



News From the Interim Department Co-Chair

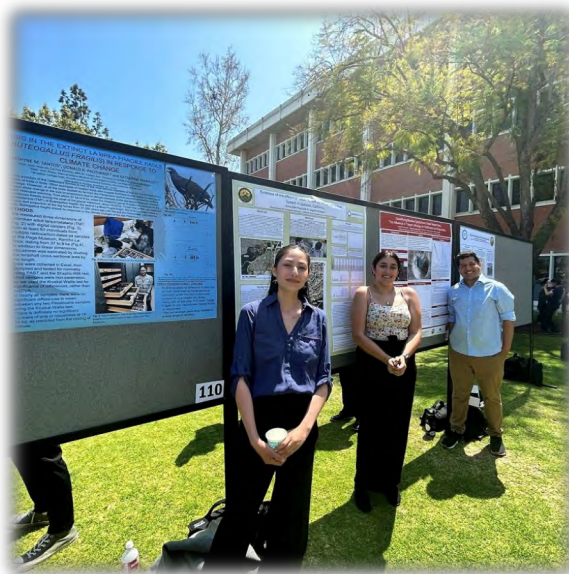
Say what? You heard that right—Dr. Jon Nourse is taking a well-earned break after editing the last 14 issues of the Mylonite (and serving as Chair for the same period!). He will return next semester once he completes his Difference-in-Pay Leave, working on several manuscripts as well as rocks, zircons, and unpublished data from his late Caltech Ph.D. advisor, Lee Silver, who passed away in 2022. In the meantime, Stephen Osborn and I (Nick Van Buer) have been filling in as Interim Co-Chairs this Fall Semester. I'm afraid I've been running a little behind on preparation of the Mylonite this year, so you may find it a little briefer than usual, but I'll do my best to keep this issue of the Mylonite lively.

As the holidays approach once more, the Geological Sciences Department can reflect on another good year. We did start out the year with the sad (for us, at least!) news that our geophysics professor **Jascha Polet** was retiring from her position after over 15 years at Cal Poly Pomona. She anchored our Geophysics emphasis area, mentored a large share of our undergraduate and graduate students, brought in significant research funding and a huge amount of geophysical field equipment, generally provided a voice of clever and practical leadership in the department, and will be missed. As professor emerita, Jascha has continued to share insights about earthquakes around the globe via her popular social media (@CPPGeophysics on X) and articles in National Geographic. The department is in the midst of a faculty search for a new tenure-track geophysics professor, who will start in Fall 2024 if all goes well.

On the plus side, this past year was the first year we've had since the pandemic without significant COVID-19-

related disruptions. Classes and field trips have re-equilibrated, and students are re-acclimatizing to in-person activities. The **Geology Club**, for example, has almost fully recovered from its near-extinction during the pandemic, and just returned from a well-attended (19 participant) trip to collect pegmatite minerals at the Oceanview Mine (Pala, CA) under the leadership of its president **Desiree Nolls**.

An even more well-attended event was the Department Alumni Reunion and student award ceremony held at El Rancharo restaurant in Claremont on May 6th. Student award recipients included **Matthew Carrillo**, **Desiree Nolls**, **Eitan Shmagin**, and **Andrew Trujillo**. Several students also presented at the College of Science Research Symposium in April.



Geology students Sunshyne Santos, Anisa Krieg, and Emiliano Gonzalez presenting at the College of Science Research Symposium



Left—Matt Carrillo receiving the Margaret Van Buskirk Scholarship Award from Dr. Nourse. Photos taken by Matt Magener (BS-2000)



Left—Alexandra Loera and Desiree Nolls receive department swag for perennial helpfulness.

Right—Desiree Nolls receiving the Prete Scholarship Award from Drs. Nourse and Van Buer.



Right—Emiliano Gonzales receives a book award.



Left—Suzie Duran receiving a rock hammer for field excellence.



More swag distribution! Congrats GSC majors!

We also had a strong showing at graduation and have had a number of completed M.S. theses as well.



Graduating Geology students pose with President Coley, May 2022.



Geological Sciences graduates lead the way! (photo credit Eitan Shmagin).

The faculty would like to congratulate the following 5 students for their theses completed over the last year:

Casey Cleaveland: “Paleobiogeography of Late Oligocene -Miocene Oreodonts (Merycoidodontidae: Artiodactyla): Implications for Paleobiology Databases” (advisor: Dr. Prothero)

Fernando DeHonor: “The application of probabilistic tsunami hazard analysis using tsunami wave height measurements for the regions of Indonesia, Ecuador, and California” (advisor: Dr. Polet)

Andy Klesh: “Improving knowledge of lava pathways at Kilauea using distributed acoustic sensing” (advisor: Dr. Polet)

Ashley Rivera: “Geophysical Imaging of the Blackhawk Landslide” (advisor: Dr. Polet)

Pouria Salami: “Hydrogeology of Colossuem Mine, San Bernardino County, California” (advisors: Drs. Osborn and Van Buer)

This Fall we had about 23 new freshman and transfer undergraduate majors enroll into Geological Sciences, and are looking to pick up another 4 in the coming Spring. We had a particularly strong year for new enrollments into our masters program, with 9 new grad students enrolling for Fall and 4 more expected in the coming Spring. Despite some recent University-level shake-ups such as the one-day faculty strike Dec. 4, the Department of Geological Sciences is still going strong!

Alumni Success

One of the selling points for our department has been that the vast majority of our students go on to get good jobs in the geological sciences. Lately we’ve been trying to come up with a better tally of where all our graduates have ended up—if you have news to share, please email us (janourse@cpp.edu and/or njvanbuer@cpp.edu)! Our latest review of recent graduates indicates job placements at many well-regarded employers, including Geosciences Support Services, Stantec, Inc., Lawrence Livermore Laboratories, ESRI, Coeur Mining Corp., Tetra Tech Inc., Army Corps of Engineers, Delta Environmental, Freeport McMoRan, Inc., Maxar Technologies, AECOM, Orange County Water District, Inland Valley Utilities, Bureau of Land Management, Ninyo and Moore, Rio Tinto, California Geological Survey, Parsons Engineering, Belshire Environmental Services, Richard Slade and Associates, EnTech, Lithium Nevada Corp., Kyle Groundwater Corp., City of West Hollywood, Equipoise Corp., Terraphase Engineering, Alta California Geotechnical, Montrose Environmental, Geosyntec Consultants, Thomas Harder Groundwater, Inc., Nevada Gold Mines, EnGen Universal Engineering Science, US Geological Survey, Enegis LLC, and NASA

Goddard. We've also sent nearly a dozen students onward to Ph.D. programs in recent years, including at Caltech, University of Colorado, University of Nevada, Reno, UC Riverside, University of Washington, University of Oklahoma, University of North Dakota, University of Houston, and University of Notre Dame.

CPP Geological Sciences Alum Jeremy Lancaster named California State Geologist!

Most of our graduates generally move into successful careers in the geological sciences (see the alumni updates section for more), but here's one who's made it to the top! Jeremy Lancaster, PG, CEG, graduated from our program in 2000 after completing a senior thesis regarding a landslide in the Chino Hills with Dr. Larry Herber. In his new role he will direct the California Geological Survey, one of the oldest and most respected state geological surveys in the country. CGS is responsible for managing geologic hazards and sustainable economic resource development for the fifth-largest economy in the world.

Geology MS Program Invites Applications

Our MS program welcomes applications from Cal Poly Pomona Geology alumni—many have been successful graduate students in the past despite juggling external work and family commitments. It seems that earning a BS degree from CPP Geology Department provides excellent preparation / work ethic for completing a Master's degree. Several recent Geology BS graduates are currently active in our program and making good progress on their theses.

The application deadline for Spring semester (2024) has passed, but the Fall semester 2024 application cycle remains open until **July 1, 2024**. Early application is strongly encouraged to allow time to arrange financial aid and Teaching Associate appointments. Details of the MS program, including admission requirements, curriculum and instructional plan for the next three years may be viewed at: <http://www.cpp.edu/~sci/geological-sciences/masters-program/index.shtml>

Please check out our MS Thesis archive at <http://www.cpp.edu/~sci/geological-sciences/masters-program/thesis-archive.shtml> to access PDFs of all Geology MS theses completed to date.

How to Apply:

Apply online through <https://www2.calstate.edu/apply> For prompt feedback, also send hard copies (or electronic files) of your application and supporting materials to:

Nicholas Van Buer, Graduate Coordinator;
njvanbuer@cpp.edu
Department of Geological Sciences
3801 W. Temple Avenue
California State Polytechnic University
Pomona, CA 91768

Sand Table Completed!

Earlier this semester Dr. Bryan Murray and Frank Wille were finally able to test out the stream table Frank built from scratch over the last several years. It's about the size of a full sheet of plywood, is covered with synthetic sand designed to model the flow of larger stream systems and can be adjusted across a wide range of gradients. Water is recirculated by a pump. Although we unfortunately weren't able to use the stream table in lab activities this semester due to problems gaining access to the table while it was housed in a (theoretically) shared space controlled by the CE department, the table is finally now situated where future sedimentology students can look forward to using this table for hands-on experiments with sedimentary processes.



Geology technician Frank Wille prepares to start up the stream table for the first time. (photo credit Bryan Murray).



Stream processes in action! (photo credit Bryan Murray)

Follow us on Instagram

The Department's most active social media presence is currently on Instagram: @CPP_Geological_Sciences

As they say, "Share, Like, and Subscribe!"

Personal notes from Dr. Nick Van Buer

2023 has been a good year, but also my busiest year on record. I don't know how Dr. Nourse does it! I'm only Co-Chair and I'm already ready for a break after just one semester. I feel like I might have over-committed a bit, between serving as Interim Co-Chair and Graduate Coordinator, co-chairing the faculty search committee, teaching Mineralogy and Field Investigations and co-teaching Volcanology (with Dr. Rob Zinke), and mentoring four student research projects, not to mention serving as a stand-in committee chair for a couple of extra geophysics students. Oh, and I'm apparently also the Vice Chair of the Board of Governors of the CSU Desert Studies Consortium, which promotes desert research and operates a 75-bed off-grid field station at Zzyzx, CA, while we are attempting to completely re-write the Memorandum of Understanding that secures our future organizational structure, mission, and funding sources (I'm the chair of the MOU committee, actually . . .). And the Field Trip Chair for the Fall 2024

GSA Connects Meeting in Anaheim, which turns out to have more responsibilities starting in 2023 than expected. And also, did I mention I'm parenting a super-cute 5-year-old, Ian, who loves rockets and Legos, and just started kindergarten? Since my wife, Sandy Ottensmann, is currently Vice President/General Manager of Gene Writing and Editing at Integrated DNA Technologies, in a year where the FDA just approved the first ever gene editing therapy, I'm actually the "flexible" spouse. Thank goodness for local grandparents!



Ian can already identify granite!

And that's just Fall semester. So let's step back and walk through some of my personal highlights of the year, starting back at the beginning of 2023. In January, my family and I went on a vacation to Florida to visit Disney World, the Kennedy Space Center, and the Florida Keys. I also began mentoring undergrad **Desiree Nolls** on a research project studying mineralization patterns at the Chambless skarn in the Marble Mountains—the first step involved spending 3 days lugging the department's ground-based LiDAR system through rugged terrain to generate a high-resolution topographic basemap for this remote area. In my spare time, I also helped some conservation nonprofits write a report on the geology of a new proposed national monument (Chuckwalla NM) just south of Josh-

ua Tree, and even planned a geology field trip for local stakeholders and politicians (which unfortunately ended up getting canceled last minute for political reasons).



Ian at the Kennedy Space Center.



Desiree Nolls and partner Andrew performing a LiDAR survey of the Chambless skarn, Marble Mountains, CA.

In Spring semester, I was teaching Structural Geology, Igneous and Metamorphic Petrology, a Field Module, and co-teaching Advanced Structural Geology and Tectonics, which got me out into the field almost every other weekend. For my Field Module we revisited the Big Maria Mountains to take advantage of new aerial LiDAR elevation data available for the area. I also led a day trip into those mountains with a joint University of Wisconsin, Madison and University of Nevada, Las Vegas field class, in collaboration with Basil Tikoff and Michael Wells. There is current interest in that area as a potential ground zero for mountain building related to the hypothetical collision of a continental sliver about 100 million years ago (the “Hit and Run” model—more on this later).



Dr. Nourse teaching Advanced Structure students how to measure fault striations in San Dimas Canyon.



Field Module students mapping in the Big Maria Mountains.

For Igneous and Metamorphic Petrology, we returned to Joshua Tree National Park, where there is a sort of natural cross section through the Mesozoic backarc. We also did some new stops in the northern Peninsular Ranges

batholith, including a wildflower-studded six-mile hike to some ultramafic rocks just north of Diamond Valley Reservoir. These rocks mark a 100 Ma tectonic boundary, possibly a suture zone related to the aforementioned “Hit and Run” collision (or at least accretion of the Alisitos/Santiago arc terrane?).



Igneous and Metamorphic Petrology students investigating intrusive contact between Cretaceous granite (right) and Proterozoic metasedimentary rocks (left).



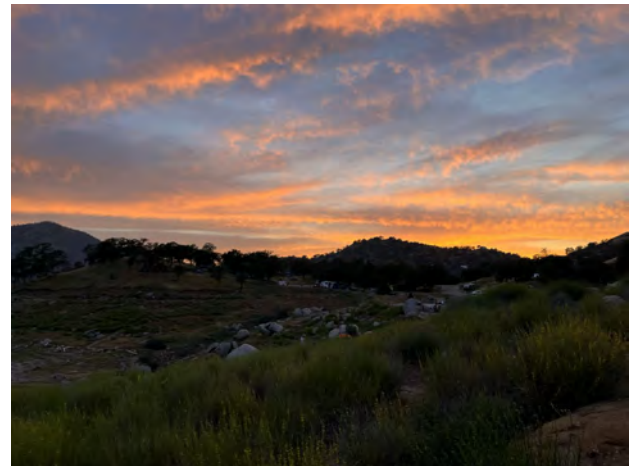
GSC 4240 students and wildflowers on ultramafic rocks north of Diamond Valley Reservoir.

For Structural Geology, we were originally going to head to the Plush Ranch Basin south of Mount Piños, but there was too much snow, so we did Rainbow Basin instead. And for the first time in a few years, I led the Advanced Structural Geology and Tectonics class on a trip to the tectonic highlights of the Southern Sierra Nevada and Coast Ranges. Finally, I rounded out the semester with a drive up to Reno in May for the GSA Cordilleran Section Meeting where MS student **Carey Chang** presented his research on latest Jurassic A-type granites in the Soda

Mountains (near Zzyzx, CA), and I talked about my YouTube outreach efforts.



Structural Geology students mapping in Rainbow Basin.



Sunset at Pine Flat reservoir on Advanced Structural geology and Tectonics trip.

Over the summer, I stepped up those YouTube outreach efforts, re-editing video from my 2022 hike across the Mojave Desert (including previously unseen footage) into a series of shorter videos branded as “Mojave Trek Daily” in attempt to attract some younger viewers:

<https://www.youtube.com/channel/UCHMNjgp97IQEooIJwLbggig>

Particularly short ones also ended up on my TikTok channel: [@Tecto Nick](https://www.tiktok.com/@TectoNick). Alas, I wasn’t able to keep up the “daily” pace once Fall semester started . . .

Other summer events included travel to Stanford with Carey Chang and **Karissa Vermilion** (BS 2018; now a Ph.D. student at the University of Houston) to get some SHRIMP ages, and travel to the GSA Penrose Conference in Idaho. The topic discussed there was Basil Tikoff’s

recently updated “Hit and Run” model: did a chunk of land known as the Insular Superterrane collide with the western U.S. at the latitude of Baja and Southern California about 100 million years ago, followed by translation into Canada, where it remains today? Such large shifts in latitude are supported by good paleomagnetic data (a.k.a., the old Baja-BC hypothesis) but the insight here is to question whether the collision might also be responsible for uplift of the Rockies. I presented a few options for how the Mojave might fit into such schemes—there are certainly some issues with the current paradigm of flat-slab subduction. For example, why does magmatism continue 10 million years longer in the Mojave than elsewhere along the subduction margin if that’s exactly where a big, cold oceanic plateau is supposed to be colliding? This small conference with just 75 attendees was a great opportunity to forge new collaborations, and I am now working on a paper with geophysicist Gene Humphreys (University of Oregon).



Geologists milling about during a GSA Penrose Conference field trip in the Salmon River suture zone, Idaho.

My Fall field trip lineup kicked off with a Volcanology trip to Owens Valley, Long Valley Caldera, and the Mono Basin. I was originally going to teach Field Investigations in young volcanic rocks of the northern Coso Range, but every access road had been washed out by former hurricane Hilary. Instead, I took the class to a map a metamorphic pendant at Bean Canyon in the Tehachapi Mountains, where alumnus **Kendall Mayfield** (BS 2017) at Cal-Portland is investigating some ultramafic rocks they hope to use to sequester carbon dioxide created as a cement by-product. Finally, this year’s Mineralogy trip included a tour of the Rio Tinto Boron pit from **Ryan Santos** (BS 2015). Minerals observed included borax/tincalconite, ulexite, and giant crystals of kernite. This is the largest open pit mine in California, supplying about 30% of the world’s boron supply. I think we’ll try to keep this tour on the agenda for future years!

Although this has been a productive and rewarding year, I am looking forward to a somewhat calmer schedule in the coming Spring.

Cheers!

-Nick Van Buer



Volcanology students lifting pumice boulders on top of Obsidian Dome.



Field Investigations students make plans for the next day of geologic mapping in Bean Canyon, Tehachapi Mountains.



Mineralogy students show off their kernite samples in the Rio Tinto Boron pit.

Student Successes

We just updated our list of Geology majors who made the Dean's list from Fall 2022 through Spring semester 2023. These students earned a GPA of 3.5 or better in their course work. Congratulations to the following hard-working students for their academic excellence!

Fall Semester 2022:

- Jason Bragg
- Alex Cardenas
- Drake Fan (BS 2022)
- Adrian Garcia
- Emiliano Gonzalez
- Evan Kuo (BS 2022)
- Sasha Lang
- Alexandra Loera
- Matthew Machuca (BS 2023)
- Nadya Palma (BS 2022)
- Morgan Ramirez
- Alexis Ruiz
- Vincent Ruiz (BS 2023)
- Eitan Shmagin

Spring Semester 2023:

- Aaron Hageman
- Sasha Lang
- Morgan Ramirez

Again as mentioned in *News From the Interim Co-Chair*, congratulations go out to the student recipients for the

2022-23 academic year Geology Scholarships. Matthew Carillo, who received the Margaret Claire Van Buskirk Scholarship. Desiree Nolls, who received the Ernest Prete, Jr. Geological Sciences Scholarship. Eitan Shmagin, who received the Valles-Henderson Scholarship and to those majors who received various field awards at the student award ceremony in late spring of 2023.

2022-2023 Geology BS and MS Degree Postings:

Fall 2022

- William Alvarado
- Drake Fan
- Bryan Guardado
- Alfredo Gutierrez
- Karissa Hernandez
- Evan Kuo
- Nadya Palma
- Alexis Ruiz
- Frank Vitiello

Spring 2023

- Sarah Alpuche
- Matthew Azcunaga
- Michael Chiang
- Dylan Gomez
- Andy Klesh MS
- Alexandra Loera
- Matthew Machuca
- Jeanine Pellegrino
- Vincent Ruiz
- Pouria Salami MS

Summer 2023

- Sunshyne Santos

We are very proud of our graduating Geology Undergrads and Masters students and wish them success in their geoscience careers and futures.

2023 News, Updates and Photos from Alumni and Friends

Naomi Bacop (BS-2018)

Since graduating from the program in 2018, I have worked at several environmental consulting companies, traveled to many national parks and forests around the country, and even went back to school for my Masters degree (M.S. Environmental Engineering from Cal State Fullerton Class of 2023)! I've recently found employment in San Luis Obispo working for the State as an Engineer-

ing Geologist at the Central Coast Regional Water Quality Control Board. Troy Carson (from the same graduating class) also found work in San Luis Obispo back in 2022 and has been working at CalTrans as an Engineering Geologist, as well. I'm currently studying to get my EIT with the hopes of gaining my Professional Engineering license in Civil Engineering and eventually obtaining my Professional Geologist license in the future.

I'd also like to share these pictures of me and Troy during our travels. One is of the Geothermal pools in Yellowstone National Park and the other is of us enjoying the geological features at the Grand Canyon!



Left and Bottom—Troy Carson (BS-'18) and Naomi Bacop (BS-'18) Enjoying the Geothermal Pools in Yellowstone.

Magali Barba (MS-2015)

“I'm back in SoCal working at Esri with Drew Faherty. I'm a product engineer and radar subject-matter expert working on the SAR Toolset for ArcGIS Pro with the goal of making SAR and InSAR processing and analysis more accessible to the GIS community”.

Scott Carney (BS-1977)

Something short from Scott, but always nice to hear from our alumni!

I'm hanging in there being a wellsite geologist, working with Occidental Oil Company in West Texas, Permian Basin. Take care, Scott Carney

Homar Colin (BS-2018)

Howdy y'all,

I've been working as a geologist for a little over five years since I left Cal Poly. I started working at a geotechnical engineering company in Sun Valley, CA, RMA Geoscience for two years. I switched gears and jumped to an environmental company in Corona, CA, Ardent Environmental for a year. I then switched to another environmental company in Arcadia, CA, ETIC and worked there for a short while. I then got hired by Kleinfelder in Los Angeles and eventually transferred to their Sacramento area office. Most recently I was hired by the California Regional Water Quality Control Board for a permanent position as an engineering geologist.

I've been able to work throughout the western United States in temperatures ranging from 14 to 110 degrees Fahrenheit, rock coring through landslides in Yosemite, installing 1,200 feet deep wells for Los Angeles County drinking water investigations, tracking contaminant plumes for Exxon and drilling off boats.

My current role with the state is within the Federal and Department of Defense site cleanup unit. I work closely with the Department of Toxic Substance Control and Environmental Protection Agency to monitor remediation efforts and enforce environmental regulations at various active and historical military bases within the state. Along with petroleum products and chlorinated solvents, I've been focusing on per and polyfluoroalkyl substances within soil and groundwater. I'm currently trying to build a groundwater model to monitor and predict contaminate plume migration beneath a site.

I started grad school at Sacramento State this past fall and am aiming to take my licensing exam in March 2024. If anyone would like help with their resume, cover letter, or has questions regarding what being a geologist can be like, feel free to reach out: homarcolin@gmail.com

Peter Flores (MS-2020)

“I'm working for the Napa County Department of Planning Building and Environmental Services doing GIS Analysis. It's mostly database management and data analysis; looking at: groundwater, agriculture land use, fire hazards, housing, etc. I also design apps for other staff members to access and input data as well as create dashboards and reports for management and supervisors. Lately there's also been lots of EOC/ROC (Emergency/Recovery Operations Command) work; we're still doing recovery work for the 2020 Napa fires and now doing flood watches for the recent rains we've been having.”

Neil Gilham (BS-1983)

Shout out to all my geology department alumni, professors, professors' emeriti, and current students. I am ever thankful for my days at Cal Poly as a launching pad for a great life. I'm surprised I even graduated, but I did, so there's that. Those long field days and struggling through classes (I'm not terribly good at math) paid dividends. After a brief stint at the missile factory (I mean GD, thanks Rick for the job!), I embarked on 37-year career as an environmental consultant, where in the early part of that career I employed the field skills I learned in geology classes: drilling and installing wells, field sampling, etc. Later in that career I was managing projects, working with various clients, and developing new business. Kids, if you have a slight entrepreneurial bent and have good people skills, a consulting career may be for you. In spite of all that, at the end of the day, I can still call myself a Geologist, since the State of Washington issued me a license (as long as I pay \$100 every year). Anyway, I am within a nanoparticle of fully retiring. I pick up a few hours here and there to help out, but only if it's fun and as long as it doesn't interfere with my bicycling and skiing (go Cal Poly Ridgerunners!). Since my semi-retirement, this last year I have almost 2000 bicycling miles. The knees are still good, so I'm still getting laps on the mountain.

On a personal level, I've lived in Edmonds, WA, a little north of Seattle, for 32 years; married for 33 years (to the same awesome woman), and two kids (boys) all grown up. It's a good life here in the PNW. I still keep in loose touch with a few alumni (Rick Nelson, Pete Vos, Bill Craychee) and somewhat looser touch with Thom Deane, Steve Zukor, and Scott McKeag. It's with heartfelt sadness the passing of Dr. Larry Herber. I loved that guy. I can still hear him whistling and recall some of his phrases like "take a pho-to" or "geomorefoolery."

Have a wonderful and thankful Holiday season everyone! Cheers! -Neil



Neil and Leslie Gilham, Living their Best Life!

Bryan Guardado (BS-2022) is now working at the Round Mountain Gold Mine as a Junior Geologist for Geotemps Inc. "As a Jr. Geologist, my duties will include logging geological units and geotechnical core logging parameters, selecting samples for laboratory testing, and carrying out strength tests of rocks. I'm excited to start my career in the mining industry and look forward to what the future holds!"

Robert Jones (BS-2005)

Hello everyone, it's been a number of years since I submitted an update. I am still located in Houston, TX and work for Houston Methodist Hospital. I previously worked in the Environmental Health & Safety Department, now I am in the new Office of Sustainability within the Houston Methodist Academic Institute. After going through Covid (2020-2022) in a healthcare setting I became heavily involved in learning hospital operations and really became interested in furthering my environmental career within the healthcare sector. In 2019, I began taking systems engineering courses at the University of Texas at El Paso. Due to my intense work schedule in the spring of 2020 I postponed my graduate studies. I resumed my engineering graduate studies at Lamar University and earned a Master of Engineering Management, Industrial Engineering degree in 2021. I am certain that my academic background has allowed me to have a really diverse career path. Working as a geologist for nine years, two as a consultant and seven with Cal EPA was a great way to begin after graduating from CPP in 2005. After nine years at Houston Methodist Hospital I have moved into a new role, Sustainability Analyst within our Academic Research Institute. This new position has afforded me the opportunity to integrate research into our department's sustainability efforts. I recently applied to several engineering doctoral programs. I accepted an offer of admission from Colorado State University and will begin my doctoral studies in systems engineering in the Spring of 2024 via their graduate distance education program. I am excited to get started and look forward to further integrating research into our sustainability program which impacts our entire hospital system and our 32,000+ employees. I am interested in systems engineering research in environmental sustainability, resilience, energy management and healthcare design and construction. I am also interested in the organizational frameworks and mechanisms that healthcare organizations utilize to educate their employees on environmental sustainability. I will be working with my advisor, Dr. Rodolfo Valdes Vassquez, Associate Professor in the Department of Civil and Environmental Engineering. Like my grandfather, who was an engineer (Purdue University '52), lifelong learning is my goal.

I recently received an offer to be an adjunct instructor at Southern New Hampshire University where I will be teaching one course in environmental sustainability and two other courses in STEM. This will be my first foray into teaching, and I look forward to the opportunity to collaborate and support students as they continue on their educational journeys.

On the family front, my wife Quarry and I, welcomed our son Quindon in 2022. He is now 18 months and going strong. He is a very inquisitive little boy who loves to tinker and see how things work. He loves the outdoors and is very mechanically inclined. We recently took a road trip to Colorado Springs and he loved the Garden of the Gods, Seven Falls, and the Great Sand Dunes. It was great to get out and hike in nature with my son, we even collected a few rocks for display in his room. Quarry successfully completed her Bachelor of Business Administration in Human Resource Management from the University of Houston Victoria. I am extremely proud of her, working full time and still completing her degree.

I look forward to reading all of the updates in this edition of the Mylonite. I am glad to see the department is still going strong and continues to grow!

-Rob



Quary, Rob and Quindon. Such a happy Family!



Jones family at the Great Sand Dunes National Park, Colorado Spring, CO.

Jacob Kays (BS-2020)

2022-2023 has been a big year for me! I helped UES win a year-long geologic study for groundwater recharge potential in the central valley. I have been managing that project since. Additionally, what time I have that hasn't been spent working on that project has been devoted to performing construction QA duties for landfill gas extraction systems across the south west, but primarily at Sunshine Canyon in Sylmar. Both projects have been going fantastic, and in part, thanks to my efforts, our landfill client has been expanding their use of our company for CQA and the water district was able to expand its original study scope. In April, I was promoted to project level Geologist! We also hired two Cal Poly alumni at UES recently, one of whom is a Geology Department alum (Jeanine Pellegrino BS-2023). Things are really starting to pick up, so I'm hoping to see even more Broncos at work in the near future.

On a more personal note, I got engaged August last year, and we just set our date for June 2024. I'll be getting married to the most wonderful partner in the world who, no pun intended, has been my rock this past year.

Regards, Jacob Kays

Scott McKeag (BS-1982)

Another year, more rocks! I am still drilling holes in our advanced projects at Aburna and Tolegimja here in Eritrea. I was recently promoted to Managing Director of Alpha Exploration and will undoubtedly spend less time in the field as we advance these two projects to resource status. Alpha is at a pivotal point in the company's history.

We will either get one of these advanced projects across the line and expand into other regions of Eritrea and the great Arabian Nubian Shield (ANS) or we will fission-out (pun intended) like many junior explorers do. But things look good, and we may be able to have two developing mines, this time next year. If so, expansion into other areas of the ANS; Egypt, Saudi Arabia and Ethiopia will be natural. I'd love to return to Sudan as well, but things look really bleak there at the moment.

Lately, I was able to chat with my old Cal Poly mineral mate, Steve Zuker or Zuke as we all call him. It was nice to catchup. I think he and I are the only Cal Poly geology alumni still working in the mining/exploration industry! Old geos never die, they just petrify!

On the personal side of life, my life partner (Seangduan) and I have moved from Bangkok, Thailand to Eritrea for the next 2 years, as I focus my energies on geology. We plan to do some traveling around Africa, Europe and the Islands of the Indian Ocean. We started our travels this past year with two trips to the Philippines, two trips to Vietnam and multiple trips around Thailand. As an American, I was a little embarrassed to be in Vietnam after all the pain America endured and caused there during the 60s and 70s. I found Vietnam to be nothing like the oppressed communist country we were led to believe existed. It is a modern society with beautiful cities, white sand beaches and a series of amusement parks called Vin Wonder that put Disneyland to shame. It should be on everyone's bucket list. I learned a very good lesson at the ripe old age of 67, and that is: Ho Chi Minh's vision for his people was no less valid than Thomas Jefferson's vision for Americans and it is seriously wrong to impose your will on another people from behind the butt of a gun or point of a sword.

Regards, Scott McKeag



Bottom left, right and lower picture are of Scott and Seangduan's travels this past year. Always an adventure with these two.



Stephen Mulqueen (BS-1978)

A career in Geology usually offers many exciting experiences as fellow students and alumni forge ahead through life. For me, graduating from Cal Poly Pomona with a degree in Geology during 1978 certainly was the beginning of great opportunities in exploration and learning. After retiring over 10 years ago, I look back on my career and continue to be grateful for the opportunities I have had that include employment related to the mining and petroleum industries. These opportunities were realized as a direct result of the learning process including the struggles related to earning a degree in geology. For those undergraduates that continue to work hard at their schooling, remember that the rewards for your efforts will be realized. So, keep up the good work.

I continue to work hard on projects related to public

outreach, including presenting lectures, leading field trips and writing professional articles. These efforts are my way of continuing the learning process while teaching others about science. One of my great efforts in recent times included leading field trips for the Southern California Paleontology Society (SCPS). During May of next year I will be leading members on the 6th annual Utah fossil trip. Sites visited include collecting trilobites, ammonites and petrified wood with the added bonus of seeing dinosaur tracks. "At times, man dares to go where only dinosaurs have been before."

I continue to supply museums, schools and geologic institutions with specimens of unusual and rare rocks, minerals and fossils. During 2022, I donated about 50 pounds of specimens to the Utah Geological Survey in Salt Lake city for use in education and museum exhibits. I continue to be active writing articles. My recent efforts at publications are related to mining history in the California Desert for the Desert Symposium. I continue to be active with the Shoshone Museum on exhibits and contributions related to desert history.

May all of you seek out and find the opportunities to learn, especially while in the process of teaching others about the exciting science of geology and its related human history.

Stephen Mulqueen
Alumni, 1978



Camera facing west (upstream) along the U-shaped glacial trough of the Robinson Creek drainage showing Twin Lakes near Bridgeport, CA. Steve is standing on the last Tioga Stage Pleistocene lateral moraine, the final stage before the glacier slowly melted.



SCPS members collecting trilobite fossils at the U-Dig Quarry, House Range, Wheller Shale, Cambrian, located northwest of Delta, UT., April 2022.



Members of the SCPS observing dinosaur tracks on the upper surface of the Springdale Sandstone Member of the Moenave Formation at a remote location east of Leeds, UT. The tracks are of *Eubrontes* ichnogenere, Lower Jurassic, 190 MYO, April 2022.

Alejandro (Alex) Mundo (BS-2015)

Hello Cal Poly Geo family,

Hope you're thriving in the midst of the new year! As I reflect on the journey of 2023, I am filled with gratitude for the incredible experiences and opportunities that have shaped my year.

In February, I had the honor of presenting at the Space Center Houston for the Space Exploration Educators Conference representing NASA Goddard Institute for Space Studies, and it has been a fascinating experience. The highlight was being part of a panel addressing the Urban Heat Island effects and climate education. The energy in

the room was electrifying, and I even had the unique opportunity to undergo astronaut training in the water tank – an unforgettable experience! Here’s some pictures of the experience.

Venturing into the summer, I found myself immersed in scientific exploration at the Gerace Research Center in San Salvador, Bahamas. Engaging in extensive snorkeling in Bahamian reefs, I delved into research on coral reef habitats, geological features, and the intricate links between climate change and local ecosystems. Nighttime snorkeling encounters with turtles, squids, and even swimming alongside sharks by the reef made it an exhilarating adventure, beautifully captured in this snapshot.

I seized the chance to be part of Columbia's Climate School and the Lamont-Doherty Earth Observatory. I have worked on a project during this year revolving around polar regions and polar science and education. This endeavor involves infusing real data from glacier melting, ice sheet movement and surface lakes, drawing nearer to understanding the repercussions of climate change in Greenland, the Arctic, and the Antarctic

During the late summer months, I participated in the Schoodic Institute at Acadia National Park in Maine, where I joined a select group of science educators across the country for an intensive Climate and Equity project. Exploring equitable pedagogy, understanding global and psychological impacts of climate change, collaborate on climate change projects and ideas, and enjoying the serenity of Maine's nature were transformative experiences, as illustrated in this photo from the institute.

A major highlight of the year was assuming the role of director and state liaison for the New York City section of science educators in New York state. Presenting my recently published unit plan on the urban heat island and its effects at the annual conference was a privilege and a testament to the power of collaborative education.

Continuing to be a passionate geoscience educator in the heart of New York City, I dedicated significant time to volunteering in urban gardens and composting initiatives this year. These green oases in the midst of the concrete jungle provided me with a unique perspective on sustainability and community collaboration.

Among other trips, I had the opportunity to go to Mexico and Turkey.

As we step into 2024, I wish each one of you a year filled with achievements, growth, and moments of joy. May you find success in all your endeavors and cherish precious moments with your loved ones!
Best wishes, Alex Mundo

Alex presenting at the Space Center in Houston for the Space Exploration Educators Conference.



R-Alex snorkeling in the Bahamian reefs. Below Alex at the Schoodic Institute at Acadia National Park.



Pattie Rose (Pattie Stephens when at Cal Poly Pomona)

Hello from Tucson, Arizona,

The past year has been supper fun! Despite the fact I had jury duty all during the annual Gem and Mineral Show activities here in Tucson, I was still able to get to a small venue at a park near my home on one weekend. This was a gathering of small dealers with specimens from all over the United States and I was able to add a few items to my fossil and mineral collections. In February 2024, I will be working in the booth of my friend Diane Rose, (no relation), talking to customers about the fossils, minerals and fluorescents she has for sale. Shows are a wonderful opportunity to share and gain knowledge and to make new friends. Also present at this location were our friends from Fairview, Colorado, so we had a great time catching up on their activities in the Rocky Mountains.

Other activities this year included a series of field trips with the Tucson Gem and Mineral Society to various mines in Arizona. This included the Tiger Mine near Mammoth, Arizona. The Tiger/St. Anthony mine, for example, was prospected and claimed by Charles Dyke and T. C. Weed in 1879 and later the large copper porphyry ore body was actively mined from 1880 through the late 1950's. Some activity resumed in the late 1970s to early 1980s then the mine, currently operated by BHP Billiton Co., entered the reclamation phase. Valuable minerals were mined including copper, gold, silver, molybdenum, vanadium, lead and zinc. Today the mine allows mineral collectors and clubs to explore some of the mine dumps and test pits for both common and rare minerals. Most of the rarer minerals are in the remaining underground levels, but there is not general access to the shafts as many levels are now flooded by ground water and surface seepage or are prone to collapse. However, from the pit and dump area we visited, I collected many specimens of amethyst, angel wing calcite, vanadinite, pyrite and malachite.

Other TGMS field trips included the Rowley Mine near Gila Bend, Arizona, and the numerous mines of the Washington Camp/Duquesne area east of Nogales, Arizona. Collecting at the mines yielded not only several beautiful specimens but a wealth of historical and geologic knowledge about the areas. My husband and I made lasting friendships with a few of the owners, enabling me to open two of the locations to Fluorescent Mineral Society field trips. I will expand on these mines later.

In June, when it's too blazing hot in Arizona to go collect mineral specimens, I attended the Phoenix Heritage Mineral Show in Phoenix, Arizona. Here was an expanded market for minerals from all over the world, at prices far

lower than those asked at the big Tucson show in February. I have gotten very picky about what I purchase, concentrating on obtaining minerals that I do not already own; who needs 100 specimens of quartz? (I know some collectors specialize in just one mineral or a family of minerals, but I favor variety and quality). I came home with 20 new specimens, four of which I put into a new lead lined display on my patio because they are mildly radioactive. (I test everything with a hand-held Giger counter).

We have been going to the Bandimere Raceway to run the Top Fuel Dragster at the NHRA Mile High Nationals for years, and this year was special as it was the final race at this location. Located and built into the Dakota Hogback in Morrison, Colorado, this track opened in 1958 and has hosted multitudes of racing and charity events. This was a cool and exciting departure from the mid-summer heat of Tucson. Fortunately, our team's car performed its best, posting as the Number 1 Qualifier after the first round, out of a field of 16 nitro breathing cars. Our time and speed held up very well, allowing us to start the Finals on Sunday in the number 7 qualifier position. Sadly, we lost in the first round to the number 8 qualifier, but that's racing. Too bad this beautiful track is now destined to become a car dealership, shopping area and condominiums. Fortunately, Dinosaur Ridge nearby will be preserved and protected. I grabbed a few slabs off the hogback next to our pit area and photographed the ripple marks and another possible footprint higher up the hill with my big telephoto lens, for my own special memories of this track. A new track is in the planning stages further to the east off I-76 or near the Denver International Airport; so it will be closer to the team's race shop in Ft. Morgan, Colorado.

This year I also became involved in studying and collecting micro-mount mineral specimens. One Monday a month, I attend a meeting with several seasoned geologists and mineralogists to view our specimens through our microscopes at the Tucson Gem and Mineral Society club house. One of my fellow participants has had a mineral named after him, Rongibbsite (Ronald B. Gibbs). He is also one of the authors of my heavily used "Mineralogy of Arizona" book and has autographed my new 4th edition for me. He is a great mentor and presented me with a small specimen of his mineral. Yes, it's a micro-mount.

In October, I was asked by the Tucson Gem and Mineral Society (TGMS) to lead the field trip to the Washington Camp/Duquesne mines at the last minute, as the regular trip coordinator experienced a health problem. This was a small group because the property owners only allow 12 to 8 collectors on a trip. The trip was great! We also got to see the October 14, 2023, annular eclipse from southern Arizona with the filter off a telescope one of the participants brought along. Our area was able to see 80%

coverage of the sun by the moon and thankfully my camera was able to capture a shot at the maximum coverage for southern Arizona. (The temperature did drop by 2 – 3 degrees during the eclipse.) This location features Japanese twinned quartz, large andradite garnets, rutilated quartz, iridescent chalcopyrite, perfectly formed pyrite cubes, coral fossils and fluorescent minerals. Good specimens were found by all and as the trip leader, I got the opportunity to write a short article with photos about the trip that was published in the monthly TGMS newsletter. I gave the mine owners a copy of the article and I have been invited back to help them identify the range of fluorescent minerals occurring in and around the old stamp mill and to help them set-up future field trips with both TGMS and the Fluorescent Mineral Society.

On the first field trip to the Rowley Mine in April, I had collected very nice specimens of bladed barite, solid chrysocolla, diabolite, linarite, mimetite and wulfenite. The mine currently operates as a commercial source of gem-quality chrysocolla and as a research location for new minerals found in Arizona such as Edwindavisite, named after the current owner of the Rowley Mine. The mine owners knew that the Barite would fluoresce pink but were unaware that several other minerals fluoresced as they had not checked the mine dumps for fluorescents for many years. I changed all that. I had taken my portable ultra-violet lamps with me just to check specimens I had picked up and upon exiting a “porta-potty” ad hoc dark room, I was able to share cell phone photos of specimens glowing with bright red calcite, deep green willemite, purple fluorite, bright white aragonite, magenta barite and pale-yellow mimetite, along with the ever-present orange-yellow-light pink dabs of caliche.

In the following months, I worked with Ed Davis and Gabe McNeely, who own and work the mine, to set up another field trip with the Southwest Chapter of the Fluorescent Mineral Society (FMS) during the Fall. We expanded the field trip to include their other three mines, the Spectrum, Blue Cube and Prism, for a weekend of both daylight and evening collecting. This field trip was just completed November 4 – 5, 2023, with 23 participants. We found beautiful specimens of non-fluorescent and fluorescent minerals, occurring in aesthetic combinations. On this trip, at the Spectrum Mine, I got to use an air-hammer for the first time, provided by the mines, to carefully excavate a vein of deep blue to blue-green fluorite, providing each collector present with decent sized, quality specimens to take home. After all, as trip leader, I felt it was my responsibility to make sure every participant got some of the “good stuff.” The Spectrum Mine lived up to its name, yielding not only blue fluorite, but also blue green, deep green, light green, purple and yellow varieties. Calcite, bar-

ite, Aragonite and willemite were also found. At the Prism Mine, amethyst, aragonite, fluorite and wulfenite were collected. I have just submitted an article to the FMS about the field trip and hopefully it will be appearing soon in the FMS bi-monthly journal. Please enjoy the photos. (I am the short blonde in the red t-shirt in the front row of photo 1).



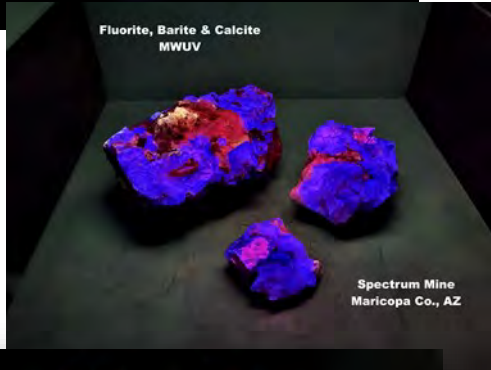
Fluorescent Mineral Society field trip to Rowley, spectrum, Blue Cube and Prism Mines, November 4-5, 2023 (Photo—Gabe McNeely with Pattie Rose’s camera).



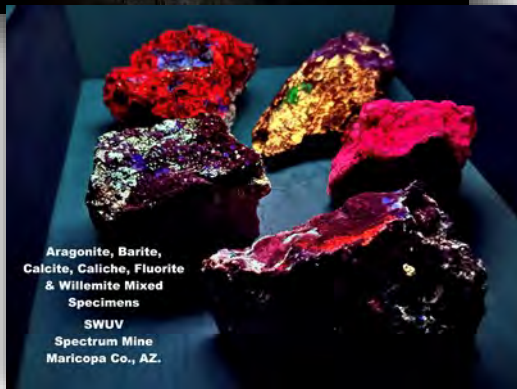
Willemite specimens (Photo—Pattie Rose).



Fluorite, Barite & Calcite specimens. (Photos—Pattie Rose)



Fluorite & Caliche w/minor Willemite specimens. (Photos—Pattie Rose)



Aragonite, Barite, Calcite, Caliche, Fluorite and Willemite specimens. (Photos—Pattie Rose)

Currently, I am preparing large colorful posters about pegmatite formation and the minerals occurring within for use in a children's booth at the TGMS show at the Tucson Convention Center in February. To refresh my memory, many of the old textbooks from Cal Poly Pomona came into use along with several current articles from the internet. (All sources are cited on the back side of the posters.) The first is about the environment of pegmatite formation and introduces the concepts of subduction zones, melting and batholith formation. The second shows the anatomy of a typical pegmatite dike and is based on the dikes found in the Pala area of southern California. The last is a comic strip about fractional differentiation, featuring the trials and tribulations of incompatible elements and volatiles such as Wally Water, Berry Beryllium, Alvin Aluminum, Sammy Silicon, Ruby Rubidium, Boris Boron, Sally Sodium, and Larry Lithium. The key is to keep it simple so children ages six – thirteen will understand.

I will finally get a break in January with a cruise vacation to New Zealand and Australia. It will be exciting to enjoy these new landscapes and cultures. How much you want to bet I come home with some new mineral or rock purchases?

Well wishes to everyone for another great and safe year!

Pattie Rose

Attended Cal Poly Pomona 1984 – 1986,
Transferred to Cal State San Bernardino 1986,
Graduated in 1989, Bachelor of Science – Business Admin., w/ Minor in Geology. Retired in 2016 from Raytheon Missile Systems after 38 years.
Past president of Raytheon Rock Hounds Club & Field Trip Coordinator
Current Patron Member of The Fluorescent Minerals Society
Current Member of the Tucson Gem and Mineral Society

Gary Thompson (BS-1990)

Greetings to everyone,

All of us here in Taunton have had an eventful 2023. Felice and I celebrated our Silver Anniversary and Gianpaolo's 21st birthday. One or the other of us have been to London on numerous occasions to meet friends from California or to attend various events. Gianpaolo was able to tick off some of his bucket list by meeting Al Pacino and Harrison Ford. We all travelled to Rome for our anniversary in June. There, we attended an audience with Pope Francis at Saint Peter's (on the very day he was later admitted to hospital.) We had a great time shopping, dining and sightseeing. We also took a weekend break to Birmingham, the home of Heavy Metal. Finally, during the summer, we flew out to California, just prior to the arrival of Hurricane/Tropical Storm Hilary. This time, we took a road trip via Highway 395 to our cousin's place near Mammoth Lakes, which brought back memories of the Geology Dept's. fieldtrips! The day after our visit to Mammoth, we drove through Yosemite, which was a really stunning drive. Later that night we arrived in the Bay Area and saw some more of my relatives. On our drive back to LA, we visited Stanford, Silicon Valley, UC Santa Cruz and UCSB. Here at home, Gianpaolo is completing his third and final year of Mathematics at the University of Bristol. Felice enjoys her tap-dancing classes and I working at our local Marks and Spencer. Jobs around the house have kept us busy, too. Very recently, we were treated to auroras and even a S.T.E.V.E. We look forward to the next Mylonite issue and wish everyone a great 2024!

Gary Thompson and family



Gary Thompson under beautiful blue skies.

Danielle Whitfield (BS-2019) is now working at AECOM in their environmental remediation department. She says, "I recently worked on a project where we were drilling through bedrock in Boron and it reminded me of all my field modules and how well it prepared me for this job."

Faculty News

Jeff Marshall

Season's Greetings! Hello once again from the AGU Fall Meeting. This year, we are back in San Francisco. I'm writing in front of my hotel window with a sparkling holiday view down onto Union Square. Another year has flown by, with the usual mix of teaching including Geomorphology, Natural Disasters, Quaternary Geology, Watershed Restoration, and Coastal Tectonics Field Module. I've included photos here of students in action at Montaña de Oro State Park. In addition to teaching, I've been advising a number of undergrads and grad students on a mix of projects, ranging from New Zealand neotectonics and Costa Rica beach rocks, to tectonic geomorphology along the San Gabriel Mountain front. Recent conferences include

Cordilleran GSA in Reno, where I chaired the undergrad poster session, the ESRI GIS User Conference in San Diego, where I attended talks and workshops, and the GSA Annual Meeting in Pittsburgh, where I met with friends and colleagues at various sessions, townhalls, and alumni reunions. I also had a chance to meet up with Marshall cousins who live in the Steel City (where my dad grew up). We had a really reunion at the old William Penn Brewery. My son Kyle is now in his third year at Cal Poly SLO. This summer I helped him move into his first off-campus house that he shares with a gang of friends. I also spent a good chunk of time this year, going back and forth to San Diego to help care for my mom who turned 95 in October! Oh, and at Spring Break, Ann and I traveled to Kona on the Big Island where we got engaged!

¡Feliz Navidad y Prospero Año Nuevo!
--Jeff Marshall



The next 8 photos are of students in action at Montaña de Oro State Park.





Dr. Marshall and field class at Montaña de Oro State Park.

Bryan Murray

During my Spring semester 2023 sabbatical leave I spent time working on some existing projects and exploring new areas of research. Although field work for my primary sabbatical research project in SE California in Imperial County near the Colorado River was hampered a bit by the record-shattering rainfall we received last winter, I was able to spend several productive weeks in the field mapping Oligo-Miocene sedimentary and volcanic deposits around the Palo Verde Mtns. In late February I led a field trip for the San Diego State Geology Alumni association to explore this area, where I highlighted some of my new findings on the Soledad Rojo basin. To continue this research, in Fall semester 2023 I took my GSC 4910L Field Module class to the Black Hills, site of the famous Hauser Geode Beds, to examine the various welded ignimbrite units that underlie much of the sedimentary rocks in the basin. To escape some of the winter rains, my family headed south of the border for a few weeks to explore the area around Bahia Concepción, Baja California. We spent time kayaking around volcanic islands and off-roading on some sketchy jeep trails to examine the Oligocene ignimbrite stratigraphic section, which is similar to some of the rocks I worked on for my PhD dissertation in mainland Mexico. I'm planning on returning to this area in the future for additional field research, hopefully within the next year.



My new Aussie Sage and I working in the Soledad Rojo formation, Palo Verde Mtns., SE CA during my Spring 2023 Sabbatical.



Rainy skies and cold weather during sabbatical field work in the Black Hills SE CA (Spring 2023). Not many places out there for shelter!



Collecting rock samples with my kids Pearl (6) and Coral (11) on the Concepción peninsula, Baja California (Spring 2023).

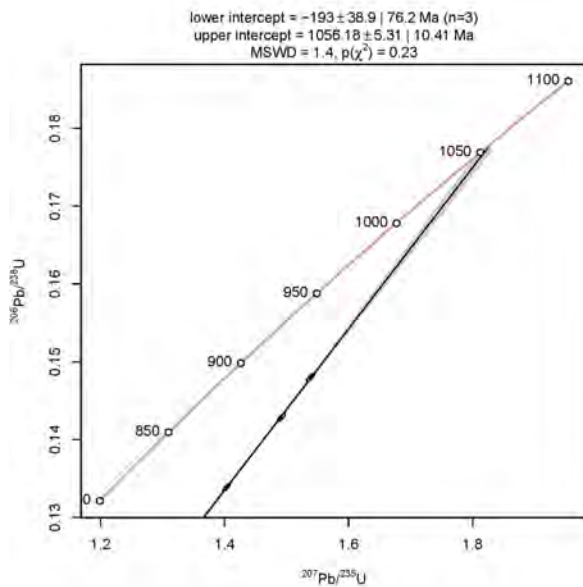


Evening campfire and studious students in the Black Hills during Fall 2023 Field Module trip.

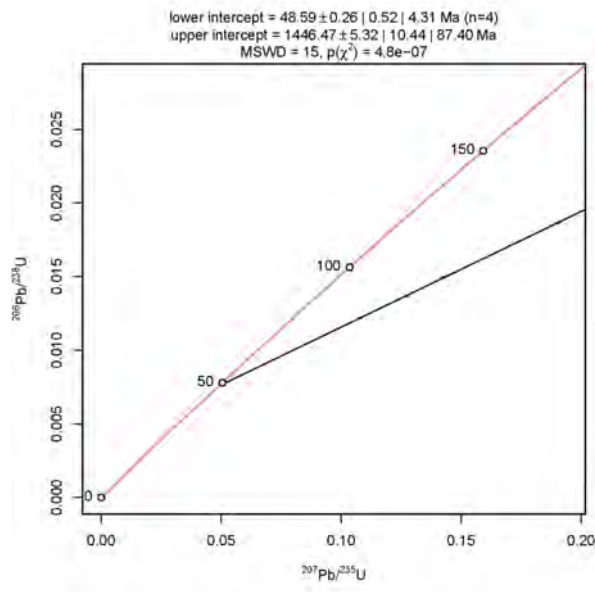
Jonathan Nourse

Over the past few months, I have been making multiple trips to Pasadena to sort through the immense data collection left behind by my Caltech PhD advisor and mentor, Lee Silver. This collection includes thousands of rock samples, thin sections, zircon separates, and unpublished U-Pb-Th data acquired by Lee between the late 1950s and late 1990s. His corresponding field notes are an especially interesting read. While studying these materials I have learned much about the early methods of U-Pb zircon geochronology pioneered by Silver, and how to reduce data and generate Concordia plots. One particularly intriguing suite of rocks was collected with USGS collaborators from the Barry Goldwater bombing range of southwestern Arizona during helicopter sampling campaigns of 1979-1982. The corresponding data set is now written up and submitted for publication to a GSA Special Paper, with Lee Silver as a posthumous coauthor: ***“Tectonic Disruption of the Proterozoic Yavapai-Mazatzal Province Boundary Near Sierra Hornaday, Northwest Sonora.”***

Another group of samples I recently stumbled across was collected by Silver and colleague Tom Anderson during a 1980 trip to the Magdalena, Sonora. These samples formed the basis for my PhD thesis at Caltech. I visited the site with Lee and Tom during my inaugural trip to Sonora in 1985. Lee never published the ages, but it seems appropriate to share a couple representative data plots here.:



U-Pb Concordia plot of three zircon fractions from granite augen gneiss of Arroyo el Salto near Magdalena, Sonora. This sample demonstrated the presence of Grenville-age basement in the region.



(Bottom Left): U-Pb Concordia plot of four zircon fractions from sheared leucocratic quartz syenite of Arroyo el Salto. This sample demonstrated a post-Eocene age for mylonitic fabric in the Magdalena core complex.

Nick Van Buer and I had much fun teaching Advanced Structural Geology and Tectonics last spring. This was run as a GSC 4990 class so we could include senior undergraduate majors with a few graduate students. Below are a couple of photos from related field trips:



Part of the Advanced Structure group with Professor Van Buer next to a beautiful exposure of the San Dimas Canyon Fault.



View southeast toward the nonconformity marking the base of the Pliocene Hawk Canyon section.

Another memorable event was a trip to the Reno Cordilleran GSA meeting in May. Phyllis and I enjoyed a scenic drive up US Highway 395. Mono Lake was full, and the Walker River and Truckee River were flowing strong due to record precipitation last winter. It was nice to connect with Scott Zylstra and Karissa Vermillion who were coauthors on a poster describing recent detrital zircon results from the Placerita Formation. We are close to finalizing two long manuscripts on the topic, to be submitted as companion pa-

pers to Geosphere. Karissa is coauthor on *“Jurassic and Cretaceous Magmatic-Tectonic Disturbances of the Neoproterozoic Placerita Formation, Western San Gabriel Mountains, California”*. Scott is lead author, with Nick Van Buer and Karissa as coauthors on *“Tectonic Implications of the Neoproterozoic Ontario Ridge-Potato Mountain Metasedimentary Section, Eastern San Gabriel Mountains, California”*.



Poster presentation at the Reno GSA.

My article would not be complete without a couple pictures of Gordie in the field. Here he is on a foggy day in September, marking the contact between a Late Jurassic granite and metasedimentary rocks of the Placerita Formation exposed along the Santa Clara Truck Trail:



Here is Gordie enroute to Anza Borrego State Park with Advanced Structure students Desiree Nolls and Suzie Duran:



I hope you all have a relaxed holiday break and find quality time to spend with family and friends. Phyllis, Gordie, and I wish everyone a Merry Christmas!

Jon Nourse

Jascha Polet

Though Dr. Polet left Cal Poly Pomona Geological Sciences in January of 2023—emerita, there was an article posted late summer of this year via our University News outlet, taken from National Geographic that I’d like to share:



Jascha Polet, professor emerita of geological sciences, helped [National Geographic](#) readers understand the combination of factors that made Morocco’s 6.8 -magnitude earthquake so lethal. Although it was only a matter of time before a large earthquake

hit the region, the location of the temblor came as a surprise. “Most of the seismicity in Morocco is related to movement on the boundary between the African and Eurasian plate, and therefore the highest level of seismic hazard was thought to exist in the north of the country,” Polet says. (Courtesy—Polycentric via National Geographic).

<https://polycentric.cpp.edu/2023/09/prof-jascha-polet-explains-what-made-the-earthquake-in-morocco-devastating-national-geographic/>

Stephen Osborn

The Hydrogeology Research Group has been modestly productive post Pandemic. In the last year, I’ve had one graduate student successfully defend his thesis investigating the hydrogeology of the Coliseum Mine. As I write this, two other graduate students are writing their theses, and two new graduate students started their research this Fall semester. I’m working on several projects with students,

one of which investigates the quality of water discharging from natural oil seeps near Santa Clarita. Previous work indicates this water is high in salinity and may be trapped Eocene age seawater. This is a consistent observation with other oil field brines produced from oil/gas wells. We want to investigate the source of fluids more precisely as well as an environmental assessment and seasonal impacts. The salinity may pose risk to the Santa Clarita watershed down gradient. I still hold interest investigating salinity, high Arsenic, and other trace metals in natural waters from springs in the San Gabriel Mountains, Do Palmas Spring, and other water locally. I have new projects with students expanding into urban hydrology that investigate water quality of urban run-off, the Santa Ana River, and Groundwater recharge in San Bernardino. I've taken on 6 new undergraduate students to work on these projects.

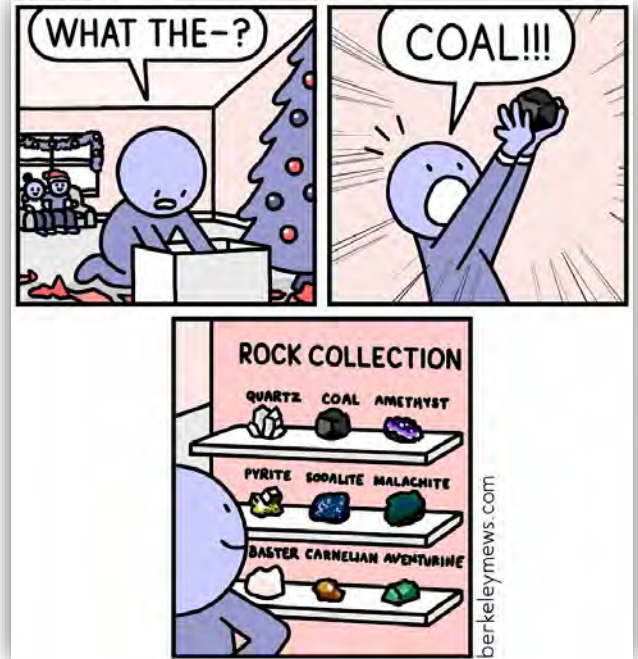
I've been working as a Faculty Fellow on the dean's office the past two years working on curriculum, assessment, and program review for the College of Science. I continue to teach Geochemistry, Hydrogeology, Soil Physics, and Advanced Hydrogeology. One of my classes continues to be popular as a GE class, Water in A Changing World (GSC 1100). It consistently attracts 70 to 80 students from across the campus. I'm excited for the potential of a productive 2024. Happy and safe holidays! Cheers!

Stephen Osborn



Ivy rea –R– and Anisa Kee Krieg –L– taking a water sample from the Santa Ana River.

Check our CPP Webpage and Social Media



From all of us here at Cal Poly Pomona, Geology Department. Have a wonderful and safe Holiday and New Year!

