



News from the Department Chair

I hope this 28th edition of our alumni Newsletter brings you a bit of holiday cheer! We in the Geology Department sincerely hope that all are staying healthy and safe. This past year has been unusual and difficult for all of us, to say the least. But the **Mylonite** must go on!!

2020 started out with a flurry of activity. We submitted our self-study for Academic Program review of the Geology BS program, the first review since 2013. The Geology Search Committee reviewed applications and conducted phone interviews of eleven semi-finalists for our faculty position in Remote Sensing / Geospatial Analysis. Six finalists were selected, approved by the CPP Office of Employment, Diversity, Inclusion & Campus Climate, and invited to campus. Meanwhile, external reviewers Joan Fryxell (CSU San Bernardino) and Greg Holk (CSU Long Beach) visited campus on March 10 to conduct their evaluation. After a productive day of meetings with faculty, students, and administrators, we had a nice dinner at Coco Palm Restaurant off Fairplex Drive. The next day Covid hit, and everything changed. Our faculty search was suspended indefinitely, and faculty were given a week off to convert all Spring classes to fully online mode. The rest of the year has been largely devoted to bringing the highest quality educational experience to our home-bound students.

I am most grateful to Geology faculty and staff for rising to meet the many challenges presented over the past months. We are all suffering a bit from “Zoom overload” but most students are still participating in the learning process. Below you may read about some of our innovative strategies; in particular, how we bring the field and laboratory to our students (because field trips and in-person labs are not permitted), and how we conduct remote thesis

defenses, advising sessions, and research seminars.

This version of the Mylonite may seem a bit shorter because we can't include our traditional pictures of graduation, alumni reunion, student award ceremony, and student conference presentations. However, 2020 was still full of memorable achievements, virtual activities, and collaborative work efforts that are described in the next few pages. For example, Nick Van Buer was appointed to Associate Professor with tenure. Geo-technician Frank Wille was selected for the College of Science Outstanding Staff Award. Several articles featuring Geology faculty and staff were published in the College of Science newsletter. Geology faculty are currently engaged in an intensive virtual strategic planning effort.

This year, I don't have a large group photo to show as the kick-off image, but perhaps the two images below will suffice to illustrate our current situation as we gather field data for use in virtual mapping classes (photos clipped from videos taken by J. Nourse):



Graduate student Craig Manker measures a fold in Pelona Schist on Blue Ridge, with Garrett Stewart taking notes from a safe distance.



Gordie supervises while Nick Van Buer prepares to measure a group of S-folds in Pelona Schist on Blue Ridge. This data was later used for a GSC 5330L Advanced Structural Geology and Tectonics virtual lab.

New Equipment Purchases

Drs. Polet and Nourse were awarded separate grants through the SPICE (Special Projects to Improve Classroom Experience) program to purchase new equipment. Below is some information on these successful proposals:

- **“Equipment for Magnetic Field Surveying”** (\$13,900 awarded to Dr. Polet)—The SPICE grant provided funding for the purchase of two new magnetic susceptibility meters and a magnetometer console. This magnetometer console will replace a unit that had been in heavy use for the past ten years. The magnetometer is industry standard equipment and can be used to measure the Earth’s total magnetic field intensity by producing continuous, geotagged, measurements in the field when carried by an operator, such as a student. The meters will allow students to make field-based measurements of the magnetic susceptibility of surface rock units. Based on these measurements, students can generate maps and subsequently, in combination with magnetic measurements, models of three-dimensional subsurface structure. Students will use this equipment in two subsurface geophysics classes: GSC4340 “Shallow Subsurface Geophysics” and

GSC5640 “Advanced Shallow Subsurface Geophysics” (taught by Jascha Polet), as well as GSC4910L “Field Module” (taught by Jascha Polet and Nick Van Buer). The equipment will also be used in Senior and Graduate Thesis research projects.

- **“Replace Geology Department SmartBoard in Room 4-A-634”** (\$9667 awarded to Dr. Nourse)—Our 2014 vintage SmartBoard with dated technology is failing after several years of heavy use. Faculty regularly use the system to annotate drawings, interact with students, and capture class notes for student access on Blackboard. We plan to replace the current board with an upgraded model similar to that pictured below.



The new SmartBoard will be similar to this one housed in companion classroom 4-A-608.

New Grants Awarded

- **US Geologic Survey Intergovernmental Personnel Act 2020 (\$17,190)**

Dr. Polet will provide training of National Earthquake Information Center analysts by designing and remotely teaching 3 or 4 classes on earthquake source processes and near-real-time seismology. She will advise the NE-

IC on the presentation and selection of content for post-earthquake analysis.

Additionally, if the opportunity arises and based on availability, Dr. Polet will assist NEIC in generation of post-earthquake content following significant earthquakes that occur during her tenure.

- **United States Geological Survey NEHRP: Site Response in the San Gabriel, Chino and San Bernardino Basins (\$69,170.00)**

Dr. Polet and students will assess the small-scale lateral variability in seismic site effects of the San Gabriel, Chino and San Bernardino Basins and help constrain their three-dimensional structural geometry by exploiting the ambient noise data recorded by recent high-density seismic surveys. The waveform data of hundreds of nodes, installed in linear arrays across the basins with spacing of a few kilometers, will be leveraged to determine minimum ground motion amplification and resonance frequency using the ambient noise Horizontal to Vertical Spectral Ratio (HVSr) method, and thus will provide important information on the site effects that govern damage caused by local and regional earthquake activity.

- **CSU STEM-NET grant (\$25,000)**

Dr. Marshall was awarded a CSU STEM-NET grant in June 2019 with Co-PIs Subodh Bhandari (Aerospace Engineering) and Amar Raheja (Computer Science) for our proposal "Research Experience for Undergraduates: Geohazards Analysis Using UAV-Based Remote Sensing Technology". He was given a one-year no cost extension this year due to COVID.

Preparations for Online Instruction

As mentioned earlier, Geology faculty and Graduate Teaching Associates spent much of Summer 2020 converting our Fall classes to online instructional mode. All of us participated in a summer workshop focused on basic implementation of online technology. Then it was up to us to create high-quality online learning experiences for our students.

Redesign of our courses to "virtual" mode required a Herculean effort from Geology faculty and students. I am very proud of these efforts that are ongoing today. Described below are just a few of our innovations and endeavors:

Mineral / Rock Kit Preparation

This Fall semester, Geology faculty are teaching six laboratory sections with total enrollment of about 140 students that require hands-on analysis of mineral and rock specimens. These courses include GSC 1410L Principles of Geology Lab (two sections); GSC 1510L Earth, Time, and Life Lab; GSC 1450L Hand Specimen Petrography Lab; GSC 2150L Mineralogy Lab; and GSC 4230L Sedimentary Geology Lab. Last summer it became obvious that we had insufficient rocks and minerals in our Department collections to distribute to students in the six lab sections. The situation is compounded by the restriction that students are not allowed to work in teams. To solve this problem, we undertook a very time-consuming, physically laborious, multi-step process:

1. Collection of rocks and minerals by Drs. Van Buer, Nourse, and Murray in San Antonio Canyon, Santa Monica Mountains, and Santa Barbara area; also, from our back yards
2. Breaking of rocks into 100+ small pieces with sledgehammers
3. Transport of boxes of samples to a safe off campus site (no campus access was allowed for

first half of summer).

4. Painting of numbers on thousands of individual samples.
5. Transport of samples back to CPP after certain rooms were finally reopened.
6. Packaging of multiple samples into 140 kits for specific classes.
7. Coordination of student drive-by to pick up samples on campus.
8. Mailing of sample kits to students unable to come to campus.
9. Coordination of the return of sample kits to campus (so we can reuse them Spring semester).

The photos below illustrate part of the rock kit preparation process. As you can see, we made efforts to protect from Covid and maintain social distancing. The efforts of students **Mark Thompson, Aly Young, Garrett Stewart, Randall Lewellan, Ben Rucker, Anselm Krause,** and **Carey Chang** are much appreciated! **Frank Wille** was instrumental in coordinating much of this work, and we thank **Jeff Marshall** for the use of his back yard in Claremont for some of the sample sorting:



Ben Rucker, Garrett Stewart, and Randall Lewellan offload rock samples for refined breakage and sorting in **Jeff Marshall's** back yard.



Randall Lewellan and Ben Rucker paint numbers on thousands of mineral and rock specimens. We thank **Dr. Marshall** for providing the space. (below): **Carey Chang, Craig Manker, Anselm Krause, and Aly Young** sort through thousands of rock and mineral specimens in our geology lab Rm 4-A-634.



Nick Van Buer breaks large rock samples into small pieces in **San Antonio Canyon** as **Frank Wille** organizes the boxes.

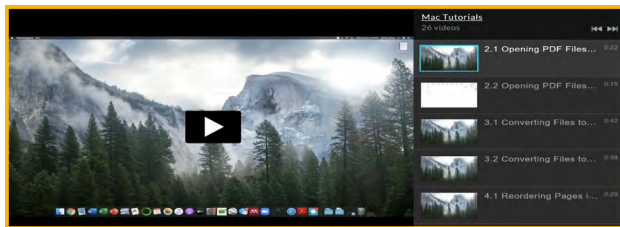




Anselm Krause and Aly Young assemble mineral and rock kits for our many students.

Preparation of Geology Majors for Computer Assignments

We are grateful to graduate students **Ashley Rivera, Stacey Petrashak, and Garrett Stewart** for preparing a series of written documents and video tutorials intended to guide our students through the process of submitting work online. Students now know how to access and install the many free software packages available through Cal Poly Pomona. Other tutorials explain the intricacies of Adobe Acrobat Pro and Adobe Illustrator. A common goal is to teach students how to create image-intensive documents in various platforms, then consolidate these work products into collated PDF file for rapid submission to the instructor. Hopefully these skills will prove useful as our students embark on future jobs in the Geoscience world.



Screenshot of computer technology tutorials posted on Dr. Polet's Blackboard site.

Videos, Videos, and More Videos

All of us have become experts at recording lectures and filming various laboratory and field activities, then posting everything to the Blackboard learning management system. Many of us use a video interface called "Kaltura Capture"; and live, synchronous lectures are commonly recorded through "Zoom." All of the field activities and some of our lectures needed to be filmed ahead of time. It is somewhat disconcerting to video oneself speaking with no audience. Equally distracting is the problem that most students won't turn on their cameras during live lectures (faculty are not allowed to require true facetime). This sometimes creates an impediment to communication. However, we have all managed to adapt to the situation. We long for the good old days of teaching to a live audience in a real classroom.

Frank Wille Receives College of Science Outstanding Staff Award

After just 4 years with the Geology Department, our Geo-technician, Frank Wille, was selected for the Fall 2019 College of Science Outstanding Staff award. We were unable to meet in person for a formal ceremony, but Associate Dean Lisa Alex and the Staff Award Committee presented this honor via Zoom on April 3. I contributed a few words on Frank's behalf. Coincidentally, Frank was featured in the College of Science Newsletter a few weeks earlier. Here is a link to that article, written by Dan Griggs: <https://www.cpp.edu/sci/newsletter/living-the-dream.shtml>

Geology Faculty Featured in College of Science Newsletter

Each month the College of Science publishes a newsletter to highlight activities of interest around the College. Geology Department faculty and students were featured in two separate editions:

(1) The first article describes our new ground-based LiDAR system. You may read about recent student projects utilizing this equipment here:

<https://www.cpp.edu/sci/Newsletter/seeing-the-world-in-3d.shtml>

(2) On a different note, read about “Rock Star” Nick Van Buer’s plans for a 590 mile Geotrek across the Mojave Desert:

<https://www.cpp.edu/sci/newsletter/video-series-will-feature-rock-star.shtml>

The article contains hyperlinks to multiple videos featuring Nick and his Tectonics students on various field trips. The proposed Geotrek is central to Dr. Van Buer’s sabbatical request for Spring semester, 2022. We hope it gets funded!

New Master’s Degrees Awarded

Six of our MS candidates successfully defended their theses during the past year. Due to Covid restrictions, all of the presentations and Q&A sessions had to be conducted virtually through Zoom. Nevertheless, the talks were well-attended, and faculty were able to engage each candidate in meaningful discussion of the thesis results. Let’s congratulate **Noah Zohbe**, **Peter Flores**, **Thein Htun**, **Chloe Sutkowski**, **Kyle Macy**, and **Reggie Agunwah** on these milestone accomplishments!

Below is a list of the new MS theses, with live links to the posted documents:

- Noah Zohbe: *"Methane in Shallow Aquifers: Deciphering a Compilation of Publicly Available Data"* (defended November 2019; Advisor: Dr. Osborn)
- [Peter Flores](#): *"Geophysical Investigation of Fault Systems Near Cadiz, California, and Their Impact on the Hydrology of Bonanza Springs"* (defended April 2020; Advisor: Dr. Polet---please contact jpolet@cpp.edu for a high resolution version of this document)
- [Thein Htun](#): *"Allometric Trends in the On-*

togenic Growth of Various Pleistocene North American Proboscideans and the Dwarfing of the Columbian Mammoth (mammothus columbi) and the Channel Islands Pigmy Mammoth (mammothus exilis)" (defended May 2020; Advisor: Dr. Prothero)

- [Chloe Sutkowski](#): *"Using Geophysical Methods to Investigate Archeological Features and Artifacts From La Placita de los Trujillas, Buried by the Santa Ana River During the Great Flood of 1862"* (defended July 2020; Advisor: Dr. Polet---please contact jpolet@cpp.edu for a high resolution version of this document)
- [Kyle Macy](#): *"Characterising the Seismotectonics of the Yorba Linda Trend by Earthquake Relocation"* (defended August 2020; Advisor: Dr. Polet---please contact jpolet@cpp.edu for a high resolution version of this document)
- Reggie Agunwah: *"Geology and Fracture Geometry in Source Region of Hogback Slide, Eastern San Gabriel Mountains, with Implications for Failure Mechanisms"* (defended November 2020; Advisor: Dr. Nourse)

Geology Master’s 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 (2021) has passed, but the Fall semester 2021 application cycle remains open until **June 1, 2021**. 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
Department of Geological Sciences
3801 W. Temple Avenue
California State Polytechnic University
Pomona, CA 91768

Personal Notes from Dr. Nourse

So far, so good. Phyllis and I have been staying safe at home with our dog Gordie since March, maintaining good health other than a bit of eye strain from all the computer work. Wearing masks every time we venture out has become standard procedure. We are very grateful for all that we have in our lives. To break up the routine we are experimenting with new recipes, playing cards and board games, completing puzzles, and taking frequent long hikes with Gordie, who doesn't know how lucky he is to be mask-free. He misses his dog friends and hanging out with students around the campfire.

Students managed to complete one field trip in my GSC 4010/L (GIS Applications) class before the Covid shutdown. Then there was a frenzy of activity converting the remaining lectures and labs to virtual mode. It was challenging to set up each student at home with a functional computer containing the ArcGIS software. The efforts of co-instructor **Emmons McKinney** were much appreciated during this difficult transition, especially her guidance on creating movies in the new Kaltura video platform. Likewise, most of my summer was spent preparing for two Fall online geological mapping classes (GSC 4910L and GSC 5030L). To bring the field to the students I took several 2 to 3-day camping trips to Blue Ridge in the San Gabriel Mountains to collect waypoint locations and structural measurements and make videos of outcrop relationships. Similar excursions were also made to Bonelli Park and the north Rand Mountains (after the weather cooled off in October). **Frank Wille, Nick Van Buer,** and graduate students **Craig Manker** and **Garrett Stewart** provided field assistance at various times. Now I am eagerly waiting results: students are expected to produce geologic maps, cross sections, and reports from these virtual data sets.



Well-exposed axial plane and fold hinge in Pelona Schist of Blue Ridge.



Measuring the trend of a fold hinge on Blue Ridge.

As a geologist, I feel most fortunate to have field work as an avenue to escape the lockdown conditions. With Gordie's assistance, multiple day trips were taken last spring to Little Tujunga Canyon, Gold Creek, and Placerita Canyon. The commute on the 210 Freeway was remarkably traffic free with the typical "Pasadena Crawl" almost nonexistent for a couple months. We now have a new thin section connection in Los Angeles who turns around orders in less than a week. Analyzing thin sections in the back yard has become another welcome diversion.



Gordie encounters a waterfall impediment in Ant Canyon, a remote area of the western San Gabriel Mountains.



One of the more striking field relationships documented last spring: Jurassic(?) granite dike intrudes Proterozoic gneiss along Little Tujunga Creek. Zircons await U-Pb analysis at Stanford University.



Taking a break from the stresses of Covid-19 on Glendora Ridge in April. This view is up Cattle Canyon toward Mount San Antonio.



Proterozoic biotite gneiss outcrop along Little Tujunga Creek .



Gordie investigates an outcrop of Pelona grayschist during my late May trip to Blue Ridge.



Sample of Placerita Canyon quartz diorite collected with Karissa Vermillion and Frank Wille. Zircons were extracted and mounted and are sitting in the queue waiting for Stanford's SHRIMP lab to resume normal operation.

In between the Covid distractions I was able to publish four significant works. A field trip guidebook describing the geology and geochronology of Placerita Canyon and Limerock Canyon and coauthored with **Karissa Vermillion (BS 2018)**, is the 2nd part of a three-part, 72-page article published by Geological Society of America with colleagues Brian Swanson of California Geological Survey, Joshua Schwartz of CSUN , and Nicolas Barth of UC Riverside. The associated professional field trip, scheduled for the May Cordilleran Section meeting, was unfortunately cancelled. Nevertheless, the rocks are still there and waiting for people to explore them. Just follow the instructions and view the colored maps in: [*Recent Advancements in Geochronology, Geological Mapping, and Landslide Characterization in Basement Rocks of the San Gabriel Mountains Block.*](#) Also completed was a substantial revision of the ***Practical Earth Science Exercises*** laboratory manual used in our GSC 3210L (Engineering Geology Lab) and GSC 3500 Natural Disasters classes. With the help of **Ernie Roumelis**, this 4th edition contains new chapters on *Earthquake-Induced Liquefaction*, and *Flood Control Dams of the San Gabriel River Watershed*. The chapter on *Flood Hazards of the Susquehanna River Basin* is also sub-

stantially revised in addition to updates and improvements to other chapters. With several Mexican colleagues I published new U-Pb ages from my PhD area: [*Geology and Geochronology of the Jurassic Magmatic Arc in the Magdalena Quadrangle, North-Central Sonora, Mexico.*](#) Finally, my ArcGIS skills were sharpened in writing a technical report for Colibri Resources Corporation: [*Review and Analysis of Mineral Exploration Data from the Evelyn Gold Property, Sonora, Mexico.*](#)

Several of my students were gearing up to present posters at the Cordilleran Section GSA meeting in Pasadena before it was cancelled. Below is a list of their research projects, with hyperlinks to abstracts published online in the GSA program. Abundant new structural observations and results of U-Pb zircon geochronology are described therein.

- [*Structural Analysis of Folded Pelona Schist on Blue Ridge, San Gabriel Mountains, California:*](#) MANKER, Craig R. and NOURSE, Jonathan A.,
- [*Reconnaissance Geology and U-Pb Zircon Geochronology of Claremont Wilderness Park, Eastern San Gabriel Mountains:*](#) THOMPSON, Mark A., NOURSE, and VERMILLION, Karissa B.,
- [*Distinctive Jurassic and Late Cretaceous Thermal Disturbance of Zircons From The Placerita Formation, Western San Gabriel Mountains, California:*](#) VERMILLION, Karissa B., and NOURSE, Jonathan A.
- [*Structural Geology of the Placerita Formation, Western San Gabriel Mountains, California:*](#) NOURSE, Jonathan A., VERMILLION, Karissa B., and DYKSTRA, Michael R.

Overall, 2020 has been a productive year, although probably as strange as it could get. Let me close by wishing all a very Merry Christmas and excellent health and prosperity in the New Year. May 2021 bring a full recovery and return to normalcy!

Student Successes

Dean's List, 2019-20

We just updated our list of Geology majors who made the dean's list last year; earning a GPA of 3.5 or better in their course work. Congratulations to the following hard-working students for their academic excellence!

Fall Semester, 2019:

- Johanna Alen-Bella
- Matthew Davis
- Margaret Grenier
- Bryan Guardado
- Jacob Kays
- Kristin Kulikoff
- Randall Lewellan
- Alexandra Loera
- Nicholas DavidMadera
- Megan Ward-Baranyay
- Darren Williams

Spring Semester, 2020:

- Derek Allred
- Kevin Diller
- Kehinde Faux
- Mary Frances Gabito
- Kyle Garcia
- Bryan Guardado
- Sevag Injean
- Jacob Kays
- Casey Klessner
- Krsitin Kulikoff
- Alexandra Loera
- Nicholas David Madera
- Jonathan Martinez
- Jared Ruiz

- Vincent Ruiz
- Leanna Schindler
- Dominic Sterling
- Darren Williams
- Daniel Wright

Graduation 2019-2020

Cal Poly Pomona's traditional spring graduation ceremony was unfortunately cancelled. Nevertheless, Geology Department faculty and staff want to congratulate the following students who received their degrees and associated diplomas during the past year (most are BS degrees unless indicated as MS):

Fall 2019 Degree postings:

- Mathew J. Davis
- Brandon W. Ferguson
- Jazmine Garcia
- Margaret K. Grenier
- Jennifer Hamel
- Veronica Hernandez
- Brianda Roales Hernandez
- Muhammad Zeeshan Salim
- Rebecca L. Warner
- Danielle Whitfield
- Noah Zohbe (MS)

Spring 2020 Degree postings:

- Dakota Bailey
- Isaiah Durdan
- Peter Flores (MS)
- Mary Frances Gabito
- Thein Htun (MS)
- Jacob Kays
- Vanessa Pena
- Oscar Prado
- Irvin Rojas
- Leanna Schindler
- Jed Villafuerte

Summer 2020 Degree postings:

- Mark Thompson
- Chloe S. Sutkowski (MS)
- Kyle P. Macy (MS)

We are very proud of our **25** graduating students and wish them success in their geoscience careers!

2020 Student Awards

Our Geology majors were preoccupied with Covid-related issues last spring, hence we received very few applications for Geology Department scholarships. One noteworthy standout was **Megan Ward-Baranyay**, who applied for all three awards. Geology faculty selected Megan as this year's recipient of the **\$1000** Ernest Prete Jr. Scholarship for her proposal to pursue graduate education in marine geology and geophysics. Congratulations, Megan! We hope to catch up soon for a photograph.

Graduate Student **Garrett Stewart** took the initiative to join SME (Society for Mining, Metallurgy, and Exploration) as a networking opportunity. He applied for one of their scholarships to support his MS thesis research. Last August Garrett received a check for **\$1500**. These funds will cover some assay costs and field expenses related to Garrett's forensic study of old mine workings in the Rand Mountains.



Dr. Nourse presents Garrett Stewart with a \$1500 check and congratulatory letter from SME. Photo by Jeff Marshall.

Graduate student Emmons McKinney was awarded a 2020 COAST Graduate Student Research Award for **\$3000** for her proposal "Seismic cycle deformation record using marine terraces on two-time scales at Cape Kidnappers, New Zealand." Congratulations, Emmons!

Emeritus Faculty News

John Klasik

GREETINGS ALL YOU FINE ALUMNI!

I sincerely hope this year's Mylonite finds you all safe, in good health, still employed and self-isolating. Since March, it certainly has been an adjustment to a very different lifestyle. Because of the pandemic and thus travel restrictions, my article this year will only cover what we managed to do in March.

In early 2020 we were anticipating a two-week Road Scholar trip to New Zealand. We left on March 6th, just before international travel became increasingly difficult. Our trip included Auckland, Rotorua, Christchurch, Invercargill and Queenstown. We were supposed to complete our trip in Wellington, but our journey was preempted three days early and had to return to the U. S. due to increasing Covid infections worldwide.

The thirteen plus hour night flight on Air New Zealand was about as good as one can expect. We flew economy plus. It is like first class minus the cubbies you have / recline in while traveling first class. We landed in Auckland right around sunrise.

New Zealand and New Zealanders are wonderful. The country occupies two tectonic plates, Australian and Pacific. Thus, it is volcanically and seismically active. As a result, a diverse geology, interesting geologic history and varied landscape highlight the country. New Zealanders have a wonderful, integrated, cooperative relation with the indigenous Maori. Both cultures flourish.

We spent the first three nights in Auckland (on the Australian Plate). Auckland was busy, clean, diverse and vibrant. Much of the downtown area

is undergoing construction – some new construction, some seismic retrofitting. While in Auckland, we learned about NZ history, took a yacht cruise in the harbor, visited the War Me-



morial Museum, and participated in a rambling field trip to see bird life and Holocene volcanic features (field trip photos are universal). I never knew that Auckland was dotted by some 60 or so volcanoes. The one in the photo last erupted around 600 years ago.



Via motor coach, it was on to Rotorua. On the way, we visited the Waitomo glow worm cave (Eocene limestone). The cave is OK. The glow worms are astonishing. It was like, floating via boat, through a star covered night sky. It was an awesome quite spiritual experience.

Rotorua is situated in a volcanic caldera (eruption about 240,000 years ago) in the Taupo Volcanic zone. The zone is an area of extension

at the junction between the Tonga – Kermadec subduction zone and the transform plate boundary to the southwest. Rotorua has a pervasive, not strong, but always detectable, smell of sulfur – even occasionally in your hotel room. The nearby Waimangu Volcanic valley is a lush fern forested geothermally active valley. On June 10th, 1886 a significant eruption opened a several mile long fissure creating hot springs, geysers and steaming lakes.

Before flying to Christchurch we visited a kiwi hatchery. The hatchery was fun. We actually saw kiwi foraging in a darkened enclosure as well as baby kiwis cared for by specialists before being returned to the wild for repopulation.



Our brief stay Christchurch, allowed us to visit Akaora. Akaora, is a picturesque French coastal settlement. It was one of my favorite places. We took a boat cruise to see Hector's Dolphins (the smallest species) and blue penguins, seals and a variety of bird life. Akaora is where we shared fish and chips. After returning to Christchurch we took a brief central city walking tour to see the impacts of the magnitude 6.2, 2011 earthquake. Many areas are just leveled (liquefaction) and vacant lots. Other buildings are supported by bracing, etc. to prevent further failure. The final morning in Christchurch we visited the Antarctic Center. It is the staging area for many country's Antarctic bases.

Invercargill is at the southern end of NZ. I got to see the Southern Ocean with Antarctica some 2,000 miles to the south. Te Anau, to the north-



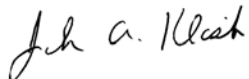
west, is gateway to Fjord Land and Doubtful Sound. We were supposed to go to iconic Milford Sound, but the road was closed by a severe storm in February. I was disappointed I could not go through the Homer Tunnel and cruise on Milford Sound. Doubtful Sound was a good substitute. The hanging valleys, waterfalls, pristine old growth virgin forests and glacially carved fjords, marine life do justice to its beauty and expanse. We cruised all the way to its entrance at the Sound in the Tasman Sea.

Queenstown turned out to be our final tour stop. It is situated on a Lake Wakatipu at the base of the Remarkables. With water sports in the summer and skiing in winter, Queenstown is a year-round resort town. We took a 1912 coal fired steam ship across the lake to a working sheep ranch. The ship was made in Christchurch, it was disassembled and brought in pieces via train to Queenstown for re-assembly. The 60,000 acre ranch has some 20,000 merino sheep and some cattle.

When in the southern hemisphere you have to take every advantage of the clear dark night sky. The southern Milky Way, the Southern Cross, Orion with a very odd orientation, Gemini, and Canis Major, for which Sirius is the major star,

were just gorgeous. My major astronomical accomplishment was seeing the Large and Small Magellanic Clouds. They are dwarf galaxies of the Milky Way, about 165,000 light years away. Our Galaxy will ultimately consume them. The two dwarf galaxies were very dim. I was most pleased!

That is all I have this most unusual year. I wish you all well.



Faculty News *(in alphabetical order)*

Jeff Marshall

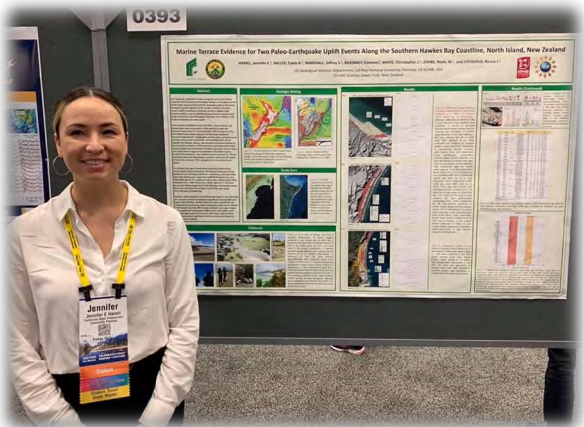
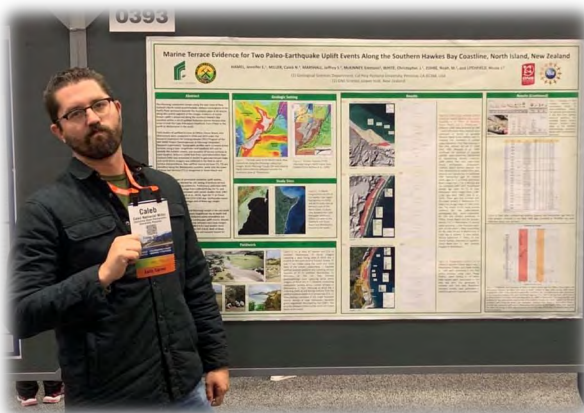
Well, that was a dumpster fire of a year, now wasn't it? Despite the daunting challenges, I hope that each of you and your families are getting by and staying healthy. Way back in the Pre-Covidian era, when classes were live and in person (aka Fall 2019), I taught Geomorphology, Quaternary Geology, and Grad Seminar. The Geomorph class was fun as always, with the usual field exercises on drainage basins at Claremont Wilderness Park, soil profiles at Voorhis Reserve, and mountain-front faulting at North Etiwanda Preserve. Quaternary Geology also was a blast, with students mapping the fault scarps and alluvial fans at Etiwanda, and taking behind-the-scenes tours of the Fossil Lab and Project 23 excavations at the La Brea Tar Pits. In mid-October, we embarked on a 4-day field trip to the Monterey Bay area, to celebrate the 30th anniversary of the 1989 Loma Prieta Earthquake. We camped at Sunset State Beach near Watsonville, and explored uplifted marine terraces at Wilder Ranch, coastal dunes and cliffs at Sunset Beach and Capitola, and earthquake induced landslides and ground cracks in the Santa Cruz Mountains. We also did a walking tour of earthquake damage sites in downtown Santa Cruz and attended a commemorative gathering,

with a moment of silence at 5:04 pm, marking the instant the earthquake struck 30 years ago.

Throughout the trip, I shared my firsthand stories of the 1989 earthquake and the post-quake fieldwork I did as a UCSC grad student. At field trip stops, the students presented summary talks on assigned research papers covering regional neotectonics, seismology, geodesy, engineering geology, and coastal geomorphology. Our picturesque presentation venues included the breezy UCSC Pogonip looking out across Monterey Bay, the dripping Fern Grotto sea cave at Wilder Ranch, the sunbathed morning coastal dunes at Sunset Beach, and a mountain apple orchard at Mason Taylor Ranch, where we sampled the farmer's fresh delicious cider. Other memorable moments included a sunset seafood dinner with the sea lions on the Santa Cruz Wharf, sipping a few pints of microbrew at Seabright Brewery, festive evenings around the campfire, and nightly visits from that freaky agro demon owl. On the return drive, we followed the trace of the San Andreas fault through Pajaro Gap, visiting the sag pond at Anzar Lake, pressure ridge at San Juan Bautista Mission, and en-echelon fault-creep cracks at Ghiorzi Vineyard. We ended the trip at Hollister's Dunne Park to see the classic offset street curbs along the Calaveras Fault.

Along with teaching, I also worked through the fall with my NSF SHIRE New Zealand research team - undergrads Jen Hamel and Caleb Miller, and grad students Emmons McKinney and Chris White. New grad student Anselm Krause also joined the team. As you may recall, the SHIRE project is a four-year collaborative effort, involving five US universities and New Zealand's GNS Science, to investigate seismogenesis at the Hikurangi subduction margin along the North Island's East Coast. Together, my team worked on developing field site LiDAR maps, generating topographic survey profiles, and processing a third batch of Holocene shell samples for shipment to Woods Hole NOSAMS Lab for radiocarbon da-

ting. At the 2019 Fall AGU meeting, Jen and Caleb presented a poster in the SZ4D subduction



science session, summarizing their study of coastal terrace paleoseismology in southern Hawkes Bay. During this time, Emmons wrote and submitted two grant proposals to support her Cape Kidnappers terrace deformation research, one to the CSU COAST Graduate Research Award Program, the other to the GSA AGeS2 Geochronology Program. While the COAST proposal yielded a \$3000 award, the AGeS2 project was not funded. Important note: If anyone out there is feeling especially generous, our NSF funds are now expended, but Emmons still needs about \$20,000 to date her 12 IRSL sediment tubes. Thanks!

Fall 2019 ended with, well, a lot of coughing... My son and I both were afflicted with a bizarre and brutal respiratory illness that lasted for a

good three months. No, this was not COVID-19, but turned out to be the dreaded Whooping Cough (TDAP vaccines, apparently, are not always effective). Don't get the whoop. It is nasty.

With spring semester 2020, I began my third Cal Poly Pomona sabbatical. The plan was to attend an NSF SHIRE-IODP Joint Workshop in New Zealand, and conduct a fourth SHIRE field season with new grad student Anselm Krause. Our intended field target was Anselm's proposed study area along the Gable End Coast north of Gisborne, where shallow upper-plate thrust faults pose a significant earthquake and tsunami hazard. I spent the first few months of the year, planning our New Zealand trip and preparing a talk for the workshop. Joining us on the trip were my son Kyle and my girlfriend Ann Gamboa (CPP geology grad, CSU East Bay MS, and awesome local high school geology teacher). I purchased non-refundable plane tickets, reserved a rental SUV, and finalized our lodging reservations. We were good to go. Then, suddenly, the global COVID-19 crisis hit in full force. Our New Zealand colleagues weren't quite ready to cancel the conference, but U.S. universities began to limit travel, including the CSU. Thankfully, within a few days of departure, New Zealand shut the Kiwi Curtain, declaring that all incoming travelers would be required to isolate in seclusion for two weeks after arrival. Our planned trip was for three weeks. I called Air New Zealand. I'm forever grateful to the kind and gracious agent who said to me in her quaint Kiwi accent: "Well, that would certainly put a damper on your holiday, now wouldn't it? I think we can arrange for a full refund of your airfares." I was thrilled at the kindness, but at the same time was devastated that our trip, and the focus of my sabbatical, were cancelled.

Soon after this, my son's school district shut down, and switched to online learning only. I certainly understand that this all came on quickly without planning or precedent, but, oh lord, was

this traumatic. Teachers and administrators were fully unprepared. The online platforms were inconsistent and unstable. The content was chaotic and the daily workload for my son skyrocketed. Feedback became spotty, and suddenly I became a full-time homeschool tutor, IT consultant, life coach, psychoanalyst, nanny, butler, and cook. My sabbatical was sunk. I suppose the silver lining is that with sabbatical, I didn't have to deal with the sudden switch to online teaching at Cal Poly. I don't think I could have dealt with both of these crises simultaneously.

With COVID-19, conference travel has disappeared. As usual, I had volunteered through the Council on Undergraduate Research to serve as chair for the student poster session at this year's GSA Cordilleran Meeting in Pasadena. I accepted abstracts and organized the session (including several CPP students), but then the meeting was cancelled due to COVID. I also had a free pass for the ESRI GIS User Conference in San Diego in July, but the live meeting was cancelled and switched to online. GSA and AGU also switched to virtual meetings this year. Despite some interesting and appropriate sessions, I decided to not to participate due to the online format. Let's hope things improve next year.

Over the summer, my son completed several online courses required for graduation. We also began to explore in detail college applications. At one point when travel restrictions were at a minimum, we took a road trip up the coast to visit UCSB and Cal Poly SLO. UCSB is my alma mater, and it was quite a blast to take my son on a bicycle trip around the campus and through Isla Vista. I got to share many memories, including a few fuzzy ones about undergrad life in IV. We also toured SB, checked out the Mission, marveled at the giant fig tree, and grubbed on yummy seafood on the wharf. We proceeded north to tour the other Cal Poly, staying out in Morro Bay, where we paid respects to the Rock, communed with the otters, and chowed on tasty fish

sandwiches at the harbor. We also went out to Montaña de Oro State Park one day to hike the coastal cliff trail and record cell-phone videos on marine terrace geomorphology for my fall 2020 Coastal Tectonics Field Module.

At the end of summer, I engaged in several weeks of CPP online training to learn to use Blackboard, Zoom, and Kaltura for creating online teaching content. While I was very skeptical that any of this would work, I've been impressed that CPP technology has functioned relatively well throughout the fall 2020 semester. At the time of this writing, it seems like we've made it through the semester. Of course, there is still a little grading to do, and exams to give, but we will get there in the end.

On the home front, we've settled into our new rental house in north Claremont. It's a nice place, but as with everything around here, is much too expensive. Easy access to the Thompson Creek Trail is really nice. This year, Kyle is a high school senior, and despite the struggles of online learning, is still achieving straight A's. He's applied to a number of private colleges, UCs, and CSUs, including Cal Poly Pomona. The Claremont school district has done a much better job this fall managing online learning, modulating screen time, and cutting student workloads to a reasonable level. It's really sad that these high school seniors are missing out on things like football games, homecoming, live theatre and speech competitions, dances, grad night, and graduation. But, they are resilient. I see my son interacting with his friends online, via text, and through social media. Kyle turns 18 in a few weeks. The birthday camping trip he had planned with friends is on hold due to the corona crisis. It's unlikely that we'll be able to do our annual Christmas trip to grandma's in San Diego. But, with vaccines, I suppose hope is on the horizon. One really bright point this year has been reconnecting with my friend and former student Ann. Last fall, she invited me out to the

Claremont Wine Walk, and the rest is history. We've made it through a year of dating, field trips, and other shenanigans, and still seem to like each other. That's a good thing and the future seems bright.

To all: peace, love, health, and happiness! Wear a mask, dammit, and stay at home!



Geomorphology students at Claremont Wilderness Park (F'19)



Quaternary Geology students hiking along a scarp of the Cucamonga Fault, North Etiwanda Preserve (F'19)



Quaternary Geology grad students in the Page Museum Fossil Lab, La Brea Tar Pits (F'19)



Quaternary Geology grad students at Project 23 excavations, La Brea Tar Pits (F'19)



Quaternary Geology grad students presenting papers at the Pongonip Overlook, UC Santa Cruz. Loma Prieta Peak in the background.



Quaternary Geology class on sea cliff at Wilder Ranch State Park. (F'19)



Quaternary Geology class campsite at Sunset State Beach. (F'19)



Quaternary Geology grad students presenting papers in the Fern Grotto sea cave, Wilder Ranch State Park. (F'19)



Quaternary Geology students illuminated by the campfire, Sunset State Beach (F'19)



Quaternary Geology class at Capitola Beach. (F'19)



Quaternary Geology class on the San Andreas Fault, Mission Vineyard Rd., San Juan Bautista (F'19)

Jascha Polet

Hello Everyone,

2020 has certainly been an eventful year! My main focus this year has been the switch to online teaching and mentoring. There have been many challenges, but fortunately there have also been a few highlights. Peter Flores, Chloe Sutkowski and Kyle Macy all successfully defended their MSc thesis projects this year. I was also awarded two USGS grants, which include support for several undergraduate and grad students. This upcoming Spring semester I will be on sabbatical. Unfortunately, my plans to visit several European research institutions to work on real-time seismology and tsunami hazard projects will have to be adjusted, but I hope this will still be a productive time.

Given the stack of grading that is waiting for me and several exams to write, I will leave it at a short note this year. Best wishes for the holidays,

Jascha

Nicholas Van Buer

Hi Everybody,

Certainly a difficult year behind us, but as my family remains healthy, I can't complain. And I got to spend a lot more time with my now 2.5-year-old son Ian than I would have in a normal year He is now talking in full sentences, and has entered the endearing phase where he points at things (including rocks) and asks what they are.

I did manage to squeeze in one field trip, for Tectonics, before COVID-19 put the kibosh on in-person activities. Actually this we were already in early March, so we still needed special permission, and I filmed most of the stops for the students who were given the choice to opt out (the sound quality is poor, but the videos are available here if you're interested:

<https://www.youtube.com/watch?v=5rAPhZfDIm0&list=PL9Rhy8OwSPSFyPfnmkHImlI4Jv4BG9Bzg>). Our second field trip and my 2-unit field module that was originally intended to go to central Nevada over spring break, unfortunately, had to be done in fully virtual mode.

I have managed to get out into the field a number of times to collect "virtual field trip" material. Summer trips included a late May (way too hot!) Mojave trip for Mineralogy, some San Gabriel footage for Advanced Structure and Tectonics (with help from Jon Nourse), and an Owens Valley tour for Igneous and Metamorphic Petrology in the Spring (or Volcanology, if it comes to that . . .). Veterans Day week I headed up to cold and snowy NW Nevada in preparation for a virtual GSA Cordilleran Section field trip to my Ph.D. thesis area (originally to be hosted from Reno in May 2021). Many of these trips included rock and mineral sample collection for both the classes listed as well as the intro geology labs, so that students would have actual samples to inspect for their lab exercises. For Mineralogy alone, I divided up over 4000 specimens among 28 students (many came from existing department resources or new purchases from Wards).

Oh, and I moved to Long Beach, which would probably rank higher on my list of topics in a normal year. On the plus side, the commute has been no problem so far! Anyway, I hope you all stay safe out there and have some happy (if socially distant) holidays!

Cheers,
-Nick



Collecting virtual field trip video in a fissure at Black Point surtseyan volcano, Mono Lake.



4,170 specimens of 62 different minerals, about 45% self-collected, lined up across my whole garage floor, ready to divide among my Mineralogy students.



Ian asks about specimens in my combined rock closet and Zoom studio (note the whiteboard mounted on the back wall).



Teaching Tectonics students about Proterozoic rifting at War Eagle Mine.

2020 News, Updates and Photos from Alumni and Friends

Below is the latest news from our active alumni and friends. We have pieced together various notes from fragments of emails, phone calls and other communications received over the past year. We are always interested to learn what you all are doing—please send me or Monica (mlbaez@cpp.edu) an update anytime you have a few free moments. Photos are always welcome.
Jon Nourse

Azad Kaligi ('08)

I put together an environmental company back in 2015 that focuses on remediating soil and groundwater contamination. The company hit the ground running and is branching out with new services as well. They can be viewed online at www.geoforward.com along with the latest columns about industry news and events. There are also plans to offer internships and environ-



Azad out doing fieldwork.

mental training opportunities for Broncos in the near future.

Kelly Brigham ('16)

Hi Everyone!

It has been an interesting journey since my departure from CPP in 2016. I initially took a break from pursuing a career in geology by moving to Ithaca, NY. While there, I got to experience many beautiful spaces such as the gorges in Ithaca and the many lakes scattered throughout the Finger Lakes and the Adirondacks.

Eventually I moved home to SoCal and acquired a staff geologist position at an environmental engineering consulting company. I had the great opportunity to work on an EPA Superfund site that was transitioning to local jurisdiction with the Department of Toxic Substance Control. While there, I coordinated and oversaw the

cleanup of contaminated groundwater using soil vapor and groundwater extraction treatment systems.



I didn't stay too long since I had the opportunity to volunteer with the Student Conservation Association in New Hampshire for 10 months. During the winter months, I worked with students in the

local community by inspiring and encouraging them to explore nature. Once the warmer weather

came around, I worked on trail crews traveling around the state to build new trails, renovate existing staircases, and many more exciting projects. The work was hard but extremely rewarding. My time in NH ended in the fall of 2019 leading to my start in the geotechnical engineering consulting industry. I am still here collect-



ing data for our engineers to create building design recommendations and acting like a sponge as I try to soak in as much information as possible about

the industry. I haven't been too sure on my direction since leaving Cal Poly but I can definitely say that I've experienced some really amazing things.

Anyways, I hope everyone is doing well and staying positive in these uncertain times!
~Kelly Brigham

Scott McKeag ('82)

In early 2018, I returned to the US after eight years abroad to care for my ailing Mother. During those years abroad I was fortunate to work for companies such as Coeur Alaska, Barrick Gold and Qatar Mining, in the Kingdom of Saudi Arabia and Sudan. At Jabal Sayid in Saudi I was introduced to Volcanogenic Massive Sulfide (VMS) deposits and while looking for them in Sudan, we discovered the first recognized Neoproterolithic copper porphyry (Jabal Ohier) in the Arabian Nubian Shield (ANS).

While in southern California caring for my Mother these last two years, I worked as an environmental engineer for GEO Remediation Company. I was involved in several thermally enhanced VOC (volatile organic compounds) remediation projects from Toronto, Canada to Melbourne, Australia.

As I was preparing to retire to the Philippines and a life with my young son in March 2020, COVID slammed the door on me and our entire world changed. With my Mother's health in repair and unable to return to my life in the Philippines, I sat for most of 2020 waiting for a return to life as normal. In mid-June, I realize this may never happen. In the midst of my COVID induced depression, my geologic career was renewed.

In late October I will be traveling to Eritrea to run a major drill program for Alpha Exploration. Eritrea and the Red Sea State of Sudan share a common border and common geology. I spent

2013 through 2018 living and working in Sudan and this move to Eritrea feels like a homecoming and escape from COVID!

A love for geology and the excellent education and training I received at Cal Poly and the University of Otago, New Zealand have given me a wonderful life. An abnormal life for sure but a wonderful life enjoying what I do. I have no pictures to share this year but should have plenty for next year's Mylonite!

All the best to all my colleagues at Cal Poly and around the world. Regards,
Scott McKeag

Stephen Mulqueen ('78)

I continue to keep active with public outreach efforts in my retirement. These educational opportunities include presenting PowerPoint lectures, leading field trips and writing professional articles on subjects related to geology, mining, petroleum and desert history, including mineralogy, paleontology and the hobby of rockhounding. I also keep active as a docent and/or advisor at three history museums including the Mojave River Valley Museum, Barstow, the California Oil Museum, Santa Paula and the Shoshone Museum, Shoshone. At this time, I am a mentor for Juan Alvarez, a 15-year-old high school student who intends to be a professional paleontologist. I have led several field trips for Juan and his parents to fossil sites in CA, NV and UT.



During March of this year, I presented a PowerPoint presentation for the Anza Borrego Desert Paleontological Society at the Stout Research Center in Borrego Springs on the subject of Natural Petroleum Seeps. Photo examples of the La Brea fossil discoveries were included in the lecture. During the visit to the Stout Research Center, I was given a tour of the facility and talked with their staff members and volunteers. I was honored to meet Mrs. Nourse during my visit, who has volunteered at the center for many years.



I currently live in St. George, Utah and has led field trips, for visiting friends, to sites containing dinosaur tracks, petrified wood, mining history, geologic wonders, scenic beauty and mineral collecting opportunities. My *Fifth Annual Utah Field Trip* that was planned for April 2020 with the Southern California Paleontological Society was cancelled due to Covid precautions. This year, I concentrated my efforts on writing articles related to history or science, efforts that have not been influenced by Covid restrictions.



Steve in front of a cozy cabin in the desert.



(L) Steve posing inside an old mine. (below): Steve out in the wild—very nice picture, Steve.



Alejandro (Alex) Mundo (‘15)

If there is a year that has surprised everyone and has set new world records, it would definitely be 2020, and personally, this has also been a year where I have been able to join the movement to

set new records and I'm happy to share with all of you, my CPP Geosciences family!



Alex working at NASA GISS research.

In February of this year, I became an associate researcher on the Earth Observation Applications for Resiliency research project from the Climate Change Research Initiative at NASA's Goddard Institute for Space Studies in New York City. My scientific research focuses on environmental sustainability and climate change. I have

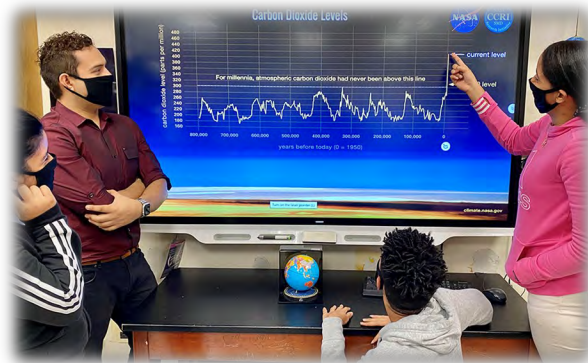


Alex and student at NASA Mars simulation trip.

been especially interested in understanding the climate processes that affect urban environments, like the Urban Heat Island phenomenon, using remote sensing satellite imagery to study past and present distributions of land surface temperatures.

During the summer I worked together with a team of graduate and undergraduate students to

analyze Landsat satellite imagery scenes from the city of Chicago to study past and present distributions of surface temperatures there. This re-



Alex during climate week with students during the pandemic.

search will be presented at the American Meteorological Society 2021, as well as American Geophysical Union this month. Right now, my research team's focus is on the Urban Heat Island effects on Durban, Africa, where we are studying past and present distributions of land surface temperatures and creating a workshop for city councils to communicate about urban planning and mitigation strategies for the city.

Since joining NASA GISS this year, I have also been actively done some STEM engagement events to reach the community and communicate more about my research and climate change, even during the pandemic! Some of these talks go back in Spring where I presented to local high school students and their families in the Bronx. Then in the Summer I was featured in the NASA STEM STARS program, making it the first time in the talk show's history to have a NASA guest involved both in science and education. Later this fall, I gave a scientific research and science poster webinar on GLOBE, which is an international science education program that engages students, educators, and the public in relevant citizen science projects, making it the first time in the GLOBE Program's history to have a bilingual webinar both in English and Spanish.

Besides doing research, I have been developing a Climate Change unit plan for educators over the last months, that I have submitted for review earlier this fall. It has been quite a transition to work in a remote setting for everyone, but one of the things I'm grateful during this pandemic was that scientific research didn't stop, even with challenges and complications it involved! I was still able to do scientific research by using satellite imagery data, although I didn't necessarily depend on ground truth data, although I feel the struggles that many colleagues did go through who depended on field research. Science has to continue, even through a pandemic! In regard to teaching, it has been a journey to teach on a remote system, especially when there are many pieces and many changes along the way. I have continued to support and raise minority young scientists and encouraging them to pursue STEM careers. Schools opened, then closed due to the second wave, and it's pretty much uncertain what will happen next, but education also continues!

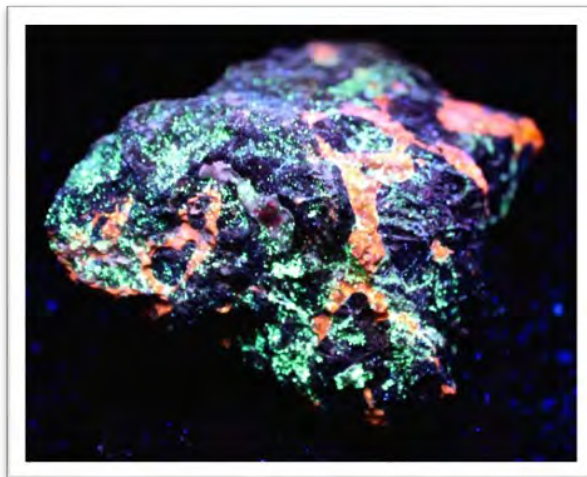
Lastly, my family and I have are fine and healthy until today, following all safety procedures. It's somewhat hard following social distancing in New York with so many people around and depending on public transportation, but one must do the best to stay safe. Unfortunately, there have been many people that are not with us anymore due to COVID-19, so I just wanted to let you know that if you have been affected by this during this year, I stand with you, grieve with you, and care about you.

As we're finishing this 2020 and the vaccine is on its way, I'm hopeful that soon everything will come back to be not only like before, but better. I hope everyone is doing fine, I miss you and hope to see you soon, in an upcoming vaccinated future!

Keep staying safe, with much love,
Alex.

Pattie Rose (Stephens – 1982 – 1985)

This has been a pretty quiet year, but I did get to go to the 2020 Tucson Gem & Mineral Show before COVID-19 hit the U.S. This included attending the annual Fluorescent Mineral Society



(FMS) Annual Meeting. The meeting featured a nationally known photographer who specializes in photographing fluorescent minerals. So after the meeting, I put his advice to use in photographing most of mine. Here's a Willemite (bright green), Calcite (orange & red), Fluorite (light purple-blue) and Franklinite (black) from the Sterling Hill Mine near Franklin, Sussex County, New Jersey. Photo was taken using a UV Systems Super Bright III, Short Wave Ultra Violet Light (UV-C) with a Cannon EOS Rebel T5, with a blue filter to block extraneous blue light reflecting from the specimen.

Subsequently, due to the inability to undertake field trips this year, I volunteered for the FMS Tucson 2021 Show Committee. Fluorescent Minerals will be the focus of the Tucson Gem & Mineral Show® managed by the Tucson Gem and Mineral Society (TGMS) at the Tucson Convention Center. My primary assignment has been the development of tour scripts for docents who will lead Elementary – High School children

through the exhibit and assist with an adult version. This is due to my previous experience giving presentations on rocks, minerals and fossils at the local elementary schools. I was asked to develop a “Frequently Asked Questions” handout, complete with information on how to safely and legally collect fluorescent specimens, and create simple, inexpensive long wave ultra violet display cases in a classroom or home. We are also developing display placards for just outside the darkened “Bat Cave” entrance to the exhibit, explaining the electromagnetic spectrum, history of how fluorescence was discovered and how fluorescence works in minerals, all the while trying to keep it easy for the general public to understand. We have been working this and other topics/tasks required for the show via teleconferencing on a weekly basis. The idea is to be ready in mid-February, should the show be allowed to take place by the Pima County Health Department and the City of Tucson. At any rate, entrance into the show and Bat Cave will be limited to smaller numbers (for example - 10-15 people in the bat cave at one time, including 2 docents). Attendees will be required to wear masks and do social distancing, thus tours may change over to a “self-guided” affair. Currently, both TGMS and FMS are polling exhibitors on their likely attendance/participation at such a restricted show. The ultimate decision will come by the end of 2020, but we are hoping on postponement until 2022 to provide a better experience for everyone.

Other than that, this has been a year of cataloging my specimens. This involves assigning a location code so I can find it quickly in our home, a specimen number, documenting the date and location of when the specimen was found/purchased; source location of purchased items, purchase price & approximate current value of all items found or purchased, complete description of each specimen’s physical qualities with dimensions and weight in both metric and standard systems and photographing each specimen.

All of this has been loaded into Excel spreadsheets in alphabetical order. I am about ½ way done with the “nice” specimens in my home. This is not counting the thousands of specimens in labeled/dated tote pans in my garage or on display in my back yard (huge agates and Septarian nodules, plies of Peridot, Chalcedony, Chrysocolla, Calcites, Red Granite Feldspars and other local Tucson area specimens).

The other day, I found a large tote on the bottom of one of my closets. I was presented with a flood of wonderful memories when I opened it to find carefully wrapped fossil specimens from Arrow Canyon, Nevada; I had collected with Dr. David Berry back in 1983. Another container revealed specimens from a field trip with Dr. Donald Tarman to the Blackhawk Slide (Lucerne Valley) and Amboy Crater area east of Barstow in 1985 (Dr. Tarman highly approved of the new Toyota 4-Runner I was driving on the field trip – plenty of room to pile students and equipment into). I hope my beloved mentors would be happy that I kept these little treasurers. They will forever represent the great time I had at Cal Poly Pomona.

Gary Thompson (’90)

We are all well, but COVID-19 has had a huge impact on both the U.K. economy and it’s education system.

Since September of 2019, when our son, Gianpaolo started college, our home life has revolved around his college studies. He loves mathematics and wants to pursue further studies in this area at University. He is just now sending in his application for University. And, as he has just turned 18, he is also learning to drive.

Things changed for the worse after a fun summer vacation in LA in 2019; when our Honda was hit while parked on front of the house and we were forced to buy a new car.

We were all focused on BREXIT in early 2020 and our new Prime Minister, Boris Johnson, when COVID-19 hit and everything closed down in mid-March. I was furloughed and all schools closed and then moved to on-line study. We were all pretty much house-bound until mid-August, when I returned to work. Gianpaolo now attends college, but in a more socially-distanced way.

Within the last few weeks, the U.K. has seen a second peak of infections and we now all have to wear masks indoors and the 'Rule of 6' applies to groups, unless there is a local lockdown.

We had grand vacation plans for the summer of 2020, but those fell apart. We are hoping we will be able to travel to LA in the summer of 2021. If not then, we will definitely be there in 2022.

All our best,

Gary Thompson ('90) & family

Below are a few more brief Alumni Updates to report. We are pleased to hear about all these successes!

Naomi Bacop ('18) has been applying to various MS programs. She sent this note a few days ago: "I was accepted into every grad school I applied to (University of California, Riverside, Cal State Los Angeles, and Cal State Fullerton)! I ultimately have decided to attend Cal State Fullerton as I feel their program best suits my academic and career outcomes."

Shane Bonanno ('19) is still with Cal Portland as Assistant Plant Superintendent, mining the Missoula Flood deposits in Portland.

Riley Brown ('18) recently was accepted to the UNLV Geology MS degree program.

Jose De Loera ('04) is now Program Manager/Principal Geologist at Apex Companies, LLC, Norwalk, California.

Mary Francis Gabito (2020) started a new position as Graduate Teaching Assistant at University of Arizona.

Margaret (Maggie) Grenier ('19) Began a new position as Engineering Technician I at Geosyntec Consultants Worcester, Massachusetts.

Gabriel Heyer ('15) started a new position as Substitute Teacher at Life Schools.

Jacob Kays (2020) is Staff Geologist at NOVA Geotechnical & Inspection

Kalie Kelly ('19) is now Staff Geologist at NOVA Geotechnical & Inspection Services Las Vegas, Nevada Area.

Anthony Mack ('13) sent this note in April: "I just wanted to thank you for being a reference for me as part of my application to Florida Atlantic's Executive MBA program. Based on my GPA, resume and references, I have been accepted. I'm hoping to get back out there next summer (2021) and attend the end of year picnic. There's a good chance I might have my youngest son with me." He's considering both Cal Poly's, although he's leaning toward SLO; he likes the smaller town idea of San Luis Obispo and the Central Coast.

Jon Marshak ('16 MSc) has completed his 3rd year at **Terraphase Engineering Inc.**

Julie (Parra) Rivera ('06) has started a new position as Environmental Application Engineer at Chevron.

Magali Barba Sevilla ('16 MSc) is now Product Engineer - Radar Specialist at Esri.

Paula Soto ('16) recently started a new position as Quality Control Chemist at Cal Portland.

Patrick Thomas ('15) has completed his 4th year at Irvine Geotechnical Inc.

Mark Thompson (2020) is now a Soil Technician for NOVA Services, Inc. in San Diego, Ca.

Shaun Wilkins ('06) is Senior Project Geologist at Langan Engineering & Environmental Services.

If you have made it this far, please read a few more lines and consider giving back to the Geology Department:

*****A Request for External Support*****

We in the Geology Department wish to express our sincere gratitude to the many alumni and friends who have made generous contributions in recent years. These gifts have been directed toward fundamental needs that include student awards, thin sections, laboratory analyses of rock samples, geochemical analyses of water samples, student or faculty travel to professional conferences, field vehicle expenses, campground and parking fees, and purchases of field or laboratory equipment, camping gear and firewood.

These are challenging economic times for everyone. That is why your gift at this time will be especially meaningful to all of the students and faculty in Geology. In offering your gift, we ask that you make your check payable to **Cal Poly Pomona Philanthropic Foundation** and mail it to the address below. If you wish your contribution to be directed to a particular emphasis, please indicate so on your check:

**Cal Poly Pomona Development
c/o Geology Department
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Titus Canyon—Death Valley, CA. Photo by: Steve Mulqueen.



January sunset (2020) over Calico Mountains. Photo by: Dr. Bryan Murray.