2020 Program

Cordilleran
12–14 May
Pasadena, California, USA

www.geosociety.org/cd-mtg

City Hall. Photo by Pasadena Convention & Visitors Bureau.
Resources to Help You Launch Your Geoscience Career

• **Funding** — travel awards, scholarships, and research grants
• **Field Experiences** — field trips, GeoCorps America, Geoscientists-in-the-Parks, field camp scholarships
• **GeoCareers** — workshops, webinars, resume clinics, mentoring
• **Research** — journals, conferences, field forums, and meetings
• **Meetings and Networking**
• **Leadership** — Student Advisory Council, Committees

The mission of the Geological Society of America (GSA) is to advance geoscience research and discovery, service to society, stewardship of Earth, and the geosciences profession.

For more information visit the GSA Foundation booth in the exhibit hall or visit our website www.geosociety.org/edu-career
Second Announcement
CORDILLERAN SECTION
116th Annual Meeting of the Cordilleran Section, GSA
12–14 May 2020
Pasadena, California, USA
https://www.geosociety.org/cd-mtg

Committee for the 2020 Meeting

General Chair ................................................................. Doug Yule
Technical Program Chair .................................................. Robinson Cecil
Field Trip Co-Chairs ...................................................... Richard Heermance, Joshua Schwartz
Short Course Chair ........................................................ Kathie Marsaglia
Student Volunteer Chair ................................................. Elizabeth Nagy
Exhibits Chair .............................................................. Elizabeth Nagy
Sponsorship Chair ........................................................ Doug Yule

Rocky Mountain Section GSA Officers for 2019–2020

Chair ................................................................. Jeffrey Lee
Vice-Chair ............................................................. Robinson Cecil
Past Chair .............................................................. Michael Wells
Secretary .............................................................. Calvin Barnes
GSA Councilors ..................................................... Nathan Niemi, Jeff Rubin, Wendy Bohrson
NOTICE

By registering for this meeting you have acknowledged that you have read and will comply with the GSA Code of Conduct for Events (full code of conduct listed on inside back cover). If you have any concerns about behavior that may violate the Code, please contact:

GSA Executive Director, Vicki McConnell, vmconnell@geosociety.org
GSA Ethics and Compliance Officer, Nan Stout, gseventcode@gmail.com

You may also stop by the registration desk or the GSA Bookstore to have the named individuals directly contacted via phone.
Location
Pasadena, California, USA—the Crown City—is one of California's iconic cities and is centered in a region defined by its geology. The landscape surrounding Pasadena reflects many past phases of geologic activity, all the while it continues to change through the slow motion of faults, the movement of water, the cycle of wind and fire and landslides, and many other processes. Its location affords access to world-famous faults, rugged mountains with an almost two-billion-year geologic history, well-known sedimentary basins with vast petroleum reserves, and legendary earthquakes, landslides, and other geologic hazards. Building on the extraordinary geological features of the surrounding region, we have devised a diverse program reflecting fundamental and applied aspects across earth-science disciplines. We look forward to welcoming the Geological Society of America to Pasadena in 2020!

Venue
The meeting location is the Westin Pasadena Hotel in Pasadena, CA. Field trips depart from the north entrance of the hotel and short course, events, technical sessions, and posters and exhibits are being held on the first and second floors of the hotel. See hotel floor plans in the Field Trip and Workshop sections for details.

Accommodations
A block of rooms has been reserved at The Westin Pasadena, 191 N Los Robles Ave., Pasadena, CA 91101, USA, which is where the conference will be held. Make reservations by calling toll free, +1-866-837-4181, or call the hotel directly at +1-626-304-1403.

Transportation
The nearest airports are Burbank Airport and Los Angeles International (LAX) Airport, located 15 miles and 21 miles from the Westin Pasadena, respectively (Figure 1). Burbank Airport is easy to navigate but has limited flight options, and driving times to Pasadena vary from 20-40 minutes depending upon traffic. LAX is very busy but offers a wide selection of flight times and carriers, and driving times to Pasadena vary from 30-75 minutes depending on traffic. Ride services (Uber, Lyft, taxis) provide the fastest option for transport to Pasadena and will cost ~$30 (from Burbank) and ~$45 (from LAX). At Burbank ride services pick up immediately outside the terminal. At LAX one must take a shuttle from outside your terminal to the Lyft-Uber-Taxi Lot to meet your ride (a 5-15 minute shuttle ride). Public transport options are available and cost less (~$15) but generally take longer than car transport. From LAX take the Flyaway Bus to Union Station and then the Gold Line train to Memorial Park station, located 4 blocks to the west of the Westin Pasadena hotel. From Burbank Airport take the Metrolink train to Union Station and then the Gold Line train to the Memorial Park station. Please check schedules for Metrolink as their trains only run during morning and evening commute times.

For those driving to the conference, downtown Pasadena is located at the intersection of the Foothill (I-210), President Barack H. Obama (SR 134), and Harbor (SR 110) freeways (Figure 2).

Parking
Parking is available throughout downtown Pasadena via metered street parking or various parking lots and garages. The most economical, closest parking garage is at the Pasadena Courthouse for $10/day, located 2 blocks west of the Westin. Parking for the day at the Westin (Plaza las Fuentes underground parking structure) costs $17.

Weather
May weather in Pasadena is generally sunny and pleasant with average high/low temperatures of 79/57 °F, 26/14 °C. Record high/low temperatures are 104/32 °F, 40/0 °C. Rainfall averages total ~10 mm in May, with 2-3 rainy days. Mornings can be foggy, known to locals as “May Gray”, and are produced by a persistent marine layer. Purple-flowered Jacaranda trees line many streets in Pasadena (e.g., Del Mar Blvd) and are in full bloom in May.

Dining
Pasadena offers an extensive variety of eateries, bars, and coffee houses within a short walking distance of the hotel. Some favorite choices are listed at this website from Eater Los Angeles: https://la.eater.com/maps/best-pasadena-restaurants-california-los-angeles-south-pasadena-old-town.

Southern California Geology
Few places on Earth reveal a more diverse geologic history than the metropolitan Los Angeles region (Figure 3). Two mountain belts with opposing structural trends intersect at Pasadena, the east-west Transverse (TR) and northwest-southeast Peninsular (PR) Ranges. The eastern TR contain the oldest rock unit known in the state (the Paleoproterozoic Baldwin gneiss), Paleozoic quartzite and marble, and Triassic–Cretaceous plutons. Notable Cenozoic features include Late Quaternary glacial deposits, the Blackhawk landslide (thought to have traveled ~8 km across the floor of the Mojave on a cushion of air), and the ever-reconfiguring San Andreas fault system in the San Gorgonio Pass region. The central TR exposes the Vincent thrust, a paleo-subduction interface that separates underlying Late Cretaceous –
Figure 1. Map of the Los Angeles, CA region showing the active faults that participants will cross as they travel to/from the meeting. The closest airports are at Glendale-Burbank (Burbank) and Los Angeles (LAX). Faults shown with solid lines reach the surface; dashed fault lines are blind structures.

Figure 2. Street map of downtown Pasadena with convention location at “1”, the Westin Pasadena hotel.
Paleogene Pelona schist from overlying Precambrian gneisses and anorthosite, and Mesozoic plutons. The Big Bend region of the San Andreas fault separates the Mojave Desert and TR blocks. The western TR (wTR) consist mostly of Neogene marine strata that are tightly folded and faulted. The PR are cored by Jura-Cretaceous batholithic rocks, schist, and gneiss, and flanked on its western edge by coeval volcanic and sedimentary rocks. Neogene strata of the wTR and wPR, once conjoined, are now separated due to the development of the North American/Pacific transform boundary in Mio-Pliocene time and ~100-degree clockwise rotation of the wTR away from the PR. Onshore and offshore Neogene basins have produced enormous quantities of petroleum. Hills and islands separate the basins and expose rocks with both wTR and PR affinity. Dozens of active faults and fault systems define >100 possible earthquake sources. One example is the 1994 Northridge earthquake that devastated our campus. The 2020 Cordilleran meeting is pleased to offer a variety of technical sessions and field trips that explore southern California’s vast and varied geologic framework.

REGISTRATION

Registration is required for anyone attending technical sessions, field trips, short courses, or exhibits. Check-in and on-site registration is located in the Santa Rosa Foyer, on the second floor of the hotel and open during the following times:

- Monday, 11 May 3–7 p.m.
- Tuesday, 12 May 7 a.m.–5:30 p.m.
- Wednesday, 13 May 7 a.m.–5:30 p.m.
- Thursday, 14 May 7 a.m.–noon

Fees

On-site registration fees are represented below in U.S. dollars

<table>
<thead>
<tr>
<th>Category</th>
<th>Standard Full Mtg.</th>
<th>One day</th>
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<tr>
<td>Professional Member</td>
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<tr>
<td>Field Trip/Short Course Only</td>
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Figure 3. Geologic map of the southern California region, taken from Geologic Map of California (2010): (http://maps.conservation.ca.gov/cgs/gmc/). Colors are coded by rock type: brown = Proterozoic metamorphic rocks; light blue-green = Paleozoic metasedimentary rocks; light pink, dark pink, lavender, and violet = Mesozoic plutonic rocks; lime = Cretaceous volcano-sedimentary rocks; purple = serpentinite; light blue = Rand-Pelona-Orocopia schist; red = Cenozoic volcanic rocks; ochre and yellows = Cenozoic sedimentary rocks; light yellow = Quaternary alluvium.
Guest registration is intended for non-geoscientists accompanying a registered professional, student or K–12 professional. Guest registration does not include attendance at workshops. All guests, volunteers, exhibitors, GSA staff, service providers and others in attendance are expected to abide by the GSA Events Code of Conduct, which outlines specific expectations for participants at GSA-supported events.

Cancellations, Changes, Refunds
All requests for additions, changes, and cancellations must have been made in writing to GSA headquarters and received by 13 April 2020. There will be no refunds for cancellations received after this date.

Meeting App and Abstracts
A web-based app is available for this meeting. This app allows you to view and search the meeting program and create your own schedule of events to attend. You can also view the full abstracts text from this app. Please download the app at https://gsa.confex.com/gsa/2020CD/meetingapp.cgi.

Accessibility
GSA is committed to ensuring full participation for all conference attendees. You may indicate special requirements on your registration form; please inform the local organizing committee of these requirements at least one month prior to the meeting.

Continuing Education Credits (CEU)
The Cordilleran Section Meeting offers an excellent opportunity to earn CEUs toward your continuing education requirements for your employer, K–12 school or professional registration. Please check the meeting website after the meeting to download your CEU certificate.

SPECIAL EVENTS

Monday, 11 May
Welcome Reception. 5–7 p.m., Fountain Ballroom. Enjoy snacks and a complimentary beverage while connecting with your colleagues. Each participant has a coupon for one free beer, wine, or non-alcoholic beverage in their registration packet.

Tuesday, 12 May
Session Chair Orientation. 7–7:10 a.m., San Pascual Room. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day's sessions.
Coffee Break. 10–10:30 a.m., Fountain Terrace.
Posters/Exhibits Beer, Wine, and Snacks. 4–6 p.m. Fountain Ballroom. Each participant has a coupon for one free beer, wine, or non-alcoholic beverage in their registration packet.

Wednesday, 13 May
Session Chair Orientation. 7–7:10 a.m., San Pascual Room. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day's sessions.
Coffee Break. 10–10:30 a.m., Fountain Terrace.
Posters/Exhibits Beer, Wine, and Snacks. 4–6 p.m. Fountain Ballroom. Each participant has a coupon for one free beer, wine, or non-alcoholic beverage in their registration packet.
Recognition Banquet. 6:30–9:30 p.m., Altadena Room, $60. Join the celebration of the career of Francis C. (“Frank”) Monastero. Dinner and some beverages included in ticketed event.

Thursday, 14 May
Session Chair Orientation. 7–7:10 a.m., San Pascual Room. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day's sessions.
Coffee Break. 10–10:30 a.m., Fountain Terrace.
Geology Club Officer Meet-Up. 2–3 p.m., San Marino Room. If you are a geology club officer or are interested in starting a club on your campus plan to Meet-Up and chat with other representative about their activities, goals, and accomplishments.
End of Conference Reception. 3–4:30 p.m. Fountain Ballroom. Enjoy snacks and a complimentary beverage while connecting with your colleagues. Each participant has a coupon for one free beer, wine, or non-alcoholic beverage in their registration packet.

BUSINESS MEETINGS
GSA Cordilleran Section Management Board Meeting. Wednesday, 13 May, 5–6 p.m., San Marino Room.
Westin Pasadena hotel floor plan. Lobby level (above) and 2nd floor (below).

**Registration** - Santa Rosa Foyer

**Oral sessions** – Plaza and Madera (lobby level) and San Rafael (2nd floor)

**Welcome reception, coffee breaks, exhibits, posters** - Fountain Foyer and Ballroom

**Speaker ready room** – Santa Rosa

**Mentor lunches, recognition banquet** – Altadena

**Workshops, Session chair orientation, Paleo Society meeting** - San Pasqual
**TECHNICAL PROGRAM**

The Meeting’s Technical Program consists of Theme and Discipline Sessions arranged in oral and poster sessions. The Technical Program begins at 8 a.m. and ends at 6 p.m., Tues.–Wed. 12–13 May, and begins at 8 a.m. and ends at 5 p.m., Thurs. 14 May. Please direct questions related to the following sessions to the Technical Program Chair, Robinson Cecil, robinsoncecil@csun.edu.

**Oral Presentations**

Oral presentations are 20 minutes; 17 minutes for the talk and 3 minutes for questions and discussion. Presentations must be prepared using PowerPoint of PDF formats, using a 16:9 screen ratio. One laptop with Windows (no Macs available) and PowerPoint, one LCD projector, and one screen will be available in each oral presentation room. In addition, each room is equipped with a lectern, microphone, slide advance and speaker timer.

**Poster Presentations**

Each poster board is 6 x 4 feet (landscape), and posters can be hung with push-pins. Posters will be located in the Fountain Ballroom adjacent to the exhibitors. Please check the Program for specific times and topics. Numbers on each poster display correspond to the poster booth numbers listed in the Program. Presenters are expected to have their posters up by 8:30 a.m. and they are expected to be present at their posters from 4-6 p.m. Presenters are expected to take down their posters at the end of the session. Any posters not taken down will be discarded.

**Speaker Ready Room**

The Speaker Ready Room is located in the Santa Rosa Room, and is available at the following times:
- Monday, 11 May 3–7 p.m.
- Tuesday, 12 May 6:30 a.m.–5:30 p.m.
- Wednesday, 13 May 6:30 a.m.–5:30 p.m.
- Thursday, 14 May 6:30 a.m.–noon

All oral presenters must visit the speaker ready room before their scheduled presentation to ensure their PowerPoint of pdf file is properly configured and to upload it to the correct session folder on the meeting computers. All presentations are displayed as PowerPoint presentations in technical sessions, and presentations should be prepared using a 16:9 ratio. The Speaker Ready Room can also be used to check presentations prior to uploading files. We ask that oral presenters upload their presentation the night before for morning sessions, and at least 2 hours prior to the beginning of their session for afternoon sessions. Tuesday morning speakers should upload their talks by 7 a.m. on the same day.

**Session Chair Orientations**

Each Session Chair is requested to attend a 10 minute “Session Chairs Orientation” held in the San Pascual Room on the morning of the day on which your session is to take place. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day’s sessions.

Session chairs are asked to strictly adhere to the technical program schedule and to limit speakers to their allotted time. If a speaker does not appear for an assigned time slot, session chairs should call a break or discussion period and begin the following presentation at its scheduled time.

A student volunteer is assigned to each oral session. Session chairs are asked to meet with the assigned student volunteer before the start of the session. The volunteers are there to help the sessions run smoothly and to contact the AV Coordinator in the event of technical problems.

**Technical Program Sessions**

Please see page 10 for technical session schedule. Direct questions to the Technical Program Chair: Robinson Cecil, robinsoncecil@csun.edu.

**FIELD TRIPS**

For detailed information, please contact the Field Trip chairs: Richard Heermance, richard.heermance@csun.edu, and Joshua Schwartz, joshua.schwartz@csun.edu.

**Pre-Meeting**

**FT1. The Geology and Ambiguities of the Coyote Mountains, Western Salton Trough, Southern California.** Fri.–Mon., 8–11 May. Arrive at Travelodge by 4 p.m., 8 May. Cost: US$364 (includes two lunches, one dinner, snacks, three nights lodging, SUV transportation, and guidebook). George Morgan; J.R. Morgan; John Prall; Jeff Hull.

This four-day trip explores the complexity of the Coyote Mountains and exposures there, including Paleozoic to Triassic metamorphic rocks, Nazas Jurassic intrusive units, early Basin and Range extensional structures, ca. 17.9 Ma arrival of Gulf of California during extension, recent faulting, and stream piracy and landslides, etc.

**FT2. Structure, Metamorphism, and Geodynamic Significance of the Catalina Schist Terrane.** Sat.–Mon., 9–11 May. Check in at 1 p.m. May 9, Southern California Marine Institute. Cost: US$296 (includes two breakfasts, two lunches, two dinners, two nights lodging, ferry, van, and bus transportation, and guidebook). John Platt; Marty Grove; Tarryn Cawood.

This three-day pre-meeting trip will examine evidence for successive underplating of metamorphosed oceanic rocks along the Mesozoic convergent margin, with metamorphic grade decreasing from upper amphibolite/eclogite facies to blueschist facies, associated ductile deformation, mélangé-type fabrics and extensive metasomatism, and possible signatures of seismic tremor and slow slip in rocks exhumed from >35 km.

**FT3. Tectonic and Magmatic Evolution of Salinian and Nacimiento Blocks, Central Coastal California.** Cospervised by GSA Structural Geologic and Tectonics Division; GSA Geochronology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division. Sat.–Mon., 9–11 May.
Check in at 7 a.m., north entrance of the Westin Pasadena Hotel. Cost: US$255 (includes two breakfasts, two lunches, snacks, two nights lodging, van transportation, and guidebook). Alan Chapman; Scott Johnston; John Singleton; Owen Anfinson; Jeremy Hourigan.

This three-day trip showcases a Mesozoic arc-forearc-trench system exposed along the central California coast that has been dismembered by Late Cretaceous and Neogene tectonism. We will examine the Nacimiento Franciscan complex, forearc basin strata, the Salinian arc, underplated schists, and the Cretaceous–Neogene structures that separate these units.


This two-day trip examines Paleoproterozoic basement, Neoproterozoic metasedimentary strata, and crosscutting intrusives at Frazier Mountain, Placerita Canyon, and Limerock Canyon and discusses new U-Pb geochronology results bearing on the Proterozoic to Mesozoic history. We will also observe large Late Quaternary landslides sourced from distinct basement rocks in San Antonio Canyon.


The Montecito Debris flow of January 2018 was a wildfire-debris flow–linked event that took 23 lives and damaged or destroyed several hundred homes. This trip will include about six stops to view the 2018 event and two to three older large flows. Social science trip leaders will lead discussions at stops.

Post-Meeting

FT6. Late Quaternary Offset on the Central Sierra Madre Fault and Timing of Terrace Formation along the San Gabriel Mountains Range Front. Fri., 15 May. Check in at 7:30 a.m., north entrance of the Westin Pasadena Hotel. Returns 5 p.m. Cost: US$83 (includes one lunch, van transportation, and guidebook). Kate Scharer; Reed Burgette; Scott Lindvall.

The San Gabriel Mountains form the backdrop to Pasadena and are being uplifted along the Central Sierra Madre fault (CSMF). This field trip will visit localities along the CSMF where recent dating reveals the history of fault offset and dynamic aggradation and incision over the past 200 k.y.

FT7. Santa Cruz Island: Geology, History, and Future Opportunities. Fri.–Mon., 15–18 May. Check in at 8 a.m., Island Packers, Ventura Harbor. Cost: US$650 (includes three breakfasts, four lunches, three dinners, three nights lodging, ferry and 4WD transportation, National Park fees, and guidebook). Thomas Davis; Rick Beh; Katie O’Sullivan.

This chance-of-a-lifetime four-day trip will traverse the entirety of Santa Cruz Island, one of the few little-disturbed remnants of prehistoric California. We will visit key outcrops to map-scale structural features (faults and folds) and lovely exposures of the Tertiary stratigraphic succession. Access by 4WD vehicles and hikes (five to six miles).

SHORT COURSES

For detailed information, please contact the Short Course chair: Kathie Marsaglia, kathie.marsaglia@csun.edu.

SCI. Use of Magmatic Structures for Unraveling the Evolution of Magmatic Systems: Combined Field, Structural, and Geochemical Techniques. Cosponsored by GSA Structural Geology and Tectonics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division. Mon., 11 May, 8 a.m.–5 p.m., Room XXX. Fee: US$25. Westin Pasadena. Scott Paterson; Katie Ardill; Cal Barnes; Vali Memeti.


STUDENT OPPORTUNITIES

Learn more about these opportunities at https://www.geosociety.org/mentors/.

Roy J. Shlemon Mentor Program in Applied Geoscience. Tues., 12 May, noon–1:30 p.m., San Marino Room. GSA student members will have the opportunity to discuss career prospects and challenges with applied geoscientists from various sectors over a FREE lunch. GSA student members will receive priority; any remaining space will be offered to student nonmembers on first come, first served basis.

John Mann Mentors in Applied Hydrogeology Program. Wed., 13 May, noon–1:30 p.m., San Marino Room. GSA student members interested in applied hydrogeology or hydrology as a career will have the opportunity to network with professionals in these fields over a FREE lunch. GSA student members will receive priority; any remaining space will be offered to student nonmembers on first come, first served basis.

2020 GSA Cordilleran Section Meeting 9
Career Workshop Series

Geoscience Career Workshop Part 1: Career Planning and Networking. Tues., 12 May, 9–10 a.m., San Marino Room. Your job hunting process should begin with career planning, not when you apply to jobs. This workshop will help you begin this process and will help you practice your networking skills. This section is highly recommended for freshmen, sophomores, and juniors. The earlier you start your career planning the better.

Geoscience Career Workshop Part 2: Geoscience Career Exploration. Tues., 12 May, 10–11 a.m., San Marino Room. What do geologists in various sectors earn? What do they do? What are the pros and cons to working in academia, government, and industry? Workshop presenters and professionals in the field will address these issues.

Geoscience Career Workshop Part 3: Cover Letters, Résumés and CV’s. Wed., 13 May, 9–10 a.m., San Marino Room. How do you prepare a cover letter? Does your résumé need a good edit? Whether you are currently in the market for a job or not, learn how to prepare the best résumé possible. You will review numerous résumés to help you to learn important résumé dos and don’ts.

Student Volunteers – Work opportunities may earn free registration. Students interested in volunteering must contact Dr. Elizabeth Nagy, eanagy-shadman@pasadena.edu.

Exhibits

Exhibits are located in the Fountain Ballroom.
Set up: Monday, 11 May, 8 a.m.–4 p.m.
Open: Monday, 11 May, 5–7 p.m.
Open: Tuesday, 12 May, 8:30 a.m.–6 p.m.
Open: Wednesday, 13 May, 8:30 a.m.–6 p.m.
Open: Thursday, 14 May, 8:30 a.m.–4:30 p.m.
Tear down: Thursday, 14 May, 5–9 p.m.

Exhibitors (as of late February)

2021 Cordilleran Section Meeting, University of Nevada at Reno
American Institute of Professional Geologists (AIPG)
California Geological Survey
California State University Northridge
Geological Society of America
GSA Foundation
National Association of State Boards of Geology (ASBOG)
Western Science Center

Technical Session Schedule

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<tr>
<th>Session</th>
<th>Time</th>
<th>Sponsor/Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8 a.m.</td>
<td>T1. The Changing Face of Paleontology I: In Honor of the Career Contribution of Dr. Richard L. Squires</td>
<td>San Rafael</td>
</tr>
<tr>
<td>2</td>
<td>8 a.m.</td>
<td>T8. Exhumation and Uplift of the Sierra Nevada and Tehachapi Mountains</td>
<td>Plaza Room</td>
</tr>
<tr>
<td>3</td>
<td>8 a.m.</td>
<td>T16. Metamorphic Processes in Cordilleran Arc Systems</td>
<td>Madera Room</td>
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<tr>
<td>4</td>
<td>9 a.m.</td>
<td>D1. Environmental and Engineering Geology (Posters)</td>
<td>Fountain Ballroom</td>
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<tr>
<td>5</td>
<td>9 a.m.</td>
<td>D2. Geoscience Education and Communication (Posters)</td>
<td>Fountain Ballroom</td>
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<tr>
<td>6</td>
<td>9 a.m.</td>
<td>D3. Paleontology (Posters)</td>
<td>Fountain Ballroom</td>
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<tr>
<td>7</td>
<td>9 a.m.</td>
<td>D4. Petrology and Volcanology (Posters)</td>
<td>Fountain Ballroom</td>
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<td>8</td>
<td>9 a.m.</td>
<td>D5. Structural Geology (Posters)</td>
<td>Fountain Ballroom</td>
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<td>9</td>
<td>9 a.m.</td>
<td>D6. Tectonics/Tectonophysics (Posters)</td>
<td>Fountain Ballroom</td>
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<td>10</td>
<td>9 a.m.</td>
<td>T10. Quaternary Volcanism in California (Posters)</td>
<td>Fountain Ballroom</td>
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<td>11</td>
<td>9 a.m.</td>
<td>T11. Impacts of Arc Activity on the Rheology of the Lithosphere across Convergent Margins (Posters) (GSA Structural Geology and Tectonics Division)</td>
<td>Fountain Ballroom</td>
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<tr>
<td>12</td>
<td>9 a.m.</td>
<td>T16. Metamorphic Processes in Cordilleran Arc Systems (Posters)</td>
<td>Fountain Ballroom</td>
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<tr>
<td>13</td>
<td>9 a.m.</td>
<td>T20. Hydrogeology (Posters)</td>
<td>Fountain Ballroom</td>
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<tr>
<td>14</td>
<td>1:30 p.m.</td>
<td>T1. The Changing Face of Paleontology II: In Honor of the Career Contribution of Dr. Richard L. Squires</td>
<td>San Rafael</td>
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<tr>
<td>Session</td>
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<tr>
<td>15</td>
<td>1:30 p.m.</td>
<td>T4. The Kinematics, Dynamics, and Surface Expression of Faults in Eastern California—Improving Hazard Forecasts and Long-Term Slip Histories</td>
<td>Madera Room</td>
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<tr>
<td>16</td>
<td>1:30 p.m.</td>
<td>T21. Geoscience in the Two-Year-College (2YC) Community: Sharing Successes, Growing Pains, and Lessons Learned</td>
<td>Plaza Room</td>
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**Wednesday, 13 May 2020**

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<tr>
<th>Session</th>
<th>Time</th>
<th>Sponsor/Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>8 a.m.</td>
<td>D7. Paleoequarshock Records and Slip Rates Across the Southern California Plate Boundary</td>
<td>Madera Room</td>
</tr>
<tr>
<td>18</td>
<td>8 a.m.</td>
<td>D8. The Origin and Spatiotemporal Evolution of Arc Magmas Recorded From Mineral to Plate-Boundary Scales I</td>
<td>Plaza Room</td>
</tr>
<tr>
<td>19</td>
<td>8 a.m.</td>
<td>T2. La Brea Tar Pits: Old Bones and New Insights</td>
<td>San Rafael</td>
</tr>
<tr>
<td>20</td>
<td>9 a.m.</td>
<td>D7. Paleoequarshock Records and Slip Rates Across the Southern California Plate Boundary (Posters)</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>21</td>
<td>9 a.m.</td>
<td>D8. The Origin and Spatiotemporal Evolution of Arc Magmas Recorded From Mineral to Plate-Boundary Scales (Posters)</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>22</td>
<td>9 a.m.</td>
<td>D9. Using Geological Archives to Understand and Document Earth Surface Processes and Past Climate (Posters)</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>23</td>
<td>9 a.m.</td>
<td>T2. La Brea Tar Pits: Old Bones and New Insights (Posters)</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>24</td>
<td>9 a.m.</td>
<td>T25. Undergraduate Research (Posters) (Council on Undergraduate Research Geosciences Division)</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>25</td>
<td>1:30 p.m.</td>
<td>D8. The Origin and Spatiotemporal Evolution of Arc Magmas Recorded From Mineral to Plate-Boundary Scales II</td>
<td>Plaza Room</td>
</tr>
<tr>
<td>26</td>
<td>1:30 p.m.</td>
<td>D9. Using Geological Archives to Understand and Document Earth Surface Processes and Past Climate</td>
<td>Madera Room</td>
</tr>
<tr>
<td>27</td>
<td>1:30 p.m.</td>
<td>T9. The Enigmatic Late Cretaceous-Paleogene Tectonic Evolution of the Southwestern USA</td>
<td>San Rafael</td>
</tr>
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</table>

**Thursday, 14 May 2020**

<table>
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<tr>
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<tr>
<td>28</td>
<td>8 a.m.</td>
<td>T7. Integrated Subduction Zone Systems: Advances in Understanding Landscape Evolution, Deformation, and Tectonics</td>
<td>Plaza Room</td>
</tr>
<tr>
<td>29</td>
<td>8 a.m.</td>
<td>T23. Professional Pathways within the Geosciences</td>
<td>San Rafael</td>
</tr>
<tr>
<td>30</td>
<td>8 a.m.</td>
<td>T26. Geology and Geophysics of the Coso Geothermal Field and Source Area of the 2019 Ridgecrest Earthquake Sequence I: A Tribute to the Career of Francis C. (“Frank”) Monastero</td>
<td>Madera Room</td>
</tr>
<tr>
<td>31</td>
<td>1:30 p.m.</td>
<td>T15. Petrology, Geochemistry, and Structure of Cordilleran Batholiths through Space and Time (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division)</td>
<td>Plaza Room</td>
</tr>
<tr>
<td>32</td>
<td>1:30 p.m.</td>
<td>T26. Geology and Geophysics of the Coso Geothermal Field and Source Area of the 2019 Ridgecrest Earthquake Sequence II: A Tribute to the Career of Francis C. (“Frank”) Monastero</td>
<td>Madera Room</td>
</tr>
</tbody>
</table>
# Schedule of Events

<table>
<thead>
<tr>
<th>EVENT</th>
<th>TIME</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>FRIDAY, 8 MAY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT1. The Geology and Ambiguities of the Coyote Mountains, Western Salton Trough, Southern California (Field Trip)</td>
<td>4 p.m.</td>
<td>Travelodge</td>
</tr>
<tr>
<td><strong>SATURDAY, 9 MAY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT3. Tectonic and Magmatic Evolution of Salinian and Nacimiento Blocks, Central Coastal California (Field Trip)</td>
<td>7 a.m.</td>
<td>Westin Pasadena Hotel, North Entrance</td>
</tr>
<tr>
<td>FT2. Structure, Metamorphism, and Geodynamic Significance of the Catalina Schist Terrane (Field Trip)</td>
<td>1 p.m.</td>
<td>Southern California Marine Institute</td>
</tr>
<tr>
<td><strong>SUNDAY, 10 MAY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT4. Recent Advancements in Geochronology, Geologic Mapping, and Landslide Characterization in Basement Rocks of the San Gabriel Mountains Block (Field Trip)</td>
<td>7 a.m.</td>
<td>Westin Pasadena Hotel, North Entrance</td>
</tr>
<tr>
<td><strong>MONDAY, 11 MAY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT5. Montecito Debris Flow of 9 January 2018: Physical Processes and Social Implications (Field Trip)</td>
<td>8 a.m.–6 p.m.</td>
<td>Westin Pasadena Hotel, North Entrance</td>
</tr>
<tr>
<td>SC1. Use of Magmatic Structures for Unraveling the Evolution of Magmatic Systems: Combined Field, Structural, and Geochemical Techniques (Short Course)</td>
<td>8 a.m.–5 p.m.</td>
<td>ROOM?</td>
</tr>
<tr>
<td>SC2. Using Thermal Infrared Spectral Imagery Data for Geological and Earth-Science Applications (Short Course)</td>
<td>8 a.m.–noon</td>
<td>ROOM?</td>
</tr>
<tr>
<td>SC3. Increase the Use of Data, Math, and Societal Relevance in your Undergraduate or 9–12 Classroom (Short Course)</td>
<td>8 a.m.–3 p.m.</td>
<td>ROOM?</td>
</tr>
<tr>
<td>Exhibitor Set up</td>
<td>8 a.m.–4 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>SC4. Applied Forensic Geochemistry: Applications of Sr/Pb to Resolve Issues in Environmental Remediation (Short Course)</td>
<td>1–5 p.m.</td>
<td>ROOM?</td>
</tr>
<tr>
<td>Registration Open</td>
<td>3–7 p.m.</td>
<td>Santa Rosa Foyer</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>3–7 p.m.</td>
<td>Santa Rosa</td>
</tr>
<tr>
<td>Exibits Open</td>
<td>5–7 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>Welcome Reception</td>
<td>5–7 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td><strong>TUESDAY, 12 MAY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>6:30 a.m.–5:30 p.m.</td>
<td>Santa Rosa</td>
</tr>
<tr>
<td>Session Chair Orientation</td>
<td>7–7:10 a.m.</td>
<td>San Pasqual</td>
</tr>
<tr>
<td>Registration Open</td>
<td>7 a.m.–5:30 p.m.</td>
<td>Santa Rosa Foyer</td>
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<tr>
<td><strong>Morning Oral Technical Sessions</strong></td>
<td></td>
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<tr>
<td>T1. The Changing Face of Paleontology I: In Honor of the Career</td>
<td>8 a.m.–noon</td>
<td>San Rafael</td>
</tr>
<tr>
<td>Contribution of Dr. Richard L. Squires</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T8. Exhumation and Uplift of the Sierra Nevada and Tehachapi</td>
<td>8 a.m.–noon</td>
<td>Plaza Room</td>
</tr>
<tr>
<td>Mountains</td>
<td></td>
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</tr>
<tr>
<td>T16. Metamorphic Processes in Cordilleran Arc Systems</td>
<td>8 a.m.–noon</td>
<td>Madera Room</td>
</tr>
<tr>
<td>Exhibits Open</td>
<td>8:30 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>Geoscience Career Workshop Part 1: Career Planning and Networking</td>
<td>9–10 a.m.</td>
<td>San Marino</td>
</tr>
<tr>
<td><strong>Poster Sessions: Authors will be present from 4 to 6 p.m.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1. Environmental and Engineering Geology (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>D2. Geoscience Education and Communication (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>D3. Paleontology (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
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<td>D4. Petrology and Volcanology (Posters)</td>
<td>9 a.m.–6 p.m.</td>
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</tr>
<tr>
<td>D5. Structural Geology (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>D6. Tectonics/Tectonophysics (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>T10. Quaternary Volcanism in California (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>T11. Impacts of Arc Activity on the Rheology of the Lithosphere across</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>Convergent Margins (Posters)</td>
<td></td>
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<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>T20. Hydrogeology (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>Coffee Break</td>
<td>10–10:30 a.m.</td>
<td>Fountain Terrace</td>
</tr>
<tr>
<td>Geoscience Career Workshop Part 2: Geoscience Career Exploration</td>
<td>10–11 a.m.</td>
<td>San Marino</td>
</tr>
<tr>
<td>Roy J. Shlemon Mentor Program in Applied Geoscience</td>
<td>noon–1:30 p.m.</td>
<td>San Marino</td>
</tr>
<tr>
<td><strong>Afternoon Oral Technical Sessions</strong></td>
<td></td>
<td></td>
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<tr>
<td>T1. The Changing Face of Paleontology II: In Honor of the Career</td>
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<td>San Rafael</td>
</tr>
<tr>
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<td></td>
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</tr>
<tr>
<td>T4. The Kinematics, Dynamics, and Surface Expression of Faults in</td>
<td>1:30–5:30 p.m.</td>
<td>Madera Room</td>
</tr>
<tr>
<td>Eastern California—Improving Hazard Forecasts and Long-Term Slip</td>
<td></td>
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<tr>
<td>Histories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T21. Geoscience in the Two-Year-College (2YC) Community: Sharing</td>
<td>1:30–5:30 p.m.</td>
<td>Plaza Room</td>
</tr>
<tr>
<td>Successes, Growing Pains, and Lessons Learned</td>
<td></td>
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</tr>
<tr>
<td>Posters/Exhibits Beer, Wine, and Snacks</td>
<td>4–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>Paleontology Society Meeting and Reception</td>
<td>5–6 p.m.</td>
<td>San Pasqual</td>
</tr>
<tr>
<td>Reception hosted by California State University Northridge, Pasadena</td>
<td>5:30–8 p.m.</td>
<td>California Institute of</td>
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<tr>
<td>City College, and California Institute of Technology</td>
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<td>Technology, South Mudd Patio</td>
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<td>6:30 a.m.–5:30 p.m.</td>
<td>Santa Rosa</td>
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<td>7–7:10 a.m.</td>
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<td>Santa Rosa Foyer</td>
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**Morning Oral Technical Sessions**

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<td>8 a.m.–noon</td>
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<td>D8. The Origin and Spatiotemporal Evolution of Arc Magmas Recorded From Mineral to Plate-Boundary Scales I</td>
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<td>8 a.m.–noon</td>
<td>San Rafael</td>
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**Exhibits Open** | 8:30 a.m.–6 p.m. | Fountain Ballroom |

**Morning Poster Sessions:** *Authors will be present from 4 to 6 p.m.*

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<td>T2. La Brea Tar Pits: Old Bones and New Insights (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>T25. Undergraduate Research (Posters)</td>
<td>9 a.m.–6 p.m.</td>
<td>Fountain Ballroom</td>
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</tbody>
</table>

**Coffee Break** | 10–10:30 a.m. | Fountain Terrace |

**John Mann Mentors in Applied Hydrogeology Program** noon–1:30 p.m. San Marino

**Afternoon Oral Technical Sessions**

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<tbody>
<tr>
<td>D8. The Origin and Spatiotemporal Evolution of Arc Magmas Recorded From Mineral to Plate-Boundary Scales II</td>
<td>1:30–5:30 p.m.</td>
<td>Plaza Room</td>
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<tr>
<td>D9. Using Geological Archives to Understand and Document Earth Surface Processes and Past Climate</td>
<td>1:30–5:30 p.m.</td>
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<td>T9. The Enigmatic Late Cretaceous-Paleogene Tectonic Evolution of the Southwestern USA</td>
<td>1:30–5:30 p.m.</td>
<td>San Rafael</td>
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**Posters/Exhibits Beer, Wine, and Snacks** | 4–6 p.m. | Fountain Ballroom |

**GSA Cordilleran Section Management Board Meeting** | 5–6 p.m. | San Marino |

**Recognition Banquet: Francis C. (“Frank”) Monastero** | 6:30–9:30 p.m. | Altadena |
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<tr>
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<td>6:30 a.m.–noon</td>
<td>Santa Rosa</td>
</tr>
<tr>
<td>Session Chair Orientation</td>
<td>7–7:10 a.m.</td>
<td>San Pasqual</td>
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<tr>
<td>Registration Open</td>
<td>7 a.m.–noon</td>
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<tr>
<td>Exhibits Open</td>
<td>8:30 a.m.–4:30 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>Coffee Break</td>
<td>10–10:30 a.m.</td>
<td>Fountain Terrace</td>
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<td>1:30–5:30 p.m.</td>
<td>Madera Room</td>
</tr>
<tr>
<td>Geology Club Officer Meet-Up</td>
<td>2–3 p.m.</td>
<td>San Marino</td>
</tr>
<tr>
<td>End of Conference Reception</td>
<td>3–4:30 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td>Exhibitor Tear down</td>
<td>5–9 p.m.</td>
<td>Fountain Ballroom</td>
</tr>
<tr>
<td><strong>FRIDAY, 15 MAY</strong></td>
<td>7:30 a.m.–5 p.m.</td>
<td>Westin Pasadena Hotel, North Entrance</td>
</tr>
<tr>
<td>FT6. Late Quaternary Offset on the Central Sierra Madre Fault and Timing of Terrace Formation along the San Gabriel Mountains Range Front (Field Trip)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT7. Santa Cruz Island: Geology, History, and Future Opportunities</td>
<td>8 a.m.</td>
<td>Island Packers, Ventura Harbor</td>
</tr>
</tbody>
</table>
Technical Sessions

NOTICE
In the interest of public information, the Geological Society of America provides a forum for the presentation of diverse opinions and positions. The opinions (views) expressed by speakers and exhibitors at these sessions are their own and do not necessarily represent the views or policies of the Geological Society of America.

A no-smoking policy has been established by the Program Committee and will be followed in all meeting rooms for technical sessions.

NOTE INDEX SYSTEM
Numbers (3-4, 15-4) indicate session and order of presentation within that session.
* denotes speaker

TUESDAY, 12 MAY 2020

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 1

1. The Changing Face of Paleontology I: In Honor of the Career Contribution of Dr. Richard L. Squires
8:00 AM, The Westin Pasadena, San Rafael
Linda Anita Ritterbush and Mary McGann, Presiding

8:00 AM  INTRODUCTORY REMARKS

1-1  8:10 AM Squires, Richard*: EARLY EOCENE CLIMATE OPTIMUM AND ITS INFLUENCE ON THE PALEOBIODIVERSITY OF SHALLOW-MARINE GASTROPODS OF THE WEST COAST OF NORTH AMERICA

1-2  8:30 AM Oleinik, Anton E.*; Marinovich, Louie: DISCOVERY AND ROCK-SOLID EVIDENCE: EXAMPLES FROM HIGH-LATITUDE NORTH PACIFIC MOLLUSCAN PALEONTOLOGY


1-4  9:10 AM Powell, Charles L.*; Boesseneker, Robert W.; Smith, N. Adam; Fleck, Robert J.; Carlson, Sandra J.; Allen, James R.; Long, Douglas J.; Sarno-Wojciok, Andrei M.: A REMARKABLE FOSSIL FAUNULE FROM THE BASAL WILSON GROVE FORMATION (LATE MIocene), SONOMA COUNTY, CALIFORNIA

1-5  9:30 AM BREAK

1-6  9:45 AM Pietrusch, Carlie*: BIVALVED MARINE GASTROPODS OF THE VEJER DE LA FRONTERA IN A 20 MYR RELATIONSHIP WITH THE TARIAN RIVER FLOODPLAIN (CENOZOIC)

SESSION NO. 2

8:00 AM, The Westin Pasadena, Plaza Room
Ann E. Blythe and Jeffery Lee, Presiding

8:00 AM  INTRODUCTORY REMARKS

2-1  8:05 AM Saleeby, Jason*: Chapman, Alan D.: HISTORY OF EXHUMATION AND RELATED STRUCTURAL RELIEF GENERATION FOR THE SOUTHERNMOST SIERRA NEVADA BATHOLITH, AND TECTONIC FORCING INTERPRETATIONS


2-3  8:45 AM Sowers, Theron; Shimabukuro, David H.*: CENOZOIC TECTONIC HISTORY OF THE NORTHERN SALINIAN BLOCK FROM LOW-TEMPERATURE THERMOCRONOLOGY

2-4  9:05 AM Werly Klein, Elijah J.*; Plihar, Christopher J.: PALEOMAGNETIC ANALYSIS OF A POTENTIAL ERUPTIVE SOURCE FOR KENNEDY TABLE

2-5  9:25 AM Phillips, Fred M.*; Wakabayashi, John; Hildreth, Wes; Fierstein, Judy: UPLIFT OF THE SOUTHERN SIERRA NEVADA
SESSION NO. 3
T16. Metamorphic Processes in Cordilleran Arc Systems
8:00 AM, The Westin Pasadena, Madera Room
Joshua Schwartz, Jade Star Larkkey and Stacia M. Gordon, Presiding

8:00 AM INTRODUCTORY REMARKS

3-1 8:10 AM Bartley, John M.*; Glazner, Allen F.; Coleman, Drew S.; Stearns, Michael A.: THE GRANITE AQUEDUCT AND AUTOMETAMORPHISM OF PLUTONS

3-2 8:30 AM Stowell, Harold H.*; Schwartz, Joshua J.; Bollen, Elizabeth M.; Tulloch, Andy; Klepeis, Keith A.; Flannery, J.: GEochRONOLOGY IN THE BOWELS OF MAGMATIC ARCS: A TALE OF TWO MINERALS, FIORDLAND NEW ZEALAND

3-3 8:50 AM Lackey, Jade Star*; Gevedon, Michelle L.; McCarty, Kyle R.; Barnes, Jaime D.: U-Pb DATING OF SKARNs IN THE SIERRA NEVADA AND MOJAVE SECTIONS OF CALIFORNIA’S MESOZOIC ARC

3-4 9:10 AM Page, F. Zeb*: Storey, Craig: HIDDEN SUBDUCTION FLUID RECORD FROM FRANCISCAN ECLOGITE: AN INTEGRATED OXYGEN ISOTOPE AND TRACE ELEMENT STUDY OF RUTILE AND SPHENE

3-5 9:30 AM Langenfeld, Betony*: Page, F. Zeb: PETROLOGY OF SUBDUCTION-RELATED GARNET QUARTZITES FROM SANTA CATALINA ISLAND, CA

9:50 AM BREAK

3-6 10:05 AM Gordon, Stacia M.*; Sauer, Kirsten B.; Hanson, Ann E.H.; Miller, Robert B.; Langdon-Lassagne, Elizabeth: INSIGHT INTO THE DEFORMATION AND MAGMATIC HISTORY OF A LONG-LIVED ARC: THE RECORD PRESERVED IN METASEDIMENTARY ROCKS OF THE NORTH CASCADES ARC, WA

3-7 10:25 AM Bollen, Elizabeth M.*; Stowell, Harold H.; Rusmore, Margaret E.; Cecil, M. Robinson; Woodward, Glenn J.: METAMORPHISM DURING HIGH-FLUX EVENTS IN THE SOUTHERN COAST MOUNTAINS BATHOLITH

3-8 10:45 AM Llewellyn, Genevieve E.*; Jean, Marlon M.; Todd, Erin; Bizmis, Michael; Loewen, Matthew W.: PETROGENESIS OF SUPRA-SUBDUCTION ZONE OPHIOLITES FROM THE SEVENTYMILE ULTRAMAFIC COMPLEX, EASTERN ALASKA


11:25 AM CONCLUDING REMARKS

SESSION NO. 4
D1. Environmental and Engineering Geology (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

4-1 1 Denison, Frank E.*: PRE-AND POST-MODELO FOLDING OF SEDIMENTARY ROCKS IN THE EASTERN SANTA MONICA MOUNTAINS, SOUTHERN CALIFORNIA

4-2 2 Higgins, Chris T.*; Gius, Fred W.; Fonseca, Milton C.: GEOLOGIC UNITS IN CALIFORNIA AS POTENTIAL SOURCES OF MINERAL HAZARDS

4-3 3 Rodriguez, Cindy*; Guo, Junhua: WILDFIRE IMPACTS ON SOIL PHYSICAL PROPERTIES: 2016 ERSKINE FIRE, CALIFORNIA

4-4 4 Ramriez, Toni*: Krugh, William C.: EARTHQUAKE-INDUCED LANDSLIDE SUSCEPTIBILITY OF HILLSLOPES ALONG THE LOWER KERN RIVER, CA BASED ON HISTORICAL FAULT RUPTURE SCENARIOS

4-5 5 DeFrisco, Michael J.*: AN UPDATED EVALUATION OF THE ROSE CANYON FAULT ZONE, SAN DIEGO, CALIFORNIA

SESSION NO. 5
D2. Geoscience Education and Communication (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

5-1 6 Dooley, Alton C.*; Radford, Darla; Wedel, Mathew; Atterholt, Jessie; Nalley, Theirra K.: BROADER IMPACTS, AN EXHIBIT PROGRAM FOCUSING ON BASIC RESEARCH

5-2 7 Bender, E. Eric*: Winglee, Robert: ROVER OBSERVATION AND DRONE SURVEY (ROADS) ON MARS: A GEOSCIENCE EDUCATIONAL CHALLENGE FOR ELEMENTARY THROUGH HIGH SCHOOL STUDENTS

5-3 8 Xiao, Sianna*: Dooley, Brett S.; Dooley, Alton C.: WAIT! DO CAMELS MELT IN THE SUN? - A 3D PRINTING PLASTICS RESEARCH PROJECT

5-4 9 Baker, Jacob*: Hughes, Richard O.; VonSydow, Kathryn; Seymourn, Bryan; Hasuake, Syunnaka: REFLECTIONS ON A SUPPLEMENTAL INSTRUCTION PROGRAM AT THE COMMUNITY COLLEGE LEVEL

5-5 10 Guglielmo, Andrew; Holland, Peter J.*; O’Neal, Matt: COMPILATION OF ISOTOPIC AND FOSSIL AGES FOR THE SIERRA NEVADA AND ENVIRONS, CALIFORNIA AND NEVADA

5-6 11 Pridmore, Cynthia L.*; Thomas, Kate: THE CALIFORNIA EARTHQUAKE CLEARINGHOUSE – RIGDECREST EARTHQUAKE SEQUENCE 2019

5-7 12 Persad, Lisselle*: White, Lisa D.: EFFECTIVELY COMMUNICATING SCIENCE: A PROJECT BY IODP’S 2019 SCHOOL OF ROCK AND AMBASSADORS FOR STEM TRAINING TO ENHANCE PARTICIPATION (A-STEP) PROGRAM
Tuesday, 12 May 2020

SESSION NO. 6
D3. Paleontology (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

6-1 13 Cromwell, Richard-Patrick*; Noble, Paula J.; Brown, Samuel; Cryderman, Charles; Wieczorek, Haylee; Withers, Benjamin: INVESTIGATING THE RELATIONSHIP BETWEEN LITHOFACIES AND DIATOM COMMUNITY COMPOSITION IN THE HUNTER CREEK FORMATION, NORTHWEST RENO, NEVADA

6-2 14 Jones, AnnMarie*; Rowland, Stephen M.: CAMEL TRACKS AND STROMATOLITES IN A MIO-PLIOCENE EPHEMERAL LAKE DEPOSIT, MUDDY CREEK FORMATION NEAR MESQUITE, NEVADA

6-3 15 Orcutt, John D.*: COMMUNITY COMPOSITION AND ENVIRONMENTAL SETTING OF THE MCKAY RESERVOIR FAUNA (MIocene, Oregon)

6-4 16 Weldon, Nicholas*; McLaughlin, Win N.F.: STATISTICAL CLUSTERING ANALYSIS OF POSTCRANIAL MORPHOLOGY

SESSION NO. 7
D4. Petrology and Volcanology (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

7-1 17 Florez, Anthony*; Cao, Wenrong; Ruprecht, Philipp: CRUSTAL COMPOSITIONS VARIATION WITH THE DEPTH IN A MAGMATIC CRUST: AN EXAMPLE FROM THE TILTED GANDESE BATHLITH IN SOUTHERN TIBET


7-3 19 Fox, Lena M.*; Streck, Martin J.: IDENTITY OF CRBG LAVAS IN THE GREATER VALE AREA, EASTERN OREGON: IMPLICATIONS FOR VENTING GRANDE RONDE BASALT (GRB) UNITS LOCALLY, WITHOUT LATERAL CONNECTION TO MAIN GRB UNITS

7-4 20 Little, Quinn*; Wright, Tim; Copeland, Charles; Teasdale, Rachel: DEVELOPING AN APP-BASED GUIDE INTO MT. YANA, AN ERODED STRATOVOLCANO IN THE SOUTHERN CASCADES

7-5 21 Baltzer, Suzanne M.*; Houley, Robert M.; Ramirez, Pedro: MINERALOGY OF RARE EARTH BEARING APATITE VEINS WITHIN THE NORTHERN NEW YORK MOUNTAINS OF SOUTHERN NEVADA

7-6 22 Perry-Freer, Gabriel A.*; Brunstad, Matthew; Dietterich, Hannah R.; Grosflis, Eric B.*: A REMOTE SENSING APPROACH TO ASSESSING PAHOEHOE TO A‘A TRANSITIONS IN MT. KILAUEA BASALT FLOWS

7-7 23 Blachly, Gregory F.*; Van Buer, Nicholas J.: GEOCHRONOLOGY AND GEOCHEMICAL ANALYSIS OF LATE CRETACEOUS PLUTONIC BODIES IN THE CENTRAL MOJAVE DESERT, CA

SESSION NO. 8
D5. Structural Geology (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #


8-2 25 Johnson, Erin P.*: A STRUCTURAL HISTORY BY THE MOUNT STUART BATHLITH, NORTH CASCADES, WASHINGTON

8-3 26 Brown, Howard J.*: PRE-MIOCENE ROCKS AND STRUCTURES IN THE LANE MOUNTAIN-NORTH CALICO MOUNTAINS AREA, CENTRAL MOJAVE DESERT, CALIFORNIA

8-4 27 Brown, Howard J.*: REVISED EARLY MIocene STRATIGRAPHY AND YOUNGER STRUCTURES IN THE LANE MOUNTAIN-NORTH CALICO MOUNTAINS AREA, CENTRAL MOJAVE DESERT, CALIFORNIA

8-5 28 Nourse, Jonathan A.*; Vermillion, Karissa B.; Dykstra, Michael R.: STRUCTURAL GEOLOGY OF THE PLACERITA FORMATION, WESTERN SAN GABRIEL MOUNTAINS, CALIFORNIA

8-6 29 Reid, Andrew J.*; Reed, Nathan G.; Taylor, Wanda J.: HETEROGENEOUS EXTENSION ALONG THE NORTHERN BOUNDARY OF THE CENTRAL BASIN AND RANGE SUB-PROVINCE: THE KANE SPRINGS WASH FAULT, SOUTHERN NEVADA

8-7 30 Manker, Craig R.*; Nourse, Jonathan A.: STRUCTURAL ANALYSIS OF FOLDED PELONA SCHIST ON BLUE RIDGE, SAN GABRIEL MOUNTAINS, CALIFORNIA

8-8 31 Arakaki, Justin*; Behl, Richard J.; Onderdonk, Nate: VARIED IMPACT OF FAULTS AND FRACTURES ON PETROLEUM MIGRATION AND PRODUCTION IN THE PISMO-HUASNA SYNCLINE, CENTRAL CALIFORNIA

8-9 32 Miller, D.E.*; Molinero, Adrian; Moreno, Jesus Eduardo; Levinson, Zachary; Torres Andrade, Eneas: NEW FAULTS FOR OLD DAD: STRUCTURAL INHERITANCE, MIocene KINEMATICS, AND QUATERNARY DEFORMATION, NE MOJAVE, CA

SESSION NO. 9
D6. Tectonics/Tectonophysics (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

9-1 33 Moore, Diane E.*; McLaughlin, Robert J.: SERPENTINITE AND CREEP ALONG THE RODGERS CREEK FAULT, NORTHERN CALIFORNIA

9-2 34 Anaya Guarneres, Jonathan Abimael*; Martini, Michelangelo; Solari, Luigi: SEDIMENTOLOGY AND PROVENANCE ANALYSIS OF UPPERMOST PALEozoIC-MESozoIC FLUVIAL SUCCESSIONS ORIGINALLY MAPPED AS THE MATZITZI FORMATION, MEXICO

9-3 35 Vermillion, Karissa B.*; Nourse, Jonathan A.: DISTINCTIVE JURASSIC AND LATE CRETACEOUS THERMAL DISTURBANCE OF ZIRCONS FROM THE PLACERITA FORMATION, WESTERN SAN GABRIEL MOUNTAINS, CALIFORNIA


9-5 37 Rivera, Ashley*; Razó, Alejandro; Martinez, Jonathon; Polet, Jascha: INITIAL GEOPHYSICAL SURVEY FINDINGS ON THE INTERIOR STRUCTURE OF THE BLACKHAWK LANDSLIDE

9-6 38 Abdelhaleem, Shaimaa A.; Barba, William K.; Reed, Nathan G.*; Reid, Andrew J.; Taylor, Wanda J.: TRANSVERSE FAULTS IN RIFTING: TIPAHUITE LINEAMENT, EAST-CENTRAL NEVADA

9-7 39 Thota, Rohit*; Davidson, Cameron; Garver, John I.: DETRITAL ZIRCON FROM THE SCHIST OF NUNATAK FIORD NEAR YAKUTAT, ALASKA INDICATE ALLIANCE TO THE CHUGACH-PRINCE WILLIAM TERRANE

9-8 40 Trzinski, Adam*; Chapman, James B.; Scoggin, Shane: LOW-ANGLE THRUST RELATIONSHIPS IN THE NORTHERN CHIRICAHUA MOUNTAINS, ARIZONA AND EVIDENCE FOR MULTIPLE PHASES OF CONTRACTIONAL DEFORMATION

9-9 41 Gabito, Mary Frances P.*; Polet, Jascha: TSUNAMI MAGNITUDE SCALE BASED ON DEEP-OCEAN ASSESSMENT AND REPORTING OF TSUNAMIS (DART) BUOY WAVE HEIGHT DATA
Tuesday, 12 May 2020

SESSION NO. 10

T10. Quaternary Volcanism in California (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

10-1 47 Calvert, Andrew T.*; Christiansen, Robert L.: MT. SHASTA: THE CASCADE'S LARGEST STRATOVOLCANO, BUILT AND REBUILT OVER 700 KA

10-2 48 Vazquez, Jorge A.*; Matthews, Naomi E.; Burgess, Seth D.: YOUNG AND OLD RIMS ON ACCESSORY MINERALS: INSIGHTS FROM THE NEAR-ERUPTION CRYSTALLIZATION OF ZIRCONS FROM THE CRYSTAL-POOR AND -RICH COMPONENTS OF THE ~0.7 KA ERUPTION OF INYO DOMES, CALIFORNIA

10-3 49 Larsen, Matthew B.*; Teasdale, Rachel: HYDROTHERMAL GAS COLLECTION AND CO2 ANALYSIS AT LASSEN VOLCANIC CENTER, CALIFORNIA, OVER A TEN-YEAR PERIOD

10-4 50 Stevens, Sally M.*; Burgess, Seth D.: U-PB ION MICROPROBE ZIRCON SURFACE DATING OF COBB MOUNTAIN UNITS WITHIN THE CLEAR LAKE VOLCANIC FIELD

SESSION NO. 11

T11. Impacts of Arc Activity on the Rheology of the Lithosphere across Convergent Margins (Posters) (GSA Structural Geology and Tectonics Division)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

11-1 51 Burgess, Quentin*: Wenrong, Cao: MAGMATIC IMPACTS ON THE THERMAL AND RHEOLOGICAL PROFILES OF THE UPPER CRUST: AN EXAMPLE FROM THE BEAR MOUNTAIN FAULT ZONE IN THE SERRA NEVADA FOOTHILLS, CALIFORNIA


11-3 53 Singleton, John S.*; Seymour, Nikkii M.; Ruthven, Rachel C.; Mavor, Sklyer P.; Gomila, Rodrigo; Heuser, Gert; Arancibia, Gloria: RHEOLOGICAL BEHAVIOR OF INTRA-ARC STRIKE-SLIP FAULTS: INSIGHTS FROM THE ATACAMA FAULT SYSTEM IN NORTHERN CHILE

11-4 54 Turner, Elijah*: Wells, Michael L.; Stockli, Daniel F.; Barba, William K.: DIFFERENTIATING STRUCTURAL STYLES OF HINTERLAND AND FORELAND THUSTS: A CASE STUDY IN THE PANAMINT RANGE, CA

11-5 55 Ratschbacher, Barbara*; Cawood, Tarryn K.; Paterson, Scott R.; Larrovere, Mariano A.; Lusk, Alexander D.; Alasino, Pablo H.; Rick, Christopher Benton; Memeti, Vai: DO INTRUSIVE BODIES WEAKEN OR STRENGTHEN THE ARC CRUST – OR BOTH? AN EXAMPLE FROM THE FAMATINIAN ARC, ARGENTINA

SESSION NO. 12

9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

12-1 56 Clark, Nolan*; Wire, Nate; Lackey, Jade Star: BULK ROCK AND SINGLE-CRYSTAL GEOCHEMISTRY OF CORUNDUM-BEARING ROCKS AT CASCADE CANYON, CA

12-2 57 Hampton, S.K.*; Page, F. Zeb; Lackey, Jade Star: PETROLOGY OF AN EXOTIC BLUESCHIST FROM SANTA CATALINA ISLAND

12-3 58 Geen, Alex*; Canil, Dante: EVALUATION OF ANOMALOUSLY HIGH-T FOREARC METAMORPHISM OF THE PACIFIC RIM TERRANE ON VANCOUVER ISLAND, BRITISH COLUMBIA

12-4 59 Lang, Katherine E.*; Mulcahy, Sean R.; Scherer, Elizabeth R.: TESTING MODELS OF EARLY SUBDUCTION ACCRETION IN THE EASTERN METAMORPHIC SUITE, NORTHWEST CASCADES, WASHINGTON

12-5 60 Seymour, Bryan*; Lazar, Codi: A MINERALOGICAL AND GEOCHEMICAL INVESTIGATION OF THE INFLUENCE OF TECTONIC SETTING ON SULFUR CYCLING DURING SERPENTINITIZATION ALONG THE WESTERN NORTH AMERICA MARGIN

12-6 61 Chen, Julia*; Ratschbacher, Barbara; Bucholz, Claire E.: VARIATIONS IN WATER CONTENTS AND HYDROGEN AND OXYGEN COMPOSITIONS OF IGNEOUS AND METAMORPHIC AMPHIBOLES

SESSION NO. 13

T20. Hydrogeology (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #


13-2 63 Rittiron, Supasiri*; Ellis, Andre: POTENTIAL IMPACTS OF WILDFIRES ON SOIL AND WATER CHEMISTRY IN THE SAN GABRIEL MOUNTAINS, CALIFORNIA

13-3 64 Jesmok, Greg S.*; Ikeda, Kyle H.; Fuhrmann, Byran C.; Hauswirth, Scott C.; Beutel, Marc W.; Ganguli, Priya M.: THE MYSTERIES OF MERCURY IN CASTAIC LAKE STATE RECREATION AREA, CASTAIC LAKE, CALIFORNIA


13-5 66 Schmitt, Erin E.*; Fuhrmann, Byran C.; Hoover, Christian L.; Cottingham, Joshua W.; Cabrera, Lois; Bram, Danielle L.; Beutel, Marc W.; Hauswirth, Scott C.; Ganguli, Priya M.: MERCURY TOXICITY AND TRANSPORTATION IN A WILDFIRE AFFECTED WATERSHED AND LAGOON SYSTEM

13-6 67 Arroyo, Janet*; Osborn, Stephen G.: ASSESSMENT OF ARSENIC AND BROMIDE IN WATERS AT DOS PALMAS NATURAL PRESERVE, SALTON SEA, SOUTHERN CALIFORNIA

13-7 68 Warner, Rebecca L.*; Osborn, Stephen G.: ANALYSIS OF METHANE IN SHALLOW AQUIFERS OVERLYING OIL AND GAS PRODUCTION IN PENNSYLVANIA AND COLORADO

13-8 69 Baker, Rory; Campos, Georigia; Cortz, Angelica; Estrada, Marleni; Kwan, Patrik; Ly; Bryan; Magana, Alissa; Nguyen, Henry; Ramirez, Christian; Venegas, Dan; Rezaie Boroo, Mohammad Hassan*:
Tuesday, 12 May 2020

ANTHROPOGENIC POLYCYCLIC HYDROCARBON (PAH) AND NITRATE IN SEDIMENT AND WATER OF BALLONA AND DEL REY LAGOONS OF LOS ANGELES, CALIFORNIA

13-9 70 Peralta, Carol*; Hibbs, Barry J.: ANALYSIS OF BACTERIA AND NUTRIENT LEVELS IN SUBSURFACE STORM DRAINS RECEIVING FLOWS FROM GROUNDWATER SEEPAGE AND URBAN RUNOFF IN DRY WEATHER CONDITIONS

13-10 71 Hibbs, Barry J.; Demeter, Geza I.; Hu, Wynee; Kuepper, Kathleen; Harrison, Mike; Peralta, Carol; Clifford, Geoffrey: STABLE WATER ISOTOPE HYDROLOGY OF THE SANTA MONICA MOUNTAINS – A FIFTEEN YEAR SYNOPSIS

13-11 72 Diemel, Frank W.; Hibbs, Barry: A COMBINED STABLE AND RADIOISOTOPE STUDY OF THE SOURCES OF RECHARGE IN THE COACHELLA VALLEY AQUIFER SYSTEM, RIVERSIDE COUNTY, CALIFORNIA

13-12 73 Rascon, Kirstie*; Hibbs, Barry J.; Eastoe, Christopher: HYDROCHEMICAL CHARACTERIZATION OF GEOLOGICAL AND ANTHROPGENIC INPUTS OF SALINITY IN THE EL PASO/JUAREZ VALLEY

13-13 74 Schindler, Leanna Christine*: WATER QUALITY ASSESSMENT OF THOMPSON CREEK WATERSHED (TCW), SAN GABRIEL MOUNTAINS, CA


13-16 77 Li, Jingjing*; Sehler, Robin; Reager, J.T.; Ye, Hengchun: EVALUATION OF SOIL MOISTURE - PRECIPITATION FEEDBACK USING REMOTE SENSING DATA

13-17 78 Diego, Jose Manuel*; Li, Jingjing: EVALUATION OF NASA SOIL MOISTURE MEASUREMENTS WITH IN SITU DATA IN THE WESTERN UNITED STATES

13-18 79 Gambill, Ian*; McFadden, Sawyer R.; Singha, Kamini: CHARACTERIZING HYPOBHEICK EXTENT USING ELECTRICAL RESISTIVITY AND CONCENTRATION BREAKTHROUGH CURVES

13-19 80 Tavitian, Massis*; Travers, Christopher; Sadeghi, Sina; Cerda, Christopher; Haussworth, Scott C.: IMPROVING SWEEP EFFICIENCY AND DELIVERY OF OXIDANTS TO LOW PERMEABILITY ZONES USING VISCOSIFYING AGENTS

13-20 81 Haussworth, Scott C.; Abou Najm, Majdi; Basset, Christelle: CHARACTERIZATION OF PORE SIZE DISTRIBUTIONS USING NON-NEWTONIAN FLUIDS

13-21 82 Schmidt, Kevin M.; Minor, Scott A.: CORRELATING OBSERVATIONS OF SURFACE WATER WITH FIELD-MEASURED PERMEABILITY ON SANTA ROSA ISLAND, CHANNEL ISLANDS NATIONAL PARK, CA

13-22 83 Stokes, Scott*; Greene, Todd J.: STRATIGRAPHIC FRAMEWORK OF THE PLIOCENE TUSCAN FORMATION AND QUERNARY UNITS IN THE VINA SUB-BASIN, CHICO, CA

13-23 84 Saenz, Joseph M.*; Zaiger, Kimo K.; Tiedeman, Andrew; Nordahl, Robert; Mitchell, Chad: HYDROGEOLOGIC REPOSITORY AND COLOMBIA WATER WELL INSTALLATION, SEPTEMBER 2018

SESSION NO. 14

T1. The Changing Face of Paleontology II: In Honor of the Career Contribution of Dr. Richard L. Squires

1:30 PM, The Westin Pasadena, San Rafael
Linda Anita Ritterbush and Mary McGann, Presiding

14-1 1:30 PM Stoneburg, Brittney E.; Dooley, Alton C.; Dooley, Brett S.; McDonald, Andrew T.: OTHER DUTIES AS ASSIGNED: OPENING RESEARCH PATHWAYS FOR NON-CURATORIAL STAFF

14-2 1:50 PM Hendy, Austin J.W.*; Wiedrick, Shawn: REVISITING THE QUALITY OF CALIFORNIA’S FOSSIL RECORD

14-3 2:10 PM Ritterbush, Kathleen A.*; Hebdon, Nicholas; Peterman, David J.; Choi, YunJi; Cronin, Sarah: “LAZING ALONG AND FRAZZLING OUT”: TESTING TWAIN’S VISION OF AMMONITE ECOLOGY

14-4 2:30 PM Grove, Sarah E.*; Rowland, Stephen M.: ENHANCED DATA COLLECTION METHODS OF ICHNOLOGICALLY SIGNIFICANT FIELD SITES IN SOUTHERN NEVADA THROUGH THE USE OF PHOTOGRAMMETRIC RECONSTRUCTIONS

14-5 3:05 PM Sankey, Julia*: WHY SWEAT THE SMALL STUFF? NEW DISCOVERIES OF BABY DINOSAURS, TINY SHARKS, AND OTHER MICROVERTEBRATE FOSSILS, LATEST CRETACEOUS HELL CREEK FORMATION, NORTH DAKOTA

14-6 3:25 PM Melstrom, Keegan M.*; Irmis, Randall B.: MAMMAL-LIKE CROCS: DO EXTINCT CROCODYLOMORPHS OVERLAP WITH THE MORPHOSPACE OF LIVING MAMMALS?

14-7 3:45 PM McLaughlin, Win N.F.*; Aleksey, Matthew; Baraga, Johanna; Beisel, Joshua; Berberian, Lori; Dall, Jacqueline; Ginther, Melanie; Lu, Leez; Luebbers-Rivera; Chandler; Osorio, Marvin; Pedrick, Fiona; Van Dusen, Ian L.; Wright, Cutter; Bar Yaacov, Tali*: PALEOBIOGEOGRAPHY OF THE GENUS CHILOTHERIUM (MAMMALIA, PERISSODACTYLA, RHINOCerotidae) IMPLIES EXPLOITATION OF ECOLOGICAL NICHES NOT UTILIZED BY EXTANT RHINOCEROSSES

14-8 4:05 PM Brown, Kristen Ellen*; Scott, Eric; Springer, Kathleen B.: PLESIOSIRUS IDAHOENSIS FROM THE EARLY PLEISTOCENE TULARE FORMATION, KERN COUNTY, CALIFORNIA

14-9 4:25 PM McGann, Mary*: PARALLEL INVESTIGATIONS IN THE PALEONTOLOGICAL CAREERS OF RICHARD L. SQUIRES AND MARY MCGANN: SUBMARINE CANYONS/TURBIDITIES, WHALE FALLS, METHANE SEEPS, AND BIOSTRATIGRAPHY

4:45 PM DISCUSSION

SESSION NO. 15

T4. The Kinematics, Dynamics, and Surface Expression of Faults in Eastern California—Improving Hazard Forecasts and Long-Term Slip Histories

1:30 PM, The Westin Pasadena, Madera Room
Elizabeth Haddon, Scott E.K. Bennett, Janis L. Hernandez and David M. Miller, Presiding

15-1 1:30 PM Hudnut, Kenneth W.*; Fletcher, John M.; Koehler, Richard D.: OBLIQUE RIFTING, CROSS-FAULT DOMAINS, AND ACTIVE DETACHMENT FAULTS

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<td>16-2</td>
<td>1:50 PM</td>
<td>Dawson, Timothy E.*, Scharer, Katherine M.; Morelan, Alexander E.; Rockwell, Thomas K.: SURFACE RUPTURES FROM THE 2019 RIDGECREST EARTHQUAKE SEQUENCE AND OBSERVATIONS APPLICABLE TO FAULT DISPLACEMENT HAZARD ANALYSIS</td>
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<td>15-3</td>
<td>2:10 PM</td>
<td>Morelan, Alexander E.; Hudnut, Kenneth W.; Donnellan, Andrea: QUANTIFYING FAULT DISPLACEMENT VIA OPTICAL IMAGE CORRELATION USING STRUCTURE-FROM-MOTION ORTHOMOSAICS IN THE 2019 RIDGECREST EARTHQUAKE SEQUENCE</td>
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<td>15-4</td>
<td>2:30 PM</td>
<td>Philibosian, Belle*: Thompson Jobe, Jessica A.; Chupik, Colin; Dawson, Timothy E.; Bennett, Scott; Kendrick, Katherine J.; Duross, Christopher B.; Gold, Ryan D.; Pierce, Ian; Ladinlsy, Tyler C.; Swanson, Brian J.; Hadden, Elizabeth K.; Seitz, Gordon G.: EVIDENCE OF PREVIOUS FAULTING ALONG THE 2019 RIDGECREST EARTHQUAKE RUPTURES</td>
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<td>15-5</td>
<td>2:50 PM</td>
<td>Haddon, Elizabeth K.*; Miller, David M.; Langenheim, Victoria E.; Mahan, Shannon A.: HOLOCENE FAULT SLIP RATES INDICATE LOCALIZATION OF EASTERN CALIFORNIA SHEAR ZONE DEFORMATION BETWEEN RIDGECREST AND BARSTOW</td>
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<td>15-6</td>
<td>3:10 PM</td>
<td>Polun, Sean G.*; Bidgoli, Tandas S.; Gomez, Francisco: DETERMINING AGES OF FAULTED SURFACES ALONG INACCESSIBLE PORTIONS OF THE EASTERN GARLOCK FAULT USING RADIOMETRIC ASSESSMENTS OF SURFACE CHARACTER: APPLICATIONS FOR SLIP RATE STUDIES</td>
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<td>15-7</td>
<td>3:45 PM</td>
<td>Lutz, Brandon*: Axen, Gary; Phillips, Fred; van Wijk, Jolante: HIGH-RESOLUTION ANIMATED TECTONIC RECONSTRUCTION OF THE DEATH VALLEY REGION</td>
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<td>15-8</td>
<td>4:05 PM</td>
<td>Langenheim, Victoria*: Howard, Keith A.; Okaya, David; Mickus, Kevin L.; Dean, Branden; Earney, Tait E.: CUMULATIVE SLIP ESTIMATES ALONG THE EASTERN MARGIN OF THE EASTERN CALIFORNIA SHEAR ZONE, CALIFORNIA</td>
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<td>15-9</td>
<td>4:25 PM</td>
<td>Umhoefer, Paul J.*; Mavor, Skyler P.; Langenheim, V.E.; Beard, L. Sue; Bennett, Scott E.K.; Grow, Ryan; Stone, Paul; Brickey, Timothy: MULTIPLE LINES OF EVIDENCE SUGGEST 30-35 KM OF OFFSET ON THE BLYTHE BASIN STRIKE-SLIP FAULTS: PART OF THE MISSING DEXTRAL SHEAR ACROSS THE MIocene PACIFIC-NORTH AMERICA PLATE BOUNDARY?</td>
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<td>15-10</td>
<td>4:45 PM</td>
<td>Menges, Christopher M.*; Mahan, Shannon A.: STRATIGRAPHIC AND GEOCHRONOLOGIC CONSTRAINTS ON TIME-SPACE PATTERNS OF LATEST QUATERNARY SURFACE RUPTURES ON THE EASTERN PINTO MOUNTAIN AND SOUTHERN MESQUITE LAKE FAULT ZONES NEAR TWENTYNINE PALMS, SOUTHERN CALIFORNIA</td>
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<td>15-11</td>
<td>5:05 PM</td>
<td>Miller, David M.*; Bennett, Scott E.K.; Nuriel, Perach: LONG-TERM EVOLUTION OF THE EASTERN CALIFORNIA SHEAR ZONE, 10 MA TO PRESENT</td>
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<th>Authors</th>
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<td>1:30 PM</td>
<td>Boryta, Mark*: Anders, Tania-Maria: BUILDING OCEAN LITERACY: THE SOCSALSEA PROJECT</td>
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<td>1:50 PM</td>
<td>Presiado, Rhea*: DITCHING LECTURES AND MAKING ROOM FOR PROJECT BASED LEARNING AND UNDERGRADUATE FIELD RESEARCH IN INTRODUCTORY OCEANOGRAPHY COURSES</td>
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**SESSION NO. 17**

**D7. Paleoearthquake Records and Slip Rates Across the Southern California Plate Boundary**

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<th>Time</th>
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<tr>
<td>8:00 AM</td>
<td>Matti, Jonathan C.*; Yule, J. Douglas: DOES A “STRUCTURAL KNOT” IN THE QUATERNARY SAN ANDREAS FAULT EXIST IN SAN GORGONIO PASS? TRADITIONAL AND RECENT VIEWS PROVIDE CONFLICTING ANSWERS</td>
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<td>8:20 AM</td>
<td>Castillo, Bryan*: McGill, Sall; Scharer, Katherine M.; Yule, Doug; McPhillips, Devon; McNeil, James; Saha, Sourav; Brown, Nathan D.; Moon, Seulgi: AGES OF PREHISTORIC EARTHQUAKES ON THE BANNING STRAND OF THE SAN ANDREAS FAULT, NEAR NORTH PALM SPRINGS, CALIFORNIA</td>
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<tr>
<td>8:40 AM</td>
<td>Spencer, Joel O.G.*; Ataee, Nina; Lacroix, Brice J.; Owen, Lewis A.: DEVELOPMENT OF LUMINESCENCE DATING METHODS IN TECTONICALLY ACTIVE AND ARID REGIONS: DATING FANGLomerATES FROM ALLUVIAL FANS, COACHELLA VALLEY, SOUTHERN CALIFORNIA</td>
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18-7 9:40 AM Richardson, Andrea E.; Yoshinobu, Aaron S.; Barnes, Calvin G.: SPACE/TIME EVOLUTION OF MAGMATISM IN THE KLAMATH MOUNTAINS PROVINCE (KMP), CA/OR: IMPLICATIONS FOR CORDILLERAN ARC MAGMA PERIODICITY

18-8 11:00 AM Miller, Robert Bruce*; Lee, John D.; Budimirovic, Natasha: INSIGHTS INTO HIGHLY ELONGATE, STEEPLY SHEETED ARC PLUTONS FROM INTRUSIONS IN THE SE COAST MOUNTAINS, BRITISH COLUMBIA AND WASHINGTON

18-9 10:55 AM Htun, Thein*; Prothero, Donald; Hoffman, Jonathan M.: HOW MIRED AND HOW SMALL BIRDS EVOLVE IN RESPONSE TO CLIMATE CHANGE? DATA FROM THE LONG-TERM RECORD AT LA BREA TAR PITS

18-10 11:15 AM Parry, Lauren E.*; Rowland, Stephen M.: HOW GRASSY WERE LATE PLEISTOCENE HABITATS AT RANCHO LA BREA?: FIRST PHYTOLITH RECORDS FROM THE TAR PITS

19-1 8:00 AM Long, Katherine L.; Prothero, Donald*: Sverson, V.J.P.: HOW DO SMALL BIRDS EVOLVE IN RESPONSE TO CLIMATE CHANGE? DATA FROM THE LONG-TERM RECORD AT LA BREA TAR PITS


19-3 8:40 AM Galvez, Saul*: Prothero, Donald: AGE-MORALITY PROFILES IN LA BREA BISON: INSIGHTS INTO POPULATION DYNAMICS AND TAPHONOMY

19-4 9:00 AM Dunn, Regan*: Rice, Karin: HOW GRASSY WERE LATE PLEISTOCENE HABITATS AT RANCHO LA BREA?: FIRST PHYTOLITH RECORDS FROM THE TAR PITS

19-5 9:20 AM Rice, Karin A.*; Mychajliw, Alexis M.; Tewksbury, Laura R.; Campbell, Sean C.; Dunn, Regan E.; Lindsey, Emily L.: DOCUMENTING SEDIMENTARY AND TAPHONOMIC HETEROGENEITY AT RANCHO LA BREA: NEW INSIGHTS FROM QUANTITATIVE APPROACHES

19-6 9:40 AM Noriega, Nicolas L.*; Pitcher, Ellie; Cohen, Joshua E.: DeSantis, Larisa R.G.: Lindsey, Emily; Meachen, Julie; O'Keefe, F. Robin: Southon, John; Binder, Wendy J.: A STONE’S THROW THROUGH TIME: TAPHONOMIC VARIATION AMONG PITS AT RANCHO LA BREA

19-7 10:00 AM Break


19-10 11:15 AM Parry, Lauren E.*; Rowland, Stephen M.: MIRED AND RETIRED: AGE-SELECTIVE COLUMBIAN MAMMOTH (MAMMUTHUS COLUMB) MORTALITY FROM RANCHO LA BREA, CALIFORNIA AND ITS IMPLICATIONS FOR EVALUATING TOP-DOWN FORCING IN LATE PLEISTOCENE TROPHIC SYSTEMS
POSTER TECHNICAL SESSIONS

SESSION NO. 20
D7. Paleoaearthquake Records and Slip Rates Across the Southern California Plate Boundary (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

20-1 1 Inserra, Nick*; Akciz, Sinan: LATE HOLOCENE RUPTURE HISTORY OF THE SOUTH-CENTRAL SAN ANDREAS FAULT AT VAN MATRE RANCH, CALIFORNIA

20-2 2 Ladinsky, T.C.*; Kelsey, Harvey; Bold, Samuel; Michalak, Melanie; Witter, Robert C.: INVESTIGATING THE ROLE OF UPPER-PLATE FAULTS IN SOUTHERN CASCADIA: A PALEOSEISMIC INVESTIGATION OF THE LITTLE SALMON FAULT AND GOOSE LAKE FAULT, HYDESVILLE, HUMBOLDT COUNTY, CALIFORNIA

20-3 3 Springer, Kathleen B.*; Pigati, Jeffrey S.: CLIMATICALLY Driven DISPLACEMENT ON THE EGGLETON FAULT, LAS VEGAS, NV

20-4 4 Bold, Samuel E.*; Michalak, Melanie J.; Ladinsky, Tyler C.; Bilsniuk, Kimberly; Patton, Jason R.; Kelsey, Harvey M.: QUANTERARY MAPPING OF THE GOOSE LAKE FAULT, VAN DUZEN RIVER TERRACES, AND YAGER CREEK TERRACES, HUMBOLDT COUNTY, CALIFORNIA

20-5 5 Hatem, Alexandra E.*; Gold, Ryan D.; Briggs, Richard W.: THINKING INSIDE THE BOX: MODELLING SLIP RATE VARIABILITY USING GEOLOGIC CONSTRAINTS

20-6 6 Kerr, Drake Dennis*; Ordononk, Nate: GEOMORPHIC EVIDENCE FOR LATE QUATERNARY SLIP ON THE NORTHERNMOST SAN JACINTO FAULT ZONE, AND IMPLICATIONS FOR SLIP TRANSPORT TO SAN ANDREAS FAULT

20-7 7 McInnis, Margarita E.*; Pinter, Nicholas: DEFORMED MARINE TERRACES ON SANTA CATALINA ISLAND, CALIFORNIA: NEW MEASUREMENTS FROM TERRACE-PLATFORM SURFACES AND PHOLAD-BORED CLASTS

SESSION NO. 21
D8. The Origin and Spatiotemporal Evolution of Arc Magmas Recorded From Mineral to Plate-Boundary Scales (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

21-1 8 Yang, Jiaming*; Cao, Wenzong: MAGMATIC FABRICS OF THE GANGDESE BATHOLITH, SOUTHERN TIBET: A POTENTIAL TRACKER FOR CRUSTAL STRAIN FIELD


21-3 10 Greene, David C.*; Hoffman, Charles F.; Lackey, Jade Star: COMPLEXLY INTERLEAVED PERMIAN TO MID-CRETACEOUS VOLCANO-SEDIMENTARY ROCKS IN THE MINERAL KING PENDANT, SOUTHERN SIERRA NEVADA, CALIFORNIA INDICATE MULTIPLE DEFORMATIONS PRIOR TO AND SYNCHRONOUS WITH CRETACEOUS BATHOLITH EMPLACEMENT

21-4 11 Bates, Caitlin*; Memeti, Valbone; Wesley, Abigail J.; Paterson, Scott R.: ARE MAFIC INTRUSIONS IN THE MAY LAKE AND SNOW LAKE PENDANTS RELATED TO THE INDEPENDENCE DIKES?

21-5 12 Dailey, Shane R.*; Barnes, Calvin G.: TIMING OF PARTIAL MELTING OF RATTLESNAKE CREEK AMPHIBOLITE—INITIATION OF THE NEVADAN OROGENY?

21-6 13 Brackman, Adam J.*; Deitel, Matthew; Greenberg, Gillian; Nolasco, Jocelyne; Page, Brandon; Stone, David; Schwartz, Joshua J.; Turnbull, Rose: INVESTIGATING THE TRACE-ELEMENT RECORD OF MAGMA MIXING IN MINGLED MAFIC SHEETS, HALFMOON PLUTON, STEWART ISLAND, NEW ZEALAND

21-7 14 Marshall, Collin E.*; Mattinson, Christopher G.: ZIRCON SEPARATION USING THE JCR CONCENTRATING TABLE: AN EVALUATION OF YIELD, CONCENTRATION, AND TIME EFFICIENCY

SESSION NO. 22
D9. Using Geological Archives to Understand and Document Earth Surface Processes and Past Climate (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom
Authors will be present from 4 to 6 PM
Booth #

22-1 15 Dickey, Hank*; Kirby, Matthew E.; Knell, Ed; Anderson, William T.; Hernandez, Stephanie; Obarr, Sophia; Leidelmeijer, Jen; Taylor, Jan; Arriola, Eyrica: USING LAKE SEDIMENTS TO INFERR LATE-GLACIAL HYDROLOGIC CONDITIONS OF PLUVIAL LAKE MOJAVE, CALIFORNIA

22-2 16 Campbell, Kyle*; Hernandez, Stephanie; Kirby, Matthew E.; Sproul Dit MacDonald, Glen M.; Carlin, Joseph; Leidelmeijer, Jenifer A.; Woodward, Alexandre; Avila, Judith; Han, Jiwoo; Nauman, Benjamin; Poulsen, Cody: 12,500 YEARS OF HYDROLOGIC VARIABILITY RECORDED IN SEDIMENTS FROM TULE LAKE, CA

22-3 17 Barbosa, Jazleen*; Kirby, Matthew E.; Sproul Dit MacDonald, Glen M.; Carlin, Joseph; Leidelmeijer, Jenifer A.; Woodward, Alexandre; Avila, Judith; Han, Jiwoo; Nauman, Benjamin; Poulsen, Cody: 9,000 YEARS OF PALEOHYDROLOGICAL HISTORY INFERRING USING LACUSTRINE SEDIMENTS FROM MADDISON LAKE, CA

22-4 18 Miller, D.E.*; Montejo, Carlos; Moreno, Jesus Eduardo; James, Robert N.; McKinney, Samuel; Sari, Ethan; Watson, Kenneth; Bushier, Jeffrey; Rodrigue, Virginia; Torres Andrade, Eneas: EVIDENCE FOR CENOZOIC LANDSCAPE EVOLUTION IN THE TEHACHAPI MTNS, CA FROM POLYCYCLIC FLUVIAL CONGLOMERATES

22-5 19 Leidelmeijer, Jenifer A.*; Kirby, Matthew E.; Sproul dit MacDonald, Glen; Carlin, Joseph; Bonuso, Nicole; Loyd, Sean J.; Han, Jiwoo; Nauman, Benjamin; Avila, Judith; Woodward, Alexandre. LATE GLACIAL TO EARLY HOLOCENE PALEOECOLOGY INFERRRED FROM BARLEY LAKE SEDIMENTS (NORTHERN COASTAL RANGES, CALIFORNIA)

22-6 20 Kirby, Matthew E.*; Sproul dit MacDonald, Glen; Carlin, Joseph; Leidelmeijer, Jenifer A.; Avila, Judith; Woodward, Alexandre; Han, Jiwoo; Nauman, Benjamin; Barbosa, Jazleen; Hernandez, Stephanie; Campbell, Kyle; Boggis, Lacy; Nichols, Kevin; Ramezan, Reza; Poulsen, Cody: THE HOLOCENE CALIFORNIA PRECIPITATION DIPOLE TRACKED USING LAKE SEDIMENTS

22-7 21 Johnson, Kathleen R.*; McCabe-Glynn, Staryl; Cheng, Hai; Wright, Kevin T.; Coreas, Cesar; White, Aliza: CALIFORNIA HYDROCLIMATE VARIABILITY SINCE THE LAST GLACIAL MAXIMUM: PRELIMINARY STALAGMITE RESULTS FROM CRYSTAL CAVE, SEQUOIA NATIONAL PARK, CA

22-8 22 McCabe-Glynn, Staryl*; Johnson, Kathleen R.; Cheng, Hail: ASSESSING LOCAL WATER BALANCE AND OCEAN-ATMOSPHERE DYNAMICS UTILIZING MULTIPLE PROXY RECORDS FROM A SOUTHERN CALIFORNIA SPELEOTHEM OVER THE LAST MILLENNIUM

22-9 23 Downey, Anthony S.*; Heermance, Richard V.: PULSED RETREAT OF THE SIERRA NEVADA ICE CAP AFTER THE LAST GLACIAL MAXIMUM IN HOPE VALLEY, SIERRA NEVADA, CALIFORNIA
22-10 24 Hadschok, Harrison*; Fryxell, J.E.; Hughes, Richard O.: EVIDENCE FOR GLACIATION IN THE MT. SAN JACINTO REGION
22-11 25 Beener, Katya*; Carlin, Joseph; Hayward, Jamie Ann; Tran, Amy: SEDIMENT SOURCE AREA CHARACTERIZATION THROUGHOUT THE MONTEREY BAY COAST AND WATERSHED
22-12 26 Duncan, Theresa*; Carlin, Joseph; Kanneg, Sadie; Beener, Katya: CHARACTERIZING SEASONAL SEDIMENTARY CARBON FLUXES WITHIN A RESTORE COASTAL WETLAND
22-13 27 Dickson, Sarah*; Carlin, Joseph; Bonuso, Nicole: EVOLUTION OF SOUTHERN CALIFORNIA COASTAL WETLAND
22-14 28 Fordham, Edward M.*; Pfeiffer, Allison M.: QUANTIFYING DEBRIS FLOW CONTRIBUTIONS TO BASIN-SCALE SEDIMENT SUPPLY, SUIAPPLE RIVER, NORTH CASCADES WASHINGTON STATE
22-15 29 Casas, Krol*; Krugh, William: TREE MORTALITY AND ITS IMPACT ON HILLSLOPE PROCESSES AND LANDSLIDE SUSCEPTIBILITY IN THE KERN RIVER WATERSHED OF CALIFORNIA
22-16 30 Bjaegaard, Sarah Grace*; Mrofka, David D.: GREYWACKE OVERLAPPING THE SANTA CRUZ ISLAND VOLCANICS
22-18 32 Finley, Jake M.*; Anfinson, Owen A.; Odlum, Margaret; Levang, Devin; Poulaki, Eirini M.; Gaina, Carmen; Stockli, Daniel F.; Shephard, Grace; Pavlovskia, Elena: LATE DEVONIAN SEDIMENT PROVENANCE OF THE ANDREE LAND BASIN, SVALBARD, NORWAY
22-19 33 Levang, Devin*; Anfinson, Owen; Odlum, Margaret; Finley, Jake M.; Poulaki, Eirini M.; Gaina, Carmen; Stockli, Daniel F.; Shephard, Grace; Pavlovskia, Elena: EARLY TO MIDDLE DEVONIAN PALEOGEOGRAPHIC LOCATION OF SVALBARD, NORWAY
22-20 34 Bennett, Scott E.K.*; Darin, Michael H.; Dorsey, Rebecca J.; Hausback, Brian P.; Doby, Greer A.; Sawlan, Michael G.; Wilder, Benjamin T.; Martinez-Gutierrez, Genaro; Hernández-Salgado, Yahil; Grandy, Sam: THE INFLUENCE OF MIocene TO RECENT TECTONICS AND LANDSCAPE EVOLUTION ON GENETIC DIVERSITY ALONG THE CENTRAL BAJA CALIFORNIA PENINSULA
22-21 35 Hayduk, Tyler S.*; Cotton, Jennifer M.; Hyland, Ethan G.; Insel, Nadja: LINKING THE LATE Miocene C, GRASSLAND EXPANSION TO EXPANSION OF THE SOUTH AMERICAN SUMMER MONSOON IN RIO IRUZA CANYON, NORTHWEST ARGENTINA
22-22 36 Ghosh, Adit*; Cotton, Jennifer M.; Hyland, Ethan G.; Raigemborn, Maria Sol; Tineo, David; Insel, Nadja: CONSTRaining C4 EXPANSION IN CONTINENTAL SOUTH AMERICA DURING THE LATE Miocene-Pliocene USING D13C ISOTOPIC PROXIES AND COMPLEX ORGANIC CARBON MOLECULES

SESSION NO. 23

T2. La Brea Tar Pits: Old Bones and New Insights (Posters)
9:00 AM, The Westin Pasadena, Fountain Ballroom

23-1 37 Curd, Emily Elizabeth*; Brown, Caitlin; Friscia, Anthony: MICROBIAL SUCCESSION IN A TAR SEEP DECOMPOSITION ENVIRONMENT
23-2 38 Godoy, Derek*; Balisi, Mairin: THEN AND NOW AGAIN – A BOBCAT’S TAIL
23-4 40 Balassa, Daniella*: Prothero, Donald; Svyerson, V.J.P.: AFTER THE SABER-TOOTHs: HOW DID COUGARS AND BOBCATS RESPOND TO THE END OF THE ICE AGES?

SESSION NO. 24

T25. Undergraduate Research (Posters) (Council on Undergraduate Research Geosciences Division)
9:00 AM, The Westin Pasadena, Fountain Ballroom

24-1 45 King, Rebekah*: Memeti, Valbone: A YOSEMITE NATIONAL PARK MAGMATIC SYSTEM VIRTUAL FIELD TRIP FOR INTRODUCTORY GEOLOGY COLLEGE COURSES
24-2 46 Jory, Billyjack*; Luu, Richard; Norris, Aulin Triona; Polcino, Christina: SIMULATION OF MAGMA COOLING USING LOW-MELT BINARY ALLOYS IN GEOLOGY LABS TO INCREASE STUDENT CRITICAL THINKING IN BEGINNING GEOLOGY COURSES
24-3 47 Bass, Jennifer*; Robins, Colin: VARIATIONS OF SOIL-BEDROCK GEOCHEMISTRY ALONG A SAN GABRIEL VALLEY CATENA: IMPLICATIONS FOR LANDSCAPE EVOLUTION IN A CHANGING SOUTHERN CALIFORNIA XERIC CLIMATE
24-4 48 Almaguer, Alexandra*; Lackey, Hilary Sanders; McCarty, Kyle R.; Lackey, Jade Star: POST-FIRE TRACE ELEMENT ACCUMULATION IN SEDIMENT AND SURFACE WATER OF THE WOOLSEY WILDFIRE AREA
24-5 49 Fong, Brandon T.*; Guilinger, James J.; Barth, Nicholas C.; Gray, Andrew B.: HILLSLOPE BOULDER DISPLACEMENT FROM SHALLOW LANDSLIDES
24-6 50 Pinto, James L.*; Holiday, Daniel J.; Carignan, Brandon J.; Putnam, Roger L.: Sycamore Canyon Falls: A BEDROCK-CONTROLLED KNICKPOINT IN THE SANTA MONICA MOUNTAINS, CALIFORNIA
24-7 51 Pulver, Nathan*: Petrashkev, Stacey; Contreras, Raoul; Polet, Jascha: THE EFFECTS OF FAULTING ON GROUNDWATER FLOW IN THE SAN ANDREAS OASIS FROM MEASUREMENTS OF GROUND-BASED MAGNETICS, VERY LOW FREQUENCY AND DIRECT CURRENT RESISTIVITY
24-8 52 Sivakumar, Ashwin*; Mychajliw, Alexis: FOSSIL-AUGMENTED SPECIES DISTRIBUTION MODELS REVEAL SHIFTING BASELINES FROM THE PLEISTOCENE TO THE PRESENT FOR THE CALIFORNIA CONDOR
24-10 54 Gadd, Katelyn R.*; Parsons, Grace Mackenzie; Young-Chung, Leah; Sankey, Julia: LATE CRETACEOUS FISH AND SHARKS FROM THE HELL CREEK FORMATION OF SOUTHWESTERN NORTH DAKOTA: EVIDENCE THAT THE CANTAPETA MARINE TONGUE (WESTERN INTERIOR SEAWAY) REACHED FURTHER WEST
24-11 55 Voss, Natasha LaRae*; Riggs, Nancy R.; Barth, Andrew P.; de Silva, Shanaka L.: U-Pb AGES OF DETRITAL ZIRCON AND THEIR CORRELATION TO LOCAL TECTONICS OF THE ANDEAN PLATEAU, CHILE

Wednesday, 13 May 2020
26-4 2:35 PM Hirt, William H.*: INSIGHTS FROM ZIRCON CHEMISTRY ON THE CRYSTALLIZATION HISTORY OF THE WHITNEY PLUTON, SIERRA NEVADA, CALIFORNIA

2:55 PM BREAK

26-5 3:10 PM Barnes, Calvin G.*; Fuston, Spencer; Fly, Lara: ASHLAND PLUTON (KLAMATH MOUNTAIN PROVINCE) REVISITED: THE VIEW FROM MINERAL COMPOSITIONS AND ZONING

26-6 3:30 PM Angulo, Alejandra*; Barnes, Calvin G.: TRACE ELEMENTS IN CXP AND HBL REVEAL MAGMA BATCHES AND CRYSTAL ACCUMULATION IN THE IRONSIDE MOUNTAIN PLUTON, KLAMATH MOUNTAINS, CA

26-7 3:50 PM Martinez-Ardila, Ana Maria*; Memeti, Vali; Paterson, Scott R.; Esposito, Rosario; Chambers, Melissa: PLAGIOCLASE FORENSICS AS A TOOL TO DETERMINE THE NATURE OF GABBRO: MELT-MELT OR CRYSTAL CUMULATE?

4:10 PM DISCUSSION

26-8 4:30 PM Morris, Rebecca*; Canil, Dante: MAGMA-CARBONATE INTERACTIONS WITHIN THE JURASSIC BONANZA ARC, VANCOUVER ISLAND

26-9 4:50 PM Fred, Riikka Maria*; Heinonen, Aku; Heinonen, Jussi S.: THE VIEW FROM MINERAL COMPOSITIONS AND ZONING

5:10 PM CONCLUDING REMARKS

SESSION NO. 26

D9. Using Geological Archives to Understand and Document Earth Surface Processes and Past Climate

1:30 PM, The Westin Pasadena, Madera Room

Matthew E. Kirby, Joseph Carlin, Andrew B. Gray, Elizabeth Fard, Jessie George, Jiwoo Han, Kathleen R. Johnson and Glen Sproul dit MacDonald, Presiding

26-1 1:30 PM Springer, Kathleen B.*; Pigati, Jeffrey S.: THE REGIONAL HYDROLOGIC RESPONSE OF DESERT WETLANDS IN THE AMERICN SOUTHWEST TO QUATERNARY CLIMATE CHANGE

26-2 1:50 PM Wright, Kevin Timothy*; Johnson, Kathleen R.; McGee, David; Serrato Marks, Gabriela; Bhattacharya, Tripti; Goldsmith, Gregory: DID THE PACIFIC STORM TRACK REACH NORTHEAST MEXICO DURING THE LAST GLACIAL MAXIMUM?

26-3 2:10 PM Mychaljw, Alexis M.*; Rice, Karin; Tewksbury, Laura; George, Jessee; Ellwood, Elizabeth; Southon, John; Lindsey, Emily: A STRATIGRAPHICALLY INTACT, PRE-LAST GLACIAL MAXIMUM WOODRAT MIDDEN AND ASSOCIATED VEGETATION FROM RANCHO LA BREA

26-4 2:30 PM Carlin, Joseph*; Schreiner, Kathryn; Dellapenna, Timothy; Smith, Richard: EVIDENCE OF RECENT FLOOD DEPOSITSITON WITHIN A DISTAL SHELF DEPOCENTER AND THE IMPLICATIONS FOR TERRESTRIAL CARBON PRESERVATION IN NON-DELTAIC SHELF SETTINGS

26-5 2:50 PM Guilinger, James J.*; Gray, Andrew; Barth, Nicolas C.; Fong, Brandon T.: POST-WILDFIRE SEDIMENT TRANSFERS FROM DRAINAGE DIVIDES TO ALLUVIAL FANS DOCUMENTED WITH NESTED SCALES OF TOPOGRAPHIC MONITORING

26-6 3:10 PM Gray, Andrew*; McDonnell, Julianna; Behrens, Dane: CHANGING DEPOSITIONAL REGIMES IN THE HUMAN IMPACTED ESTUARY OF A SMALL, MOUNTAINOUS WATERSHED

3:30 PM BREAK

26-7 3:45 PM Gurrola, Larry*; Rogers, J. David: GEOLOGIC HAZARDS DUE TO LANDSLIDE DAMS IN THE COLD SPRINGS AND HOT SPRINGS WATERSHEDS, MONTECITO, COUNTY OF SANTA BARBARA, CALIFORNIA

4:05 PM Manopkawee, Pichawut*; Kirby, Eric: GRAIN-SIZE VARIATIONS AND COUPLED CHANNEL-HILLSLOPE EVOLUTION ALONG A TECTONIC GRADIENT, BOLINAS RIDGE, CALIFORNIA

SESSION NO. 27

T9. The Enigmatic Late Cretaceous-Paleogene Tectonic Evolution of the Southwestern USA

1:30 PM, The Westin Pasadena, San Rafael

Richard V. Heerman, Scott M. Johnston and John S. Singleton, Presiding

27-1 1:30 PM Pedrick, Fiona*; Vogl, James J.; Rusmore, Margaret E.; Borel, Megan: DISTRIBUTION AND AGE OF DUCTILE STRAIN BETWEEN TWO DETACHMENT FAULTS IN THE FOOTTAL OF THE PINEY MOUNTAIN METAMORPHIC CORE COMPLEX

27-2 1:50 PM Cawood, Tarryn K.*; Moser, Amy C.: NEW AGE CONSTRAINTS ON LATE CRETAUCEOUS THRUSTING AND ASSOCIATED GOLD MINERALIZATION IN SE CALIFORNIA


27-4 2:30 PM Chapman, James B.*; Runyon, Simone E.; Barth, Andrew: THE NORTH AMERICAN CORDILLERAN ANATECTIC BELT AND LARIMIDE-AGE CRUSTAL MELTING IN THE SOUTHWEST US

5:05 PM Murray, Bryan P.*; Hames, Willis E.: CHANGES IN THE SULFUR CYCLE AROUND THE 2.63 GA GIANT IMPACT RECORDED IN THE MONTEVILLE FORMATION, SOUTH AFRICA

4:10 PM DISCUSSION

6:05 PM Muray, Bryan P.*; Hames, Willis E.: CHANGES IN THE SULFUR CYCLE AROUND THE 2.63 GA GIANT IMPACT RECORDED IN THE MONTEVILLE FORMATION, SOUTH AFRICA

Wednesday, 13 May 2020
THURSDAY, 14 MAY 2020

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 28

T7. Integrated Subduction Zone Systems: Advances in Understanding Landscape Evolution, Deformation, and Tectonics
8:00 AM, The Westin Pasadena, Plaza Room
Melanie J. Michalak, Francis Sousa and Rebecca Dorsey, Presiding

28-1 8:00 AM Riggs, Nancy R.; Navas-Parajo, Pilar; Martini, Michelangelo; Pringle, Claire K.: NEW DETRITAL ZIRCON DATA FROM THE WESTERNMOST OUACHITA-MARATHON-SONORA SUTURE BELT: IMPLICATIONS FOR WESTERN LAURENTIAN TECTONICS AND CLOSURE OF THE RHEIC OCEAN


28-3 8:40 AM Wakabayashi, John*: EXPOSURES AT BLIND AND NORTH SHELL BEACHES, SONOMA COUNTY COAST, CALIFORNIA: INSIGHT INTO MÉLANGE-FORMING PROCESSES AND SUBDUCTION SLIP ACCOMMODATION

SESSION NO. 29

T23. Professional Pathways within the Geosciences
8:00 AM, The Westin Pasadena, San Rafael
Jennifer Wilson, Presiding

29-1 8:05 AM Racca, Laurie*: 50 YEARS OF PROTECTING THE PUBLIC: UNDERSTANDING KEY CONCEPTS IN CALIFORNIA GEOLOGY LICENSE LAWS AND REGULATIONS

29-2 8:25 AM Ernst, William D.*: PROFESSIONAL GEOLOGIST LICENSURE REQUIREMENTS AND THE ASBOG® NATIONAL GEOLOGY LICENSE EXAMINATIONS

SESSION NO. 30

T26. Geology and Geophysics of the Coso Geothermal Field and Source Area of the 2019 Ridgecrest Earthquake Sequence I: A Tribute to the Career of Francis C. (“Frank”) Monastero
8:00 AM, The Westin Pasadena, Madera Room
Allen F. Glazner and J. Douglas Walker, Presiding

30-1 8:10 AM Bacon, Charles R.*: MULTIDISCIPLINARY CHARACTERIZATION OF THE COSO VOLCANIC AND GEOTHERMAL FIELDS FORTY YEARS AGO

30-2 8:30 AM Burgess, Seth*: Vazquez, Jorge A.; Coble, Matthew A.: THE TIMING AND TEMPO OF QUATERNARY RHYOLITE DOME CONSTRUCTION AT THE COSO VOLCANIC FIELD

30-3 8:50 AM Miller, Jonathan*; Glazner, Allen; Neeb, Oliver: MANTEL-DRIVEN RHYOLITE VOLCANISM IN THE PLEISTOCENE COSO VOLCANIC FIELD (CA): THE RADIOGENIC ISOTOPE RECORD
SESSION NO. 31
T15. Petrology, Geochemistry, and Structure of Cordilleran Batholiths through Space and Time (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division)

1:30 PM, The Westin Pasadena, Plaza Room

Madeline J. Lewis, Claire E. Bucholz, Jade Star Lackey and Juliet Ryan-Davis, Presiding

1:30 PM INTRODUCTORY REMARKS

31-1 1:40 PM Schwartz, Joshua*; Lackey, Jade Star; Miranda, Elena A.; Akciz, Sinan O.: THE SOUTHERN CALIFORNIA BATHOLITH FLARE-UP: HIGH-TEMPERATURE ARC PROCESSES DURING FLAT SLAB COLLISION?

31-2 2:00 PM Grove, M.J.*; Kimbrough, David L.: INSIGHTS INTO THE ASSEMBLY OF THE PENINSULAR RANGES BATHOLITH AND THE NATURE OF PRIMITIVE BASEMENT THAT UNDERLIES ITS WESTERN AND SOUTHERN EXTENT

31-3 2:20 PM Wolterman, Anya*; Chapman, Alan D.: A DEEP GLIMPSE INTO THE PENINSULAR RANGES BATHOLITH: ZIRCON GEOCHRONOLOGY AND HF ISOTOPIC INSIGHTS FROM GRANULITE XENOLITHS OF THE SAN QUINTIN VOLCANIC FIELD, BAJA CALIFORNIA

31-4 2:40 PM Gevedon, Michelle*; Clemens-Knott, Diane; Duccini, Kalie M.: COUPLED ZIRCON HAFNIUM AND OXYGEN ISOTOPES OF LOW Mg# GABBROS: MIXING BETWEEN PARTIAL MELTS OF CONTINENTAL CRUST AND DEPLETED MANTLE IN THE DEEP ARC LITHOSPHERE, SOUTHEASTERN SIERRA NEVADA

3:00 PM BREAK

31-5 3:15 PM Hruska, Grace*; Lackey, Jade Star; McCarty, Kyle R.: THE MONARCH DIVIDE INTRUSIONS: TRANSITIONAL MAGMATISM IN THE SIERRAN ARC

31-6 3:35 PM Glazner, Allen F.*; Bartley, John M.; Coleman, Drew S.: THE ROCKS DON’T LIE, BUT PLUTONS SPEAK A LANGUAGE THAT IS EASY TO MISINTERPRET

31-7 3:55 PM Clemens-Knott, Diane*; Surpless, Kathleen DeGraaff; Barth, Andrew P.; Wooden, Joseph L.; Gevedon, Michelle L.: USING DRETITAL ZIRCON GEOCHEMISTRY TO STUDY DEEP ARC PROCESSES

31-8 4:15 PM Isava, Virginia*; Grove, Marty; Mahoney, J. Brian: PB ISOTOPIC VARIATION OF CRETACEOUS ARC CRUST IN THE PACIFIC NORTHWEST, U.S.A. AND CANADA

4:35 PM DISCUSSION

SESSION NO. 32

T26. Geology and Geophysics of the Coso Geothermal Field and Source Area of the 2019 Ridgecrest Earthquake Sequence II: A Tribute to the Career of Francis C. (“Frank”) Monastero

1:30 PM, The Westin Pasadena, Madera Room

Allen F. Glazner and J. Douglas Walker, Presiding


32-2 1:50 PM Im, Kyungjae*; Avouac, Jean-Philippe: AFTERSHOCKS OF RIDGECREST EARTHQUAKES SUPPRESSED BY THERMAL DE-STRESSING IN COSO GEOTHERMAL FIELD


2:30 PM BREAK

32-4 2:45 PM Akciz, Sinan O.*; Padilla, Salena; Dolan, James F.; Hatem, Alex E.: FAULT SLIP DISTRIBUTION ALONG THE SOUTHERN 15 KM OF THE M7.1 RIDGECREST EARTHQUAKE SURFACE RUPTURE

32-5 3:05 PM Jordan, Frank F.*; Wagner, Miles; Cato, Kerry; Working Group, Searles Valley: GROUND SURFACE RUPTURE MAPPING OF FAULTS IN THE RIDGECREST-TRONA FAULT COMPLEX AND EARTHQUAKE SEQUENCE

32-6 3:25 PM Bartley, John M.*; Glazner, Allen F.; Kylander-Clark, Andrew; Coleman, Drew S.; Frazer, Ryan E.: MODERN DEFORMATION AND VOLCANISM IN OWENS VALLEY REACTIVATES A LARAMIDE-AGE SHEAR ZONE

3:45 PM DISCUSSION

32-7 4:00 PM Frazer, Ryan E.*; Gaynor, Sean P.; Coleman, Drew S.: DEXTRAL OFFSET ACROSS OWENS VALLEY: A VIEW FROM THE ALABAMA HILLS TO THE COSO RANGE


Index of Authors

How to use the indexing system:
The first number (preceding the dash) represents the session number in which the paper will be presented. The second number (following the dash) indicates the presentation order of the paper within its session.

Example: Sumell, Karissa R. … 7-4*
Find Session #7 in the Technical Session portion of the Program, and look at the fourth paper in the session.

Page numbers are not listed in this index. Refer to session number and order of presentation to locate the author you are searching for.

*denotes presenter
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