thesis "over the ridge" in the upper end of Lytle Creek.

The Mount Baldy Lodge provided excellent service, good, abundant food, and a comfortable outdoor patio area. There were also two great cakes, obtained by Rosalie. Alumni, family and friends started arriving just after the noon hour. We were most pleased to see Geeta Allen (Aggerwal, '99), Arleen Timmons and, Cal Poly Geology's part time instructor Dave Curtis ('97) attend. This was the first time that Geeta, a science teacher, and Arleen attended. We sincerely hope they start a reunion tradition. Also attending for the first time was Rosalie Giroux's husband, Raymond. Raymond is retired and he realized his life would not be complete with out attending at least one of our annual reunions. Miguel Espinoza's (Henderson - Valles Award co-recipient) brought his extended family for the event.

The formal part of the day, the awarding of scholarships, went well. Dr. Nourse assisted in the presentation of the Henderson - Valles Award to Miguel. David Berry made the presentation of the Appreciation Award to Linda Clementi.

Our next reunion is scheduled for May 13th, 2006. Start planning on attending. Once a venue for the reunion is selected we will send out further details.

RALPH M. PARSONS FOUNDATION SEISMIC INSTRUMENTATION GRANT

In June 2005, the Geological Sciences Department was notified that the Ralph M. Parsons Foundation had funded a proposal, "Enabling an Earthquake Monitoring System" for earthquake monitoring instrumentation. The grant, in excess of \$30,000, will permit purchase of new, modern digital seismic instrumentation. For more than 25 years, the Department's seismographs in the display case outside the Geology Department Office have been a site of daily interest and rallying point for impromptu earthquake lectures. The quarter century old equipment has been slowly failing. As of the end of spring quarter 2005, none of the three seismographs were working. Two of the three original seismometers were operational. The Department and the campus were without earthquake monitoring instrumentation.

Receipt of the grant was the culmination of two years of effort. The Department recognizes the invaluable assistance of Dr. Mary Edwardsen of University Advancement. Her persistence, support and excellent suggestions made this proposal a success. Dr. Richard Pumerantz, former College of Science Development Officer, was responsible for establishing the initial contact with Parsons and provided direction during the grant writing process.

Purchase orders have been issued. The new instrumentation should be operational about the time this *Mylonite* goes to press.

CAL POLY ALUMNUS HONORED BY PRESIDENT ORTIZ AT FALL CONFERENCE 2005

The three days prior to the commencement of fall quarter are termed "Fall Conference". The first event of every Fall Conference is an address by Cal Poly Pomona's president. This year, Dr. Ortiz, chose to close his remarks by recognizing students / alumni who exemplify the excellence and essence of all things good about Cal Poly Pomona. Terri Amborn ('03) was among six who were so honored for her successes by President Ortiz. Terri spent her entire day schmoozing with top key administrators, serving in two discussion panels and talking with faculty. She said it was a fun, but tiring day.

Terri Amborn ('03) is well deserving of such recognition. She was the 2002 - 2003 recipient of the Margaret Claire Van Buskirk Memorial Scholarship. She was fortunate, while an undergraduate, to be part of a Keck Geology Consortium summer field experience, which turned into her senior thesis, to southern Australia. Terri holds a B. S. degree in Geology and a single subject teaching science credential. She has been an event volunteer and event captain at the Science Olympiads held at Cal Poly Pomona. She is now a high school earth science teacher in the Hacienda La Puente School District. Terri is certainly a role model for Cal Poly Geoscience majors and the greater campus community.



Terri Amborn,
President J. Michael Ortiz

2005 SCHOLARSHIPS AND AWARDS

Ernest Prete, Jr. Geological Sciences Award : Jessica Strand



Jessica Strand Accepts The \$1000 Prete Award

Jessica Strand ('06) was selected as the recipient of the 2005 Ernest Prete, Jr. Geological Sciences Award. By receiving the \$1,000 award, Jessica became the first Cal Poly Pomona Geological Sciences student to “win” two scholarships. In 2004, Jessica was the first recipient of the \$750 Henderson – Valles Geosciences Scholarship. Adding the 2005 Prete Award raises the bar higher for future Geoscience majors.

The Ernest Prete, Jr. Geological Sciences Scholarship is intended to recognize and support research that fosters a better understanding of Earth's physical environment. Her study is an excellent example of such an environmental problem. Jessica Strand, working under the direction of Dr. Jon Nourse, is studying the impact of severe wildfires on the hydrogeology of the San Dimas Canyon watershed. The 2002 Williams wildfire has created a unique opportunity to examine the impact of wildfires on a local watershed. Jessica's year-long study, collecting semi-monthly flow data from San Dimas Canyon streams, will add valuable additional data to the historical record. Comparisons and contrasts between historical data and her new flow measurements will contribute to our understanding of the environmental impact that wildfires have on watersheds. Being able to predict watershed contribution to the San Dimas reservoir will be useful to more effectively manage and use the local water resource.

Henderson – Valles Geosciences Award: Miguel Espinoza and Robert Jones

This year, the Geology faculty elected to split the \$750 Henderson – Valles Geosciences Scholarship between Miguel Espinoza and Robert Jones. The scholarship recognizes scholastic achievement, contribution to the Department, help with faculty research, or a student's own senior thesis study.

Miguel Espinoza ('06) was recognized for his assistance with Dr. Jon Nourse's field modules, field research in Mexico and the San Gabriels, his senior thesis research and this past December's (2004) field vehicle fuel pump repairs. Miguel has frequently accompanied Dr. Nourse to



Jon Nourse, Miguel Espinoza, John Klasik

Sonora field sites. Miguel's knowledge of Sonoran field geology has helped make Nourse's field modules successful. This work has also resulted in an important senior thesis some of which Miguel presented at the May Cordilleran Section GSA in San Jose, CA. By all accounts Miguel did exceptional service to the Department and the Geology program during last December's field vehicle fuel pump failure. Miguel provided transportation, lodging and spent extra time in Arizona. His assistance made a very difficult and stressful episode more manageable and comfortable.

Through this award, the faculty wanted to recognize **Robert Jones' ('05)** for academic achievement, future aspirations and invaluable assistance given the Geoscience faculty as a student assistant/grader. For the past year, Robert has been a student grader for several courses. Robert was noted for his tireless efforts and efficient return of accurately graded assignments. His work greatly eased faculty grading responsibilities. Robert graduated in June of 2005. This summer he was a full-time intern at the Air Quality Management District office in Los Angeles. This fall he starts pursuit of a Masters Degree in Environmental Science at Cal State Fullerton.



Robert Jones, John Klasik

Puente Hills Gem and Mineral Club Award: John Utick and Eli Lafromboise

This is the first time the Puente Hills Gem and Mineral Club has decided to recognize Cal Poly Pomona Geology majors. The Club, under the leadership of Judge Robert L. Hess, wishes to encourage field studies in Geology by donating \$500 to help defray field expenses.

John Utick ('06) and **Eli Lafromboise ('06)** were recommended and jointly received the \$500. Eli and John are working under the direction of Dr. Jeffrey Marshall. Their senior thesis furthers Dr. Marshall's on-going studies of the Nicoya Peninsula, Costa Rica. John and Eli used their award to help obtain four radio-carbon dates of beach rock in their study area. In return for the Scholarship, Eli and John gave a presentation at the Puente Hills Gem and Mineral Club's November meeting. The Geological Sciences Department is most appreciative of the Club's recognition of John and Eli. The Department hopes this marks the beginning of a long relationship.



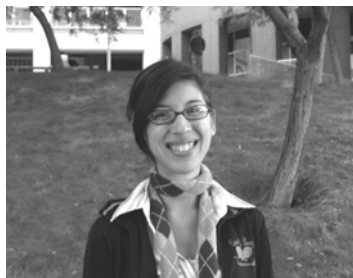
John Utick Accepts \$500 From Dr. Jeff Marshall

Peter K. Valles AGI Glossary of Geology: Pablo Cortez

For the past five years, **Peter Valles ('83)** has donated an AGI Glossary of Geology and asked that the Department give it to a deserving student. **Pablo Cortez** is the 2005 recipient. Pablo is in his second year as a Geology major. He is a member of the nationally acclaimed SEES Program and a 2003 – 2004 Boeing Scholarship recipient. Pablo assisted Dr. Berry at the March 2005 Science Olympiad. Pablo's senior thesis, under the direction of Dr. Nourse, investigates whether Brown's Flat, in the San Gabriels is a landslide derived feature. We hope, through this Glossary, Pablo will continue his development as a Geologist.



*John Klasik, Pablo Cortez
Accepting The Valles AGI Glossary*



*Allison Ruotolo accepts the \$2000 CA
Federation of
Mineralogical Societies'
Scholarship*

California Federation of Mineralogical Societies Scholarship:

Allison Ruotolo

Congratulations go to **Ms. Allison Ruotolo**. Allison was received the 2005 California Federation of Mineralogical Societies' scholarship. The competitive-based \$2,000 award was given to Allison on June the 11th.

Appreciation Award: Ms. Linda Clementi

When exceptional service to the Program from a person not formally affiliated with the Department arises, the Department likes to recognize that effort via an Appreciation Award. This year Ms. Linda Clementi's curatorial assistance in the Bernard O. Lane Paleontology Laboratory deserves this special accolade. Linda is a graduate of Cal Poly Pomona (not Geology) and has a deep passion for paleontology. For the past year she has spent virtually every day working in the Lane Laboratory. She has organized the collection, created a filing system, assisted Dr. Berry at the March Science Olympiad and during both his Earth, Time and Life and his Invertebrate Paleontology classes served as his lab assistant. Her assistance has fostered the educational mission of the Department.



*Dave Berry, Appreciation Award Recipient
Linda Clementi, & John Klasik*

TELL US YOUR NEWS!

NEW JOB?



RETIRED?



TAKE A TRIP?



SPECIAL HONOR?



EXOTIC VACATION?



GET MARRIED?



NEW BABY?



JUST WANT ATTENTION?



(A photo or email .jpg would be perfect!)

FACULTY

David Berry

During the past Mylonite year, I have been too busy for my usual humdrum activities such as diving on coral reefs, hiking through rain forests, or climbing up tropical volcanoes. Instead, I have confined my activities to the USA, notably the American Southwest.

Perhaps the most memorable event of the year (in May) was attending the mini-symposium (and field trip) on asteroid impact structures that was organized by an old college buddy, Joe Fandrich. The conference, which was part of the annual meeting of the Geological Society of America (Rocky Mountain Section), was held at Mesa College, Grand Junction, Colorado.

Joe's field trip began with a hike into the structure called "Upheaval Dome" in the Canyonlands region of south-central Utah. For years, Upheaval Dome was thought to be a salt dome, but recent geophysical studies show no evidence of an underlying diapir. The most likely explanation is that Upheaval Dome is an *astrobleme*—a "star wound."

Following the discussion in the field, Joe and other organizers led us to additional locations where we observed a regional chert breccia and large, tumbled, exotic blocks embedded in tidal flat sediments—all suggestive of an impact event. As anticipated, there was much lively debate regarding the alternative explanations for this chaos. The subsequent report will be exciting! At the moment, Bob Reynolds and I are encouraging Joe to give us a preliminary paper on his research at the 2006 Desert Symposium.

In August I attended the Pecos (Archaeological) Conference held at Bandelier National Monument near Los Alamos, New Mexico. Here, tall cliffs of rhyolitic, ash fall tuffs contain alcoves and cavitations used as habitation and storage sites by the ancient Anasazi, the likely ancestors of the local Pueblo Native Americans who live in the Rio Grande region of New Mexico today.

While at Bandelier I attended a field trip to study the archeology of some more open, exposed Anasazi sites. Actually, a significant part of the hike involved discussion of the local fire ecology by a resident BLM biologist. The field area experienced a disastrous fire in 1977; it still is in the process of recovering and is a text-book example of post fire floral succession.

Later in the summer, I visited Mesa Verde National Park where I again was able to see the effects of fire in the pinyon/juniper environment. In 2000 and again in 2002 severe brushfires charred the Park, one coming dangerously close to the park headquarters and visitors' complex. Much of the affected area still has not recovered substantially, but the positive side is that additional archeological resources were exposed by the fire-generated brush clearing!

Back at home, I have continued with LSA Associates in local environmental investigations. In fact, I now wear two hats in the organization. My title is "paleontologist", but I have been active lately as an archeologist with duties largely focused on the historical archeology of the Inland Empire. Indeed, much of my time involves monitoring the excavation of abandoned 1950's trash accumulations. Yes, half-century old trash is considered to be an archeological resource according to the State of California's Office of Historical Preservation! It will also be grist for a number of scholarly papers by other investigators.

The job also has allowed me to see a variety of interesting facies within the Pleistocene stratigraphic units of the Inland Empire.

Ultimately, this work will result in a revised, detailed map of Pleistocene formations of the region. Microfossil analysis of selected units (particularly the lacustrine sediments) is being carried out in the Bernard Lane Memorial Paleontology Laboratory at Cal Poly University.

In 2005 I became a member of the Southern California Paleontological Society—an organization of both professional and dedicated avocational paleontologists, with a primary goal of collecting, studying, and preserving the rapidly shrinking resources of California's paleontological heritage. Dedicated amateur paleontologists and museum technicians are the unsung heroes of the science. Very few people can work professionally in paleontology, but much field work is required to salvage fossils which rapidly are being destroyed due to erosion and development. Consequently, the work of SCPS is very much necessary and appreciated! It is disturbing to see the rate at which southern California paleontological resources are being destroyed. Soon, our field trips most likely will be *via* the internet as virtual fossil "digs", but, at least, organizations like SCPS will provide the data base for these electronic field trips!

On October 22nd, I participated in, and successfully completed, a short course on the teaching of evolution offered by the Society for Vertebrate Paleontology (SVP), an affiliate organization of the Geological Society of America. The workshop was held at SVP's annual convention at Mesa, AZ. Much of the material considered will be used in my courses Earth, Time, and Life and Science 212.

During the past year I have given several lectures in other courses on our campus, most notably to Dr. Dave Lord's class on forensic anthropology. Indeed, I have been invited to become a founder of a forensics interdepartmental program here at Cal Poly which would involve anthropology, biology, chemistry, and geology. With the current present student interest in "crime scene investigation," I believe that the program would be viable. In fact, I would be delighted to teach a course in forensic geology (if anyone wants one).

I also have given a lecture on coal and related energy sources to Physics Professor Dr. Mirales' course on Energy and Society and expect to give follow-up lectures on petroleum resources and production.

Again, thanks to Linda Clementi for all her help in organizing and maintaining the paleontology collections here at Cal Poly. She was presented with a plaque of appreciation for her efforts during the awards celebration at the Spring Picnic.

On a final personal note, I am happy to report that Lara Berry has been accepted into the Psychology Program at the University of La Verne with the goal of either becoming a clinical psychologist or teacher of psychology. In this crazy world, with so many psychically-ill people running around, I feel her work will be necessary and challenging!

Larry & Lucy Herber

Hello good alums: We hope you read past John Klasik's lead headline regarding us retired gray-beards in last year's *Mylonite*: "ORIGINALS END". Regardless of our reported "END" we're still kicking and had a dandy year! ☺

Good news! Engineering Evaluations of 22 campus buildings within the San Jose fault zone concluded that 14 would perform in a life safe fashion from underlying fault displacement and simulta-

neous seismic shaking as constructed. Seven require some seismic strengthening (mostly minor retrofits) and I don't have data yet on the last one evaluated, the CLA building. The evaluations are based on a 5.5 magnitude earthquake with a one foot differential vertical thrust. A good prognosis considering that many of these buildings were constructed during the 1950s and '60s.

This past Mylonite year has been truly momentous with reelection of President Bush, new Pope Benedict XVI, first time ever democratic elections and an approved constitution in Iraq, hurricane Katrina, and now the Kashmir earthquake – not to mention our near record 48 inches of rain.

Our local Cucamonga Creek debris basin reached maximum debris storage capacity for two consecutive years including the '03-'04 fire-flood sequence. Rough calculations suggest temporary local denudation rates between those of glacial – alpine and badlands areas. Fortunately, uplift rates of 3mm/yr on the Cucamonga fault will overwhelm denudation rates for the near future, and there will continue to be a good supply of mylonite and landslide exposures for certain Cal Poly researchers for as long as necessary!

I use up my extra Cal Poly pens writing 10 cent letters-to-the editor opposing human embryonic stem cell research, favoring retention of that little (Spanish) cross on the Los Angeles County seal, noting the illiberality of some liberals, and general science/religion topics – but with minor success. Lucy is more practical helping out at church and happily leavening our own family.

We enjoyed the snow, volcanoes, Manzanar, and old farm/grading/mining museums in the Mammoth – Bishop area in January, down-town Philly, and the cherry blossoms and memorials in Washington, D.C. in April, visits to relatives in the Basin-Range and Rio Grande rift in July, and a recent land-bay tour of San Diego on an amphibious “duck”.

Life is enjoyable and challenging – just like it was with you all for 35 years at Cal Poly.

We enjoyed the Mt. Baldy reunion in May, including seeing long time AWOLers Geeta Alan ('99), Arlen Timmons, and Tom Harder ('90).

Hope all is well with you and your families.

P.S. Kaz Pohopien, our environmental geology instructor during the Reagan – Bush presidencies is still going strong and says “Hello”.

David Jessey:

Hi everyone, I guess it's time for the annual Mylonite update. This past spring I traveled to the GSA Cordilleran Sectional Meeting in San Jose where Cami Anderson ('05) and I presented a poster session on her Senior Thesis entitled “Geochemical Analysis of the Ricardo Volcanics, Southern El Paso Mountains, CA. I Enjoyed the meeting and especially the trip back where I had the opportunity to make the drive down Highway 1 through Big Sur. Also in the late spring we did what is becoming an annual event, the Geology Club field trip. This year Dr. Marshall looked at the geomorphology of the southern Sierra Nevada and I made stops along the Mother Lode gold belt. I hadn't been back there in 10 years, but there has been surprisingly little change. Development is kind of frowned on by the Foothills retirement community so it moves at a snail's pace in that part of California. I guess that's a good thing, but try to find a McDonalds when you need one. We also visited Yosemite National Park and sadly that also hasn't changed, the traffic was horrendous. It was especially busy this spring after the heavy snows in the Sierra last winter. Over the summer I got up to northern Nevada to visit Randal

Burns ('06) at the Robinson Mine, near Ely, Nevada. Randal was originally hired as a geological assistant, but has stayed on and is now a mine geologist. I got to visit the Great Basin National Park. At least this time I didn't run into an alumni!

Teaching hasn't changed much, Mineralogy in the fall, Geochemistry in the winter and Ig-Met in the spring. This year we have made a few curriculum changes to get down to the 180 unit limit mandated by the Chancellor's Office. Gone are Geological Graphics and Hand Specimen and in their place are a GIS course for Geologists and a one unit freshman Megascopic Petrography class. I will teach the latter for the first time this spring. I also am teaching a “new” Field Module in the Rainbow Basin this Fall Quarter. It's a really neat place for student mapping, but a little hot in September! Don't know if I will teach that module again because with the addition to our faculty there will be some rearrangement of teaching assignments. But it certainly was fun this year, even if San Bernardino County needs desperately to repair the Rainbow Basin Road.

I talk to Don via e-mail now and then. He won't be submitting an article for the Mylonite this year but wanted everyone to know that he is busy enjoying his retirement and traveling a lot.

Lately my travel has been restricted to picking my son up at UCLA every Friday evening. The Friday drive to UCLA is like driving to Vegas and back! Obviously my son is now a freshman at UCLA, undeclared Physical Science. He is thinking about Medical School. My daughter graduated from UCI this past spring (time flies!) with a degree in Drama Production. She is working for a company that stages concerts. My wife continues to manage a computer lab for the Chino School District. I guess that's all until next year.

Jeff Marshall

Hello all. Another intense and fun-filled year has zoomed past. It's hard to believe that I'm now in my fifth year at Cal Poly Pomona! I just submitted my application for tenure and promotion, so keep those fingers crossed. That means it's now time to write the dear old Mylonite article and reflect upon all that's happened during the past year.

Way back in fall quarter 2004, I taught both Geomorphology and Engineering Geology. For the second year, I engaged the Geomorph students in a required mini-research project investigating uplifted Pleistocene alluvial fan gravels along the frontal faults of the San Gabriel Mountains. I was once again impressed by their final Powerpoint presentations, including one that featured an exquisitely doctored photo of Don Tarman living as a retired hermit atop Lone Hill in San Dimas. Ah, the wonders of the digital age!

I also led the Engineering Geology students through a series of field exercises, including a dam site investigation in San Antonio Canyon and a site assessment for a hypothetical hospital project at Puddingstone reservoir. One highlight was a particularly soggy day at Puddingstone, slogging through the mud to measure bedding attitudes with a shivering flock of shell-shocked engineers. They never imagined how much fun field geology could be!

Early in the fall, I gave a talk in the Geology Department Speaker Series showcasing my 2003 Costa Rica fieldwork with geology students Jonathan Khaw and Lauren Annis. You may recall that we mapped a flight of uplifted marine terraces on the Nicoya Peninsula, a high potential seismic gap along the Middle America Trench. These emergent paleo-shorelines record the net pattern of late Quaternary uplift associated with large subduction cycle earthquakes ($M > 7.5$). These big quakes have a recurrence interval of about 50 years and the

last event occurred in 1950! This was long before the Nicoya peninsula became the modern epicenter of coastal resort tourism in Costa Rica. Much of the construction in the past few decades has proceeded without heed of the lurking earthquake hazard. Our fieldwork on uplifted shorelines provides an opportunity to evaluate the segmented structure of the Nicoya seismogenic zone. My talk was designed to tempt new students to join me in Costa Rica for the 2005 field season. After the presentation, students Eli LaFromboise and John Utick both agreed to sell their souls to the devil and do their senior thesis projects with me during the 2005 Spring Break. I wrote a proposal and was awarded a grant to support this work from the Cal Poly Pomona Research, Scholarship, and Creative Activity Program.

Fall 2004 also included its usual dose of conference travel. In October, I traveled to groovy Austin, Texas to participate in the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) national conference. I served as a judge for the SACNAS Geoscience Division student research posters and also as a geology mentor in the "Conversations with Scientists" roundtable discussions. This lively conference was attended by thousands of students and faculty from across the U.S., as well as representatives of private industry and government agencies such as NSF and USGS. I was very impressed by the energetic efforts of SACNAS to encourage underrepresented students to pursue graduate degrees in science. One of the coolest things at the conference was a full-blown Native American pow-wow that lasted well into the night. And, yes, in case you were wondering, I also immersed myself in Austin's outstanding music scene, rocking-out to rockabilly at the Continental Club, digging the rhythmic poetry of James McMurtry at Threadgill's, and finding religion at the Sunday morning music revival at Maria's Taco Xpress.

In November, I traveled to Denver, Colorado to attend the Geological Society of America Annual Meeting. At this conference, I met with applicants for our advertised faculty position, and participated in the business meetings of the Council on Undergraduate Research Geosciences Division and the GSA Quaternary Geology and Geomorphology Division. One highlight was a special GSA session on "Geology and Beer" hosted by Denver's dynamic mayor and geologist-turned-brewer John Hickenlooper.

Back at the Kellogg Ranch, I spent the rest of November working with senior thesis students Jon Khaw and Lauren Annis on our 2003 Costa Rica field data. We created a new research poster that I presented at the December 2004 American Geophysical Union conference in San Francisco. I was quite pleased that several of the key players in Central America tectonics research stopped-by to view and comment on our poster. At this meeting, I also served as an invited panelist representing the CSU in an Academic Careers Workshop for graduate students. Virginia and the kids joined me for part of the week and we enjoyed a few luxurious days in the historic St. Francis Hotel, wandering the city streets, eating dim sum in China town, and gazing at Christmas lights on Union Square.

The New Year arrived with the world's attention focused on the unfolding tragedy of the Sumatra earthquake and Indian Ocean tsunami. As geologists, we all face such disasters with dual emotions of compassion for human suffering mixed with a fascination for Earth's unbridled power. I quickly realized that my students would expect me to teach about this event in my winter quarter Natural Disasters class that started the following week. I thus spent many hours around the New Year surfing the Internet for tsunami images and data to include in my introductory lecture. I also video-

taped hours of news footage in search of a few exemplary clips. For anyone interested, my tsunami lecture notes are available on my web site.

In addition to the tsunami, Winter Quarter also brought some exciting local disasters in the form of record rainfall, flooding, debris flows, and landslides. I had the opportunity several times to take my Engineering Geology students into the thick of the action in San Antonio and San Gabriel Canyons. We witnessed some powerful flood discharge, overflowing dams, recent debris flow deposits, and even a landslide in motion! It was a winter season that won't soon be forgotten (2nd highest rainfall total in L.A. history!).

In early January, I traveled to Costa Rica for fieldwork with several of my research colleagues. We collected sand samples from uplifted Pleistocene fluvial and marine terraces along the Pacific coast. These samples are now being analyzed at Melbourne "Uni" in Australia for Optically Stimulated Luminescence dating. If successful, this technique will provide the first absolute ages for Central America terraces beyond the age range of ¹⁴C dating.

During the 2005 Spring Break, I returned to Costa Rica with my two new and very eager senior thesis students Eli LaFromboise and John Utick. On our first day, I took them straight to the active crater of Volcán Poás and for a rainforest hike to another extinct crater. We then visited the Costa Rican Volcanologic and Seismologic Observatory in Heredia where I introduced the students to our research colleague Dr. Marino Protti. The students were honored to meet and to "talk shop" with Costa Rican scientist of Dr. Protti's stature. Over the next week, we conducted fieldwork in two areas of the Nicoya Peninsula. The students helped each other on their respective projects. Eli's project involved mapping and GPS surveying of uplifted Pleistocene terraces, south of those we studied in 2003. John Utick's project focused on the geomorphology and petrology of Holocene beach deposits along the shoreline adjacent to the marine terraces. In addition to detailed mapping and surveying, we also collected sediment samples for radiocarbon dating and thin section analysis.

Upon return to Cal Poly, we prepared our samples and sent them out for thin sections and radiocarbon dating. John and Eli were awarded a joint scholarship from the Puente Hills Gem and Mineral Society, which helped cover the radiocarbon dating expenses. During the summer, John, Eli, and I submitted a research abstract, and worked together on maps, topographic profiles, and sea level correlation diagrams for a poster presentation at the October 2005 GSA Annual Meeting in Salt Lake City. I also submitted another abstract for a talk at the December 2005 AGU Meeting in San Francisco. This presentation will summarize the combined 2003 and 2005 Costa Rica fieldwork with Cal Poly students.

In spring quarter, I once again taught my Earth Science Education class (SCI 212), which was recently designated as a Community Service Learning course (the first in the College of Science). This class received the "SL" designation in recognition of the Earth Science Day teaching exercise I conduct at Redwood elementary school in Fontana in collaboration with 6th grade teacher Ann Marie Katze. I can't thank Ann Marie enough for her continued support of this activity! It's a lot of fun and a great learning experience for the Teacher Education students.

At the beginning of summer, I ventured out once again from the familiar confines of the LA basin, this time to descend into the humid heartland of the American mid-continent. This trip took me to exotic western Indiana where I spent three days at Wabash College attending the annual business meeting of the Council on Undergraduate Research (CUR). Despite the odd venue, I enjoyed the

interaction with fellow CUR councilors and also managed to indulge in a few solo wanderings through the old village streets and surrounding cornfields. At this meeting, I agreed to chair CUR sponsored undergraduate research sessions at the upcoming 2005 AGU conference in San Francisco and the 2006 GSA Cordilleran meeting in Anchorage, Alaska.

The rest of June and July were consumed by teaching two different Geoscience education workshops for the Cal Poly Pomona Center for Educational Equity in Math, Science, and Technology (CEEMaST). These two projects were designed to boost the geology content knowledge of local public school teachers. The first workshop ("STELLA"), held at Cal Poly, involved elementary school teachers from several San Gabriel Valley school districts. This was my third year working on this project. The second workshop ("MSP"), which was in its first year of implementation, focused on middle school teachers from the Hacienda La Puente school district. This project involved two very intense weeks of team teaching with Jon Nourse at a school in Hacienda Heights.

And finally, I invested a significant portion of the summer working on my book chapter on Central American geomorphology. This manuscript was recently accepted for publication in a volume on Central American Geology and Natural Hazards honoring pioneering geologist Richard Weyl. The chapter was sent out for peer review and I spent the latter part of summer making revisions.

And so, that brings us full-circle to a new academic year. My geomorphology students are once again hard at work on their alluvial fan field project. Two of them just told me that they crossed paths with a black bear while mapping in the Claremont Wilderness Park! Just goes to show you don't have to wander far from Cal Poly Pomona to find adventure. Until next year, I wish you all plenty of adventure in your daily lives, a happy holiday season, and peace in the New Year!

Dr. Jon Nourse

Autumn is here again and I am looking forward to the start of a new quarter of teaching, armed with the latest computer technology. I have recently joined the wireless world, thanks to the efforts and patience of our new College of Science Instructional Technology expert, Brent Norum ('97 B.Sc.). Now it is possible to answer email and write articles such as this on my new Cal Poly Pomona laptop from the comfort of my back yard. Also, in the classroom I'll be able to efficiently access last-minute files on the network without having to copy things over from Zip disks, etc.

I spent part of the summer learning new mapping and graphics programs and organizing my computer. Check out my web site, now updated with abundant new photographs of Geology students in action and links to recent publications and senior theses. Some of you may still have electronic files of thesis documents in your archives. Please send them along if you're willing and I'll link you up so the whole world can view your work!

Speaking of thesis research, our Geology majors continue to tackle interesting projects. Last December, Shaun Wilkins completed his ambitious mapping study of fault interactions in Middle and North Fork Lytle Creek drainages (see link on my web site for the complete document). Miguel Espinoza is currently writing a thesis comparing the geologic history of Sierra Hornaday and Cerro El Aguila (Sonora). In the meantime, he presented his mapping and four new U-Pb zircon ages to an international audience at the Eldridge Moores symposium of the San Jose Cordilleran Section GSA conference. Other students have started new projects in the San Gabriel Mountains. Jessica Strand is measuring base-flow recession in three recently-burned

drainages of San Dimas Canyon and comparing with records from the mid 1900's. Pablo Cortez is taking a close look at Brown's Flat, investigating its possible landslide origin. Reggie Agunwah is using GPS to precisely locate hundreds of oriented clasts in the Hogback landslide deposit. He is finding some interesting patterns suggesting complex but non-chaotic translation of the slide mass.

After three years of co-editing with Tom Anderson, the Mojave-Sonora megashear volume was released this October as GSA Special Paper #393. This 700-page book contains 25 articles describing pros and cons of the megashear hypothesis. Those of you who have taken Tectonics will recall the topic; now is your chance to evaluate the whole enchilada.

The U-Pb zircon-dating business with USGS colleagues is moving forward, with many new ages produced from the San Gabriel Mountains. If things go as planned, we will soon write separate articles on the Proterozoic and Mesozoic basement, detailing the geochronology and radiogenic isotopes. Recently I traveled to Denver to facilitate zircon separations for 18 new San Gabriel samples and 7 Sonora samples. It was quite educational to learn how much work was involved with processing my past samples. After 2 long days of crushing and pulverizing followed by 2 days of heavy liquid and magnetic separations, I have gained a deep appreciation for the endeavors of sample preparation folks. This is where the age-dating process begins, and it must be done carefully to avoid contamination. I look forward to working with our new faculty member, Brook Riley, as she sets up a similar mineral separation lab in our Geology Department.

A mid-July vacation to southern Alaska (a much appreciated gift from my wife, Phyllis) was a welcome summer break. I visited my sister, USFS District Ranger of Cordova, for 10 days of hiking, kayaking, and camping on the Copper River delta. As a geologist it was great to be situated at this active convergent margin, in the midst of the area uplifted during the 1964 earthquake. The mountains and glaciers meet the sea there, creating spectacular scenery. I also found the wildlife to be incredible; bald eagles, sea otters, and salmon are commonplace and bears are there if you know where to look. Many new photographs, several taken from various aircraft, have been added to my portfolio.

I hope all of you have a wonderful holiday season. Please continue to keep me posted about your recent endeavors and experiences. I always enjoy hearing from you.

Brook Riley

Well, first off, introductions are in order!

I'm Brook Riley, the newest faculty member in the department. Originally, I hail from Arizona, and I come most recently from Texas. I completed my Ph.D. in geology at the University of Texas (Austin) in 2004, and since December 2003, I have been looking for oil and gas from Yemen to West Africa and beyond as a geologist for Exxon-Mobil.



Dr. Brook C.D. Riley

I always like to say that my specialty is “geology.” I work with the techniques and rocks that are at the heart of the field problems I study, whatever they might be. My Ph.D. work focused on development and deformation of a Laramide contractional basin in southeastern Arizona, and involved subequal portions of sedimentology and provenance work, geochronology, and structure. I plan to continue the theme, working provenance, thermochronology, and diagenesis issues in exhumed sediments throughout Arizona, New Mexico, and Utah. My main focus centers on understanding the processes active in sedimentary basins as sediments are deposited, buried, and lithified. Often, this becomes a more complicated undertaking when sediments are deformed and intruded prior to being exhumed. This is where thermochronology comes in, to assist in defining the provenance and deformation signatures recorded in these sedimentary rocks.

I take this integration into my courses as well, stubbornly refusing to recognize the artificial boundaries among the subdisciplines in geology. At present I am happily working with folks in my Physical Geology course—they’re reading a lot, asking good questions, and developing a knack for active discussion in class. Beginning this winter, I will begin working with majors in field methods, sedimentology/stratigraphy, and GIS in Earth Science. I also look forward to significant participation by juniors and seniors in field modules in southern California and Arizona. I’m very excited to get back to teaching; this was the most rewarding part of my time spent at UT Austin, and I look forward to taking as many students out into the field as possible to show them why rocks are cool.

Starting this coming summer, I’ll be picking up the thread of working with exhumed basins and adjacent source areas in northern and central Arizona, and am also planning to do some reconnaissance work in the Henry Mountains (Utah) and in east-central New Mexico (Carrizozo area). This work will provide the basis for developing senior theses for Cal Poly majors. In addition to these projects, I am also initiating collaboration with faculty in engineering, architecture, and planning to establish science-based community service-learning projects that will provide another avenue for senior thesis work. Communities all around us are affected by a range of issues that very directly involve the surrounding geology, and I want to initiate projects that assist the community in understanding the issues, and help them develop the data and knowledge base to begin addressing those issues. Collaborative projects such as these, involving engineers, planners, and geoscientists, will lay the foundation for our geology majors to be able to integrate data and techniques effectively, enable them to develop skills for dealing with other professionals, and will provide connections both in the scientific world and in the community.

This first year will bring a whirlwind of activity, and I’m excited to be here in the middle of it all at Cal Poly. Now that I’ve introduced myself...I look forward to meeting as many of you as possible—stop by my office and say hi if you’re ever around campus!

STAFF

Rosalie Giroux

Hi everyone. As you know, there has been a major change to our department this past year. We have hired a new faculty member, Dr. Brook Riley. I am especially enjoying having another female in the Geology Department! It was long overdue. Speaking of hiring new females, the Geology Department will be looking for a replacement for me for next year. I’ll be retiring after 30 years at Cal Poly in August 2006. (I can’t believe it’s been that long!) I have mixed feelings about leaving my “home away from home”. Certainly, I will really miss the wonderful Geology faculty, students and all the College of Science friends that I have been so privileged to work with during my years at Cal Poly. Raymond and I are excited about retiring, and we are looking forward to moving into a new home, maybe in a retirement community, a little further south towards San Diego. I have two daughters living further south, so we will have some time to enjoy the grandkids before they are all grown up, and also do some traveling.

Our vacation this summer was spent at a family reunion in the Black Hills of South Dakota. It was a lot of fun to see people I haven’t seen for over 20 years. We drove and had to make really good time to get there in time for the reunion dinner. Getting 35 people together all at once isn’t easy. Many had other plans to work around, and we didn’t find out the exact reunion date and time until just before we left. It meant driving 800 miles in one day in order to make it in time to the dinner! We drove in about one hour before dinner, so we just had time to make a quick change of clothes. We were tired but happy to see everyone. It was worth it.

I hope to see you at the Alumni Reunion on Saturday, May 13 to help me celebrate my retirement! However, this does not mean that I won’t be back for an Alumni Reunion now and then! Take care, and I always wish you the best that life has to offer.

BE PART OF OUR GUEST SPEAKER SERIES



PUBLICATIONS AND GRANTS

2004 – 2005 Funded Grants and Awards

- Dr. John A. Klasik**, (\$30,269), Ralph M. Parsons Foundation
“Enabling an Earthquake Monitoring System”.
- Dr. Jonathan Nourse** (\$5,256), Cal Poly Pomona Research, Scholarly and Creative Activity Grant: “Chronology of Changes in San Gabriel Mountains Geology Using the Uranium-Lead Zircon Age-Dating Method” (one month summer fellowship funded December, 2004)
- Dr. Jonathan Nourse** (\$5,256), Cal Poly Pomona Research, Scholarly and Creative Activity Grant: “Mapping of Geologic Hazards in Recently Burned and Denuded Areas of the Southern San Gabriel Mountains” (one month summer fellowship funded December, 2003; Field work completed September, 2004)
- Dr. Jeffrey Marshall** (\$5,000), Cal Poly Pomona Research, Scholarly and Creative Activity Grant: "Earthquake Hazards and Tectonic Segmentation of the Nicoya Peninsula, Costa Rica"

2004 – 2005 Publications and Professional Activity

- Anderson**, Cami and **Jessey, David R.**, 2005, *Geochemistry of the Ricardo Volcanics, Southern El Paso Mountains, CA*, Geological Society of America Abstracts with Program Volume 37, n. 4 Cordilleran Meeting, San Jose, CA, May 2005.
- Jessey, David R.** and Michalka*, Leianna L., 2005, *Field Guide and Roadlog to the Western Sierra Nevada-Foothills Metamorphic Belt*, Cal Poly Pomona Geology Club, 50 pp.
- Nourse, Jonathan A.**, Premo, W. R., Iriondo, A., and Stahl**, E. R., 2005 (in press), *Contrasting Proterozoic basement provinces near the truncated margin of Laurentia, northwestern Sonora-Arizona border region*, in Anderson, T. H., Nourse, J. A., McKee, J., and Steiner, M (eds.), Geological Society of America Special Paper #393.
- Anderson, Thomas H. and **Nourse, Jonathan A.**, 2005 (in press), *Pull-apart basins at releasing bends of the sinistral Late Jurassic Mojave-Sonora fault system: Principal structures within the southwestern North America borderland*, in Anderson, T. H., **Nourse, J. A.**, McKee, J., and Steiner, M (eds.), Geological Society of America Special Paper #393.
- Nourse, J. A.**, and Premo, W. R., 2005, *Proterozoic basement in the Pinacate region of northwest Sonora, Mexico: Possible connections to northeastern Australia?*, Geological Society of America Abstracts with Programs, v. 37, n. 4, p. 57.
- Espinoza*, M, **Nourse, J. A.**, Premo, W. R., and Iriondo, A., 2005, *Stratigraphy, structure, and U-Pb geochronology of gneisses in Sierra Hornaday and Cerro El Aguila, northwest Sonora, Mexico: Fingerprints at the truncated margin of Laurentia*, Geological Society of America Abstracts with Programs, v. 37, n. 4, p. 57.
- Jacobson, C. E., Barth, A. P., Grove, M., **Nourse, J. A.**, 2004, *Detrital zircon geochronology indicates that Upper Cretaceous to Eocene sedimentary and metasedimentary rocks of southern California, Salinia,*

and the Sur-Obispo terrane are not far traveled. Geological Society of America Abstracts with Programs, v. 36, n. 5.

- Marshall, J. S.**, Annis, L. K.*, Khaw, F*, Parra, J. G.*, and Protti, M., 2004, *Coastal deformation patterns along the Nicoya seismic gap, Pacific coast, Costa Rica, Central America*. EOS, Proceedings of the American Geophysical Union, v. 85.
- Marshall, J. S.**, 2005 (2nd draft submitted, 6/05), *Geomorphology and Physiographic Provinces of Central America (Chapter 3)*, in Bunschuh, J. and Alvarado, G., eds., *Central America – Geology, Hazards, and Resources*: Rotterdam, Netherlands, A. A. Balkema Publishers.
- Montero, W. and **Marshall, J. S.**, in prep, *Neotectonics and seismotectonics of the Central Costa Rica deformed belt: Western boundary of the Panama Microplate*. for submission to Tectonics.
- Gardner, T., Webb, J., Pezzia, C., Amborn, T**, Tunnell, R., Flanagan, S., Merritts, D., **Marshall, J. S.**, Fabel, D., and Cupperd, M., in prep, *Faulted, Late Neogene and Quaternary Marine Terraces, Cape Liptrap, Southeastern Victoria, Australia*: for submission to Geomorphology.
- Marshall, J. S.**, 2005, Revised Test Bank for Abbott, P. L., 2005, *Natural Disasters*, 5th Edition, Dubuque, IA, McGraw-Hill Higher Education.
- Marshall, J. S.**, 2005, photographs of 1989 Loma Prieta Earthquake, submitted for publication in high school science text book, New York, N.Y., Glencoe - McGraw-Hill Co.

*Cal Poly Pomona Geology major

**Cal Poly Pomona Geology alumnus

**ASSIST NEW
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NEWS FROM THE ALUMNI

NEWS FROM OUR ALUMNI: 2004 – 2005

There is a lot to write about in this edition. We have received notes or visited with so many alumni. Please keep the updates coming. Please reserve the May 2006 alumni reunion date. Please, if you are in the area give us some notice and come by and give us a talk on your most interesting activities. Also, please write us by late summer if you would like to have an article in the 2006 *Mylonite*. Please allow me to poke a bit of good natured fun at you all. What a great bunch of alumni we have!!

The tsunami of December 2004 was mentioned in correspondences from several alumni. Commentary ranged from scientific curiosity, a reason to dust off those old tectonics and oceanography texts, to collective concern, and sadness over the tremendous loss of life and devastation. We sincerely hope none of you valued alumni were harmed by Hurricanes Katrina or Rita.

News from the '70's

FOLLOWING THE SUN

Harold Katzman ('77) paid us a visit in the latter part of spring quarter. Harold is an avid solar eclipse watcher / groupie. For example, Harold traveled to Romania in 1999 to see a total solar eclipse. This past April, there was a hybrid solar eclipse. In places in the central Pacific, only accessible by ship, there were, perhaps, thirty seconds of totality. By the time the path of totality reached Central America, the eclipse had become annular. Harold and his parents traveled to Panama to witness the annular phase.

Last spring, Harold strolled into the office, looking very dapper, "Panama-ish", and obviously very excited to tell us of his experience and accomplishment. He brought with him a DVD of the event and some very spectacular photos. Harold talked us through the DVD – I did not have speakers connected to the photomicroscopy computer, thin sections are rather quiet beasts. Cumulus clouds parted over the Panamanian air field, the observing location, only minutes before maximum annularity. Harold's narration of the DVD and discussion of the wonderful photos instilled an excitement to this casual observer. By the way, Harold still uses film! Harold has already booked a room on a cruise ship for the next total eclipse, a very lengthy one, in the eastern Mediterranean in March of 2006.

HOW OLD AM I?

It has been so long since **Matt Shumaker ('78)** graduated from Cal Poly that he started his email note with class of 7??. We at least corrected that "oversight". Now everybody can estimate how old Matt is.

Matt has worked for the Bureau of Land Management for many years. He is an expert on mining regulations. Now, Matt coordinates and conducts a fourteen week course (that's more than a quarter if you are counting) on how to examine mining claims on Federal land for patent [the transferring of land from federal to private hands] and validity. Now, do not yawn yet. The course involves large scale geologic mapping (like our "global stratigrapher" see article below, I guess), underground mine mapping (go War Eagle mine), alluvial

placer evaluations (digging in the "dirt"), mine reclamation cost estimation, and, now you can yawn, mining law. Part of the preparation for Matt's BLM course is researching and analyzing case law. He sent us a sample from 1897! He says his job is mostly fascinating, but there are times ____.

Matt keep in touch, as always. We sure would like to see you. Make time to come to California and give us a talk and attend a reunion!

News from the 80's

CRUISE'IN THROUGH LIFE

We received a lengthy email letter and wonderful Christmas letter from **Valorie Plesha (Taylor, '86)**. Valorie apologized for sending her letters too late for the rather tardy *Mylonite* of 2004. For many years now, Valorie has been the resident GIS expert for a city in Colorado. Her letter summarized their summer of 2004 activities and plans for the summer of 2005. The Pleshas would make excellent spokespersons for Disney cruises. The summer of 2004 had the Pleshas on a lengthy, Caribbean-spanning cruise / nature / kayaking (no, they did not encounter the John and Doris Reilly) trip to the Florida Keys, Grand Cayman, Cozumel and the Bahamas. The kayaking part of trip was supposed to cover the ecology and geology of the Bahamas. Like most tour guides, the glamour of reefs, conchs, sting rays, sand dollars, star fish, mermaids, etc. is all too alluring and glamorous relative to the geology. Thus, the trip was heavy on ecology and light on geology. We know Valorie, being an excellent Cal Poly Pomona geology graduate, already knew the geology! This past August, 2005, they were cruising again, from Los Angeles through the Panama Canal to Florida on, of course, the Disney Magic. Other than enduring 25 foot hurricane-created swells, in the Pacific, we hope the 2005 hurricane season did not adversely impact your cruise. Valorie could not resist "checking out" the geology in ports of call. In Mexico, she found some beautiful pegmatites and huge plagioclase crystals. Don't nature interpreters on cruises travel for free? Could be a nice break from GIS work. Thanks for the post card! Sorry we missed you waving to the Gatun and Miraflores Locks web cams. We appreciated the photo of the Canal (and you of course!). Valorie loves her cruises.

Sorry, I forgot to check into geology texts dealing with the geology of the eastern Caribbean, and Central America. Perhaps Dr. Marshall, who is an expert on Central American geology, will help.

WALK'IN AND SKI'IN THROUGH LIFE

Doris ('86) and John Reilly ('94) also sent us a wonderful Christmas note. They both are still working for the Orange County Water District. With the departure of **Marina Haydock-West ('88)**, John has taken on new responsibilities.

Skiing dominated their winter of 2004. It started with a two week ski trip to June Mountain (doing ski patrols), then trips to Utah and Colorado. Later, in January, was a week long ski trip to British Columbia. There the skied mostly through clouds. But, on occasion, the weather did clear so that they could confirm they really

were skiing on mountains. Their ski winter was punctuated with trips to Mammoth and June Mountains.

During the summer when skiing is much more challenging, hiking trips kept the Reillys in shape. Trips included one to the Trinity Alps of Northern California, and a return trip to the Domelands of the Southern Sierra (where they spent their honeymoon seven years ago).

Perhaps next year they can run kayaking trips through the Bahamas. Lots of good carbonate sedimentology to show people.

ITS FINALLY BACK TO THE STATES:

Peter Valles ('83), wife Laura and daughters Emilie, Hannah and Cassidy have spent the last three years in the Netherlands. Peter was working the at Shell Oil Company's headquarters. As of June 2005, the Valles family completed the European phase of their lives and returned to Houston to take on new responsibilities for Shell. Since January of 2005, Peter is the Learning and Development Manager for Shell's Exploration and Production Global Businesses. In essence he is the Provost or Academic Vice President for Shell. He is in charge of all internal education for Shell world wide. Peter wants to be sure Shell employees receive the best state-of-the-art workshops, training and colloquia.

The Valles family sent us a great Christmas note. They had a wonderful activity-full 2004. Trips included February and December skiing in Switzerland, sightseeing in Italy, chilling out on Crete and a summer visit to southern Germany.

Peter welcome back to the States! Hope Hurricane Rita did not impact you too severely.

GIVING US A VERY LONG SEISMIC LINE:

"Well, it was good to see the latest in the Mylonite and I look forward to more in the future." We have not heard much from **Chris Lerch ('86)** in quite some time. Fortunately, inspired by last year's *Mylonite*, Chris decided to give us an update. We greatly appreciated it. Since leaving Cal Poly Pomona, Chris has had an amazing experience and great success.

We really did need an update because Chris said he changed jobs three years ago! After being with Shell Oil in New Orleans for 13 years, he is now in Houston working for BHP Billiton. Billiton originated in Australia, two of its four main offices are in Perth and Melbourne. The main office in Houston is where Chris calls home. It is the petroleum segment of BHP. Even though BHP is a multi-national firm, Chris says he is enjoying the "small company" atmosphere.

Chris says, "I truly believe that I have one of the most enjoyable jobs in the world. Sometimes its long hours but I have NEVER been bored with it. And the knowledge that a company will spend millions of dollars on a decision that you had a part in is both exciting and humbling." Chris' job is a mix of technical application work, research facilitation and coordination, training, and travel. His job title is "Global Stratigrapher" – imagine the size of the strat column. It would make Tarman's exercises a piece of cake. Some of the "global" part of Chris' title certainly comes from the travel portion of his job description. He has



Chris Lerch

been to all four main BHP offices (there is one in London, also) – sounds great already. But, there is some geology in his travels also. He has been to field sites / field trips to South Africa, France, Spain (see the photo of Chris (we see no gray hair) at a famous turbidite outcrop called the "Solitary Channel"), and Baja California (that's close to Pomona!). And, yes, Chris even gets to do some geology! Now you see why he loves his position. What a great job! Seriously, he works with a lot -- must be humongous if doing global stratigraphy (hard to resist) – of seismic and well log data. He has applied his specialty of turbidite stratigraphy to exploration and development projects in Trinidad, South Africa, Namibia, Australia, Algeria, and the Gulf of Mexico – see, "global" is a good title for his job.

Chris is very appreciative of how well his Cal Poly Pomona Geology education prepared him for his professional career. Chris says "The bachelor's degree and serious initial exposure to geology that I received at Cal Poly [see all that Tarman stratigraphy paid off] has stood me well ever since."

Chris relayed his sympathies over the passing of Steve Ryland in February of 2004. He wishes the retirements of Drs. Herber and Tarman are going well and sends his best wishes to both of them – I certainly am envious of them. Chris, give us some advance notice of your next trip to California and the Pomona area. It would be great to really catch up, and a real treat for you to give a talk to our majors. Hearing about your Cal Poly Pomona experience and your career success would be of great benefit to our majors.

FLIGHT SAFETY REPLACES A REUNION:

Dave Melendrez ('88) missed our May 2004 reunion. As Dave says his heart really pangs because he has not made a reunion in several years. See how important and meaningful our reunions are.

But, Dave had a pretty good excuse, the then impending return to flight of the Space Shuttle. We do have priorities and jobs to keep. In last year's *Mylonite* Dave told us that his responsibilities were literally booming. He became the Robotic Systems flight controller which involved the new, safety-related robotic arms on both the International Space Station and the Space Shuttle. As you know Dave's "arms" became very critical in this past summer's thorough and careful inspection of all shuttle exterior surfaces. Dave played an integral part in the success of the mission. Good work Dave!

Now, arrange the flight schedule so that you and Amy can attend next year's May reunion. We did have a good time, but it would have been better with you there. Also, if you are ever in the area, think about giving us a talk.

News From the 90's

BUT CAN HE TEACH MINERALOGY?

Dr. Kevin Rosso ('92) had a very good 2004. Dr. Kevin is a Senior Research Scientist for the Pacific Northwest National Laboratory outside of Richmond, Washington. Congratulations go out to Kevin for receiving the 2004 Pacific Northwest National Laboratory *Director's Award* for Outstanding Performance. Kevin was cited for "exceptional and noteworthy performance that clearly demonstrates substantial scientific achievement".

In 2004, Kevin was also the recipient of one of the most prestigious geoscience awards, the Mineralogical Society of America Award. Kevin received the award "in recognition of outstanding published contributions to the science of mineralogy by individuals

near the beginning of their professional careers.” Kevin’s research interests are on the atomic scale. Dr. Rosso, uses a variety of instruments and techniques, like the scanning tunneling electron microscope, and quantum mechanical models to understand the relationship between atomic and electronic structures of natural minerals. He is curious about the electron transfer rates between bacterial proteins and iron oxides.

Kevin has been at the Pacific Northwest National Lab since 1998. Kevin, like so many of our alumni, we need you to come and give us a talk – please, one that we can understand. If you ever get lonely for a low paying academic job let us know. Heartfelt congratulations on great accomplishments.

I WILL NEVER BE WARM AGAIN -- A VERY HAPPY POLIE:

No a *polie* is not a cross between a poodle and a collie. For a second consecutive year, **Glen Kinoshita ('97)** elected to over winter, along with 86 others, at the South Pole. Glenn says the first year you over winter is for the adventure. The second year it is for the money! If you over winter a third time – well?? This year Glenn set up a fabulous web site which chronicled his life at the Pole (<http://gcrweb.sdsu.edu/penguin>). You all really need to check his site out. Glenn wrote us in March, when the sun was still six degrees above the horizon. At that point flights from the Pole had ceased (otherwise they would seize) two weeks prior. With all the “tourists” gone, 86, eleven more than last year, were people “left behind”. Glen and his 85 cohorts were really looking forward to the next eight months of darkness, extreme isolation, solitude, work and oh yes, cold.

Glen, great new hair color! Who won the “race” to McMurdo? Keep that Dobson Spectrometer running, etc. You still have to come back and give us a talk on your unique experience.

STILL TRAVELING AROUND EUROPE:

Gary Thompson ('91) sent us a beautiful Christmas photo of son Gianpaolo, wife Felice and, yes, Gary was in it too. In November '04, we received a postcard from Rome where the Thompsons were visiting for nine days. A highlight of their Roman Holiday, was going to Vatican City. There they were fortunate to have a general audience with Pope John Paul (hence Gianpaolo). Somewhat prophetically, in hindsight, they were able to tour St. Peter’s burial site. Gianpaolo also enjoyed the ruins of the Roman forums. Just the kind of mess a three year old would make.

Gary, sorry we missed you this year while you were in California! Ciao!

SEEING OVER THINGS:

In November, **Dave Hankins ('93)**, another long lost sole, wrote Dr. Nourse. Dave has been working for ATC Associates since 1998 – sounds pretty stable. Much of Dave’s work involves environmental oversight -- those that know how tall Dave is realize this could literally mean *over* sight. Dave has been using his hydrology background, his senior thesis under Dr. Nourse, was on stream flow in Chino Hills State Park, and Modflow and GIS to model groundwater flow and contaminant transport. When not modeling groundwater or seeing over things, Dave likes to go hiking in the Sierras – he does not say if he has bumped into the Reillys. We used to envy Dave because he lived in remote Lytle Creek canyon. But, flooding, and just perhaps marriage, forced him to move to Claremont.

Dave! Come by and say hello. Come to our reunions.

News from the '00's

NATIONALLY RECOGNIZED ENVIRONMENTAL LEADER:

Cathie Chavez ('01) is an up and coming Environmental Scientist. Cathie has accomplished a lot in the five years since her graduation. Cathie currently is a Hazardous Substances Scientist for the State of California, Department of Toxic Substances Control. However, she has amassed first hand experience with California environmental regulatory procedures, experience in environmental remediation, environmental site assessment and public relations. This past March, by receiving a two year Environmental Leadership Program fellowship, Cathie gained national recognition. The Leadership fellowship is an innovative national program designed to build the leadership capacity of environmental field’s most promising emerging professionals.

Cathie also maintains ties to the community. Since graduating from Cal Poly, she has been a proactive member and founder of several local environmental groups: founding member of the El Monte Coalition to Protect Open Space, Co-organizer of the San Fernando Valley Pastoral Regional Environmental Justice Workshop and La Madera Community Garden. She was the 2004 recipient of Congresswoman Solis’ Woman of the Year award for her environmental conservation efforts.

We send out strong congratulations for your accomplishments. We wish the best of luck in pursuing your Masters Degree. You are a role model of all the good things that Cal Poly Pomona produces.

THE GRADUATE STUDENT LIFE 2004:

Back in November of 2004, **Amanda Gauthier ('03)**, now a graduate student at Chico State, was getting impatient about the *Mylonite!* We understand how addictive it is. Amanda is really enjoying life in the north and life as a graduate student. She says she is super busy – that’s not busy enough for a graduate student! She has decided to do a thesis on the sediment transport budget for Thomes Creek. We will be looking forward to a progress report.

Amanda says she misses southern California. But, goes on to say she loves Chico because it is so clean and there is NO traffic! I suspect Amanda does not really miss southern California all that much. We still are curious about how you cleared your long driveway of snow? Please keep the updates coming. We assume your thesis is almost done by now?

MISCELLANY:

Congratulations to **Steve Zuker ('80)** on his new job. Steve is now Senior Vice President of Esperanza Silver Corporation. Steve has world-wide experience as a precious metals exploration geologist. He has had a long affiliation with Harrods, now Gallant Minerals, as a gold / silver exploration geologist. For the past seven years Steve has been Gallant’s Vice President of Exploration. Esperanza Silver Corp is based in Vancouver, British Columbia.

Miho Waki ('03) sent us a fine Christmas card. She also came through with another JAXA, Japanese Space Agency, calendar. Miho, keep them coming!

Congratulations to Greg and **Melissa Bautz (Pratt '96)** on the birth of Theresa Francis on November 1, 2004. Newborn Theresa, now going on .001ka, joins daughter number one, three year old Jenny.

Marina West (Haydock, ('88), long time Orange County Water District regular and very loyal and helpful alumnus, is now the Chief of Operations for the Joshua Basin Water District in Joshua

Tree, California.

Congratulations to **Jeremy Lancaster ('00)** and his wife Donna on the birth of their first baby in July 2005! Bring that baby to the 2006 reunion!

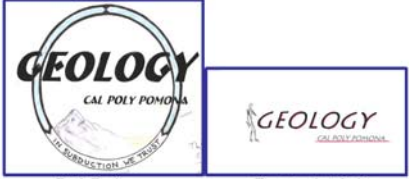
MARRIAGES:

Alumni will take desperate measures, like over wintering at the South Pole or keeping the Space Shuttle flying, to avoid attending our annual enjoyable May reunions. Now we can add marriage to the list of desperate measures. Several alumni got married in the month of May, some, on the very day, the 14th, can you imagine, of our reunion!

Morty Price ('98) got married on May 14th. **Sarah Moran ('99)** got married (not to Morty) on May 14th. **Matt Magener ('00)** participated in Sarah's wedding. **Drew McLarty ('00)** went to Reno to attend a wedding on May 14th. **Jose Delorea ('04)** flew off to Cancun on the 14th to get married on the 21st. **Ruben Acosta ('98)** decided to wait until the last weekend in May to get married so that Dr. Nourse could attend.

Now the 2006 Alumni reunion is on Saturday May 13, 2006. You have a half year to rearrange your marriage plans or better yet, shift your marriage to the reunion site!!!

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Back Design Front pocket design

Available soon
\$15.00 a T-shirt

13TH ANNUAL
ALUMNI REUNION
MAY 13, 2006
*Save this date and
come join us. We look forward to seeing
you at the reunion!*
*Help celebrate Rosalie Giroux's
Retirement!!*



2005 GEOLOGY GRADUATES
*L-R Back Row: David Jessey, Lawrence Brown, Jon Nourse,
Randal Burns*
*L-R Front Row: John Klasik, Ann Gamboa, Jeff Marshall,
Robert Jones*

Edited and Prepared by Rosalie Giroux & John Klasik.