



## ***News From the Department Chair***

Fall semester is winding down, winter is approaching, and it's time again for our alumni newsletter!! This is my 13<sup>th</sup> document, and I just started my 4<sup>th</sup> term as Department Chair. We in the Geology Department sincerely hope that all are enjoying a bit of holiday cheer and that your families continue to be healthy and secure. The Department operations are slowly transitioning back to normal after another unusual year. We hope you enjoy reading the descriptions below of our recent endeavors and accomplishments.

We were fortunate to be permitted to offer three field courses in face-to-face mode during Spring semester 2021. After a long, convoluted approval process, Drs. Murray and Van Buer taught the GSC 2550L Field Methods and two sections of GSC 4910L Field Module as standard geological mapping classes. Strict Covid protocols were enforced, but students seemed appreciative of the opportunity to explore geology outdoors with their peers. During the current Fall 2021 semester we are teaching all of our lab sections in-person so that students can gain a meaningful learn-by-doing experience as well as social interaction. Lecture classes are still online but faculty are doing their best to encourage student engagement. We look forward to next spring (2022) when most classes for Geology majors will be taught face-to-face. Our high-enrollment General Education courses will remain online.

Geology faculty and staff continue to adapt to challenges of the virtual technology needed effectively to conduct our teaching and other business. Some meetings are now carried out in hybrid mode (i.e., mixed in-person / online Zoom environments). During Summer 2021, Cal Poly Pomona switched from the sophisticated Blackboard online learning system to a program called Canvas. This meant that all courses and videos that we custom-designed

in Blackboard during the 2020-21 academic year needed to be converted to Canvas. I appreciate the faculty efforts required to accomplish this task.

2021 was full of memorable events described in the next few pages, including in-person and virtual activities with students, promotions and awards, and collaborative work efforts. For example, we hosted a Bar-B-Q for our students at Memorial Park in Claremont to kick off fall semester, and recently organized a "Mix and Jingle" social event outside Building 3 for College of Science students, faculty, and staff. Bryan Murray was promoted to Associate Professor with tenure, and Don Prothero was approved for a 3-year lectureship. Nick Van Buer was awarded a sabbatical for spring semester 2022 that I'm sure he will describe later. We graduated **22** BS majors during 2020-21 academic year, while **9** MS students successfully defended their theses in the 2021 calendar year. Our Geology Department strategic plan will soon be published after faculty decide which student action photos to include. Academic Program Reviews were finalized for the BS and MS programs. Our enrollments have been increasing over the past two years which is good for the fiscal health of the Geology Department. Now that all of us are tenured, we eagerly await the opportunity to search for a new junior faculty member. Finally, our Geology Department website underwent a major facelift to conform to a new, more secure IT web template. I am still updating a few items, but you may view the new look at <https://www.cpp.edu/sci/geological-sciences/>

Let's continue the tradition of beginning the newsletter with a large group photo. Below is a shot of my GSC 4910L Field Module class during an August 27-29 excursion to Pelona schist of Blue Ridge. Students were excited to get out in the field and collaborate in-person on this geologic mapping project. We also had a nice quiet, remote camp at 7800 ft elevation (of course, no campfires

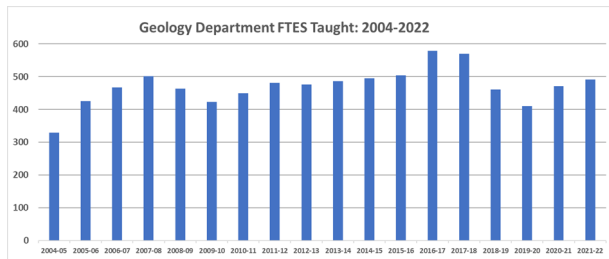
were allowed). The gods seemed to be smiling upon us, because two days later the Angeles National Forest was closed due to fire hazard concerns.



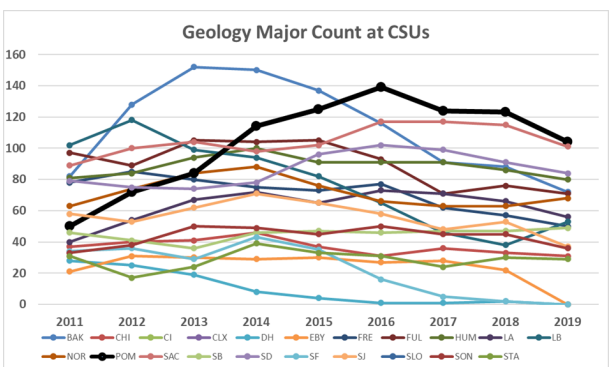
**GSC 4910L students study an outcrop of calcisilicate gneiss on Blue Ridge. Mount San Antonio and Iron Mountain are in the distance.**

### GSC Enrollments Are Up!

The CSU system uses Full Time Equivalent Students (FTES) as an important metric for department teaching productivity. Effectively this represents the number of students taught each year. The chart below shows the ebb and flow of our FTES since 2000. Notice there was a small dip during 2018-20 (after conversion from quarters to the semester system) but we have been gaining ground since then. We are on track to exceed 500 FTES this academic year.

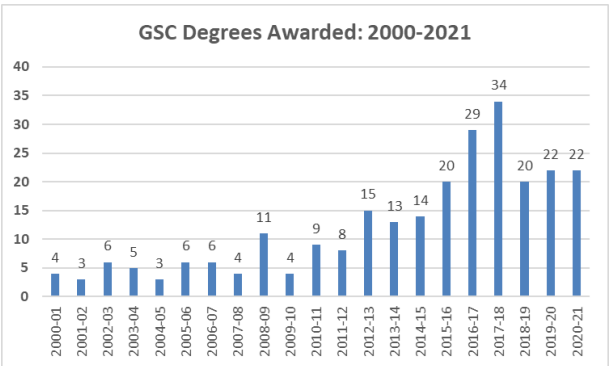


As emphasized in our recent Academic Program Review Self-Study report, Geology faculty believe it is meaningful to compare our numbers of Geology majors with those from other CSU Geology Departments. The chart below shows that the Cal Poly Pomona Geology Department has been at the top of the pack for past 4 years.



### Bachelor of Science Degrees Awarded from 2000 to 2021

Another measure of Geology Department performance is the number of majors we graduate and send out into the Geoscience working world. Monica Baez compiled the data for the chart below that shows the number of BS degrees awarded each year over the past 21 years. Many of you alumni are part of this group. 2017-18 was our peak year, but we are still going strong with 22 degrees awarded the last two years running. Names of these recently graduated majors are listed in a later section of this newsletter.



### Classroom Upgrades to 4-A-634 and 4-A-608 and 8-239

On-campus activities were scaled back last summer, but we were able to make some upgrades to our two heavily used classrooms in Building 4. Dean Baski provided some student assistant funds to facilitate the work. Our first task was to refile thousands of rock and mineral samples that were mailed out to students during 2020-21. The drawers in our stockrooms are now overflowing, thanks largely to the efforts of **Aly Young**.



Room 4A-634 was cluttered with mineral and rock specimens received in the mail from students at the end of Spring semester. Here we are about 3/4 of the way through the refile process.

After the lab benches were cleared off, students spent a couple days scrubbing them down. **Emily Duran** and **Aly Young** assisted with this endeavor; **Ryan Tomson** and **Ricardo Hernandez** also helped:



Aly Young and Emily Duran hard at work cleaning the lab benches in 4A-634.



The benches are now scrubbed and ready for varnish. Ryan, Aly, and Emily worked this day.

The last step involved applying three coats of varnish to the lab benches in both rooms. **Ricardo Hernandez** joined the team for this task. Below is the finished product in room 4A-634. Look at the shine on these tables! Notice also our new SmartBoard (on the right) that was installed just in time for fall classes:



The finished product in room 4A-634. Note the new SmartBoard on the right.

The Mineralogy-Petrology lab in room 8-239 recently received a facelift, thanks to some infrastructure funds from the Dean. The walls were painted for the first time since before I started teaching in 1989, and we now have a new set of blinds, installed by Frank Wille. I recently proctored a mineralogy lab midterm for Dr. Van Buer. The photo below shows the students performing mineral ID on a 2 minute cycle. It was fun to watch them work!



Mineralogy exam in Room 8-239. Notice the new blinds and freshly painted walls!

### Late Summer Bar-B-Q at Memorial Park

To kick off Fall semester we hosted a Bar-B-Q in Claremont on August 21. About 50 students and faculty attended. This was the first face-to-face event for the Geology Department since March of 2020 when the external evaluators visited during our Academic Program Review. **Ben Rucker** and **Aly Young** shopped for the food at Costco. **Phyllis Hosey** and **Stephanie Young** and **Stephen Osborn** assisted with the setup. **Teresa and Don Prothero** took charge of the grill. It was great to interact socially again!



Part of the group enjoying lunch at Memorial Park.



We thank Teresa Prothero (and Don) for managing the grill and cooking some great burgers and hot dogs.

### “Mix and Jingle” Social Event

I was on a team that organized our first in-person event for the College of Science in two years. Students, faculty, and staff, congregated on the patio between Buildings 3 and 8 on December 2 for some cookies and coffee / tea /cocoa. Everyone seemed happy to get out and socialize again, and one could tell that the holiday spirit is picking up. Frank Wille from the Geology Department won second prize in the “ugly sweater” contest. Those unable to come to campus connected virtually by Zoom. Many thanks to Dan Griggs, Diana Ascencio, Frank Wille, Phyllis Hosey, Nicolle Garcia, Aly Young, Scott Little, Ryan Tomson, Rhadika Epps, Ison Serrano, and Becki King for assisting with the setup and logistics.



Students, faculty, and staff enjoy the “Mix and Jingle” holiday social. Photo by Dan Griggs.

### Record Number of Master’s Degrees Awarded in 2021

Nine of our MS students successfully defended their theses during the past year. This is a new record for our Graduate Program! The earlier presentations and Q&A sessions were conducted virtually, but four of the last five defenses were run in hybrid mode with a live in-person audience as well as people dialing in via Zoom. The Graduate Faculty would like to congratulate **Oscar Teller**, **Abdullah Al Kaabi**, **Steven Moody**, **Brianna House**, **Debbie Kunath**, **Jason DeCristofaro**, **Daniel Garcia**, **Emmons McKinney**, and **Aly Young** on their milestone achievements!

Below is a list of the new MS theses from 2021, with live links to the posted documents (the four most recent documents await library review and will be posted soon):

- [Oscar Teller: "Source\(s\) of Fluid Discharge in Former Oil Field, Wiley Canyon, California"](#) (defended April 2021, advisor Dr. Osborn)
- [Abdullah Al Kaabi: "New Geochronology and Stratigraphic Interpretation of the Mid-Tertiary Soledad Rojo Formation"](#) (defended May 2021, advisor Dr. Murray)
- [Steven Moody: "Evaluation of Noninvasive Geophysical Techniques to Image the Portuguese Bend Landslide in Rancho Palos Verdes, California"](#) (defended May 2021, advisor Dr. Polet)
- [Brianna House: "Stratigraphic Investigation and Provenance Interpretations of the mid-Tertiary"](#) (defended August 2021, advisor, Dr. Murray)
  - [House Appendix A: Clast Counts](#)
  - [House Appendix B: Graphs and Charts](#)
  - [House Appendix C: Pictures](#)
- [Debbie Kunath: "Sources of salinity and fluids in a spring/oil seep system in the Santa Susana Mountains"](#) (defended August 2021, co-advisors Drs. Osborn and Nourse)
- **Jason De Cristofaro**: “A Multimethod Geophysical Investigation of Intra-caldera Splays Along the Hilton Creek Fault, Long Valley, California” (defended November 2021, advisor Dr. Polet)
- **Andrew Garcia**, Thursday December 2, noon: “Landslides Along Mt. Baldy Road, and Methods to Back-Calculate Safety Factor” (defended December 2021, advisor Dr. Nourse)
- **Emmons McKinney**: “Late Quaternary Deformation of Marine Terraces Over Two Time Scales at Cape Kidnappers, North Island, New Zealand” (defended December 2021, advisor Dr. Marshall)
- **Aly Young**, Thursday December 9, noon: “Investigation of Anomalous Sulfate Concentrations Within San Antonio Canyon Watershed, San Gabriel Mountains, California” (defended December 2021, advisor Dr. Nourse)

### 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 (2022) has passed, but the Fall semester 2022 application cycle remains open until **July 1, 2022**. 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:  
Jonathan Nourse, Graduate Coordinator;  
[janourse@cpp.edu](mailto:janourse@cpp.edu)  
Department of Geological Sciences  
3801 W. Temple Avenue  
California State Polytechnic University  
Pomona, CA 91768

#### **Personal Notes from Dr. Nourse**

2021 was another productive year, with quite a few memorable highlights described below. As we adjust to the various LA County Covid guidelines, Phyllis and I have settled into a comfortable routine: up early for coffee, morning walks with our dog Gordie, learning new computer programs, grading student work, testing out new recipes, visiting with our neighbors, etc. We are very grateful for our continued good health, and we remain mindful of the needs of others who are less fortunate. I have been able to work on campus many days over the past year, overseeing department business, meeting face-to-face with students and deans, and processing rock samples for U-Pb zircon geochronology. One recent change to the routine is ownership of my first cell phone / Smart phone. I have resisted the peer pressure for 25 years, but because this was a gift, I figure it's probably time to join the 20<sup>th</sup> century. This new technology does seem to be handy for checking email and responding to urgent messages when out in the field. Also, as I get older, a safety net is warranted.

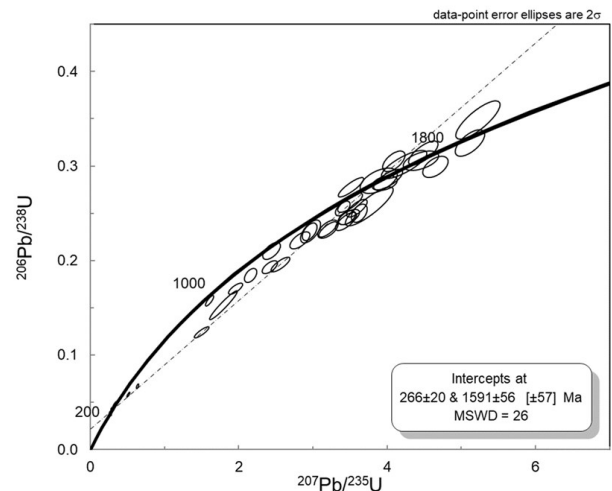
Speaking of field work, I have been able to spend quality time creating a detailed geologic map of the metamorphic / plutonic complex in Claremont Wilderness Park. Accessible from my back yard, this project (initiated a couple years ago with **Mark Thompson (BS, 2020)** has

provided many welcome breaks in the day-to day schedule. Gordie the dog is always an excellent field companion, although he stubbornly resists any requests to carry rock samples down the mountain.

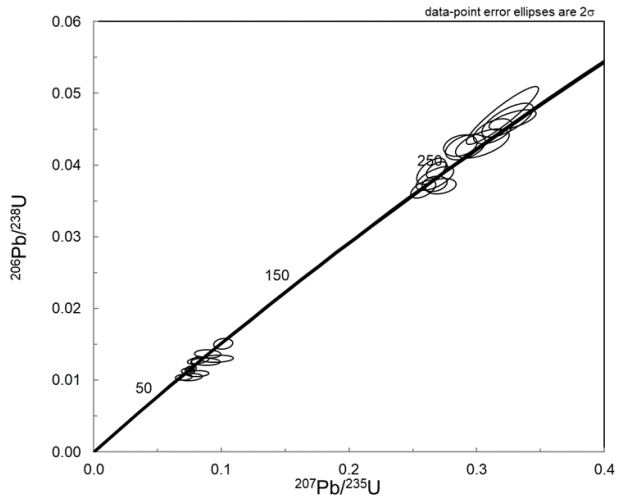


**Lunch break with Gordie in Claremont Wilderness Park.**

In addition to mapping, I have now obtained U-Pb zircon ages from 16 samples in the study area through collaborations with Joshua Schwartz at the ICP-MS lab at CSUN. Preliminary work by Mark Thompson in 2019 is now reinforced by many hundreds of new single-grain analyses that confirm the presence of a Permian magmatic arc in the southernmost San Gabriel Mountains. As shown in the plots below, the Permian rocks have complex zircon systematics that record both Proterozoic inheritance and a strong Late Cretaceous metamorphic overprint.



**Concordia diagram for Permian diorite gneiss sample JN 2113 collected along Johnson Pasture-Webb Canyon connector road. This sample preserves significant Proterozoic inherited zircon. The lower intercept corresponds to the Permian magmatic crystallization age of this rock.**



Zoomed in concordia diagram for sample JN 2113 showing complexity of the system. These analyses record an early Permian intrusive event at  $284 \pm 8$  Ma, an Early Triassic magmatic disturbance hot enough to grow concordant zircon, and a Late Cretaceous metamorphic overprint at  $75 \pm 4$  Ma.

Graduate student **Ryan Tomson (BS, 2021)** has undertaken an ambitious study of Timber Mountain in the headwaters of Icehouse Canyon. Access to the area requires a serious hike (2-4 miles and 2000+ ft elevation gain from the parking lot); hence it has not been well-mapped. Among other things, Ryan is studying mylonitic plutonic rocks affected by the Vincent thrust. He was recently accepted into the Plasma Institute at CSU Northridge where he will analyze zircons for U-Pb ages using their ICP-MS instrument. One target is a mylonitic leucogranite dike in Late Cretaceous granodiorite. This rock may be the youngest unit affected by Vincent thrust deformation and should help constrain the age of shearing. Zircon separations prove to be difficult but we were able to extract enough grains for a viable age.

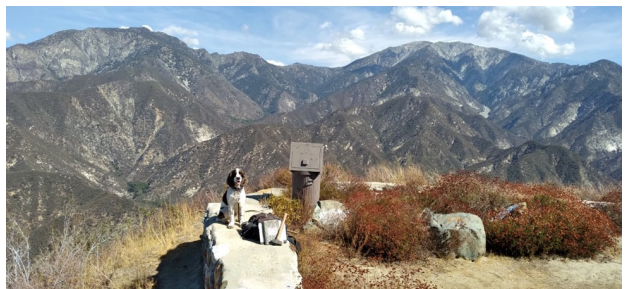


Ryan Tomson at sample site RTJN2120: leucogranite sill in Late Cretaceous mylonitic granodiorite.

A third project was recently started on Glendora Ridge with undergraduate students **Kelli Woo** and **Daniel Barutha**. We are mapping a series of banded gneisses and augen gneisses of presumed Precambrian age. Kelli has also been accepted into the CSUN Plasma Institute and will be analyzing zircons from Glendora Ridge in January.



Kelli Woo and Daniel Barutha and Gordie at a Glendora Ridge roadcut, where Proterozoic gneisses are intruded by Jurassic diorite sill.



Gordie takes another lunch break at hairpin pullout on Glendora Ridge Road. View up Cattle Canyon with Iron Mountain and Mount San Antonio in the distance.

Two of my graduate students successfully defended their MS theses this December. **Andrew Garcia** presented an analysis of three recent small landslides along the Mt. Baldy Road: **“Landslides Along Mt. Baldy Road, and Methods to Back-Calculate Safety Factor”**. **Aly Young** documented a sulfate anomaly in groundwater that has interacted with metasedimentary strata of Ontario Ridge and Lower Evey Canyon: **“Investigation of Anomalous Sulfate Concentrations Within San Antonio Canyon Watershed, San Gabriel Mountains, California”**. Both theses will soon be uploaded to our web site after the final corrected version is submitted to the CPP library. Two other MS students are making excellent progress on their projects. **Craig Manker** has compiled a geologic map of Pelona Schist on central Blue Ridge. His document will include detrital zircon analyses of six metasandstone samples. **Garrett Stewart** has found some interesting correlations between gold mineralization and particular structural trends in the upper plate of the Rand Thrust. Both are planning to defend next spring.



One of the many asymmetric fold pairs developed in Pelona schist on Blue Ridge. Garrett Stewart for scale.



Garrett Stewart and Gordie explore one of the many small mine workings in Plate III of the Rand thrust.

I taught one of the Field Module (GSC 4910L) classes this fall. It was great to get out and map with students again! We camped out at Blue Ridge in August (see earlier photo) and the Rand Mountains in November. Below is a photo of the group in front of a well-striated fault surface developed on limonite-carbonate breccia.



GSC 4910L students examine a prominent fault in the Rand Mountains. Photo by Ben Rucker.

So, it has been a pretty good year despite the seemingly perpetual restrictions and regulations and mandates related to the ongoing pandemic. I want to wish all of you a very Merry Christmas and a healthy and prosperous New Year. May 2022 bring a full recovery and resurrection of badly missed pre-2020 living and working conditions!

## **Student Successes**

### **Dean's List, 2020-21**

We just updated our list of Geology majors who made the Dean's list from Fall 2020 through Spring semester 2021. 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, 2020:***

- James Allbritten ('2020)
- Emily Duran
- Amanda Gomez
- Ricardo Hernandez
- Nicholas David Madera
- Nadya Palma
- Dominik Sterling

#### ***Spring Semester, 2021:***

- Amanda Gomez
- Emilliano Gonzalez
- Bryan Guardado
- Casey Kiessner
- Randy Lewallen ('21)
- Nicholas David Madera
- Jonathon Martinez ('21)
- Juliana Mora
- Nadya Palma
- Vincent Ruiz
- Jared Ruiz ('21)

- Alexis Ruiz
- Anmol Shahzadi
- Eitan Shmagin
- Megan Ward-Baranyay ('21)

### **Graduation 2019-2021**

Cal Poly Pomona's traditional spring graduation ceremony was conducted as a drive-by at Pomona Fairplex last May. Geology Department faculty were not permitted to participate in the ceremony, but we are still very proud of our graduating majors! Graduates who attended the ceremony were shown a collage of congratulatory videos created by the Department Chairs in College of Science. We were each allowed about 15 seconds. Please click the link below to see our products. Check out the Geology excerpt:

<https://youtu.be/HM5V8LLT30Y>

The list below (compiled by Monica Baez) shows names of students who received their BS degrees the past two academic years. We awarded **22 degrees** in 2019-20 and **22 degrees** in 2020-21:

#### ***2019-20 Geology BS Degree Postings:***

- Jaqueline Zuniga Baldenegro
- Shane Bonanno
- Courtney Butts
- Muhammad Zeeshan Salim
- Mathew Davis
- Brandon Ferguson
- Margaret Grenier
- Veronica Hernandez
- Jazmine Garcia
- Rebecca Warner
- Danielle Whitfield
- Brianda Hernandez Rosales
- Jennifer Hamel
- Vanessa Pena
- Mary Frances Palana Gabito
- Dakota Bailey
- Oscar Prado
- Irvin Rojas
- Jacob Kays
- Jed Calbert Villafuerte
- Isaiah Durden
- Leanna Schindler



### ***2020-21 Geology BS Degree Postings:***

- James East
- Mark Thompson
- Kristin Kulikoff
- Sevag Injean
- James Allbritten
- Tyler Barrows
- Kehinde Sun Faux
- Kyle Garcia
- Daniel S. Wright
- Paul Gresoro
- Randy Lewallen
- Adan Renner
- Major Curley
- Cristina Ornelas
- Megan Ward-Baranyay
- James Coyne
- Darren Williams
- Nathan Pulver
- Oscar Soto
- Jared Ruiz
- Alejandro Razo
- Ryan Tomson
- Jonathon Martinez

We are very proud of our graduating Geology majors and wish them success in their geoscience careers!

### **Orientation Video**

Last summer I worked with the College of Science Advising Center staff to create a video for our incoming freshman and transfer students. Click on the link below to learn more about our Geology Department:

<https://www.youtube.com/watch?v=I9ITGLYzWfA>

### **2021 Student Awards**

We suspended the scholarship award process during 2020-21 due to student distractions with Covid. We intend to resume the application process during spring 2022 when we are back in session.

### **2021 News, Updates and Photos from Alumni and Friends**

Below is the latest news from our active alumni and friends. Thank you to all our alumni and friends who send

in their updates and articles to us each year, we love to hear from each and every one of you and see how you are doing and how you've grown since your time with us. We've also pieced together various notes from e-mails, phone calls and other communications received over the past year. We are always interested to learn how you are all living your best lives, so please send me or Monica ([mlbaez@cpp.edu](mailto:mlbaez@cpp.edu)) an update anytime you have a few free moments. Photos are always welcome. Jon Nourse

### **Naomi Bacop (2018)**

The Geology program had a fairly decent size for its graduating class in the spring of 2018. As for myself, after graduating I was immediately able to get a job working at a small environmental consulting company based out in Irvine as a Staff Geologist. I was able to get other people from the program hired as well, including some of my current roommates who I will talk about later on. I worked there for almost a year before moving to another small environmental consulting company based out in Paramount. I left to Texas to find better work but by the time I got out there, I was unable to find a job due to the pandemic hitting. After being there for almost a year, I was forced to come back to California. I was still unable to find work so I started applying to grad school and now am currently enrolled at Cal State Fullerton studying Environmental Engineering for my Masters Degree. During my time being gone in Texas, I still communicated with my old Cal Poly geology classmates who wanted me to move in with them. With their willingness to have me move in with them and an opportunity presented by my grad program, I was able to move back to southern California and find employment at Terracon, which is a mid-sized environmental consulting company, in the Orange County office as an Assistant Geologist. I currently do Phase II Assessments in the Environmental Department. I basically go out to sites and sample (soil, soil gas, and groundwater) if the site is thought to have or previously had a recognized environmental condition (REC) that could potentially contain contamination such as in the form of volatile organic contaminants (COCs—i.e. a former gas station that could have had a diesel leak). I also help the geotechnical department with soil resistivity testing and even the facilities department in different states doing seismic monitoring.

My current roommates are also fellow Cal Poly Pomona Geology Class of 2018 alumni; Clark Murphy, Troy Carson and Tahsin Annoor. Clark currently works at AECOM, Troy works at Tetra Tech and Tahsin works at Ardent Consulting, all of which are environmental consult-

ing companies. Troy and myself recently submitted our applications to take the Fundamentals of Geology examination in hopes of obtaining our Geologist-in-Training certifications and further our Professional Geologist license.

It just goes to show that the friendships made within this department do last many years. It also goes to show that this program has done a fantastic job at teaching us what we need to know and applying the knowledge learned into the real world and contributing to helping solve environmental issues.

Best—Naomi Bacop

### Melissa (Pratt) Bautz (1995)

We are doing well here in central Wyoming, even with all the strangeness of a Covid world. Luckily, our access to public lands has not been restricted so we are still able to hike, hunt, fish, collect rocks/minerals, and explore Wyoming's basins and mountains. I just completed my 22nd year with the Wyoming DEQ! (wow, I must be old.) Working in the Abandoned Mine Lands (AML) program has allowed me to see the Contracting side of earthwork and mine voidfill. I get to work with some of the nations most talented Engineers to create project specifications that will ameliorate mine subsidence hazards. My interaction with them as well as the property owners and contractors has really made this job rewarding. I learn so much every day from this job. As a young geologist, I really had no idea how much I would learn from engineers and contractors. It's an amazing world out there with so much to see, learn, do...I never stop learning on this job. The other day, we were discussing Reynolds Numbers for some grout properties (laminar vs turbulent flow). Go figure!

Oldest offspring, Jenny, started college this fall: Univ. of WY, double majoring in Environmental Science and Natural Resources. Jenny received (earned) a Tome Scholarship to fund her college endeavors. She'll be traveling to the Swiss Alps, New Zealand, and Australia for research toward her Senior project. I will admit that I am a bit jealous of her travel opportunities; but, obviously super proud and happy for her. We'll be traveling to see her, so I will get to see some amazing places/geology! YAY for international rock samples!

Next daughter (Theresa, age 17, Junior in High School) is a true artist and writer, who also thrives in science and woodworking and pottery.

Henry (age 12) is very athletic and loves science (astronomy) and he's a good hunter too. He completed his Hunter's Safety certification this fall and now proudly

Hunts side-by-side with Greg.

Youngest son, Andy (age 10), is into animal classifications/habitats. He's got that encyclopedic brain that comes in handy on tests. He'll start talking to anyone who'll listen about otters' habitat or the types of freshwater fish you can find in the Mediterranean or Mososaurs.

My time outside of work/family is spent making Nature videos (posted on my Youtube channel, "Melissa Bautz") and running the local pipe band <https://www.lvfdpipeband.com/>. We have two practices each week and I teach several individual bagpipe lessons. I continue to compete in the solo bagpiping world. Our son Henry is the band's lead drummer and he competes in the US and Canada. He's quite good and was just upgraded to Grade 3. The band is mostly composed of juvenile members and this project has been super rewarding. Please feel free to look me up on LinkedIn if anyone out there wants to connect. It's great to read about everyone's doings. Stay in touch!



Bautz family WI Prairie 2021



HM Grand June 2021.



Jenny Bautz LVHS Graduation 2021.



Melissa and kids at Copper Falls 2021.

### Ken Craig (2017 MSc)

I am still living in Azusa with my wife Erica. I've been working at the Center of Biomedicine and Genetics at the Beckman Research Center at the City of Hope in Duarte California since graduating from the Masters program at Cal Poly in 2017. I've been working with clinical stage

investigational New Drug (INDs) submissions to the FDA which include Lentiviral vectors, Retroviruses, and Proteomic Peptides. I am perhaps the only geologist who actively works in cancer research, although there may be a few who work with chrysotile and amosite.

I have been the Quality Assurance project lead for a multi-antigenic SARS-CoV-2 investigational vaccine for immunocompromised patients. This vaccine is a synthetic, attenuated modified vaccinia (sMVA) vector expressing spike and nucleocapsid antigens of the SARS-CoV-2 virus. This vaccine is currently in phase 2 clinical trial, and has been licensed for commercialization with GeoVax Inc. The vaccine shows strong potential to be used in the general population as a primary and or general booster against COVID-19.

### Scott McKeag (1982)

COVID has made my global geologic treks a little more difficult but no less rewarding!

I am back in MENA (Middle East & North Africa). More specifically in a special little gem of a country called Eritrea. Newly separate from Ethiopia after a very nasty 20 year-long fight for independence, Eritrea is sandwiched between Ethiopia, Sudan and the Red Sea. Colonized by the Italians, it sports a wonderful blend of Italian, Arabic and African cultures.

Asmara, the capital (Kingdom in the Clouds) was recently added to the group of UNESCO World Heritage Sites for its proliferation of Art Nuevo Architecture. Once the world recovers from COVID, I believe the country will become a must-see tourist attraction. Asmara sits at about 7500 feet elevation and is separated from its Red Sea port of Massawa by <50km and the "Escarpment". To drop nearly 2km in <50km makes for amazing scenery and treachery. The road and the old Italian built Fiat railway are engineering feats of their own. Tropical moisture rises off the Red Sea climbing the escarpment to create amazing thunderstorms and multiple micro-climes.

I am working for a small mineral exploration company named Alpha Exploration. We have several advanced projects in our Kerkasha license area. One is potentially another porphyry copper deposit and one is an orogenic prospect that looks to be a twin of the deposit I studied during my Master work in New Zealand some 37 years ago. Hard to believe it has been that long. I think about retiring from time to time but then ask myself, why. I love what I do!

This year saw several personal accomplishments

achieved during this COVID pandemic. I finished my retirement house in Mambatangan, Bukidnon, Philippines (no easy feat via internet). And I was able to travel to Costa Rica during a roster break. (One more bucket-list destination crossed-off.)

I love exploring the geology in these far-away places, but it is always the people I meet that make the journey memorable.

Safe travels to all my Cal Poly geologic colleagues!



Scott & crew doing some digging. (Below) Two Kunama Sheppard Boys



Blinded camel grinding sesame seeds into cooking oil.



Our Kyrgyzstani Drilling Supervisor with the local Tokombia Village children.

## Shawn Morrish (2015 MSc)

Hi there! I'll write less than the last time I did one of these... I hope 'post' covid finds everyone well. Years ago when I wobbled up to an outcrop in the San Gabriels to awkwardly place my Brunton upon it and take my first strike in dip, if you had told me then that years later I would be taking a strike and dip on a fault, balanced on a swing, wearing a headlamp, 100 feet down a freshly drilled 26-inch diameter hole... I would have laughed, yet here I am. Some people think I'm crazy, yet I take pride knowing I get to do what I love both for work, and for fun... as crazy as it may be sometimes. In August this year, fellow alumna Kelly Kinder and I took a trip to South Dakota to partake in a 2-day dinosaur dig with a company called PaleoAdventures. We had an absolute blast. Wide eyed co-workers could not understand that for my week off I was paying someone to dig in the dirt vs. the usual being payed to do so. We

learned a great deal about a time period its fauna that honestly, I didn't get to know too much about during my education (dinosaurs were more of a fun anecdote than a deep study). Getting a glimpse into the world of dinosaur paleontology and industry/trade was fascinating. Questions that I asked were answered with details and depth that I hadn't even considered and led to more questions and curiosity. Long story short, after two dusty days of digging, we took home many bone pieces and I scored a *Nanotyrannus* tooth I found in the final hours of our last day.

Aside from dinosaur digging and other cheaper rock-hounding, I decided to mix up my attack of Utah where I'm exploring it inch by inch from California. I took a jump skipping several inches and dove right into the heart of it and visited Moab both in early January and September. Two trips were needed to explore this area and even then, nowhere near everything was seen. Between the majesty of the national parks, the smaller state parks, and the plethora of hidden wonders across the entire region I'm not sure if I put a dent into my list or made it even longer with area research. Such a beautiful area with so much to offer. Be sure to take a visit when you can.

Have fun and be sure to get out there to do what you love. Cheers!

- Shawn Morrish



*Shawn Morrish digging dinosaur fossils with a scalpel, very tiny brush, and lots of glue.*



*Kelly Kinder (2011) riding a goblin at Goblin Valley State Park, Utah.*

### Steve Mulqueen (1978)

Continues to be active in retirement leading field trips, writing professional articles and conducting Power-Point presentations. I also “bumped” into the Cal Poly Geology field group at Marble Mountains while participating on the Southern California Paleontological Society field trip for Cambrian trilobite fossils.

In the picture I provided I am the one holding the pick. I asked the group what college they were from, and was surprised with the “Cal Poly Pomona” response. I observed the group on the high peaks doing “geology”, so I had to ask. I first conducted field mapping in the Marble Mountains with an Historical Geology class from Pasadena City College in May 1974. My trilobite fossils from those early years are now much older. I started at Cal Poly in the Fall of 1974.

Steve Mulqueen '78



Steve with Frank Wille and Dr. Murray's GSC 2550L Field Methods course—Fall 2021.



Steve Mulqueen at the Alvord Mine.



Winter in Zion. Photo by: Steve Mulqueen

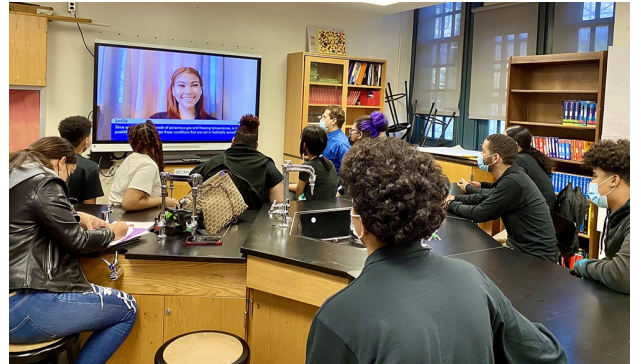
## Alex Mundo (2015)

I feel like 2021 was a hybrid year for many of us, with some months interacting and living virtually while some months were about interacting in-person.

This year I continued to work virtually at NASA Goddard Institute for Space Studies for a climate change research project. This project focuses on using remote sensing applications, including satellites in order to analyze the heat and inundation aspects to inform urban planning efforts to promote resiliency against climate change impacts. During this year I did this research in Durban, Africa and also presented an urban design climate workshop focused on introducing urban heat island mapping and remote sensing to city officials, college students and educators, it was virtual and had a good outcome. I am currently doing this research for New York City. Other conference where I was able to present were at NASA Space Exploration Educators, AGU, GLOBE, Techrise, among others, all of

them virtually.

Furthermore, I had NASA Astronauts from Expedition 65 interact with my students on a live downlink event. They answered questions that my students in this Downlink event where they asked questions about living in space and their mission at the International space Station, it was an awesome and out-of-this-world experience! By the way, it was featured on NASA TV and streamed in September of this year. Here's some pictures of that day!



What I like about these times is that even in the pandemic, we are still able to do some research, even if it looks different, science doesn't stop! We are back in the lab and in the classroom and although it's with new guidelines, it's nice to see that we can do it in person and that trips have opened up.

I want to wish everyone a Merry Christmas and that this upcoming 2022 year is full of happiness, health and

accomplishments for all! Hugs to you and your family!  
Alex Mundo

### Jeff Pepin (2011)

I'm still working at the USGS in New Mexico as a Hydrologist, but I'll be transferring to the USGS Colorado Water Science Center in Denver in 2022 to be closer to family.

I got engaged in early 2021 to my girlfriend Carolyn in Capitol Reef National Park; we plan to get married in June 2022. We've been trying to get outdoors and stay busy as much as possible during the pandemic.

I hope everyone is doing well and has a great 2022!  
Jeff Pepin



Jeff & Carolyn—She said Yes!



Jeff & Carolyn keeping active. (Congrats on you engagement you two).

### Gary Thompson (1990)

It is hard to believe it has been over twenty years since I moved to the U. K. and that I have been working for our Marks and Spencer store here in Taunton for over 15 years now. Although, between March 2020 and May, 2021, I was not actually working, but on furlough. For a majority of that furlough period I was shielding and could only venture out for a walk around the block. You will not be surprised to hear that we had to scrap our summer of 2020 trip to Southern California and that we have no plans to travel anywhere abroad yet. Locally, there was a geologically interesting event in July 2021. Partly as a result of a period of heavy rainfall, there was a landslide at Seatown Beach on the Jurassic Coast in the nearby County of Devon, which resulted in the biggest rockfall in 60 years. The Pandemic had a big impact on our son's college education. A large portion of his college work was online, and his college did not give face-to-face instruction until March 2021. Here in the U. K., university eligibility is determined mostly by A-Level exams. Despite the COVID-19 disruptions, Gianpaolo did well on his exams and was accepted into the University of Bristol. He is now a couple of weeks into his

studies in their Mathematics program and he is enjoying university life. Gianpaolo will be in good company, as alumni include theoretical physicist Paul Dirac and paleontologist Nizar Ibrahim. I recently visited our son in Bristol on a nice day and took this photo of Brunel's *SS Great Britain* in the harbor, which was heralded as the world's first great ocean liner. We have hopes for a trip to California in the summer of 2022. We all send our warm regards to everyone in the Geological Sciences Department!

Gary Thompson, '90



## **Emeritus Faculty & Staff News**

### **Rosalie Giroux (Emeritus Staff)**

Greetings Geology Department Students, Faculty and Staff,

Here is a brief run down of my Norwegian cruise this September traveling with my two daughters and their friend to celebrate my 80th birthday. It was an amazingly beautiful country and I will attempt to explain some of the details there. We were there for seven days, so I'll break down each days excursions.

Monday we arrived in Iraklion, the capital of Crete. Our tour from the lion guarded port of Herklion went with a drive through the city through the breath-taking landscape of countryside and vineyards to a modern winery famous for its wine producing area of Peza where we got to sample some of the delicious Cretan wines. We stopped to view one of the oldest farm houses in Crete dating to the Minoan Period 16th century B.C. at a taverna in the quaint market town of taverna we sampled an assortment of Cretan snacks and visited with many of the locals and had free time to browse and ten back to the ship.

Tuesday we decided to get acquainted with the ship and discover what they had to offer for entertainment.

Wednesday we arrived in Mykonos with its gorgeous notorious beaches, where we dipped in the Aegean Sea for a while. We also were equipped with selfie sticks to take pictures of the beautiful sea area and see the town of Mykonos with its high windmills, shopping areas and view many local Chapels. They say its predominantly Christian there now. Apparently if you build a small chapel on your property, you are entitled to free electricity and water for your home!

Thursday we were in Katakolon, where the Olympics were originally started. We learned about the glorious history of the first Olympic games and got to run on the starting grounds for the track games. Many excavations are happening and revealing historic areas where the games were. We marveled at the treasures housed at the Archaeological Museum and experienced a real taste of Greece sampling olive oils and wines produced at Agriturisimo Magna Grecia. We marveled at the Temple of Zeus, one of the seven wonders of the world among many other magnificent pieces found in the area. Then we drove to a local farm and were welcomed with local drinks and homemade snacks. We made sure to try the local Ouzo wich tastes like licorice. I was not impressed with that!

Friday we were in Corfu. We passed several villages to the village of Lakones where you look down the mountain Pantokrator and get a feeling that the entire island of Corfu is spread below your feet. We had a Greek lunch at the village of Kassiopi. From our motor coach at the town of Corfu, we admired the beautiful mansions, the Byzantine churches, the old fortress, the Palaces of St. Michael and St. George and the lively Esplanade Square before returning to the pier.

Saturday, our last day of the trip, we arrived in Santorini where we enjoyed a Greek Style Celebration—Opa! This city is built on the edge of the caldera of an ancient volcano. I asked what was the name of the volcano, and



our guide said “it’s a caldera”. Weird to me! Its so breathtakingly beautiful there with all the white houses spilling down the top of the caldera. So many steps to climb and gorgeous views of the ocean. Hundreds of restaurants, shops and views of the ocean. We ate at a magnificent restaurant atop the mountain, and were entertained by breaking plates made of plaster on the dance floor. Then the locals did a Greek dance on top of the broken plates, and we all hollered Opa! Ha ha! I knew it was going to take me a few days to recover from all that hiking and stairs! To get down to our ship, we had a bucket lift, which went straight down to the ship waiting below! What a view, yet scary!! Best trip ever, loved it!!



Rosalie in Greece.



Cliffsides of Greek landscapes.



Above: Rosalie about to enjoy some wine.

### Dr. John Klasik (Emeritus Faculty)

Greetings to all you fine alumni!

I hope all of you, this past year, have been safe, healthy and productive. This year, thankfully, Jerry and I have been well. That is the most important aspect of 2021. Since March of 2020, except for routine errands, we have mostly stayed close to home. This past summer we did resume going out to dinner on Friday nights.

In July, for the first time in two years, we attended our annual family beach reunion. This past summer the reunion was held on the outer banks of North Carolina. A definite change in venue from forty plus years of going to southern New Jersey. Our rental house was in Duck, North Carolina. Duck is about 50 miles north of Cape Hatteras.

The beach at Duck was narrow, rather steep and had moderately coarse loosely packed sand. Those who have taken an oceanography course should recognize these characteristics as a high energy beach. The breakers were plunging breakers which broke almost directly on the shore. As such, the waves were too strong for this old dude to attempt to go into the water.

Other than very challenging beach conditions, we did enjoy seeing everybody. It was the first time since Christmas 2019, that we saw our older son, Daniel. (We did see our younger son, Todd, in late June.)

While in Duck, we also experienced the aftermath of hurricane Elsa. The tropical storm / depression made for a rather interesting night and early morning. The wind was quite gusty. It rattled the windows. The rain was intense at times. The lightning and thunder were exciting – especially for someone from southern California. The photo was taken on the bay side of the outer banks the morning before Elsa arrived.

We visited Kitty Hawk, Wright Brothers National Memorial, to see the site of the first flight. Markers are set up to show where the first powered flight took off and the increasingly more distant landings on the inaugural, December 17<sup>th</sup>, day. I ascended the huge vegetated sand dune where the Wright's prototype glider was launched. The history was fun and just by pure chance while we were immersed in aviation history, several modern fighter jets flew by. It was truly a contrast.

That about does it for this brief Mylonite summary. Hopefully in 2022 we will resume traveling and I can tell you more about my adventures. Stay well and safe!

Best regards,

*John A. Kleck*



## Faculty News

### Jeff Marshall

Hello folks, greetings from the AGU Fall Meeting in New Orleans! It's late at night, and I'm sitting here in our hotel room overlooking the mighty Mississippi and her elegant sparkling crescent meandering through the heart of the Big Easy. Barges slip slowly up river, pushed by tugs churning against the current. Strains of live jazz tinkle through the air from clubs along the edge of the French Quarter. I'm here with my son, Kyle, who just finished his first term as a freshman Physics major at Cal Poly SLO, plus my friend and colleague Amar Raheja from Computer Science, and his daughter who grew up with Kyle. We all are enjoying the sights, sounds, and food together, plus the cool science and exhibits at AGU. Amar and I presented a poster on our new drone-based LiDAR project monitoring coastal cliff erosion due to sea level rise. Today we all enjoyed a great bayou tour on a river boat to see alligators and other critters. Happy Holidays to everyone!

Jeff Marshall

### Bryan Murray



Dr. Murray with Mt. St. Helen in the background.



Dr. Murray & family at Zion National Park.



Dr. Murray Marble Mountains Field Course.

## Nicholas Van Buer

Hi everybody!

This has been a busy year. My son Ian is now three and a half. Lots of daycare closures and COVID tests (all negative so far . . .). But it's a fun age; he's getting to be old enough to ask "why" repeatedly. (The other day, we got as far as "why is the moon made of rocks?")

But at least it's been possible to get out on some more field trips now that the pandemic is starting to ease up a little bit . . . . Although Spring term was mostly online (I had to send boxes of rocks to my Igneous and Metamorphic Petrology class, and do virtual field trips for that class and Structural Geology . . .), I was able to at least run an in-field Field Module. We mapped plutonic and metamorphic rocks in the Jurupa Mountains near Fontana, where students could easily drive themselves. Unfortunately, my field trip associated with the GSA Cordilleran Section Meeting in Reno, which I had planned to co-lead to my Ph.D. thesis area in NW Nevada, ended up being a virtual field trip. But this trip, which followed the Sierra Nevada batholith into the Basin and Range, was still fairly successful, and I got a GSA Field Trip Guide published out of it. Also in Spring, Greg Blachly defended a great M.S. thesis about a large 75 Ma intrusive complex in the Bristol Mountains.

In the Fall, I was grateful for a return to all in-person labs and overnight field trips. It's a lot easier to teach geology when you can show students way more rocks and minerals than fit in a box . . . each week! Field trips included a Volcanology trip to Owens Valley and Long Valley, my regular Mineralogy trip to the Mojave Desert, and two Field Investigations (GSC 5030L) trips to the Rodman Mountains. Our map area in the Rodman Mountains included both a supra-detachment basin and a zoned plutonic complex cut by the active Calico Fault. Our first trip out there was marred by both a vehicle breakdown and an angry bee swarm, but the second trip went smoothly. Another development this term was that grad student Anselm Krause and I put together a procedure for melting glass beads from rock samples, for use in X-ray fluorescence spectrometry.

I've also started training for my sabbatical project this coming winter, which will involve hiking over 500 miles across the Mojave Desert, while filming an educational YouTube series. My planned route goes from the Mexican border near Yuma to the Sierra Nevada Mountains near Owens Lake, while staying in designated wilderness areas almost 90% of the way. To get in shape, I've been trying to get in a solid hike, carrying weights, every

(or every other) week since April. I've been gradually increasing the distance and weight—now I'm up to 21 miles with 57 pounds. I've also started practicing my video editing skills, and have published a bunch of virtual field trip stops, including the GSA and IgMet trips mentioned above, as well as a teaser video for my upcoming Mojave trek. You can find them on my YouTube channel ("TectoNick") at this url:

<https://www.youtube.com/channel/UCHMNjgp97IQEooIjwLbggig>

Or you can search for "Across the Mojave on Foot," and it shouldn't be too far down the list. Be sure to hit "subscribe" if you don't want to miss the one dozen half-hour episodes I plan to start releasing in late March! Each episode will feature vignettes about the geological and human history of the Mojave Desert, mixed in with the continuing saga of my attempt cross the pathless wilderness.

See you later!

Cheers,

-Nick Van Buer



Ben Rucker—one strong Geologist!



Anselm Krause (Grad student) melting a glass bead from a rock sample.



Dr. Van Buer trek across the Mojave.



GSC 2150/L Mineralogy course Fall 2021.

## 2021 Alumni Notes

Below are a few more brief Alumni Updates to report. These were pieced together from fragments of emails, various phone calls and LinkedIn updates received over the past year. We are pleased to hear about all the successes!

**Deborah Cranswick (1979)** recently donated her Brunton compass to the Geology Department. She won this as a mapping award as student. Now retired from the

USGS, she wants this to go to a deserving CPP Geology major. Many thanks, Deborah!!

**Mark Thompson (2020)** sent this note in March: To give you an update: I've passed the GIT and just accepted a staff geologist position at a company called EnGEN Corporation which is only 6 mins away from my house. I'm expecting a good mix of labwork and field work. I was previously working in San Diego as a soil tech so my commute just became MUCH nicer. I hope the semester is going well for you, I got a good chuckle when I heard you finally got a cell phone.

Cheers,  
Mark Thompson, GIT

**Megan Ward Baranyay (2021)** recently the MS program at CSU Long Beach this fall. She sent this note last May:

I am thrilled to share with you that I have accepted admission to CSULB to pursue my M.S. in Geology! I am grateful to have been offered full funding, plus a Research Assistantship working under Dr. Matt Becker on an exciting project focused on developing enhanced geothermal energy. We will be applying Distributed Acoustic Sensing geophysics to understand flow continuity between injectors and producers at the [Frontier Observatory for Research in Geothermal Energy site](#).

**Kelly Brigham (2016)** sent this note in June:

I have an update on my graduate career. Just a couple of days after I sent that email to you, UMass reached out and informed me that they have a teaching assistantship available. So I will be starting this fall and hopefully graduating in the Spring of 2023.

**Lauren Wicks (2009) and Logan Wicks (2014 MSc)** are celebrating their first baby. Ellie Mae Wicks was born July 3, I believe. Her parents have been quite busy the past few months. I'm sure we will hear more from Lauren and Logan next year.

**Matt Davis (2019)** finished his first semester in the Petroleum Engineering MS program at USC. Meanwhile he has been working for TID Geo in Oil and Gas Exploration; Web Development.

**Jacob Kays (2020)** joined our grad program in 2020 but has been preoccupied working as a Staff Geologist for Universal Engineering Services. He sent this note in June: Doing downhole logging in the redwoods this week. Definitely top 3 best sites I've worked!

**Oliver Wolfe (2014)** is now a Postdoctoral Research Associate and Adjunct Faculty at Rensselaer Polytechnic Institute in Albany, New York. He finished his PhD there a couple years ago and seems to have settled in well

**Shane Bonanno (2019)** is still with Cal Portland mining the Missoula Flood deposits in Portland.

**Christina Bloom (2012)** is still in New Zealand, working as Earthworks Senior Monitoring Officer at Auckland Council

**Rebecca Greenwood (2014)** is an Engineering Geologist at State Water Resources Control Board.

**Charles Dang (2018)** joined our graduate program this fall. He has been working as a Geologist at Kleinfelder in Riverside

**Jonathan Marshak (2016 MSc)** has now been with Terraphase Engineering, Inc. for 4 years.

**Jennifer Pfau (2018)** is now a Staff Geologist at Cal Engineering & Geology, Walnut Creek, CA.

**Paula Soto (2016)** recently started a new position as GIS Specialist at Redhorse Corporation.

**Shaun Wilkins (2006)** is still a Senior Project Geologist At Langan Engineering.

**Alex Razo (2021)** is now Exploration Geologist at Coeur Mining, Inc.

**Peter Flores (2020 MSc) sent this note in October:** Things are going very well. I'm living in the Bay Area now, I work for Napa County in the Planning and Environmental Services Department doing GIS work; mostly vineyard development and groundwater monitoring.

**Sevag Injean (2020)** has been working the past year or so with Delta Group Consultants, Inc

**Randal Burns (2006)** has branched into a hot new mining endeavor. He is now Vice President of Exploration at Lithium Americas Corporation