

Cordilleran Section Meeting Program

Vol. 55, No. 4



Panorama from the Mono Lake South Tufa Area. Photo credit: Dr. Philipp Ruprecht.

17–19 May
Reno, Nevada, USA

www.geosociety.org/cd-mtg

2023

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**FINAL PROGRAM FOR
ABSTRACTS WITH PROGRAMS**

**119th Annual Meeting
CORDILLERAN SECTION, GEOLOGICAL SOCIETY OF AMERICA
17–19 May 2023
Whitney Peak Hotel
Reno, Nevada**

<https://www.geosociety.org/cd-mtg>



Rendezvous at the Geologic Crossroads

Local Program Committee

Meeting Chair	Stacia Gordon
Technical Program	Mike Darin, Andrew Zuza
Field Trips	Pat Cashman, Sue Cashman, Harvey Kelsey
Workshops	Rich Koehler
Exhibits	Joel DesOrmeau
Student Volunteers	Wenrong Cao
Sponsorship	John Louie

GSA Cordilleran Section Officers 2022–2023

Chair	Scott Bennett
Vice Chair	James Chapman
Past Chair	Rachel Teasdale
Secretary and Accounting Officer	Calvin Barnes
GSA Councilors	Nathan Niemi, Jeff Rubin, Wendy Bohrsen

NOTICE

By registering for this meeting, you have acknowledged that you have read and will comply with the GSA Code of Conduct for Events. If you have any concerns about behavior that may violate the Code, please contact:

GSA Executive Director and CEO, Melanie Brandt, mbrandt@geosociety.org

GSA Ethics and Compliance Officer, Nan Stout, ethics@geosociety.org

You may also stop by the registration desk or the GSA Bookstore to have the named individuals directly contacted via phone. Registration for the meeting recommends full vaccination status, and booster shots are strongly advised. Masks are optional for this meeting.

General Information



The 2023 GSA Cordilleran Section Meeting will be held in Reno, Nevada, USA, a modern boomtown situated within the Basin and Range at the foot of the Sierra Nevada Batholith. Nevada, the Silver State, got its nickname from the historical Comstock Lode near Reno, and the state presently hosts world-class gold deposits in the Carlin trend. Reno and the surrounding high desert have much to offer in terms of exciting nearby geology: active faulting within the Walker Lane and Basin and Range, records for ancient glacial outburst floods and vast pluvial lakes, abundant evidence for extrusive and intrusive igneous activity, and windows into the deep crust within the Ruby Mountains and Snake Range metamorphic core complexes. In addition, with great and growing geothermal resources and the only domestic lithium deposits, Nevada is pushing the green-energy revolution! Reno offers affordable housing and abundant restaurants, bars, parks, and the Truckee River to relax in or by at the end of the meeting day. We welcome you to Reno!

Venue

The meeting location is the Whitney Peak Hotel. Registration, oral technical sessions, the speaker ready room, student mentoring activities, and exhibits will be on the third floor of the hotel (Figs. 1, 2). The evening icebreaker and poster sessions will be on the first floor in the Cargo space. Field trips will also depart from the hotel. The EBSD short course will be on the University of Nevada-Reno campus; the short course organizers will email more information to those participating.

Accommodations

We strongly encourage meeting participants to reserve rooms at the Whitney Peak Hotel at 255 North Virginia Street, Reno, NV 89501, which is where the conference will be held.

Travel

The Whitney Peak Hotel is easily accessed by car, bus, bike, and air. The Reno-Tahoe International Airport is a relatively major airport with a variety of flight options and is ~4.5 miles from the airport. Transportation from the airport to hotel can be found either via taxi or rideshare.

Registration

Registration is required for anyone attending technical sessions, field trips, short courses, or exhibits. On-site registration is on the third floor of the Whitney Peak hotel in the Pre-Function A space.

Tuesday, 16 May 3–7 p.m.

Wednesday, 17 May 7 a.m.–4:30 p.m.

Thursday, 18 May 7 a.m.–4:30 p.m.

Friday, 19 May 7–11 a.m.

Registration Fees

On-site registration fees shown in U.S. dollars.

	Full Mtg	One Day
Professional member	\$325	\$250
Professional member 70+	\$270	\$175
Professional nonmember	\$405	\$320
Early career professional member	\$250	\$175
Student member	\$145	\$110
Student nonmember	\$185	\$145
K–12 professional	\$160	\$120
Guest or spouse	\$155	\$120
Field Trip/Workshop Only	\$95	n/a

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, and Refunds

Requests for additions, changes, and cancellations must have been made in writing to GSA Headquarters, by 17 April. No refunds will be made on cancellation notices received after this date. GSA cannot provide refunds for on-site registration or event ticket sales. Refunds will be mailed from GSA after the meeting; refunds for fees paid by credit card will be credited to the card identified on the registration form.

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. Accessible rooms at the hotel are available and can be reserved.

Meeting Program and Abstracts

A web-based meeting program is available for this meeting. This program allows you to view and search the entire meeting program and create your own schedule of events to attend. You can also view the full abstracts from here. Please connect to the meeting program at: <https://gsa.confex.com/gsa/2023CD/meetingapp.cgi>.

Continuing Education Credits

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 & Activities

Tuesday, 16 May

Icebreaker Welcome Reception. 5–7 p.m., Whitney Peak, Cargo Room. The band *Sixmule Pileup* featuring Cordilleran section member Sean Long will play at the event. Complimentary light snacks and beverages.

Wednesday, 17 May

Session Chair Orientation. 7–7:30 a.m., Whitney Peak Ballroom 1.

Oral Technical Sessions. 8 a.m.–noon and 1:30–4 p.m., Whitney Peak Ballroom 1, 2, 3.

Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing. 9–10 a.m., Mt. Rose. No registration is necessary, everyone is welcome to attend.

Geoscience Career Program Workshop Part 2: Geoscience Career Exploration. 10–11 a.m., Mt. Rose. No registration is necessary, everyone is welcome to attend.

Roy J. Shlemon Mentor Program in Applied Geoscience. Noon–1:30 p.m., Mt. Rose. GSA student members will have the opportunity to network with professionals from applied geology over a free lunch. Space is limited; first come, first served.

Geology Club Meetup. 2–3 p.m., Mt. Rose. If you are a geology club member or are interested in starting a club on your campus, plan to meet up and chat with other representatives about their activities, goals, and accomplishments.

Poster Technical Sessions. 4–6 p.m., Cargo Room.

Exhibits Reception. 5–6 p.m., Pre-Function A and B. Complimentary light snacks and beverages.

Live Screening of the Oscar-nominated documentary, *Fire of Love*. 7–9 p.m. Whitney Peak Ballroom 1.

Thursday, 18 May

Session Chair Orientation, 7–7:30 a.m., Whitney Peak Ballroom 1.

GSA Campus Representative Appreciation Breakfast. 7–8 a.m., Mt. Rose.

Oral Technical Sessions. 8 a.m.–noon and 1:30–4 p.m., Whitney Peak Ballrooms 1, 2, and 3.

Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs. 9–10 a.m., Mt. Rose. No registration is necessary, everyone is welcome to attend.

John Mann Mentor Program in Applied Hydrogeology. Noon–1:30 p.m., Mt. Rose. GSA student members will have the opportunity to network with hydrogeology professionals over a free lunch. Space is limited; first come, first served.

Paleontological Society Social. 2–4 p.m., Mt. Rose. Please come by to have some refreshments and meet or reunite with other paleontologists in attendance. Students and anyone curious about paleontology are very much encouraged to attend!

Poster Technical Sessions. 4–6 p.m., Cargo Room.

Exhibits Reception. 5–6 p.m., Pre-Function A and B. Complimentary light snacks and beverages.

GSA Cordilleran Section Business Meeting. 6–7 p.m., Whitney Peak Ballroom 1.

Tribute to Art Sylvester. 6 p.m., The Eddy, 16 S Sierra St., Reno. This is a casual get together to celebrate Art Sylvester. Stop by to have a beer and say hello to Art. For more information, contact Allen Glazner (afg@unr.edu).

Friday, 19 May

Session Chair Orientation. 7–7:30 a.m., Whitney Peak Ballroom 1.

Oral Technical Sessions. 8 a.m.–noon and 1:30–4 p.m., Whitney Peak Ballroom 1, 2, 3.

Town Hall: What's Happening at GSA 12:15–1:15 p.m., Mt. Rose. Please join GSA Executive Director Melanie Brandt for an update on GSA's Strategic Planning. This is an opportunity to interact with leadership and ask questions about the future plans for GSA.

Poster Technical Sessions. 4–6 p.m., Cargo Room.

Exhibits Reception. 5–6 p.m., Pre-Function A and B. Complimentary light snacks and beverages.

Opportunities for Students

Roy J. Shlemon Mentor Program in Applied Geoscience. Wednesday, 17 May, noon–1:30 p.m., Mt. Rose. Jennifer Nocerino, jnocerino@geosociety.org. The Shlemon Mentor Program is designed to extend the mentoring reach of individual professionals from applied geology to students and early career professionals attending GSA section meetings. Over free lunches, mentors and GSA student members discuss real-life issues including professional opportunities and challenges. Space is limited; first come, first served.

John Mann Mentor Program in Applied Hydrogeology. Thursday, 18 May, noon–1:30 p.m., Mt. Rose. Jennifer Nocerino, jnocerino@geosociety.org. The Mann Mentor Program presents mentoring opportunities for GSA student members to interact and network with practicing hydrogeology professionals. This relaxed, small-scale event features a free lunch for attendees and mentors. Space is limited; first come, first served.

Geology Club Meetup

Wed., 17 May, 2 p.m., Mt. Rose. If you are a geology club member or are interested in starting a club on your campus, plan to meet up and chat with other representatives about their activities, goals, and accomplishments.

GSA Career Workshops

No registration is necessary; everyone is welcome to attend.

Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing. Wednesday, 17 May, 9–10 a.m., Mt. Rose. 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 introduce you to informational interviewing. This section is highly recommended for freshman, sophomores, and juniors. The earlier you start your career planning the better.

Geoscience Career Program Workshop Part 2: Geoscience Career Exploration. Wednesday, 17 May, 10–11 a.m., Mt. Rose. 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 Program Workshop Part 3: Cover Letters, Résumés, and CVs. Thursday, 18 May, 9–10 a.m., Mt. Rose. 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 helping you to learn important résumé dos and don'ts.

Student Volunteers

Students accepted as meeting volunteers must check in at the main registration booth in the Pre-Function Lobby A. A break room for volunteers is available in the Alpine room on the 4th floor of the hotel.

Exhibits

Exhibitors are located in Pre-Function A & B.

Hours for Exhibitors are:

Set up: Tuesday, 16 May, 10 a.m.–5 p.m.

Open: Tuesday, 16 May, 5–7 p.m.

Open: Wednesday, 17 May, 9 a.m.–6 p.m.

Open: Thursday, 18 May, 9 a.m.–6 p.m.

Open: Friday, 19 May, 9 a.m.–6 p.m.

Tear down: Friday, 19 May, 6–10 p.m.

As of mid-March, Exhibitors include:

2024 Cordilleran/Rocky Mtn Section Meeting

American Institute of Professional Geologists

California Department of Water Resources

Center for Transformative Environmental

Monitoring Programs

GSA Foundation Booth

GSA Bookstore Booth

Ioneer USA Corporation

Lettis Consultants International

Nevada Bureau of Mines and Geology

Ormat Technologies, Inc.

Pacific Section SEPM

USGS MRP

Zonge International

Technical Program

The Technical Program begins each day at 8 a.m. and concludes each day at 6 p.m., 17–19 May.

Oral Sessions

Please review your acceptance notice for the location and length of your presentation. Oral presentations must be prepared using PowerPoint or PDF formats, using a 16:9 screen ratio. One laptop with Windows 10 (no Macs available) with Office 2021, one LCD projector, and one screen is provided for all oral sessions. In addition, each room is equipped with a lectern, a podium and a wireless microphone, a computer mouse, a wireless PowerPoint advancer, and a speaker timer.

Poster Sessions

All poster sessions are in the Cargo Room. Poster presenters have one 4 x 6-foot horizontal (landscape) poster display surface. Please check the Program for specific times

and topics. Numbers on these display surfaces correspond to the poster booth numbers listed in the Program. The poster boards accept push pins, and some pins are furnished for each poster. Authors can put up their posters before 10 am in the morning. Posters must be taken down after the poster session in the afternoon.

Speaker Ready Room

All oral presenters must visit the Speaker Ready Room (Wheeler Peak room) before their scheduled presentation to ensure their PowerPoint or PDF file is properly configured and operating, and to load it on one of the laptops. Failure to do so may result in presentations being omitted from sessions.

Speaker Ready Room hours are as follows:

Tuesday, 16 May: 3–7 p.m.

Wednesday, 17 May: 7 a.m.–6 p.m.

Thursday, 18 May: 7 a.m.–6 p.m.

Friday, 19 May: 7 a.m.–11 a.m.

Each speaker must bring a PowerPoint or PDF presentation on a USB compatible flash drive (a.k.a. thumb drive or memory stick) to the Speaker Ready Room for checking and uploading to the correct session folder. For morning sessions, talks must be uploaded the prior day. For afternoon sessions, talks must be uploaded by 10 a.m.

Information for Session Chairs

Session chairs are required to attend a Session Chairs Orientation, to be held 7–7:30 a.m., in Whitney Peak Ballroom 1 Wednesday–Friday. Session chairs are requested to adhere to the schedule and to encourage the strict time limits provided to speakers.

Field Trips

Trips leave from the Whitney Peak Hotel in the lobby. Please check itinerary for departure time.

Pre-Meeting

FT1. Geology along the Yuba Pass and Highway 70 Corridors: A Complex History of Tectonics and Magmatism in the Northern Sierra Nevada. Tues., 16 May. Cost: US\$92. Check in 8 a.m. Michelle A. Roberts, U.S. Geological Survey, roberts@usgs.gov; Vicki Langenheim, U.S. Geological Survey, zulanger@usgs.gov.

Description: This trip begins with accreted Paleozoic arc terranes, proceeding east to examine a composite Jurassic pluton as well as a tuff from a caldera in Nevada with tectonic implications in the northern Walker Lane and Sierra Nevada uplift. The trip ends with Cretaceous granite and Miocene volcanoes of Sierra Valley. The trip starts and ends at the convention center in Reno. Stops will be located along Highway 49, the Gold Lake Highway (if snow conditions allow), and Highway 70. The last stop is planned near Chilcoot, about 30–40 minutes northwest of Reno.

FT2. The Blast, The Quake, and the Bomb: An Accessible Tour of High-Energy Events in Western

Nevada. Tues., 16 May. Cost: US\$205. Check in 8 a.m. John Louie, University of Nevada, Reno, louie@unr.edu; Philipp Ruprecht, University of Nevada, Reno, pruprecht@unr.edu. **Description:** An accessible eight-hour, in-person tour of intersecting geologic and human history in western Nevada. A 25-megaton phreatomagmatic blast created a mile-wide (1.6-km-wide) maar, now filled by Soda Lake. The magnitude 7 Dixie Valley earthquake ripped along more than 45 km of the Stillwater Range front in 1954. The 12-kiloton Shoal nuclear test in 1963 created a 50-m-wide cavity in solid granite. This one-day trip will visit three areas near and east of Fallon, Nevada, as accessibly as possible.

FT3. Northern Walker Lane Seismic Hazards and State Water Project Dams: Upper Feather River, California.

Tues., 16 May. Cost: US\$105. Check in 8 a.m. Chad W. Carlson, California Department of Water Resources, chad.carlson@water.ca.gov; Don F. Hoirup, California Department of Water Resources, don.hoirup@water.ca.gov; Christopher Hitchcock, InfraTerra Inc., chitchcock@infra-terra.com.

Description: We will explore seismic sources within the northern Walker Lane proximal to infrastructure managed by the California Department of Water Resources (DWR). We will visit multiple sites within the upper Feather River drainage where three DWR reservoirs reside and present the results of ongoing work toward regional seismic hazard assessment.

FT4. Ammonites and Ichthyosaurs in Nevada's Triassic-Jurassic Seaway.

Tues., 16 May. Cost: US\$123. Check in 8 a.m. Montana Hodges, University of Nevada, Reno, montanahodges@unr.edu; Neil Kelley, Vanderbilt University, neil.p.kelley@vanderbilt.edu; Paula Noble, University of Nevada, Reno, noblepj@unr.edu.

Description: This trip visits two localities in the Luning-Berlin Assemblage of the Walker Lake Terrane in central Nevada: Westgate, which exposes an ammonite-rich Triassic-Jurassic boundary section, and Berlin Ichthyosaur State Park, where we will tour Charles Camp's ichthyosaur localities and Carnian-Norian Luning sections in the park. Stops are near roads, accessible, with optional light hiking.

FT5. Tufa or Microbialites?

Tues., 16 May. Cost: US\$56. Check in 8 a.m. Russell Shapiro, California State University, Chico, rss Shapiro@csuchico.edu; Tom Anderson, University of Nevada, Reno; Laura DeMott, New York Water Science Center, U.S. Geological Survey. **Description:** This field trip will showcase examples of tufas/microbialites from modern Soda Lake towers to Pleistocene Lake Lahontan encrustations to Miocene mounds from volcanic lakes. Are they biogenic? Field sites will be augmented with petrographic thin-sections and geochemical data. Potential side trip to collect fossil fish from Pliocene diatomite beds.

FT6. Bodie and Aurora Mining Districts, Mono County California, USA.

Tues., 16 May. Cost: US\$132. Check in 8 a.m. Gregg Wilkerson, California State University,

Bakersfield, gwilkerson1@csub.edu. **Description:** The geology and mining history of Mono County with a focus on the Bodie and Aurora districts. This trip starts and ends in Reno, Nevada. We will first stop in the Bridgeport Valley and admire the County Court house in Bridgeport. Our first geology stop is Travertine Hot Springs and abandoned quarry just east of route 395 near Bridgeport. From there, we travel downstream and south along the East Walker River and then Virginia Creek to the remains of the placer mining camp of Dogtown. At Bodie, we explore the State Park preserved ghost town and look at the mineralization, including hot springs sinter on Bodie Bluff. Finally, we will visit the townsite of Del Monte, and end up at Aurora where we will discuss the mines of the Aurora district.

Post-Meeting

FT7. Miocene Diatomite in Western Nevada—Climate and Tectonic Implications.

Sat., 20 May. Cost: US\$119. Check in 8 a.m. Michel Houseman, Imerys, mike.houseman@imerys.com; Bill Krebs, Subsurface Consultants, wnkrebs@hotmail.com. **Description:** Diatomite is abundant in western Nevada, occurring in several middle to late Miocene basins. In many of these basins, diatomite formation and the resulting diatom assemblage provide interesting and valuable insight into Miocene climate, geomorphology, and tectonic history. We propose visiting two well-studied basins, Hazen and Nightingale Hot Springs, <150 total miles from Reno.

FT8. From Headwaters to The Terminal Basin: Tracking the Interrelated History of Lake Tahoe, The Truckee River, and Pyramid Lake.

Sat., 20 May. Cost: US\$52. Check in 8 a.m. Kenneth D. Adams, Desert Research Institute, kadams@dri.edu.

Description: This trip will travel from Lake Tahoe to Pyramid Lake and along the way will highlight: (1) ancient shorelines elevated above modern Lake Tahoe that formed when glaciers blocked the lake's outlet and raised lake levels, (2) outburst flood deposits and landforms distributed downstream along the Truckee River after the ice dam(s) failed, (3) Holocene terrace sequences and their paleoclimate meaning, and (4) historical terraces formed as the level of Pyramid Lake lowered over the last one hundred years.

FT9. Northern Sierra Nevada: Ophiolites and Blueschists to Active Tectonics and Geomorphology.

Sat.–Sun., 20–21 May. Cost: US\$210. Check in 8 a.m. John Wakabayashi, California State University, Fresno, johnwako@sbcglobal.net; David Shimabukuro, California State University, Sacramento, dhs@csus.edu.

Description: Two days. This trip will view outcrops of Paleozoic and Mesozoic ophiolitic rocks and subduction complexes of the northern Sierra Nevada, including blueschists and mélanges, as well as geomorphic and stratigraphic relationships that record active tectonics and evolution of scenic landscape the trip will traverse. This field trip is designed to be a two-day field trip although it may be expanded to three days to accommodate visits to a

wider range of outcrops and viewpoints. The field trip will examine outcrops and landscape in the Feather and Yuba River drainages with one day spent at each. Highlights include the Feather River ultramafic belt, its metamorphic sole, subjacent mélange, inset Quaternary basalt flows in the North Fork Feather River canyon, Quaternary faulting, including scarps in Quaternary basalt flows, blueschists and mélanges in the North Fork Yuba canyon and exposures of the enigmatic Sierra City mélange in multiple localities. All planned stops are along roadcuts or views from roads, so they require minimal hiking. Overnight accommodations would be reserved in Quincy or the Blairsden area, which saves about hour of driving time at the end of the first day and another hour at the beginning of the second day.

FT10. The Transition from Walker Lane Transtension to Vertical-Axis Rotation Deformation Styles in Southern Oregon. Fri, 19 May–Sun, 21 May. Cost: US\$441. Check in 2:30 p.m. Andrew Meigs, Oregon State University, Andrew.Meigs@oregonstate.edu; Katherine Alexander, U.S. Geological Survey; Colin Amos, Western Washington University, amosc2@wwu.edu; Trevor Waldien, South Dakota School of Mines, trevor.waldien@sdsmt.edu.

Description: Three days. Leaving promptly at 3 pm Friday from Reno and returning by 3 pm Sunday to Reno. This field trip showcases a new body of work revealing the timing, rate, and structural style of the northern Walker Lane, which ends in the Klamath Graben and Cascade arc in southern Oregon. Walker Lane transtension gives way northward to vertical axis block rotation associated with clockwise rotation of the Siletzia forearc block above the Casacdia subduction zone. Day 1: afternoon: leave Reno convention site; one stop in Walker Lane (Tule Lake, or Honey Lake); transit to Klamath Falls (4.5-hour drive) (overnight Klamath Falls). Day 2: North end of Walker Lane in Klamath basin including west Klamath fault zone and moraines, Howard Bay fault zone, and exposed fault surfaces onset and east sides of Klamath Lake (overnight Klamath Falls). Day 3: Vertical axis rotation

in Siletzia backarc. Morning: Dillman Meadows fault zones (possibly also Sisters Fault Zone); afternoon: transit to Reno (5 hours).

Short Courses

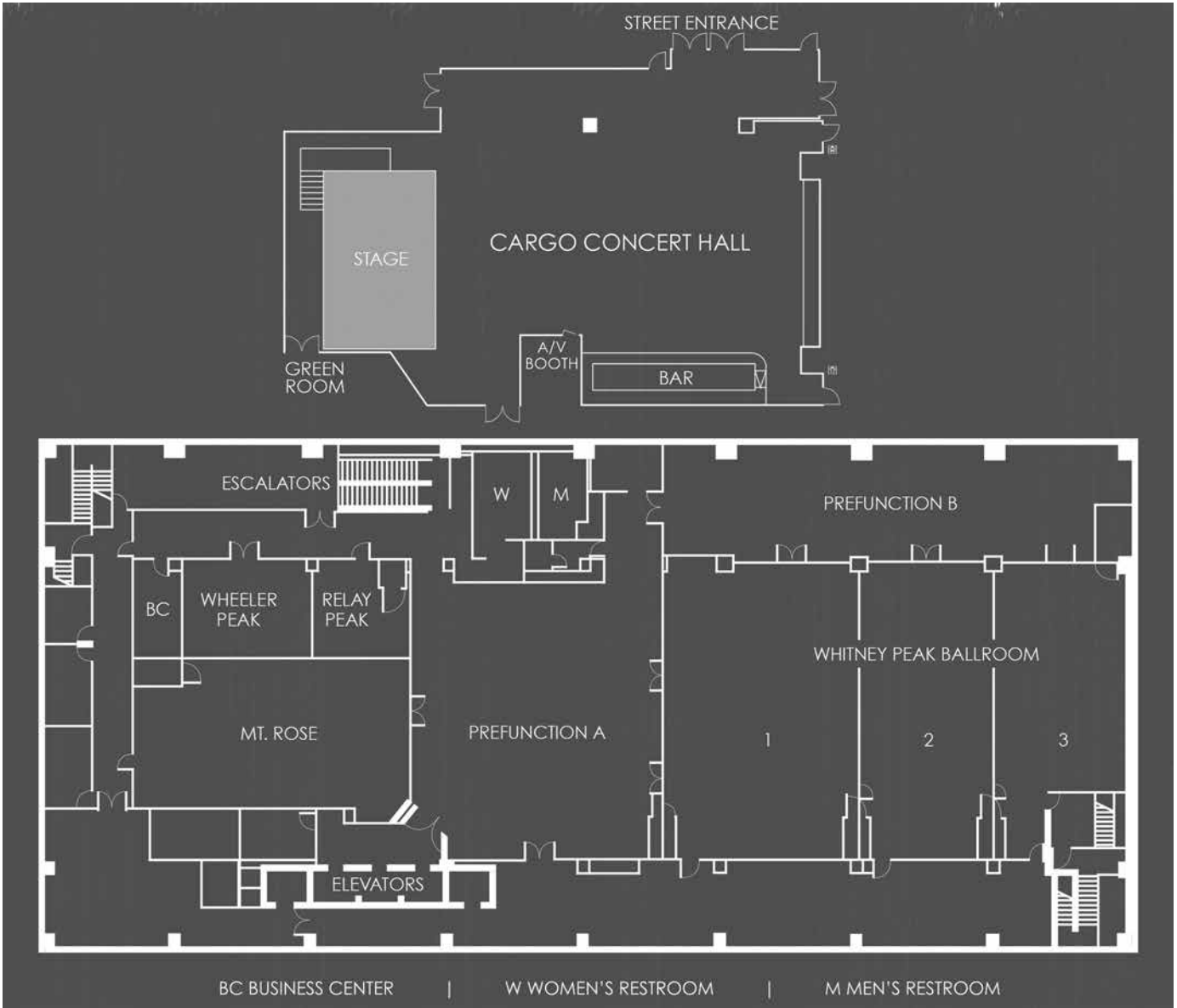
For information on the short courses, please contact the short course chair: Rich Koehler, rkoehler@unr.edu.

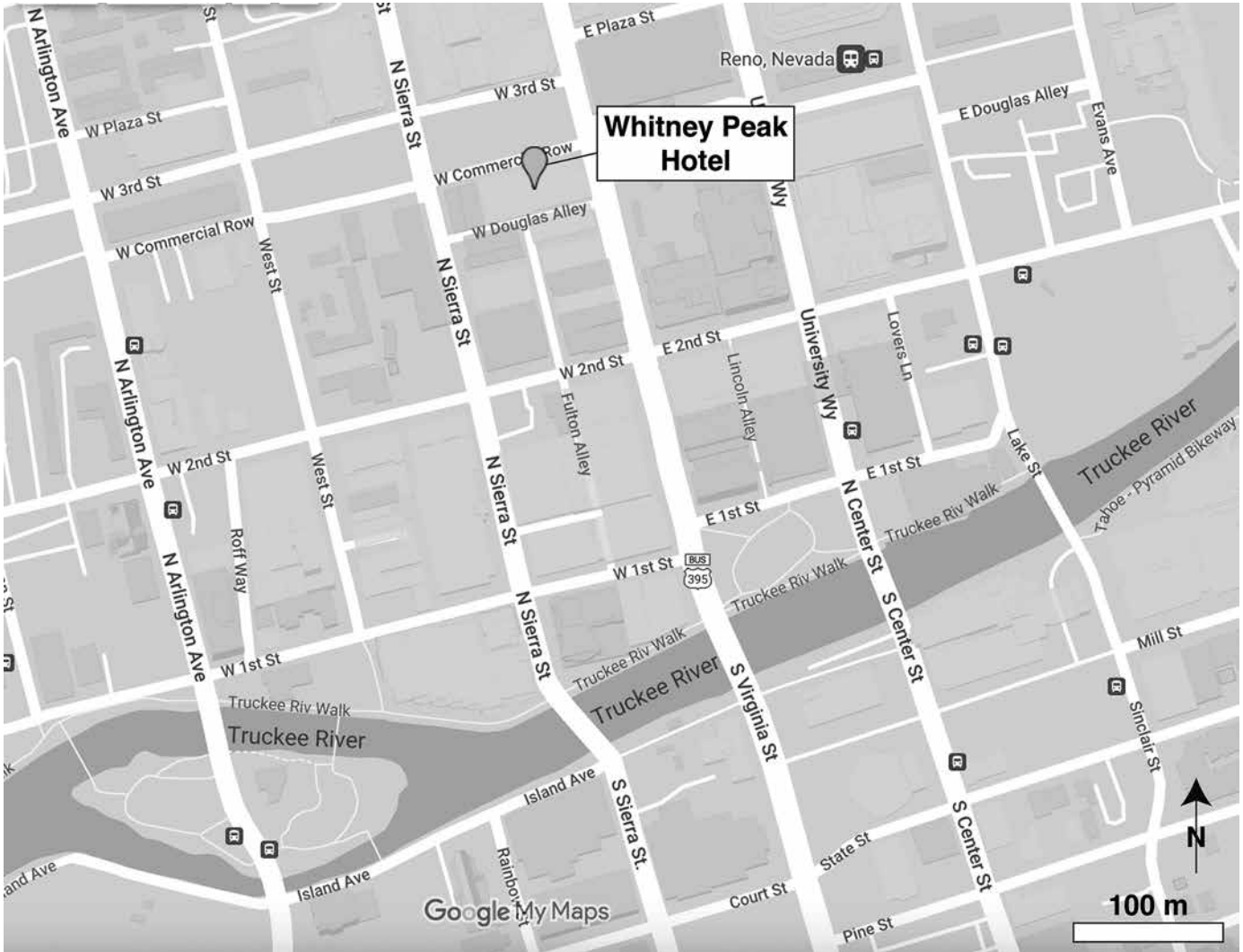
SC1. Basics of Electron Backscatter Diffraction (EBSD) Analysis Related to Structural and Petrochronology Studies. Tues., 16 May, 9 a.m.–4:30 p.m., University of Nevada-Reno campus, Paul Laxalt Mineral Research Building, Room 153, Cost: US\$15 students/US\$20 all others. Joel DesOrmeau, University of Nevada, Reno, jdesormeau@unr.edu; Zach Michels, University of Arizona, zacharymichels@arizona.edu; Drew Levy, University of Nevada, Reno, drewlevy@nevada.unr.edu.

Description: Structural geology and petrochronology studies take advantage of quantitative microstructural analyses via Electron Backscatter Diffraction (EBSD) to better understand complex crystallization and deformation histories. This short course will provide basic concepts of routine to advanced EBSD data collection and analysis. Topics will touch on sample preparation, analytical setup, and offline data handling.

SC2. Solving Geomorphic Puzzles for Paleoflood Analyses: It's Just Water and Dirt, Right? Tues., 16 May, 8 a.m.–5 p.m. Meet in the Whitney Peak Hotel Lobby. Cost: US\$99. Keith Kelson, USACE National Paleoflood Lead, keith.i.kelson@usace.army.mil.

Description: The goal of this field-based course is to introduce geologic and geomorphic concepts for interpreting the magnitude, timing, and extent of extreme floods, as applied to paleoflood analyses, long-term hydrologic loading, and infrastructure risk assessment. Field discussions at multiple field sites along the Truckee River; post-course conclusions at Revision Brewing.





Schedule of Events

EVENT	TIME	LOCATION
TUESDAY, 16 MAY		
FT1. Geology along the Yuba Pass and Highway 70 Corridors: A Complex History of Tectonics and Magmatism in the Northern Sierra Nevada Check-In (Field Trip)	8–8:30 am	Whitney Peak Hotel Lobby
FT2. The Blast, The Quake, and the Bomb: An Accessible Tour of High-Energy Events in Western Nevada Check-In (Field Trip)	8–8:30 am	Whitney Peak Hotel Lobby
FT3. Northern Walker Lane Seismic Hazards and State Water Project Dams: Upper Feather River, California Check-In (Field Trip)	8–8:30 am	Whitney Peak Hotel Lobby
FT4. Ammonites and Ichthyosaurs in Nevada's Triassic- Jurassic Seaway Check-In (Field Trip)	8–8:30 am	Whitney Peak Hotel Lobby
FT5. Tufa or Microbialites? Check-In (Field Trip)	8–8:30 am	Whitney Peak Hotel Lobby
FT6. Bodie and Aurora Mining Districts, Mono County California, USA Check-In (Field Trip)	8–8:30 am	Whitney Peak Hotel Lobby
SC2. Solving Geomorphic Puzzles for Paleoflood Analyses: It's Just Water and Dirt, Right? Check-In (Short Course)	8–8:30 am	Whitney Peak Hotel Lobby
SC1. Basics of Electron Backscatter Diffraction (EBSD) Analysis Related to Structural and Petrochronology Studies	9 a.m.–4:30 p.m.	University of Nevada-Reno Campus, Paul Laxalt Mineral Research Bldg, Room 153
Exhibitor Set up	10 a.m.–5 p.m.	Prefunction A and B
Registration Open	3–7 p.m.	Prefunction A
Speaker Ready Room	3–7 p.m.	Wheeler Room
Exhibits Open	5–7 p.m.	Prefunction A and B
Icebreaker Welcome Reception	5–7 p.m.	Cargo Room
WEDNESDAY, 17 MAY		
Session Chair Orientation	7–7:30 am	Whitney Peak Ballroom 1
Registration Open	7 a.m.–4:30 pm	Prefunction A
Speaker Ready Room	7 a.m.–6 p.m.	Wheeler Room
Morning Oral Technical Sessions		
T2. Drivers of Cordilleran Magmatic Processes and Geochemistry	8 a.m.–noon	Whitney Peak Ballroom 2
T4. Strike-Slip Faulting, Flower Structures, Plutons, and Tiltmeters I: A Tribute to the Career of Arthur Sylvester	8 a.m.–noon	Whitney Peak Ballroom 1
T12. A Multidisciplinary Effort to Better Understand Northern California's Clear Lake Volcanic Field	8 a.m.–noon	Whitney Peak Ballroom 3
All-Day Poster Sessions: authors will be present from 4 to 6 PM		
D2. Environmental, Hydrological, and Engineering Geology (Posters)	8 a.m.–6 p.m.	Cargo Room
T1. Evolution of Transcrustal Cordilleran Arc Systems (Posters)	8 a.m.–6 p.m.	Cargo Room
T2. Drivers of Cordilleran Magmatic Processes and Geochemistry (Posters)	8 a.m.–6 p.m.	Cargo Room
T9. Paleo-, Archaeo-, and Rock-Magnetic Studies of Cordilleran Evolution and Geomagnetic Secular Variations of the Western United States (Posters)	8 a.m.–6 p.m.	Cargo Room
T22. Integrated Geologic Maps and 3D Models in a Complex Non-Layered World (Posters)	8 a.m.–6 p.m.	Cargo Room
T30. Undergraduate Research (Posters)	8 a.m.–6 p.m.	Cargo Room
Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing	9–10 a.m.	Mt. Rose
Exhibits Open	9 a.m.–6 p.m.	Prefunction A and B
Geoscience Career Program Workshop Part 2: Geoscience Career Exploration	10–11 a.m.	Mt. Rose
Roy J. Shlemon Mentor Program in Applied Geoscience	noon–1:30 p.m.	Mt. Rose

EVENT	TIME	LOCATION
Afternoon Oral Technical Sessions		
T1. Evolution of Transcrustal Cordilleran Arc Systems	1:30–4:30 p.m.	Whitney Peak Ballroom 2
T4. Strike-Slip Faulting, Flower Structures, Plutons, and Tiltmeters II: A Tribute to the Career of Arthur Sylvester	1:30–4:30 p.m.	Whitney Peak Ballroom 1
T13. Interdisciplinary Insights into the Ecosystem, Paleoclimate, Volcanology, and Tectonic Framework of Mono Lake, California	1:30–5 p.m.	Whitney Peak Ballroom 3
Geology Club Meet-up	2–3 p.m.	Mt. Rose
Live Screening of the Oscar-nominated documentary, <i>Fire of Love</i>	7-9 p.m.	Whitney Peak Ballroom 1
THURSDAY, 18 MAY		
Session Chair Orientation	7–7:30 a.m.	Whitney Peak Ballroom 1
GSA Campus Representative Appreciation Breakfast	7–8 a.m.	Mt. Rose
Registration Open	7 a.m.–4:30 pm	Prefunction A
Speaker Ready Room	7 a.m.–6 p.m.	Wheeler Room
Morning Oral Technical Sessions		
S1. Late Jurassic to Eocene Tectonics of the North America Cordillera I: Evolving and Emerging Models	8 a.m.–noon	Whitney Peak Ballroom 1
T10. Paleontologic Advances in the Cordilleran Region	8 a.m.–noon	Whitney Peak Ballroom 3
T31. From High Grade to Low Grade: Honoring the Contributions of J. Douglas Yule Towards Understanding the Growth and Active Deformation of Western North America	8 a.m.–noon	Whitney Peak Ballroom 2
All-Day Poster Sessions: authors will be present from 4 to 6 PM		
T31. From High Grade to Low Grade: Honoring the Contributions of J. Douglas Yule Towards Understanding the Growth and Active Deformation of Western North America (Posters)	8 a.m.–5 p.m.	Cargo Room
D1. Evaluating Linkages Between Volcanic, Sedimentary and Tectonic Processes (Posters)	8 a.m.–6 p.m.	Cargo Room
D4. Geoscience Education (Posters)	8 a.m.–6 p.m.	Cargo Room
S1. Late Jurassic to Eocene Tectonics of the North America Cordillera: Evolving and Emerging Models (Posters)	8 a.m.–6 p.m.	Cargo Room
T4. Strike-Slip Faulting, Flower Structures, Plutons, and Tiltmeters: A Tribute to the Career of Arthur Sylvester (Posters)	8 a.m.–6 p.m.	Cargo Room
T7. Advancements in Central Sierra Nevada Structural Geology and Tectonics (Posters)	8 a.m.–6 p.m.	Cargo Room
T10. Paleontologic Advances in the Cordilleran Region (Posters)	8 a.m.–6 p.m.	Cargo Room
T15. Applied Geophysical Analysis of the Shallow Subsurface (Posters)	8 a.m.–6 p.m.	Cargo Room
Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs	9–10 a.m.	Mt. Rose
Exhibits Open	9 a.m.–6 p.m.	Prefunction A and B
John Mann Mentor Program in Applied Hydrogeology	noon–1:30 p.m.	Mt. Rose
Afternoon Oral Technical Sessions		
D1. Evaluating Linkages Between Volcanic, Sedimentary and Tectonic Processes	1:30–4 p.m.	Whitney Peak Ballroom 2
D2. Environmental, Hydrological, and Engineering Geology	1:30–4 p.m.	Whitney Peak Ballroom 3
S1. Late Jurassic to Eocene Tectonics of the North America Cordillera II: Evolving and Emerging Models	1:30–4:30 p.m.	Whitney Peak Ballroom 1
Paleontological Society Social	2–4 p.m.	Mt. Rose
Exhibits Reception	5–6 p.m.	Prefunction A and B
GSA Cordilleran Section Business Meeting	6–7 p.m.	Whitney Peak Ballroom 1
Tribute to Art Sylvester	6–8 p.m.	The Eddy, 16 S Sierra St., Reno
FRIDAY, 19 MAY		
Session Chair Orientation	7–7:30 a.m.	Whitney Peak Ballroom 1

EVENT	TIME	LOCATION
Registration Open	7–11 a.m.	Prefunction A
Speaker Ready Room	7–11 a.m.	Wheeler Room
Morning Oral Technical Sessions		
P1. Late Jurassic to Eocene Tectonics of the North America Cordillera III: Evolving and Emerging Models	8 a.m.–noon	Whitney Peak Ballroom 1
T14. Nature of Magma Processes in Different Sized and Shaped Plutons	8 a.m.–noon	Whitney Peak Ballroom 2
T19. General Contributions in Geomorphology	8 a.m.–noon	Whitney Peak Ballroom 3
All-Day Poster Sessions: authors will be present from 4 to 6 PM		
D3. Economic Geology (Posters)	8 a.m.–6 p.m.	Cargo Room
T3. Tectonic Processes along Subduction Zone Margins (Posters)	8 a.m.–6 p.m.	Cargo Room
T8. At the Crossroads—Addressing Geological Questions and Complexities Near the Boundary of the Basin & Range, Cascadia, and/or Sierra Nevada Provinces (Posters)	8 a.m.–6 p.m.	Cargo Room
T11. Glacier Change in the Western Cordillera (Posters)	8 a.m.–6 p.m.	Cargo Room
T14. Nature of Magma Processes in Different Sized and Shaped Plutons (Posters)	8 a.m.–6 p.m.	Cargo Room
T19. General Contributions in Geomorphology (Posters)	8 a.m.–6 p.m.	Cargo Room
T29. Graduate Student Research (Posters)	8 a.m.–6 p.m.	Cargo Room
Exhibits Open	9 a.m.–6 p.m.	Prefunction A and B
Town Hall: What's Happening at GSA	12:15–1:15 p.m.	Mt. Rose
FT10. The Transition from Walker Lane Transtension to Vertical-Axis Rotation Deformation Styles in Southern Oregon Check-In (Field Trip)	2:30-3 p.m.	Whitney Peak Hotel Lobby
Exhibits Reception	5–6 p.m.	Prefunction A and B
Exhibitor Tear down	6–10 p.m.	Prefunction A and B
Afternoon Oral Technical Sessions		
T3. Tectonic Processes along Subduction Zone Margins	1:30–4:30 p.m.	Whitney Peak Ballroom 1
T8. At the Crossroads—Addressing Geological Questions and Complexities Near the Boundary of the Basin & Range, Cascadia, and/or Sierra Nevada Provinces	1:30–4 p.m.	Whitney Peak Ballroom 2
T11. Glacier Change in the Western Cordillera	1:30–4:30 p.m.	Whitney Peak Ballroom 3
SATURDAY, 20 MAY		
FT7. Miocene Diatomite in Western Nevada—Climate and Tectonic Implications Check-In (Field Trip)	8–8:30 a.m.	Whitney Peak Hotel Lobby
FT8. From Headwaters to The Terminal Basin: Tracking the Interrelated History of Lake Tahoe, The Truckee River, and Pyramid Lake Check-In (Field Trip)	8–8:30 a.m.	Whitney Peak Hotel Lobby
FT9. Northern Sierra Nevada: Ophiolites and Blueschists to Active Tectonics and Geomorphology Check-In (Field Trip)	8–8:30 a.m.	Whitney Peak Hotel Lobby

Technical Sessions



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



NOTE INDEX SYSTEM

Numbers (3-4, 15-4) indicate session and order of presentation within that session.

* denotes speaker

WEDNESDAY, 17 MAY 2023

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 1

T2. Drivers of Cordilleran Magmatic Processes and Geochemistry

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 2

Juliet Ryan-Davis, Madeline Lewis, Penny Wieser and Claire Bucholz, Presiding

- 8:00 AM Introductory Remarks
- 1-1 8:05 AM Vikre, Peter*; Thompson, Jay; Pribil, Michael J.; Premo, Wayne: FRACTIONATION OF CHALCOPHILE AND SIDEROPHILE ELEMENTS IN SULFIDE-SATURATED LITHOSPHERIC MAGMAS OF THE WESTERN GREAT BASIN: RELATION TO MAJOR AU-AG DEPOSITS
- 1-2 8:25 AM Todd, Erin*: MAKING MIDDLE CRUST; A COMPARISON OF JUXTAPOSED OCEANIC AND CONTINENTAL MARGIN PLUTONS IN THE WESTERN ALASKA RANGE
- 1-3 8:45 AM Campbell, Joella*; Cecil, Robinson: DOCUMENTING SPATIAL AND TEMPORAL CHANGES IN THE GROWTH OF THE SIERRA NEVADA BATHOLITH, AS RECORDED IN ZIRCON TRACE ELEMENT SIGNATURES
- 1-4 9:05 AM Craddock Affinati, Suzanne*; Hoisch, Thomas D.; Haxel, Gordon B.: GEOCHEMICAL AND GEODYNAMIC MODELING EVIDENCE OF MELTS GENERATED BY FLUID INFILTRATION OF THE CONTINENTAL CRUST DURING LARAMIDE FLAT-SLAB SUBDUCTION
- 1-5 9:25 AM Chang, Carey*; Van Buer, Nicholas: ONE-FELDSPAR GRANITES IN THE SODA MOUNTAINS: MESOZOIC A-TYPE GRANITES IN THE MOJAVE?
- 9:45 AM Break
- 1-6 10:00 AM Van Wagoner, Nancy*; Ootes, Luke; Mihalynuk, Mitchell G.; Wall, Corey J.: AN EARLY EOCENE LARGE IGNEOUS PROVINCE, NORTHWESTERN NORTH AMERICA, WITH IMPLICATIONS FOR CORDILLERAN TECTONICS AND COEVAL CLIMATIC EXCURSIONS

- 1-7 10:20 AM Cousens, Brian*; Henry, Christopher D.; Chan, Sabrina; Sullivan, Jacob; Pegg, Brittany; Boddy, Martina; Timmermans, Ann C.: THE RADIOGENIC ISOTOPE RECORD OF CENOZOIC CONTINENTAL ARC MAGMATISM ACROSS EASTERN CALIFORNIA AND NORTHERN NEVADA: MANTLE VS. CRUSTAL SOURCES AND ISOTOPIC BOUNDARIES
- 1-8 10:40 AM Chan, Sabrina; Cousens, Brian*; Henry, Christopher D.: THE STONE CABIN FORMATION, NEVADA, USA: GEOCHEMICAL AND ISOTOPIC INDICATORS OF MAGMA SOURCES AND CRUSTAL INFLUENCE IN AN EOCENE CALDERA SYSTEM
- 1-9 11:00 AM Harrison, Lauren*; Clynne, Michael A.; Muffler, L.J. Patrick: INSIGHTS FROM CRYSTAL CHEMISTRY INTO THE PLUMBING SYSTEM OF A RAPIDLY ERUPTED SHIELD VOLCANO, CASCADES VOLCANIC ARC, CALIFORNIA
- 1-10 11:20 AM Platt, Bryant*; Putirka, Keith; Clynne, Michael A.: DOES THE ARRIVAL OF RECHARGE MAGMA CONTROL THE TIMING OF VOLCANIC ERUPTIONS? EVIDENCE FOR POST-RECHARGE COOLING IN ERUPTIONS FROM BROKEOFF VOLCANO, LASSEN VOLCANIC CENTER, CALIFORNIA
- 1-11 11:40 AM Pamukcu, Ayla*; Gaetani, Glenn: HYDROGEN ISOTOPE SIGNATURES OF MAGMA ASCENT AND CO₂ FLUXING IN OLIVINE-HOSTED MELT INCLUSIONS

SESSION NO. 2

T4. Strike-Slip Faulting, Flower Structures, Plutons, and Tiltmeters I: A Tribute to the Career of Arthur Sylvester (GSA Structural Geology and Tectonics Division)

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 1

Allen F. Glazner, An Yin, Richard D. Law and Marc Mayes, Presiding

- 8:00 AM Introductory Remarks
- 2-1 8:05 AM Van Buer, Nicholas*: FROM GEOLOGY UNDERFOOT TO ACROSS THE MOJAVE ON FOOT: FIELD-BASED PUBLIC OUTREACH VIA YOUTUBE

- 2-2 8:25 AM Bartley, John*; Stearns, Michael A.; Bowman, John R.; Beno, Carl J.; Saunders, Emmaline; Nicholas, Sarah: TITANITE ZONATION RECORDS MAGMATIC TO AUTOMETAMORPHIC TRANSITION IN THE LITTLE COTTONWOOD STOCK, UTAH
- 2-3 8:45 AM Nelson, Ellen; Tikoff, Basil*; Shipley, Thomas; Morgan, Sven: SAGE HEN FLAT, WHITE MOUNTAINS, CALIFORNIA: AN EXPLORATION IN PLUTON EMPLACEMENT, CERTAINTY IN DATA, AND THE UTILITY OF SALIENCE MAPS
- 2-4 9:05 AM Morgan, Sven*: BIRCH CREEK PLUTON, PAPOOSE FLAT PLUTON, LACCOLITHS, AND THE PROGRESSION OF STUDYING INTRUSIONS
- 2-5 9:25 AM Glazner, Allen*; Bartley, John M.; Sylvester, Arthur: PLUTONS AIN'T WHAT THEY USED TO BE
9:45 AM Break
- 2-6 10:00 AM Sylvester, Arthur*; Glazner, Allen: EFFECTS OF THE 2022 DEATH VALLEY FLOODS ON GOWER GULCH AND MOSAIC CANYON: MEH
- 2-7 10:20 AM Mayes, Marc*; Sylvester, Arthur: DRONE IMAGING APPLICATIONS FOR FIRE ECOLOGY, WILDFIRE HAZARD MITIGATION AND EMERGENCY RESPONSE: A REVIEW OF PAST ACCOMPLISHMENTS AND FUTURE APPLICATIONS
- 2-8 10:40 AM Wakabayashi, John*: GEOLOGIC MAPPING AND RELATED FIELDWORK AS CUTTING-EDGE SCIENCE: NEW PATTERN RECOGNITION ADVANCES RESEARCH
- 2-9 11:00 AM Putnam, Roger*; Glazner, Allen: IMAGING AND INTERPRETING THE HIGH SIERRA AMONG AVIATORS, MOUNTAINEERS, AND OTHER ADVENTURERS
- 2-10 11:20 AM Carlson, Chad*; Hoirup, Don; Hitchcock, Christopher: NORTHERN WALKER LANE SEISMIC HAZARDS AND STATE WATER PROJECT DAMS: UPPER FEATHER RIVER, CA
- 2-11 11:40 AM Shlemon, Roy*; Testa, Stephen: PUBLIC POLICY: USE AND POTENTIAL MISUSE OF THE A-P ACT IN CALIFORNIA

SESSION NO. 3

T12. A Multidisciplinary Effort to Better Understand Northern California's Clear Lake Volcanic Field (GSA Energy Geology Division)

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 3
Seth Burgess, Dawnika Blatter and Jessica Ball, Presiding

- 3-1 8:00 AM Alpers, Charles N.*; Curtis, Jennifer; Stern, Michelle; Mcvey, Connor: SEDIMENT FINGERPRINTING IN THE CLEAR LAKE, CALIFORNIA, WATERSHED: DETERMINING SOURCES OF NUTRIENTS AND SEDIMENT
- 3-2 8:20 AM Mcvey, Connor*; Alpers, Charles N.; Benzel, William M.; Foster, Andrea L.; Johnson, Craig A.; Janssen, Sarah E.: GEOCHEMISTRY AND MINERALOGY OF MINE WASTE AT SULPHUR BANK MERCURY MINE, LAKE COUNTY, CALIFORNIA
- 3-3 8:40 AM Muller, David*; Arribas, Antonio; Alpers, Charles N.; Johnson, Craig A.: FIELD OBSERVATIONS AND STABLE ISOTOPE ANALYSIS OF ALUNITE AT THE SULPHUR BANK MERCURY MINE, CLEAR LAKE, CALIFORNIA
- 3-4 9:00 AM Domagalski, Joseph*; Saleh, Dina; Alpers, Charles; Stern, Michelle: WATER-QUALITY MODELING OF THE CLEAR LAKE, CALIFORNIA WATERSHED: GEOLOGICAL AND ANTHROPOGENIC INFLUENCES ON NUTRIENT AND SEDIMENT TRANSPORT
- 3-5 9:20 AM Kraal, Kurt*; Ayling, Bridget F.; DeOreo, Stephen; Calvin, Wendy: UTILIZATION OF INFRARED SPECTROSCOPY FOR HYDROTHERMAL ALTERATION MINERAL ANALYSIS TO SUPPORT RESERVOIR

- CHARACTERIZATION AT THE GEYSERS GEOTHERMAL FIELD, CALIFORNIA, USA
9:40 AM Break
- 3-6 9:55 AM Burgess, Seth*; Blatter, Dawnika; Stelten, Mark; Calvert, Andrew T.: THE TIMING AND DISTRIBUTION OF MAFIC LAVA ERUPTIONS DURING THE FIRST TWO MILLION YEARS OF THE CLEAR LAKE VOLCANIC FIELD IN NORTHERN CALIFORNIA
- 3-7 10:15 AM Peacock, Jared*; Mitchell, Michael A.; Burgess, Seth; Dean, Branden: CLEAR LAKE VOLCANIC FIELD IMAGED BY MAGNETOTELLURICS
- 3-8 10:35 AM Mitchell, Michael A.*; Peacock, Jared; Burgess, Seth: USING POTENTIAL FIELD INVERSIONS TO IMAGE THE MAGMATIC PLUMBING OF NORTHERN CALIFORNIA'S CLEAR LAKE VOLCANIC FIELD
- 3-9 10:55 AM Pivarunas, Anthony*: PALEOMAGNETIC CONSTRAINTS ON THE PACE OF VOLCANIC ACTIVITY IN THE CLEAR LAKE VOLCANIC FIELD, CALIFORNIA
- 3-10 11:15 AM Blatter, Dawnika*; Burgess, Seth: REMNANTS OF ADAKITIC VOLCANISM ALONG THE EASTERN PERIPHERY OF THE CLEAR LAKE VOLCANIC FIELD TRACK THE EDGE OF THE RETREATING JUAN DE FUCA SLAB

ALL-DAY POSTER TECHNICAL SESSIONS

SESSION NO. 4

D2. Environmental, Hydrological, and Engineering Geology (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | Booth # | Poster # | Author(s) |
|---------|----------|---|
| 4-1 | 1 | Hudson, Adam*; Emery-Wetherell, Meaghan M.; Lubinski, Patrick M.; Butler, Virginia L.; McDonough, Katelyn; Rosencrance, Richard; Jenkins, Dennis L.: PLUVIAL LAKE LEVEL RECORDS OF THE NORTHWEST GREAT BASIN SINCE THE LAST GLACIAL MAXIMUM: WHAT WE KNEW THEN AND NOW, AND WHAT WE COULD KNOW BETTER |
| 4-2 | 2 | Groover, Krishangi*; Lutz, Alexandra: WETLAND DYNAMICS AT THE SOUTHERN SHORE OF THE SALTON SEA |
| 4-3 | 3 | Moreno-Rodriguez, V.*; Del Rio-Salas, Rafael; Loredó-Portales, R.; Núñez-Ibarra, D.; Romo-Morales, D.; García-Martínez, D.: MINERALOGY AND BIOACCESSIBILITY FROM THE LARGEST HISTORICAL PORPHYRY CU TAILINGS OF THE SONORAN DESERT, NORTHWESTERN MEXICO |
| 4-4 | 4 | Maliszka, Miranda*: A GEOGRAPHIC INFORMATION SYSTEM (GIS) APPLICATION ON A DESCRIPTIVE SOIL COMPOSITION ANALYSIS OF ESMERALDA COUNTY, NEVADA WITH A FOCUS ON ITS STRUCTURAL GEOLOGY |
| 4-5 | 5 | Cohen, Julian*; Bershaw, John; Hugo, Rick: SPATIAL VARIATIONS IN ANCIENT METEORIC WATER: AN INVESTIGATION OF THE RATTLESNAKE TUFF |
| 4-6 | 6 | Pritchard, Chad*; Reiner, Kai; Abby, Eric; Wheeler, Kraig: SOURCE IDENTIFICATION OF QUARTZ IN INTERMEDIATE ANTHROPOGENIC FULGURITES, SPOKANE COUNTY, WA |
| 4-7 | 7 | Theissen, Kevin*; Hickson, Thomas; Lamb, Melissa: GEOSCIENCE RESEARCH AND FIELD METHODS INSTRUCTION IN THE PAHRANAGAT NATIONAL WILDLIFE REFUGE OF SOUTHERN NEVADA |

SESSION NO. 5

T1. Evolution of Transcrustal Cordilleran Arc Systems (Posters) (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #	
5-1	8 Cao, Wenrong*; Knobloch, Michael: VISUALIZATION OF HAFNIUM ISOTOPES IN ZIRCON USING BIG DATA AND PLATE RECONSTRUCTION MODELS AS A TOOL TO LINK MAGMATISM TO TECTONICS
5-2	9 Swarner, Holli*; Busby, Cathy: VOLCANOLOGY AND STRUCTURE OF THE LEVIATHAN PEAK ARC VOLCANIC CENTER, ANCESTRAL CASCADES ARC, MONITOR PASS REGION, CENTRAL SIERRA NEVADA CALIFORNIA
5-3	10 Marble, Sean*; Regan, Sean; Roeske, Sarah; Nordman, Leo: INCREMENTAL EMPLACEMENT OF THE MCGONAGALL PLUTON ALONG AN ACTIVE DENALI FAULT, ALASKA – STRUCTURAL CONTROLS ON THE GROWTH OF AN ARC MAGMATIC SYSTEM
5-4	11 Dowler, Brianna*; Cecil, Robinson; Rusmore, Margaret; Stowell, Harold H.: NEW ZIRCON U-PB-HF RESULTS FROM A TRANSECT ACROSS THE CRETACEOUS TO EOCENE NORTHERN COAST MOUNTAINS BATHOLITH, BRITISH COLUMBIA
5-5	12 Schwartz, Theresa*; Wyld, Sandra; Colgan, Joseph; Prihar, Douglas W.: PRELIMINARY DETRITAL ZIRCON AND EHF DATA FROM THE UPPER TRIASSIC (NORIAN) AULD LANG SYNE BASIN OF NEVADA (USA), WITH IMPLICATIONS FOR ARC EVOLUTION AND CONTINENTAL PALEOGEOGRAPHY

SESSION NO. 6

T2. Drivers of Cordilleran Magmatic Processes and Geochemistry (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #	
6-1	13 Biegel, Jenna*; Gehrels, George E.; Alberts, Daniel G.; Michels, Zachary: PETROGENETIC EVOLUTION OF S-TYPE GRANITES IN THE SANTA CATALINA METAMORPHIC CORE COMPLEX: EVIDENCE FROM AGE AND CHEMICAL MAPPING OF ZIRCON
6-2	14 Lewis, Madeline*; Eddy, Michael; DesOrmeau, Joel; Pamukcu, Ayla: RAPID THERMAL AND VOLATILE EVOLUTION OF MAGMAS ASSOCIATED WITH A LARGE IGNIMBRITE ERUPTION: POCO CANYON CALDERA SYSTEM, NEVADA
6-3	15 Colgan, Joseph*; John, David; Henry, Christopher D.; Berry, Margaret: GEOLOGIC MAP OF THE ELEVENMILE CANYON CALDERA, STILLWATER RANGE AND CLAN ALPINE AND DESATOYA MOUNTAINS, WEST-CENTRAL NEVADA
6-4	16 Ruefer, Anna*; Pamukcu, Ayla; Eddy, Michael; DesOrmeau, Joel: THE CRYSTAL RECORD OF THE TUFF OF ELEVENMILE CANYON, NV
6-5	17 Hickernell, Sarah*; Pamukcu, Ayla; Schoene, Blair; Eddy, Michael; Miller, Calvin F.; Guzman, Desiree; Steiner-Leach, Travis: CONDITIONS AND TIMESCALES OF RHYOLITE STORAGE IN THE MIOCENE SEARCHLIGHT MAGMATIC SYSTEM, NV
6-6	18 Guzman, Desiree*; Hickernell, Sarah; Pamukcu, Ayla: CRYSTAL RECORDS OF EVOLVING SILICIC MAGMA: INTERMEDIATE VOLCANICS OF THE HIGHLAND RANGE, NV

6-7	19 Manzo, Alicia*; Busby, Cathy; Putirka, Keith: NOT ALL LARGE SILICIC VOLCANIC SYSTEMS ARE TRANSCRUSTAL: EVIDENCE FROM THE SIERRA CREST-LITTLE WALKER AND EBBETTS PASS VOLCANIC CENTERS, CENTRAL SIERRA NEVADA, CALIFORNIA
6-8	20 Snell, Emily*; Pamukcu, Ayla; Gualda, Guilherme A.R.: DEVELOPING RHYOLITE-MELTS GEOBAROMETRY FOR MAFIC VOLCANIC SYSTEMS
6-9	21 Ruprecht, Philipp*; Cook, Madelyn: OLIVINE EXIT INTERVIEWS FROM BASALTIC MAGMAS NEAR MAMMOTH MOUNTAIN, CA
6-10	22 Jean, Marlon*; Reusch, Douglas; Yates, Martin; Vetter, Scott; Pollock, Jeff; Waldron, John: GEOLOGY, MINERALOGY, AND GEOCHEMISTRY OF THE SERPENTINITE OF DEER ISLE AND THE PERIDOTITE OF LITTLE DEER ISLE, PENOBSCOT BAY, MAINE: IMPLICATIONS FOR MID-CAMBRIAN TECTONICS OF THE APPALACHIAN OROGEN

SESSION NO. 7

T9. Paleo-, Archaeo-, and Rock-Magnetic Studies of Cordilleran Evolution and Geomagnetic Secular Variations of the Western United States (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #	
7-1	23 Pivarunas, Anthony*: THE LOWEST FLOWS OF PICTURE GORGE BASALT RECORD REVERSE GEOMAGNETIC POLARITY! IMPLICATIONS FOR DURATION OF ERUPTIONS
7-2	24 Biasi, Joseph*; Grozeva, Maria; Slotznick, Sarah; Karlstrom, Leif; Murray, Kendra; Goughnour, Rebecca: UNDERSTANDING MAGMA TRANSPORT VIA THE BAKED CONTACT TEST: AN EXAMPLE FROM THE COLUMBIA RIVER BASALTS
7-3	25 Avery, Margaret*; Pivarunas, Anthony F.: HORIZONTAL TRANSPORT OF PICTURE GORGE BASALT MAGMA THROUGH MONUMENT DIKE SWARM DETERMINED BY ANISOTROPY OF MAGNETIC SUSCEPTIBILITY
7-4	26 Stevens, Zachary*; Mattinson, Chris; Anderson, Megan: MINERALOGICAL CONTRIBUTIONS TO MAGNETIC SUSCEPTIBILITY AND THE EFFECTS OF NEAR SURFACE ALTERATIONS ON GEOPHYSICAL MODELING

SESSION NO. 8

T22. Integrated Geologic Maps and 3D Models in a Complex Non-Layered World (Posters) (GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; GSA Hydrogeology Division; American Association of State Geologists; GSA Geophysics and Geodynamics Division)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #	
8-1	27 Welch, Robert*; Shaw, John H.: DIFFICULTY IS IN THE DETAILS: A CANADIAN CASE STUDY IN COUPLING CLASSICAL METHODS, KINEMATIC THEORY, AND OPTIMIZATION TECHNIQUES TO CONSTRUCT REGIONAL 3D KINEMATIC MODELS IN EXHUMED FOLD AND THRUST BELTS
8-2	28 Crabtree, Stephen*; Gregg, Arianna; Sweidan, Bill: MAPPING OF DISCONTINUOUS UNITS OF PYROCLASTIC PUMICE AND TUFF SOUTH OF MT. MAZAMA
8-3	29 Rubin, Ron*: NEW DETAILED GEOLOGIC MAPPING WITHIN THE SOUTHEAST PORTION OF THE UKIAH 30' X 60' QUADRANGLE, MENDOCINO COUNTY, CALIFORNIA

8-4	30	Dunn, Samantha*; Durning, Sadie; Memeti, Valbone; Garcia, Matthew; Villasano, Edgar: MAPPING OF THE JACKASS LAKES VOLCANIC-PORPHYRY-PLUTONIC COMPLEX IN THE CENTRAL SIERRA NEVADA	9-7	44	McGinnis, Katharine*; Poeschl, Samantha; Scalzo, Sarah; Duquette, Colin; Lamb, Melissa A.; Regan, Anik: MAPPING AND GEOCHEMICALLY ANALYZING HORSE SPRING FORMATION THUMB MEMBER MIOCENE TUFFS TO RECONSTRUCT EXTENSIONAL DEFORMATION IN THE BITTER SPRING VALLEY, LAKE MEAD REGION, NEVADA
8-5	31	Wesoloski, Catherine*; Marquis, Greg: PRELIMINARY RESULTS OF GEOLOGIC MAPPING IN THE LANDERS AND NORTH HALF OF THE YUCCA VALLEY NORTH 7.5' QUADRANGLES, SAN BERNARDINO COUNTY, CALIFORNIA	9-8	45	Stroup, Ashley*; Bidgoli, Tandis S.: EXPLORING INTERACTIONS BETWEEN THE SOUTHERN DEATH VALLEY AND GARLOCK FAULTS THROUGH FOLD AND FRACTURE ANALYSIS
8-6	32	Key, Erica*; Cantwell, Carolyn: PRELIMINARY RESULTS OF UPDATED GEOLOGIC MAPPING IN THE HEDGES, OGILBY, AND PICACHO PEAK 7.5-MINUTE QUADRANGLES, IMPERIAL COUNTY, CALIFORNIA	9-9	46	Rodelo, Juan*; Leatham, W. Britt: MIOCENE STRATIGRAPHY AND ANALYSIS OF THE ROCKS ASSIGNED TO THE "INFORMAL" ARGOS STATION UNIT, SOUTHERN CADY MOUNTAINS, CALIFORNIA
8-7	33	Nowaczewski, Vincent*; Sturmer, Daniel; Doyle, Mason; Furlong, Scott T.: PRELIMINARY GEOLOGIC MAP OF THE SPRUCE MOUNTAIN 7.5' QUADRANGLE, ELKO COUNTY, NEVADA	9-10	47	Morebeck, Cutter*; Darin, Michael; Sommer, Sarah P.; Thomas, Kaylee A.; Salgado Munoz, Valente O.; Niemi, Tina; Dorsey, Rebecca; Romang, Luke: GEOLOGIC MAPPING AND STRUCTURAL ANALYSIS OF SAN MARCOS ISLAND, BAJA CALIFORNIA SUR, MÉXICO
8-8	34	Junkin, William*: BEDROCK AND SURFICIAL GEOLOGY OF THE NORTH HALF OF THE SPANISH SPRINGS PEAK 7.5 MINUTE QUADRANGLE, NORTHWEST NEVADA	9-11	48	Burges, Jarrod*; Metcalf, Kathryn; Gofman, Mikhail: PYTHON PROGRAM TO INPUT, SORT, VIEW, AND STORE DETRITAL ZIRCON GEOCHRONOLOGICAL DATA IN A SQL DATABASE
8-9	35	Lutz, Brandon*; Colgan, Joseph; Sweetkind, Donald: 3D MODELING OF RANGE-BOUNDING FAULTS OF THE NORTHERN BASIN AND RANGE	9-12	49	Poeschl, Samantha*; Romfoe, Elizabeth; Theissen, Kevin; Hickson, Thomas; Regan, Anik: TOWARDS THE CALIBRATION OF AN SEM-EDS SYSTEM FOR THE ANALYSIS OF TEPHRA SAMPLES AT THE UNIVERSITY OF ST. THOMAS, MN
8-10	36	Anderson, Christine*: MAGMATIC MAPPING OF A POLYGENETIC SHIELD VOLCANO: FIELD MAPPING TECHNIQUES ON THE BLUE RIDGE MOUNTAIN IN THE SPRINGERVILLE VOLCANIC FIELD	9-13	50	Watson, Emma*; Davidson, Cameron: A U-PB AND LU-HF ISOTOPIC STUDY OF ARCHEAN ROCKS FROM THE MINNESOTA RIVER VALLEY: EVIDENCE FOR THE MINNESOTA AND SACRED HEART OROGENIES
8-11	37	Yu, Kyung Woong*; Pinter, Nicholas; Fletcher, John; Busby, Cathy; Thaler, Levi; Peña-Villa, Ivan Arturo: A FIRST GEOLOGICAL MAP OF ISLA MONSERRATE, BAHIA DE LORETO, BAJA CALIFORNIA SUR	9-14	51	Toney, Scott*; Cahoon, Emily; Bindeman, Ilya; Nunley, Kyle; Yost, Cheyenne R.: SUNSTONES: A GEMSTONE FORMED BY A MAGMATIC OR HYDROTHERMAL PROCESS?

SESSION NO. 9

T30. Undergraduate Research (Posters) (GSA Energy Geology Division; Council on Undergraduate Research (CUR)–Geosciences Division)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #					
9-1	38	Sehra, Shaalin*: STRATIGRAPHY AND PROVENANCE OF THE KEKIKTUK CONGLOMERATE AND ASSOCIATED LOWER CARBONIFEROUS UNITS IN THE NORTHEASTERN BROOKS RANGE OF ALASKA	9-15	52	Yost, Cheyenne R.*; Cahoon, Emily; Kent, Adam; Toney, Scott; Nunley, Kyle: COPPER AND LITHIUM DIFFUSION IN EASTER OREGON SUNSTONES
9-2	39	Potter, Natalie*; Pritchard, Chad: PROJECTING VARIATIONS OF DEFORMATION IN THE SPOKANE, WA AREA BASED ON ISOLATED BUTTES	9-16	53	Nunley, Kyle*; Cahoon, Emily; Heaton, Daniel; Toney, Scott; Yost, Cheyenne R.: ARGON INCREMENTAL HEATING AS AN IDENTIFIER OF AGE-RELATED ODDITIES BETWEEN PLAGIOCLASE AND GROUNDMASS IN EASTERN OREGON
9-3	40	Cohen, Derek M.; Vitti, Giorgio M.; Abel, Daniel J.; Martinez, Jane A.; Reibel, Rebecca R.*; Bustos-Perez, Osvaldo; Khoury, Regina M.; Sousa, Francis J.; Darin, Michael; Dorsey, Rebecca; Michalak, Melanie J.: PROVENANCE AND MAXIMUM DEPOSITIONAL AGES OF THE MONTGOMERY CREEK FORMATION FROM DETRITAL ZIRCON U-PB: AN UNDERGRADUATE COURSEWORK APPROACH	9-17	54	Soldano, Vincent*; Calvin, Wendy: ANALYSIS OF HYPERSPECTRAL DATA FROM DRONE-BASED MONITORING IN PERRY CANYON, NV
9-4	41	Aguilera, Jacob P.*; Aparicio, Elizabeth; Shiver, Emily A.; Elconin, Lisa M.; Lindelof, Dennis; Martinez, Jane A.; Baughman, Jaclyn; Michalak, Melanie J.: FROM THE STUDENT PERSPECTIVE: A NONTRADITIONAL COHORT APPROACH TO UNDERGRADUATE TECTONICS RESEARCH	9-18	55	Centeno, Diego*; Melchiorre, Erik; Talyn, Becky: ASSESSING TOXICITY OF AGRICULTURAL CHEMICALS IN SALTON SEA WATER USING DROSOPHILA ASSAYS
9-5	42	Laskoski, Allison Faye; Ziolkowski, Aaron Joseph; Putnam, Roger*: POSSIBLE BEDROCK LITHOLOGY AND FRACTURE PATTERN CONTROLS ON GEOMORPHOLOGY OF THE GOLDEN VALLEY HILLS, RENO, NV	9-19	56	Rens, Matthew Leigh; Parkyn, Ryan Michael; Putnam, Roger*: EFFECTS OF LITHOLOGY ON PLANT COMMUNITIES IN THE WESTERN SANTA MONICA MOUNTAINS
9-6	43	Toivonen, Matthew*; Eckberg, Kieran T.; Landsem, Anna; Draxten, Jordan; Lamb, Melissa A.; Regan, Anik: MAPPING MIOCENE EXTENSION IN THE WESTERN	9-20	57	Janapaty, Shloka*; Monier, Erwan: A NEW, GLOBAL ESTIMATE FOR BIOCRUST CARBON AND NITROGEN FLUX IN TERRESTRIAL ECOSYSTEMS
			9-21	58	Toulou, Erin*; Pritchard, Chad: PRELIMINARY GROUNDWATER MODELING OF THE WEST PLAINS, SPOKANE COUNTY, WA: DECIPHERING ERRATIC TRENDS OF PFAS CONTAMINATION
			9-22	59	Dagnino, Jennifer*; Rademacher, Laura K.; Meyers, Zachary P.; Umek, John: USING WATER STABLE ISOTOPES TO UNDERSTAND THE HYDROGEOLOGICAL

		DYNAMICS OF AN ALPINE WATERSHED DURING SNOWMELT
9-23	60	Morgan, Jackson*; Rademacher, Laura K.; Meyers, Zachary P.; Umek, John: MULTIVARIATE STATISTICAL ANALYSES OF MAJOR IONS AND TRACE METALS REVEAL ROCK-WATER INTERACTION PATTERNS IN AN ALPINE WATERSHED
9-24	61	Grimmett, Peter*; Larsen, Darren; Wang, Lane; Aviles, Adrian; Muscott, Amelia: A LAKE SEDIMENT RECORD OF PAST WILDFIRE AND ENVIRONMENTAL VARIABILITY IN THE EASTERN SIERRA, CA DURING THE HOLOCENE
9-25	62	Culhane, Natalie*; Clark, Douglas H.; Mickelson, Emma; Burdick, Aidan; McCallum, Adrian; Mackenzie, Lydia; Shulmeister, James; Clark, Jessa: LATE HOLOCENE ENVIRONMENTAL CHANGE FROM HIGH-RESOLUTION LAKE SEDIMENTS IN THE SNOWY MOUNTAINS, KOSCIUSZKO NATIONAL PARK, SOUTHEASTERN AUSTRALIA
9-26	63	Yost, Cheyenne R.*; Hughes, Kenneth; Zak, Jessica: VOLCANIC EMISSIONS FROM HIGH VEI ERUPTIONS IMPACT ON ARCTIC SEA ICE
9-27	64	Landsem, Anna*; Hickson, Thomas; Thole, Jeffrey; Lamb, Melissa; Benson, Thomas R.: MARL GEOCHEMISTRY OF THE LOVELL WASH MEMBER OF THE HORSE SPRING FORMATION: INSIGHTS INTO A LITHIUM PROSPECTIVE BASIN

		THE EAST-CENTRAL SKAGIT GNEISS COMPLEX; INSIGHTS INTO THE MAGMATIC EVOLUTION OF THE NORTH CASCADES ARC
10-7	3:50 PM	Wu, Jeremy Tsung-Jui*; Wu, Jonny; Wu, Yangming; Chen, Lingling; Jun, Mikyoung; Rahimzadeh Bajgiran, Moloud: SUBDUCTION VELOCITY CONTROLS ON ARC MAGMATISM ALONG LONG-LIVED NE ASIA CORDILLERAN ARC SYSTEM
	4:10 PM	Concluding Remarks

SESSION NO. 11

T4. Strike-Slip Faulting, Flower Structures, Plutons, and Tiltmeters II: A Tribute to the Career of Arthur Sylvester (GSA Structural Geology and Tectonics Division)

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 1

Allen F. Glazner, An Yin, Richard D. Law and Marc Mayes, Presiding

11-1	1:30 PM	Fletcher, John*; Ramirez-Zerpa, Néstor; Spelz-Madero, Ronald; Yarbuh, Ismael; Negrete-Aranda, Raquel; Contreras, Juan; González-Fernández, Antonio; Neumann, Florian; Clague, David A.; Caress, Dave W.; Zierenberg, Robert: DETACHMENT-CONTROLLED CONTINENTAL RUPTURE AND MULTIPLE PHASES OF SEAFLOOR SPREADING IN THE PESCADERO BASIN COMPLEX, SOUTHERN GULF OF CALIFORNIA
11-2	1:50 PM	Knott, Jeffrey*: TECTONIC GEOMORPHOLOGY, STREAM CAPTURE AND ALLUVIAL FAN/BASIN AREA RELATIONS ALONG THE BLACK MOUNTAINS, DEATH VALLEY, CALIFORNIA
11-3	2:10 PM	Law, Richard*; Cavalcante, Carolina; Taufner Altoé, Rhander; Fossen, Haakon; Teyssier, Christian; Hossack, Jake: THE BYGDIN CONGLOMERATE, NORWEGIAN CALEDONIDES: QUARTZ CRYSTAL FABRICS AND THEIR IMPLICATIONS FOR 3D STRAIN AND TECTONIC SETTING
11-4	2:30 PM	Ingersoll, Raymond V.*: TRANSROTATIONAL STRATA OF THE TOPANGA GROUP, SOUTHERN CALIFORNIA: KEY TO UNDERSTANDING EXHUMATION OF THE CATALINA SCHIST AND ROTATION OF THE WESTERN TRANSVERSE RANGES
11-5	2:50 PM	Melosh, Benjamin*; McLaughlin, Robert: ACTIVE FAULTING AND UPLIFT OF AN EARLY CENOZOIC ANTIFORMAL STRUCTURE EAST OF THE MAACAMA FAULT, NORTHERN CALIFORNIA COAST RANGES
	3:10 PM	Break
11-6	3:25 PM	Legg, Mark R.*; Kamerling, Marc J.: CHARACTER AND EVOLUTION OF COMPLEX STRIKE-SLIP FAULTING WITHIN THE CALIFORNIA CONTINENTAL BORDERLAND
11-7	3:45 PM	Johns, Wes*; Zuza, Andrew; Vlaha, Dominik; Metcalf, James: MIDDLE MIOCENE EXHUMATION OF THE AVAWATZ MOUNTAINS, SOUTHERN CALIFORNIA: A TERMINATION THRUST BELT AT THE EASTERN TIP OF THE GARLOCK FAULT
11-8	4:05 PM	Onderdonk, Nate*; Kelty, Clay; Mcgregor, Ian; Garcia, Antonio F.; Tutterow, Eric: VARIABLE AMOUNTS AND RATES OF FLUVIAL AND MARINE TERRACE DEFORMATION IN THE WESTERN TRANSVERSE RANGES OF CALIFORNIA SUGGEST THAT SLIP RATES ON SOME OF THE FAULTS HAVE CHANGED SIGNIFICANTLY OVER THE PAST 100 KYR
11-9	4:25 PM	Nicholson, Craig*; Hauksson, Egill: GEOMETRY OF MATURE STRIKE-SLIP FAULTS: EXAMPLES FROM THE SAN ANDREAS FAULT SYSTEM IN SOUTHERN CALIFORNIA

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 10

T1. Evolution of Transcrustal Cordilleran Arc Systems (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division)

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 2

Katie Ardill, Wenrong Cao and Barbara C. Ratschbacher, Presiding

	1:30 PM	Introductory Remarks
10-1	1:35 PM	Busby, Cathy*; Morris, Rebecca; DeBari, Susan M.; Medynski, Sarah; Putirka, Keith; Andrews, Graham; Schmitt, Axel K.; Brown, Sarah R.: GEOLOGY OF A LARGE INTACT EXTENSIONAL OCEANIC ARC CRUSTAL SECTION WITH SUPERIOR EXPOSURES: CRETACEOUS ALISITOS ARC, BAJA CALIFORNIA (MEXICO)
10-2	1:55 PM	Canil, Dante*; Morris, Rebecca: CONTINENTALIZATION OF AN INTRAOCEANIC ARC: THE CASE FROM THE JURASSIC BONANZA ARC, VANCOUVER ISLAND, CANADA
10-3	2:15 PM	Yoshinobu, Aaron*; Richardson, Andrea; Barnes, Calvin: SPECULATIONS ON MAGMA ADDITIONS AND TERRANE ACCRETIONS IN THE KLAMATH MOUNTAINS, CA/OR
10-4	2:35 PM	Howard, Keith*; Allen, Charlotte M.; Wooden, Joseph L.: DO BACK-ARC SIERRAN-LIKE PLUTONS IN THE SOUTHWEST USA SIGNAL MID-CRETACEOUS SLAB ROLLBACK?
	2:55 PM	Break
10-5	3:10 PM	Lewis, Madeline*; Eddy, Michael: EFFICIENT FRACTIONAL CRYSTALLIZATION AND EARLY ZIRCON SATURATION IN AN UPPER CRUSTAL ARC MAFIC INTRUSION: HIDDEN LAKES MAFIC COMPLEX, SIERRA NEVADA BATHOLITH
10-6	3:30 PM	Hoinville, Alex R.*; Gordon, Stacia M.; Miller, Robert B.: STRUCTURE AND AGE OF ORTHOGNEISSES WITHIN

SESSION NO. 12

T13. Interdisciplinary Insights into the Ecosystem, Paleoclimate, Volcanology, and Tectonic Framework of Mono Lake, California (GSA Marine and Coastal Geoscience Division; GSA Geophysics and Geodynamics Division)

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 3

Lauren Harrison, Guleed Ali and Jared Peacock, Presiding

- 1:30 PM **Introductory Remarks**
- 12-1 1:35 PM **Stine, Scott***: LATE HOLOCENE ISLAND VOLCANISM AT MONO LAKE, CALIFORNIA
- 12-2 1:55 PM **Ali, Guleed***; **Lin, Ke**; **Hemming, Sidney**; **Stine, Scott**; **Wang, Xianfeng**: CARBONATE U-TH AGE CONSTRAINTS FOR ASHES 1-4 OF THE WILSON CREEK FORMATION, MONO BASIN, CALIFORNIA
- 12-3 2:15 PM **Hildreth, Wes***; **Fierstein, Judy**: GIANT PUMICE DEPOSIT FROM TWAIN ISLET: EAST OF JAVA; MONO LAKE, CALIFORNIA
- 12-4 2:35 PM **Jayko, Angela***; **Hart, Patrick E.**; **Childs, Jon**; **Bursik, Marcus I.**: LATE QUATERNARY DEFORMATION ALONG THE MONO LAKE, TRENCH CANYON AND OTHER OFFSHORE FAULTS MONO LAKE BASIN, CALIFORNIA
- 2:55 PM **Break**
- 12-5 3:10 PM **Smith, Zachary***; **Hornbach, Mathew**; **Manga, Michael**; **Barth, Anna**; **Adourian, Sevan**: MAGMA-TECTONIC STRUCTURAL CONTROLS ON SUBLACUSTRINE HYDROTHERMAL SYSTEMS IN MONO LAKE, CALIFORNIA
- 12-6 3:30 PM **Peacock, Jared***; **Constable, Steve**; **Peterson, Hannah**: IMAGING THE MONO BASIN WITH LAKE-BOTTOM AND LAND-BASED MAGNETOTELLURIC MEASUREMENTS
- 12-7 3:50 PM **Wilkerson, Gregg***: THE BODIE BOWL MINING CLAIM VALIDITY EXAMINATION
- 12-8 4:10 PM **Harrison, Lauren***; **Licciardi, Joseph**; **Hurwitz, Shaul**: COSMOGENIC ³⁶CL EXPOSURE AGE CONSTRAINTS ON LATE HOLOCENE ERUPTIONS AT PAOHA ISLAND IN MONO LAKE, CALIFORNIA

THURSDAY, 18 MAY 2023

MORNING
ORAL TECHNICAL SESSIONS

SESSION NO. 13

S1. Late Jurassic to Eocene Tectonics of the North America Cordillera I: Evolving and Emerging Models

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 1

Basil Tikoff, Stacia Gordon, Andrew P. Barth, Cathy Busby, Robinson Cecil, Sarah Roeske and Michael Wells, Presiding

- 13-1 8:00 AM **DeCelles, Peter G.***; **Constenius, Kurt N.**; **Gehrels, George E.**; **Yonkee, Adolph**: GEOLOGICAL CONSTRAINTS FOR LATE JURASSIC-EOCENE CORDILLERAN OROGENY IN THE WESTERN U.S.A.: REVIEW AND ACTUALISTIC COMPARISONS
- 13-2 8:30 AM **Housen, Bernie***; **Tikoff, Basil**: TERRANE TRANSLATION AND COLLISIONAL OROGENY IN THE NORTH AMERICA CORDILLERA
- 9:00 AM **Discussion**
- 13-3 9:15 AM **Miller, Robert***; **Gordon, Stacia**; **Eddy, Michael**: INTERVAL BETWEEN REGIONAL MID-CRETACEOUS CONTRACTION AND EOCENE TRANSTENSION IN THE NORTH CASCADES SEGMENT OF THE COAST MOUNTAINS BATHOLITH: INSIGHTS AND QUESTIONS

- 13-4 9:30 AM **Nelson, Ellen***; **Tikoff, Basil**: INTERACTION OF MAGMATISM AND DEFORMATION DURING POST-OROGENIC DELAMINATION IN THE NORTH AMERICAN CORDILLERA DURING THE EOCENE-OLIGOCENE
- 13-5 9:45 AM **Yoshinobu, Aaron***; **Gates, Katie M.**; **Barnes, Calvin**; **Surpless, Kathleen**: NEVADAN OROGENESIS REDEFINED: MID-CRUSTAL MIGMATIZATION, CONSTRICTIONAL DEFORMATION, AND SOURCE REGION DE-FOOTITATION ABOVE AN EAST-DIPPING SUBDUCTING SLAB, CA/OR
- 13-6 10:00 AM **Dorsey, Rebecca***; **Darin, Michael**; **Humphreys, Eugene**; **Michalak, Melanie J.**; **Sousa, Francis J.**: RETRODEFORMING THE KLAMATH MOUNTAINS OROCLINE
- 13-7 10:15 AM **Darin, Michael***; **Dorsey, Rebecca**; **Michalak, Melanie J.**; **Sousa, Francis**; **Armentrout, John**; **Santra, Manasij**: RAIDERS OF THE LOST ARC: DETRITAL ZIRCON U-PB-HF PROVENANCE OF THE UMPQUA AND TYEE GROUPS AND IMPLICATIONS FOR LATE CRETACEOUS TO EOCENE PALEO GEOGRAPHY OF CASCADIA
- 13-8 10:30 AM **Surpless, Kathleen***; **Barnes, Calvin**; **Yoshinobu, Aaron**: DECIPHERING THE TECTONIC EVOLUTION OF THE LATE JURASSIC CONTINENTAL MARGIN FROM DETRITAL ZIRCON PROVENANCE ANALYSIS OF THE GALICE AND MARIPOSA FORMATIONS, OREGON AND CALIFORNIA
- 13-9 10:45 AM **McLaughlin, Robert***; **Sharman, Glenn R.**; **Dumitru, Trevor A.**; **Stanley, Richard G.**; **Shaulis, Barry J.**; **McDougall, Kristin**; **Elder, William P.**: A PROBABLE IDAHO SOURCE FOR DETRITAL ZIRCONS IN A LATE CRETACEOUS-EOCENE SUBMARINE FAN SEQUENCE OVERLYING THE CENTRAL BELT OF THE FRANCISCAN COMPLEX, NORTHERN CALIFORNIA
- 13-10 11:00 AM **Jory, Billyjack***; **Macdonald, Francis**: GEOCHRONOLOGY ADVANCES ON THE OBDUCTION AND EXHUMATION OF THE COAST RANGE OPHIOLITE
- 13-11 11:15 AM **Vlaha, Dominik***; **Zuza, Andrew**: HOT CORDILLERAN HINTERLAND PROMOTED LOWER CRUST MOBILITY AND DECOUPLING OF LARAMIDE DEFORMATION
- 13-12 11:30 AM **Clemens-Knott, Diane***; **Gevedon, Michelle**; **Concha, Christian A.**: A TOP-TO-BOTTOM TIMELINE FOR PERMIAN TO EARLY CRETACEOUS EXTENSION WITHIN THE SOUTHERN SIERRA NEVADA ARC: ZIRCON U-PB-HF STUDIES OF CRYSTALLINE ROCKS FROM THE KERN PLATEAU AND GREENHORN MOUNTAINS
- 13-13 11:45 AM **Jepson, Gilby***; **Carrapa, Barbara**; **DeCelles, Peter G.**; **Reeher, Lauren**; **Howlett, Caden**; **Lama Sherpa, Tshering**; **Caylor, Emilia**; **Wang, Jordan W.**; **Constenius, Kurt N.**: TRACKING LARAMIDE EXHUMATION AS A PROXY FOR UPPER CRUSTAL RESPONSE TO SUBDUCTION PROCESSES

SESSION NO. 14

T10. Paleontologic Advances in the Cordilleran Region

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 3

Paula Noble, Neil Kelley, Joshua Bonde, Ashley Dineen, Patricia Holroyd and Christine Garcia, Presiding

- 8:00 AM **Noble, Paula***: Introductory Remarks
- 14-1 8:05 AM **Dineen, Ashley***; **Bautista, Kyra**: TAPHONOMY AND BODY SIZE VARIATION IN LOWER CAMBRIAN HELICOPLACOID ECHINODERMS
- 14-2 8:25 AM **Shapiro, Russell***: THE ELUSIVE LATE PALEOZOIC AND EARLY MESOZOIC HYDROCARBON-SEEP RECORD OF NEVADA
- 14-3 8:45 AM **McGaughey, Gary***; **Irmis, Randall**; **Kelley, Neil**; **Hodges, Montana**; **Tackett, Lydia**; **Noble, Paula**: THE FIRST LATE TRIASSIC PISTOSAUR FROM NORTH AMERICA

AM

THURSDAY

Thursday, 18 May 2023

- 14-4 9:05 AM Kelley, Neil*; Druckenmiller, Patrick; Metz, Eric: RECENT NORTH AMERICAN DISCOVERIES ILLUMINATE THE EVOLUTION OF AN ENIGMATIC CLADE OF TRIASSIC MARINE REPTILE
- 14-5 9:25 AM Bonde, Joshua*; Milner, Andrew R.C.; Heckert, Andrew; Hall, Rebecca: NEW, WESTERNMOST OCCURRENCE OF LARGE-BODIED TEMNOSPONDYLS FROM THE UPPER TRIASSIC CHINLE FORMATION OF SOUTHERN NEVADA
- 14-6 9:45 AM Holroyd, Patricia*: EASTERN NORTH PACIFIC PALEOGENE VERTEBRATE DIVERSITY: AN OVERVIEW OF THE FOSSIL RECORD AND ITS BIASES
- 10:05 AM Break
- 14-7 10:20 AM Hodges, Montana*; Newby, Tahlor; Swarner, Holli; Busby, Cathy; Shapiro, Russell; Francek, Greg; Dailey, Charles; Nies, Sean; Cobain, Bradley; Hodges, Christopher: BIOCHRONOLOGY AND GEOCHRONOLOGY OF THE MIOCENE ZOO IN THE MOKELUMNE PALEOCHANNEL, WESTERN SIERRA NEVADA FOOTHILLS
- 14-8 10:40 AM Rowland, Stephen*; Jones, Michele; Chameroy, Eric; Gordon, Thomas: THE BISON AND THE BLOW FLY: USING BLOW FLY PUPARIA TO CONSTRAIN THE SEASON OF DEATH AND TAPHONOMIC HISTORY OF AN EARLY-HISTORIC-AGE BISON, CARSON VALLEY, NORTHERN NEVADA
- 14-9 11:00 AM Garcia, Christine*: THE HISTORY, SIGNIFICANCE AND RESURRECTION OF THE STANFORD PALEONTOLOGICAL COLLECTIONS
- 14-10 11:20 AM Snyder, Walter*; Davydov, Vladimir: A FIELD GEOLOGIST'S VIEW OF THE GEOLOGIC TIME SCALE
- 14-11 11:40 AM Henderson, Charles*; Angiolini, Lucia: FINISHING THE PERMIAN GEOLOGICAL TIME SCALE BY DEFINING FREELY ACCESSIBLE STAGE BOUNDARIES IN NEVADA

SESSION NO. 15

T31. From High Grade to Low Grade: Honoring the Contributions of J. Douglas Yule Towards Understanding the Growth and Active Deformation of Western North America

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 2

Andrew Meigs, Whitney Behr and Kate Scharer, Presiding

- 8:00 AM Introductory Remarks
- 15-1 8:05 AM Barnes, Calvin*; Sylvester, Paul; Dailey, Shane; Valley, John: THE INTERPLAY BETWEEN OROGENIC MODIFICATION OF THE LOWER CRUST AND PLUTONISM FROM ZIRCON AGE, HF, AND O DATA, KLAMATH MOUNTAIN PROVINCE, CALIFORNIA AND OREGON
- 15-2 8:25 AM Schmidt, William*; Chapman, Alan: CORRELATION, PROVENANCE, AND ACCRETIONARY HISTORY OF FRANCISCAN AND RELATED UNITS IN NORTHERN CALIFORNIA AND SOUTHERN OREGON
- 15-3 8:45 AM Tewksbury-Christle, Carolyn*; Abila, Ana Lorena; Fellin, Maria Giuditta; Behr, Whitney; Helper, Mark: LATE OLIGOCENE TO EARLY MIOCENE EXHUMATION OF THE CONDREY MOUNTAIN SCHIST, KLAMATH MOUNTAINS, NORTHERN CALIFORNIA AND SOUTHERN OREGON
- 15-4 9:05 AM DiCarlo, Rennie; Taylor, Karlee; Chapman, Alan*; Ricketts, Jason: ZIRCON AND APATITE (U-TH)/HE THERMOCHRONOLOGY REQUIRES TWO-STAGE (EARLY CRETACEOUS AND MIOCENE) UPLIFT OF THE KLAMATH MOUNTAINS PROVINCE (SOUTHERN OREGON-NORTHERN CALIFORNIA)
- 15-5 9:25 AM Kirby, Eric*; von Dassow, Wesley; Mahan, Shannon A.: ACTIVE SHORTENING AND DIFFERENTIAL UPLIFT ACROSS THE SOUTHERN CASCADIA FOREARC: GEOMORPHIC EVIDENCE FOR PLEISTOCENE DISPLACEMENT ALONG THE ILLINOIS RIVER VALLEY FAULT

- 9:45 AM Break
- 15-6 10:00 AM Cooke, Michele*; Oglesby, David: SEISMOTECTONICS OF THE SAN ANDREAS FAULT SYSTEM IN THE SAN GORGONIO PASS REGION
- 15-7 10:20 AM Matti, Jonathan C.*; Kendrick, Katherine J.; Powell, Robert E.: TECTONIC EVOLUTION AT THE INTERSECTION OF THE SAN ANDREAS, PINTO MOUNTAIN, AND MORONGO VALLEY FAULT ZONES, SOUTHERN CALIFORNIA: IMPLICATIONS FOR QUATERNARY SAN ANDREAS FAULT SLIP RATES
- 15-8 10:40 AM Hopson, Robert*; Yule, J. Doug; McNeil, James; Lewis, Katherine: TECTONIC EVOLUTION OF THE WESTERN PINTO MOUNTAIN FAULT ZONE, SOUTHERN BIG BEND REGION, SAN ANDREAS FAULT ZONE, SOUTHERN CALIFORNIA
- 15-9 11:00 AM Heermance, Richard*; Matti, Jonathan C.; Kendrick, Katherine J.: HOLOCENE SLIP RATES ALONG THE SAN ANDREAS FAULT THROUGH THE SAN GORGONIO PASS
- 15-10 11:20 AM Scharer, Katherine*; Castillo, Bryan; McGill, Sally F.; Wolff, Lisa: THE PALEOEARTHQUAKE RECORD OF SAN GORGONIO PASS AND MAXIMUM MAGNITUDE OF SOUTHERN SAN ANDREAS FAULT RUPTURES

ALL-DAY POSTER TECHNICAL SESSIONS

SESSION NO. 16

D1. Evaluating Linkages Between Volcanic, Sedimentary and Tectonic Processes (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- Booth #
- 16-1 1 Miller, D.E.*: PROVENANCE, PALEOGEOGRAPHY, AND RESOURCE POTENTIAL OF LATE EOCENE TO EARLY OLIGOCENE FLUVIAL CONGLOMERATES, NE OREGON AND NE CALIFORNIA
- 16-2 2 Nourse, Jonathan*; Vermillion, Karissa B.; Zylstra, Scott: EXOTIC(?) DETRITAL ZIRCONS IN THE NEOPROTEROZOIC PLACERITA FORMATION OF SAN GABRIEL MOUNTAINS PROVIDE CLUES TO IDENTITY OF CONJUGATE RODINIA RIFT FRAGMENT(S)
- 16-3 3 Hodges, Montana*; Newby, Tahlor*; Busby, Cathy; Swarner, Holli; Shapiro, Russell; Francek, Greg; Dailey, Charles; Hodges, Christopher: DETRITAL ZIRCON U-PB AGES FROM A FOSSILIFEROUS SIERRA NEVADAN MIOCENE PALEOCHANNEL
- 16-4 4 John, Kendall*; Dallura, Jad; Skocko, Noel: UPPER MIOCENE TO PLEISTOCENE HIGH CASCADE VOLCANISM OF THE NORTHEAST SECTION OF THE CASCADE-SISKIYOU NATIONAL MONUMENT, SOUTHWEST OREGON
- 16-5 5 Sherman, Elisheva*; Arrowsmith, Ramon; Connor, Charles; Berkey, Troy: STRESS STATES AND DIKE EMPLACEMENT IN THE SAN FRANCISCO VOLCANIC FIELD AT SUNSET CRATER AND WUPATKI NATIONAL MONUMENT, ARIZONA
- 16-6 6 Marine, Henry*; Teasdale, Rachel; Harp, Andrew: CORRELATING MT. YANA LAVAS WITH TUSCAN FORMATION BRECCIAS: SHOWCASING GEOLOGIC RESEARCH IN PUBLIC OUTREACH WITH THE MYANA EXPLORER FIELD TRIP APP
- 16-7 7 Neudorf, Christina*; Wriston, Teresa; Jenkins, Geraint T.H.; Huot, Sebastien: THE LUMINESCENCE DATING POTENTIAL OF PEBBLES FROM PLUVIAL LAKE

BEACH DEPOSITS: PRELIMINARY RESULTS FROM THE GREAT BASIN, USA

- 16-8 8 Rodrigues, Kathleen*; Ruprecht, Philipp: EXPLORING LUMINESCENCE-BASED METHODS FOR DATING PHREATOMAGMATIC ERUPTIONS: A CASE STUDY FROM SODA LAKE, NV
- 16-9 9 Lim, Luz*; Gordon, Stacia M.; Dektar, Emily C.; DesOrmeau, Joel: MICRON-SCALE ELEMENT CHANGES WITH CONTINENTAL IMPACTS: ASSESSING DEFORMATION-RELATED ELEMENT MOBILIZATION IN UHP ZIRCONS FROM THE WESTERN GNEISS REGION, NORWAY

SESSION NO. 17

D4. Geoscience Education (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | Booth # | | Booth # |
|---------|--|---------|
| 17-1 | 10 Crabtree, Stephen*: ASSESSING STUDENT ENGAGEMENT AND PARTICIPATION POST-COVID: HOW IS ONLINE CONTENT AFFECTING THE RETURN TO "NORMAL"? | 18-10 |
| 17-2 | 11 Torres, Stephen*; Teasdale, Rachel; Ryker, Katherine; Bitting, Kelsey: COMPARISON OF INQUIRY-BASED LAB ACTIVITIES IN INTRODUCTORY GEOSCIENCE LABS: DO STUDENTS LEARN BETTER WITH HANDS-ON LABS? | 18-11 |
| 17-3 | 12 Moya, Jovanna*; Kingsbury, Sadie A.: A JOURNEY THROUGH TIME WITH AN ARTIST: AN INTERDISCIPLINARY APPROACH TO TEACHING EARTH HISTORY | 18-12 |
| 17-4 | 13 Davies, Nigel*; Pritchard, Chad; Kinder, Madison: GEO BIKE ADVENTURE – CONNECTING LOCAL TRAILS AND REGIONAL GEOLOGY | |

SESSION NO. 18

S1. Late Jurassic to Eocene Tectonics of the North America Cordillera: Evolving and Emerging Models (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | Booth # | | Booth # |
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| 18-1 | 14 Feldberg-Bannatyne, Maya*; Davidson, Cameron; Garver, John I.: U-PB ZIRCON GEOCHRONOLOGY AND LU-HF ISOTOPE STUDY OF THE SANAK-BARANOF BELT IN SOUTHEAST ALASKA: A FOCUS ON THE INTRUSIVE BODIES OF YAKOBI ISLAND, CHICHAGOF ISLAND, AND GLACIER BAY NATIONAL PARK | 18-15 |
| 18-2 | 15 Barth, Sofia T.*; Garver, John; Davidson, Cameron: STRATIGRAPHY AND PROVENANCE OF DETRITAL ZIRCONS IN THE SITKA GRAYWACKE FROM BARANOF, CHICHAGOF, YAKOBI, AND GLACIER BAY NATIONAL PARK IN THE FAIRWEATHER RANGE | 18-16 |
| 18-3 | 16 Bryan, Rachel P.*; Garver, John; Davidson, Cameron: AGE AND PROVENANCE OF CRETACEOUS TO PALEOCENE CLASTIC ROCKS OF THE YAKUTAT GROUP IN GLACIER BAY NATIONAL PARK, ALASKA | |
| 18-4 | 17 McGroder, Mike*; Lingrey, Steven H.: MAP-BASED CONSTRAINT ON DEXTRAL OFFSET ACROSS THE HOZAMEEN FAULT, NORTH CASCADES, WASHINGTON | 18-17 |
| 18-5 | 18 Gaschnig, Richard*; Nelson, Ellen; Tikoff, Basil: NEW CONSTRAINTS ON THE SOUTHERN EXTENT OF THE WESTERN IDAHO SHEAR ZONE AND MAGMATISM AND METAMORPHISM THEREIN | 18-18 |
| 18-6 | 19 Gray, Keith*; Foster, David A.; Johnson, Kenneth; Isakson, V.: MIDDLE CRETACEOUS [CA. 105–90 MA] SYNOROGENIC MAGMATISM AND RELATIONS TO | |
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SUPERCONTINENTAL RIFTING IN THE MCCALL REGION OF WEST-CENTRAL IDAHO

- 18-7 20 Welch, Robert*; Shaw, John H.: THE ROLE OF LARGE-SCALE OUT-OF-SEQUENCE THRUSTS AND MULTIPLE DETACHMENT LEVELS IN CONSTRAINING THE SEQUENCE OF THRUSTING AND TECTONIC DEVELOPMENT OF THE FRONT RANGES OF THE CANADIAN ROCKIES
- 18-8 21 Boudreau, Ericka*; Gaschnig, Richard; Schwartz, Joshua; Vervoort, Jeffrey; Housen, Bernard: HEAVY MINERAL PROVENANCE AND PALEOMAGNETIC STUDIES OF MESOZOIC ROCKS IN THE GOLD BEACH TERRANE
- 18-9 22 DeSisto, Nicholas*; Pluhar, Christopher J.; Polon, Casey K.: GEOLOGIC MAPPING OF THE GOLDEN BEAR, COSO AND COTTONWOOD PASS DIKES: FURTHER TESTING OF 65 KM OF DEXTRAL OFFSET IN THE CRETACEOUS EASTERN SIERRA
- 18-10 23 Shimabukuro, David H.*; Black, Jo; Skinner, Steven M.; Wakabayashi, John: METACLASTIC-RICH IMBRICATED OCEAN-PLATE STRATIGRAPHY IN THE METAMORPHIC SOLE OF THE TUOLUMNE OPHIOLITE
- 18-11 24 Giblin, Jacqueline*; Rathinali, Alexandra; Hodges, Kip: TOPOGRAPHIC EVOLUTION OF THE SOUTHEASTERN SIERRA NEVADA, CA: PROSPECTS FOR INSIGHTS FROM MULTICHROMETER DETRITAL GEOCHRONOLOGY AND THERMOCHRONOLOGY
- 18-12 25 Jacobson, Carl E.*; Sharman, Glenn R.; Grove, Marty; Kimbrough, David L.; Nourse, Jonathan A.; Hourigan, Jeremy K.; Haxel, Gordon B.; Chapman, Alan; Barth, Andrew; Seymour, Nikki M.; Dumitru, Trevor A.: DETRITAL ZIRCON AGES FROM UPPER CRETACEOUS–PALEOGENE FOREARC AND SUBDUCTION-ZONE STRATA OF SOUTHERN CALIFORNIA AND ENVIRONS COMPARED TO CORDILLERAN IGNEOUS BASEMENT AGES: IMPLICATIONS FOR LARAMIDE TECTONICS
- 18-13 26 Barth, Andrew*; Riggs, Nancy R.; Jacobson, Carl E.; Walker, J. Douglas; Wooden, Joseph L.: EVOLUTION OF THE EARLY MESOZOIC CORDILLERAN ARC, MOJAVE DESERT TO EAST-CENTRAL SIERRA NEVADA, CALIFORNIA
- 18-14 27 Aleksey, Matthew E.*; Goodwin, Laurel B.; Chapman, James B.; Rossi, Amanda: STRUCTURAL EVOLUTION OF THE LATE CRETACEOUS – EARLY PALEOGENE QUITOBAQUITO SHEAR ZONE, ORGAN PIPE CACTUS NATIONAL MONUMENT, SOUTHERN ARIZONA
- 18-15 28 Del Rio-Salas, Rafael*; González-León, Carlos M.; Solari, Luigi; Vázquez-Salazar, Michelle; Gonzalez-Becuar, Elizard; Sánchez-Navarro, Teresita; Pérez, Ofelia; Lozano SantaCruz, Rufino: GEOCHEMISTRY AND GEOCHRONOLOGY OF LEUCOCRATIC ROCKS OF MAGDALENA GRANITES, NORTH-CENTRAL SONORA, MEXICO
- 18-16 29 Parolari, Mattia*; Martini, Michelangelo; Gómez Tuena, Arturo; Ortega-Gutiérrez, Fernando; Errázuriz Henao, Carlos; Verde-Ramírez, María de los Angeles; Fitz-Diaz, Elisa; Cavazos Tovar, José Guadalupe: THE PETROGENESIS OF EARLY–MIDDLE JURASSIC MAGMATISM IN SOUTHERN AND CENTRAL MEXICO AND ITS ROLE DURING THE BREAK-UP OF WESTERN PANGAEA
- 18-17 30 Pilger, Rex H*: THE NORTH AND SOUTH AMERICAN CORDILLERA - MUTUAL ANALOGIES IN SUBDUCTION AND MAGMATIC HISTORIES
- 18-18 31 Ruplinger, Alicia*; Heermance, Richard; Sousa, Francis; Cecil, Robinson; Barron, Jorge; Asher, Priscilla; Portillo, Leslie: PALEOGENE MARINE ROCKS IN THE MOJAVE DESERT - REINTERPRETING THE DEPOSITIONAL

ENVIRONMENT OF THE GOLER FORMATION,
SOUTHERN CALIFORNIA

SESSION NO. 19

T4. Strike-Slip Faulting, Flower Structures, Plutons, and Tiltmeters: A Tribute to the Career of Arthur Sylvester (Posters) (GSA Structural Geology and Tectonics Division)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #	
19-1	32 Swanson, Brian*; Rodriguez, Francesca N.; Hernandez, Janis L.; Schwartz, Joshua: NEW INSIGHTS ON THE AGE, DISTRIBUTION, AND STRUCTURE OF BASEMENT ROCKS ALONG THE SOUTHWEST SIDE OF THE SAN ANDREAS FAULT IN THE BURNT PEAK 7.5' QUADRANGLE, SOUTHERN CALIFORNIA
19-2	withdrawn
19-3	34 Mcgregor, Ian*; Onderdonk, Nate: CHARACTERIZATION OF LATE PLEISTOCENE DEFORMATION AT THE NORTHERN BOUNDARY OF THE TRANSVERSE RANGES IN CALIFORNIA FROM RECONSTRUCTION, KINEMATIC MODELING, AND LUMINESCENCE DATING OF THE ORCUTT FORMATION
19-4	35 Joy, Brody*; Litto, Andrew; Johnston, Scott; Lackey, Jade Star; Kylander-Clark, Andrew R.C.: STRAIN WITHIN THE GODDARD PENDANT AND ADJACENT CRETACEOUS GRANITIC ROCKS, SOUTHERN SIERRA NEVADA
19-5	36 Zuza, Andrew V.*; Morebeck, Cutter; Levy, Drew; Michels, Zachary D.; Cao, Wenrong: CHARACTERIZING THE WALLROCK STRAIN AND KINEMATIC VORTICITY OF HOT RISING BODIES, FROM THE PAPOOSE FLAT PLUTON TO METAMORPHIC CORE COMPLEXES
19-6	37 Kylander-Clark, Andrew*; Johnston, Scott: PLUTON SOURCE AND EMPLACEMENT PROCESSES REVEALED BY PETROCHRONOLOGY OF SIERRAN DETRITAL TITANITE
19-7	38 Law, Bryan*: DISTRIBUTION, CORRELATION, AND MAPPING OF OLIGOCENE ASH-FLOW TUFFS IN THE WESTERN NEVADA VOLCANIC FIELD
19-8	39 Li, Jianhua*; Dong, Shuwen: LATE MESOZOIC RETRO-ARC SHORTENING AND BACK-ARC EXTENSION IN SOUTH CHINA REVEALED BY SEISMIC REFLECTION PROFILING

SESSION NO. 20

T7. Advancements in Central Sierra Nevada Structural Geology and Tectonics (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #	
20-1	40 Hart, Olivia*; Cao, Wenrong: TECTONIC SIGNIFICANCE AND FORMATION PROCESSES OF PSEUDOTACHYLITE NEAR JUNE LAKE, CA
20-2	41 Shields, Jessie E.*; Pluhar, Christopher J.: ANALYSIS OF AN INTRACANYON LAVA FLOW IN THE CENTRAL SIERRA NEVADA AS EVIDENCE FOR NEOGENE TILTING AND UPLIFT
20-3	42 Ismayilova, Nurana*; Bennett, Alexia; Pavlovsky, Nicole; Yoshinobu, Aaron: LOW TO NO STRAIN IN ROCKS ADJACENT TO THE MELONES FAULT ZONE: IMPLICATIONS FOR STRAIN ANALYSIS TECHNIQUES AND THE NEVADAN OROGENY
20-4	43 Greene, David C.*: EVIDENCE FOR LARGE SCALE FOLD AND FAULT IMBRICATION OF A PERMIAN TO MID-CRETACEOUS VOLCANO-SEDIMENTARY ASSEMBLAGE IN THE MINERAL KING PENDANT, SOUTHERN SIERRA NEVADA, CALIFORNIA

20-5	44 O'Neal, Matt*; Holland, Peter; Spangler, Eleanor R.: NEW GEOLOGIC MAPPING AND DATING OF VALLEY SPRINGS FORMATION TUFFS, CALAVERAS COUNTY, CALIFORNIA
20-6	45 Sanborn, Erica*; Shimabukuro, David H.; Skinner, Steven M.: HIGH-PRESSURE METAMORPHIC EVENT RECORDED IN AMPHIBOLITE IN THE JARBO GAP OPHIOLITE, CENTRAL BELT, SIERRA NEVADA, CALIFORNIA

SESSION NO. 21

T10. Paleontologic Advances in the Cordilleran Region (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #	
21-1	46 Cordie, David*; Fedorchuk, Nicholas; Sikes, Melissa; McDonough, Isabel: BIOLOGICAL AND SEDIMENTOLOGICAL CONDITIONS OF THE NOPAH FORMATION AND POGONIP GROUP (LATE CAMBRIAN TO ORDOVICIAN) OF THE ANTELOPE VALLEY REGION OF NEVADA
21-2	47 Leong, Derrick*; Liu, Juan: THE LATERAL LINE SYSTEM OF A MIDDLE DEVONIAN TETRAPODOMORPH FROM RED HILL, NEVADA
21-3	48 Larson Tevis, A Anders*; Mehra, Akshay: ACCRETIONARY GROWTH? EXPLORING THE EVOLUTION OF THE LITERATURE ON STROMATOLITE MORPHOGENESIS

SESSION NO. 22

T15. Applied Geophysical Analysis of the Shallow Subsurface (Posters) (GSA Energy Geology Division; GSA Geophysics and Geodynamics Division)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

Booth #	
22-1	withdrawn
22-2	50 Buckner, Ella; Louie, John; Sturmer, Daniel*: TESTING VISIBILITY OF LANDSLIDE DEPOSITS BY DEEP REFRACTION-MICROTREMOR AND H/V ANALYSIS, WASHOE VALLEY, NV
22-3	51 Louie, John*; Simpson, Alex: DATABASE OF GEOTECHNICAL SHEAR-WAVE SEISMIC-VELOCITY PROFILE MEASUREMENTS FOR CALIFORNIA AND NEVADA
22-4	52 Trugman, Daniel*; Brune, James; Smith, Kenneth; Louie, John; Kent, Graham: THE ROCKS THAT DID NOT FALL: UNDERSTANDING THE NEAR-SOURCE GROUND MOTIONS OF AN ACTIVE NORMAL FAULT
22-5	53 Hayashi, Koichi*; Roughley, Cari: THREE-DIMENSIONAL S-WAVE VELOCITY MODEL OF NAPA VALLEY OBTAINED FROM MICROTREMOR ARRAY MEASUREMENTS AND HORIZONTAL TO VERTICAL SPECTRAL RATIO
22-6	54 Sickler, Robert R.*; Catchings, Rufus D.; Nishenko, Stuart P.; Goldman, Mark R.; Chan, Joanne H.; Criley, Coyn C.; Strayer, Luther M.; Samuel, Delton A.; Gomez, Ahkayla J.; Pina, Ashley R.; Philibosian, Belle E.; Willard, Jack G.; Erdem, Jemele E.: LOCATIONS OF THE SERRA AND RELATED FAULTS ALONG THE SAN FRANCISCO PENINSULA IN THE CITY OF SAN CARLOS FROM MULTI-METHOD, ACTIVE-SOURCE SEISMIC IMAGING
22-7	55 Craig, Mitchell*; Faisal, Nur A.; Hayashi, Koichi; Kozaci, Ozgur: LEVEE ASSESSMENT IN THE SACRAMENTO DELTA USING SEISMIC AND ELECTRICAL RESISTIVITY METHODS

- 22-8 56 Patton, Anne*; Igonin, Nadine; Trugman, Daniel:
QUANTIFYING TEMPORAL STRESS CHANGES USING
SHEAR-WAVE ANISOTROPY IN THE SAN JACINTO
FAULT ZONE
- 22-9 57 Kinkel, Danielle*: ANALYZING SEISMIC DATA FROM A
LOW-COST CELL PHONE NETWORK FOR APPLICATION
IN EARTHQUAKE EARLY WARNING SYSTEMS

SESSION NO. 23**T31. From High Grade to Low Grade: Honoring the Contributions of J. Douglas Yule Towards Understanding the Growth and Active Deformation of Western North America (Posters)**

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | | | Booth # |
|------|----|---|
| 23-1 | 58 | Bennett, Alexia*; Gates, Katie; Barnes, Calvin:
ADOPTING AN ORPHANED TERRANE: USING WHOLE
ROCK GEOCHEMICAL ANALYSIS TO DETERMINE A
PARENT TO THE OUTER CONDREY MOUNTAIN SCHIST
IN THE KLAMATH MOUNTAINS, CA AND OR |
| 23-2 | 59 | Wakabayashi, John*: GEOLOGY OF SUNOL REGIONAL
WILDERNESS AND VICINITY, NORTHWESTERN
DIABLO RANGE, CALIFORNIA: UPDATES FROM NEW
GEOLOGIC MAPPING |
| 23-3 | 60 | McNeil, James*; Koehler, Rich: GEOLOGIC MAPPING
OBSERVATIONS OF THE IONE VALLEY, RAVENSWOOD,
REESE RIVER VALLEY, AND WESTERN TOIYABE
RANGE FAULTS, BASIN AND RANGE PROVINCE,
CENTRAL NEVADA |
| 23-4 | 61 | Behr, Whitney*; Hufford, Lonnie J.; Akker, Vénice; Rast,
Markus; Braden, Zoe; Helper, Mark; Morales, Luiz;
Higman, Brettwood: INSIGHTS FROM THE CHUGACH
ACCRETIONARY COMPLEX IN SOUTHERN ALASKA
INTO UNDERPLATING PROCESSES AND MEGATHRUST
RHEOLOGY AT SHALLOW SUBDUCTION CONDITIONS |

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 24**D1. Evaluating Linkages Between Volcanic, Sedimentary and Tectonic Processes**

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 2

Michael Darin, Christopher Henry, Margo Odlum and Philipp Ruprecht, Presiding

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| | 1:30 PM | Introductory Remarks |
| 24-1 | 1:35 PM | Odlum, Margo*; Capaldi, Tomas; Thomson, Kelly:
THERMAL-TECTONIC RECORD OF WILSON CYCLES
DOCUMENTED BY DETRITAL RUTILE AND ZIRCON
GEOCHRONOLOGY AND GEOCHEMISTRY IN THE
PYRENEES, SPAIN |
| 24-2 | 1:55 PM | Aikin, Nicole*; Condit, Cailey; Williams, Michael L.;
Karlstrom, Karl: MONAZITE PETROCHRONOLOGY
REVEALS THE LIFECYCLE OF AN OROGEN: EXAMPLE
FROM THE UPPER GRANITE GORGE, GRAND CANYON |
| 24-3 | 2:15 PM | Henry, Christopher*; Heizler, Matthew T.; Zuza, Andrew V.;
Dee, Seth: USING DETRITAL SANIDINES TO DECIPHER
MAJOR TECTONIC EVENTS: MIDDLE MIOCENE(?)
UPLIFT AND EXPOSURE OF THE RUBY MOUNTAINS-
EAST HUMBOLDT METAMORPHIC CORE COMPLEX |
| 24-4 | 2:35 PM | Dallura, Jad*: LATE OLIGOCENE TO EARLY
MIOCENE WESTERN CASCADE VOLCANISM IN THE
NORTHWESTERN PORTION OF THE CASCADE-
SISKIYOU NATIONAL MONUMENT, SOUTHWEST
OREGON |

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| 24-5 | 2:55 PM | Hillard, Thomas*; Dallura, Jad: UPPER OLIGOCENE
VOLCANIC STRATIGRAPHY IN THE CASCADE-SISKIYOU
NATIONAL MONUMENT IN NORTHERN CALIFORNIA |
| 24-6 | 3:15 PM | Gardner, Kevin*; Dorsey, Rebecca; Darin, Michael;
Bennett, Scott E.K.; Hausback, Brian: SUBMARINE
EMPLACEMENT OF A LATE MIOCENE VOLCANIC
LANDSLIDE COMPLEX, CENTRAL BAJA CALIFORNIA
PENINSULA, MEXICO |
| 24-7 | 3:35 PM | Buesch, David*: DEPOSITION OF THE 18.8 MA PEACH
SPRING TUFF ON A THICK LAVA FLOW IN THE MARBLE
MOUNTAINS, CALIFORNIA |

SESSION NO. 25**D2. Environmental, Hydrological, and Engineering Geology**

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 3

Jennifer Wilson and Michael Casazza, Presiding

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| 25-1 | 1:30 PM | Janapaty, Vedant*: A WEST COAST ESTUARINE CASE
STUDY: A PREDICTIVE APPROACH TO MONITOR
ESTUARINE EUTROPHICATION |
| 25-2 | 1:50 PM | Barbaree, Blake*; Skalos, Shannon; Norvell, Russel;
Reiter, Matthew: INFORMING LAND AND WATER
MANAGEMENT DECISIONS WITHIN AN IMPERILED
NETWORK OF FRESHWATER WETLANDS AND SALINE
LAKES USING 30-YEAR TRENDS IN DISTRIBUTIONS OF
WATER AND MIGRATORY SHOREBIRDS |
| 25-3 | 2:10 PM | Greenfield, Michael*; Estep, Timothy; Hitchcock,
Christopher; Wilson, Jennifer: REGIONAL SCALE
GROUNDWATER MODELING FOR HAZARD ANALYSES
IN THE SAN FRANCISCO BAY AREA |
| 25-4 | | withdrawn |
| 25-5 | | withdrawn |
| 25-6 | 3:50 PM | Wilson, Jennifer*: YES, YOU CAN! WORKING FOR
YOURSELF AS A SOLE PROPRIETOR IN THE
GEOSCIENCES |

SESSION NO. 26**S1. Late Jurassic to Eocene Tectonics of the North America Cordillera II: Evolving and Emerging Models**

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 1

Basil Tikoff, Stacia Gordon, Andrew P. Barth, Cathy Busby, Robinson Cecil, Sarah Roeske and Michael Wells, Presiding

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| 26-1 | 1:30 PM | Martini, Michelangelo*; Busby, Cathy: THE MEXICAN
SEGMENT OF THE NORTH AMERICAN CORDILLERA:
THE MEETING OF PACIFIC AND ATLANTIC TECTONICS
DURING MESOZOIC TIME |
| 26-2 | 2:00 PM | Fuston, Spencer*: CRETACEOUS COLLISION
RECONCILES WESTERN NORTH AMERICAN
TECTONICS WITH DEEP MANTLE SLABS |
| | 2:30 PM | Discussion |
| 26-3 | 2:45 PM | Schwartz, Joshua*; Lackey, Jade Star; Miranda, Elena;
Klepeis, Keith; Mora-Klepeis, Gabriela; Robles, Francine;
Bixler, Jonathan: MAGMATIC SURGE REQUIRES TWO-
STAGE MODEL FOR THE LARAMIDE OROGENY |
| 26-4 | 3:00 PM | Wells, Michael*; Mulligan, Suzanne R.; Hoisch, Thomas;
Stockli, Daniel; Craddock Affinati, Suzanne: EPISODIC
LATE JURASSIC AND MID CRETACEOUS SHORTENING
IN THE SOUTHERN SEVIER FOLD-AND-THRUST BELT
AND HINTERLAND |
| 26-5 | 3:15 PM | Miller, David*; Wells, Michael L.; Fox, Lydia; Reioux,
David; Swanson, Brian; Parrish, Ben: TESTING
TECTONIC MODELS FOR MESOZOIC SHORTENING,
INTRUSION, AND EXTENSION IN SOUTHEASTERN
CALIFORNIA USING DETAILED CRUSTAL
THICKNESS DATA |

- 26-6 3:30 PM Iriondo, Alexander*; Castañeda-Narváez, Erik; Miggins, Daniel P.; Estrada-Carmona, Juliana: AGE SIMILARITIES BETWEEN LATE CRETACEOUS GRANITOIDS IN THE PALM SPRINGS-MECCA REGION (SOUTHERN CALIFORNIA) AND THE ONES IN COASTAL SONORA (NW MEXICO): TIES ACROSS THE GULF OF CALIFORNIA-SAN ANDREAS SHEAR SYSTEM
- 26-7 3:45 PM Chapman, James B.*; Pridmore, Cody J.; Chamberlain, Kevin R.; Haxel, Gordon B.; Ducea, Mihai N.: EARLY PALEOGENE ANATEXIS IN THE SOUTHERN U.S. CORDILLERA AND NEW CONSTRAINTS ON PEAK METAMORPHISM IN THE DEEP CRUST: COYOTE MOUNTAINS, ARIZONA

FRIDAY, 19 MAY 2023

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 27

S1. Late Jurassic to Eocene Tectonics of the North America Cordillera III: Evolving and Emerging Models

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 1

Basil Tikoff, Stacia Gordon, Andrew P. Barth, Cathy Busby, Robinson Cecil, Sarah Roeske and Michael Wells, Presiding

- 27-1 8:00 AM Pavlis, Terry*; Roeske, Sarah M.: THE NATURE AND TIMING OF MID-CRETACEOUS CORDILLERAN OROGENESIS: A TALE OF BASIN CLOSURES, STRIKE-SLIP, AND SUBDUCTION ZONES
- 27-2 8:30 AM Johnston, Stephen*: THE NORTHERN CORDILLERA - TOWARDS RESOLUTION OF CONTRADICTIONARY MODELS
- 27-3 9:00 AM Cecil, Robinson*; Rusmore, Margaret; Gehrels, George E.; Stowell, Harold: MAGMATIC DEVELOPMENT OF THE COAST MOUNTAINS BATHOLITH AND CONSTRAINTS ON THE TECTONIC CONFIGURATION OF THE NORTHERN CORDILLERA IN JURASSIC TO LATE CRETACEOUS TIME
- 9:30 AM Questions and Discussion
- 27-4 9:45 AM Gehrels, George*; Wang, Jordan; Cecil, Robinson; Kapp, Paul: SINISTRAL FAULTING ALONG THE NORTHERN CORDILLERAN MARGIN: IMPLICATIONS FOR INSULAR-INTERMONTANE CONNECTIONS AND THE POLARITY OF JURA-CRETACEOUS SUBDUCTION
- 27-5 10:00 AM Wang, Jordan*; Gehrels, G.E.; Kapp, Paul A.; He, John; White, Tristan J.: THE BRIDGE RIVER-SHULAPS CULMINATION: A WINDOW INTO PERMO-TRIASSIC SUBDUCTION INITIATION, JURASSIC-CRETACEOUS COLLISION, AND ARC POLARITY IN THE CANADIAN CORDILLERA
- 27-6 10:15 AM Stowell, Harold*; Rusmore, Margaret; Gutapfel, Savanna; Cecil, Robinson; Bollen, Elizabeth: THE POST 100 MA ARCHITECTURE OF THE COAST MOUNTAINS, BRITISH COLUMBIA AND SOUTHEAST ALASKA
- 27-7 10:30 AM Hollister, Lincoln*: REFLECTIONS ON MY 60 YEARS IN THE COAST MOUNTAINS OF BRITISH COLUMBIA
- 27-8 10:45 AM Donaghy, Erin*; Eddy, Michael; Ridgway, Kenneth D.: TESTING TERRANE TRANSPORT ALONG TRANSPRESSIVE CONVERGENT MARGINS: HIGH-PRECISION U-PB GEOCHRONOLOGY, GEOLOGIC MAPPING, AND STRATIGRAPHIC ANALYSIS OF THE YAKUTAT AND SILETZIA TERRANES
- 27-9 11:00 AM Garver, John*; Davidson, Cameron; Feldberg-Bannatyne, Maya; Barth, Sofia T.; Bryan, Rachel P.: REEVALUATION OF THE CHUGACH, PRINCE WILLIAM TERRANES

BASED ON GEOCHRONOLOGY OF DETRITAL ZIRCON AND PLUTON AGES FROM CHICAGO, YAKOBI, AND THE FAIRWEATHER RANGE IN GLACIER BAY NATIONAL PARK, ALASKA

- 27-10 11:15 AM Grant, Belyn; Roeske, Sarah*; Waldien, Trevor S.; Regan, Sean P.: HUNTING FOR CRYPTIC CRETACEOUS - EARLY CENOZOIC STRIKE-SLIP DISPLACEMENT IN THE NORTHERN CORDILLERA
- 27-11 11:30 AM Craig, Jason*; Miller, Elizabeth; Toro, Jaime: TIMING OF MESOZOIC EXHUMATION OF THE METAMORPHIC CORE OF THE SOUTHERN BROOKS RANGE: NEW CONSTRAINTS FROM LOW TEMPERATURE THERMOCHRONOLOGY
- 27-12 11:45 AM Biasi, Joseph*; Strauss, Justin: THE PALEOGEOGRAPHY OF NORTHERN ALASKA: KNOWN AND UNKNOWN

SESSION NO. 28

T14. Nature of Magma Processes in Different Sized and Shaped Plutons (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division)

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 2

Valbone Memeti, Calvin Barnes, Jade Star Lackey and Joshua Schwartz, PhD, Presiding

- 8:00 AM Introductory Remarks
- 28-1 8:05 AM Memeti, Valbone*: A COMPARISON OF MAGMA PROCESSES RECORDS IN THE TUOLUMNE INTRUSIVE COMPLEX, KUNA CREST LOBE, AND THE JACKASS LAKES PLUTON, SIERRA NEVADA BATHOLITH: SIZE, LONGEVITY, AND MAGMA FOCUSING MATTER
- 28-2 8:25 AM Johnston, Scott*; Kylander-Clark, Andrew R.C.; Rioux, Matthew: GEOCHEMICAL CHARACTERIZATION OF TUOLUMNE INTRUSIVE SUITE ZIRCON, SIERRA NEVADA BATHOLITH, CALIFORNIA
- 28-3 8:45 AM Spencer, Danielle*; Barnes, Calvin: APATITE COMPOSITIONS AS TRACERS OF IGNEOUS PROCESSES IN THE WOOLEY CREEK BATHOLITH, KLAMATH MOUNTAINS, CALIFORNIA
- 28-4 9:05 AM Ratschbacher, Barbara*; Keller, C. Brenhin; Ardill, Katie; Putirka, Keith; Schoene, Blair; Paterson, Scott R.; Paige, Matthew: MULTI-SCALE MAGMATIC AND SUB-SOLIDUS PROCESSES OPERATING IN A BIMODAL SHALLOW CRUSTAL MAGMA RESERVOIR
- 28-5 9:25 AM Brand, John H.*: THE GEOLOGY OF JOSHUA TREE NATIONAL PARK, RE-DISCOVERED
- 9:45 AM Break
- 28-6 10:00 AM Morris, Rebecca*; Canil, Dante: CO₂ PRODUCTION FROM DIKES VS. PLUTONS IN CARBONATE WALLROCK: MECHANISMS DRIVING MAGMA-LIMESTONE INTERACTIONS WITHIN THE JURASSIC BONANZA ARC
- 28-7 10:20 AM Longo, Shasta*; Ruprecht, Philipp: A STUDY ON MAGMATIC DIVERSITY: DETERMINING THE EVOLUTION AND HETEROGENEITY OF PLUTONS IN SWALES MOUNTAIN, NV
- 28-8 10:40 AM Jean, Marlon*; Perfit, Michael: PLUTONIC ROCKS DRILLED BENEATH MAKUSHIN VOLCANO, UNALASKA ISLAND: A MASHED VIEW OF THE ALEUTIAN ISLANDS
- 28-9 11:00 AM Panahi, Fatema*; Walker, J. Douglas; Andrew, Joe: THE MODE OF PLUTON EMPLACEMENT IN THE LATE JURASSIC SIERRA NEVADA ARC IS CONTROLLED BY STRAIN PARTITIONING
- 11:20 AM Discussion

SESSION NO. 29**T19. General Contributions in Geomorphology**

8:00 AM, The Whitney Peak Hotel, Whitney Peak Ballroom 3

Joel Scheingross, Greg Stock, Erin Bray, Nicholas Pinter, Kevin Schmidt and Jonathan Perkins, Presiding

- 29-1 8:00 AM Calic, Jelena*; Milivojevic, Milovan; Milosevic, Marko V.: FORMER AND ACTIVE GLACIATION PROCESS IN PROKLETIJE MT. / ALBANIAN ALPS (BALKAN PENINSULA, SOUTH-EASTERN EUROPE)
- 29-2 8:20 AM Sturmer, Daniel*; Ward, Dylan J.; Hammer, Sarah J.: NEW 36CL PROFILE AGE FOR THE BLACKHAWK LANDSLIDE, LUCERNE VALLEY, SAN BERNARDINO COUNTY, CALIFORNIA
- 29-3 8:40 AM Burgess, William*; Dean, Heather; Falsetto, Michael; Henningfeld, Christopher K.; Beard, Rachel A.: CONNECTING LANDSLIDE EVENT RESPONSE DATA WITH EMERGENCY MANAGERS AND POLICY MAKERS USING THE CALIFORNIA GEOLOGICAL SURVEY'S REPORTED LANDSLIDES DATABASE DURING A SEQUENCE OF NINE ATMOSPHERIC RIVER EVENTS IN CALIFORNIA, DECEMBER 2022 - JANUARY 2023
- 29-4 9:00 AM Dow, Helen*: HINDCASTING SPATIAL AND TEMPORAL PATTERNS IN POST-WILDFIRE EROSION ACROSS CALIFORNIA
- 29-5 9:20 AM Cavagnaro, David B.*; McCoy, Scott; Thomas, Matthew; Kostelnik, Jaime; Lindsay, Don: THE SPATIAL DISTRIBUTION OF POST-FIRE DEBRIS FLOWS IN RELATION TO OBSERVED RAINFALL ANOMALIES
- 9:40 AM Break
- 29-6 9:55 AM Robinson, Michael*; Scheingross, Joel: CONTROLS ON TRIBUTARY STREAM LENGTHS AS A FUNCTION OF MAINSTEM JUNCTION POSITION AND BASIN SHAPE
- 29-7 10:15 AM Curtis, Jennifer*: THE FUTURE OF FINE-SEDIMENT DISCHARGE IN THE HUMBOLDT BAY-EEL RIVER REGION, CALIFORNIA
- 29-8 10:35 AM Bloszies, Christopher*; Baldwin, John N.: TECTONIC GEOMORPHIC AND QUATERNARY GEOLOGIC INVESTIGATION OF THE QUIÉN SABE FAULT, SANTA CLARA AND SAN BENITO COUNTIES, CALIFORNIA
- 29-9 10:55 AM Skotnicki, Steve*: LATE MIOCENE-PLIOCENE LAKE SPILLOVER OF THE VERDE VALLEY(?) LED TO A SUDDEN CHANGE FROM ENDORHEIC TO EXOREIC DEPOSITION WITHIN THE PAYSON BASIN, ARIZONA, USA
- 29-10 11:15 AM Scheingross, Joel*; Repasch, Marisa; Cook, Kristen; Sachse, Dirk; Dosch, Sophia; Hovius, Niels: LITHOSPHERIC FLEXURE SETS FLUVIAL MORPHOLOGY, DISSOLVED LOAD GEOCHEMISTRY, AND BASIN HYDROLOGY IN THE LOWLAND RIO BERMEJO, ARGENTINA
- 29-11 11:35 AM Pinter, Nicholas*: GEOMORPHOLOGY "MOVING THE NEEDLE" ON PUBLIC POLICY

ALL-DAY POSTER TECHNICAL SESSIONS

SESSION NO. 30**D3. Economic Geology (Posters)**

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | | | Booth # |
|------|---|---|
| 30-1 | 1 | John, David*; Colgan, Joseph; Vikre, Peter: MAGMAS, CALDERAS, EXTENSIONAL TECTONICS, AND MIOCENE EPITHERMAL SILVER-GOLD DEPOSITS NEAR TONOPAH, NEVADA |

- | | | |
|------|---|---|
| 30-2 | 2 | Stewart, Garrett L.*: A STRUCTURAL AND GEOCHEMICAL CHARACTERIZATION OF EARLY ARTISANAL GOLD MINES IN THE CENTRAL AND SOUTHWESTERN RAND MOUNTAINS, MOJAVE DESERT, CALIFORNIA |
|------|---|---|

30-3 withdrawn

SESSION NO. 31**T3. Tectonic Processes along Subduction Zone Margins (Posters) (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Marine and Coastal Geoscience Division; GSA Geophysics and Geodynamics Division)**

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | | | Booth # |
|------|----|---|
| 31-1 | 4 | Pezzopane, Silvio*; Whitney, John: A SEISMOTECTONIC REVIEW OF THE IMPACT OF THE MAKRAN SUBDUCTION ZONE ON THE HELMAND-SISTAN BLOCK |
| 31-2 | 5 | Cunetta, Nick*; Schermer, Elizabeth; Mulcahy, Sean: STRUCTURAL EVOLUTION OF SUBDUCTION INITIATION AND EARLY COOLING: INSIGHTS FROM THE EASTON METAMORPHIC SUITE, NORTHWEST WASHINGTON |
| 31-3 | 6 | Martinez, Jane A.*; Lindelof, Dennis; Elconin, Lisa M.; Shiver, Emily A.; Aparicio, Elizabeth; Aguilera, Jacob P.; Michalak, Melanie J.; Baughman, Jaclyn: UNDERGRADUATE COHORT RESEARCH EXPERIENCE INVESTIGATING THERMO-TECTONIC RESPONSE OF THE NORTHERN KLAMATH MOUNTAINS TO EOCENE SILETZIA COLLISION |
| 31-4 | 7 | Ferrell, Megan*; Odum, Margo; Condit, Cailey; Poulaki, Eirini: APATITE U-PB PETROCHRONOLOGY TO DATE DEFORMATION AND METASOMATISM ALONG THE SUBDUCTION PLATE INTERFACE IN THE CATALINA SCHIST, SANTA CATALINA ISLAND, CA |
| 31-5 | 8 | Gates, Emily*; Mulcahy, Sean; Schermer, Elizabeth: EVIDENCE FOR ACCRETION AND UNDERPLATING OF DISTINCT UNITS WITHIN REGIONAL BLUESCHISTS OF THE EASTON METAMORPHIC SUITE, NORTHWEST CASCADES WASHINGTON |
| 31-6 | 9 | Smirnov, Zachary*; Horsley, Laura; Leech, Mary L.; Metzger, Ellen P.: ASSESSING METAMORPHIC PRESSURE-TEMPERATURE CONDITIONS FOR LEDGE MOUNTAIN GRANULITES, ADIRONDACK HIGHLANDS, NY |
| 31-7 | 10 | Easthouse, Griffin*; Hoover, William; Teng, Fangzhen; Condit, Cailey; Berg, Anna; Pike, Courtney: TRACING THE FORMATION OF TALC RICH MÉLANGE ROCKS WITH MAGNESIUM ISOTOPES |
| 31-8 | 11 | Moore, Diane*; Morrow, Carolyn A.; Lockner, David A.; Bekins, Barbara A.: CHEMICAL AND PHYSICAL PROPERTIES OF CORE FROM SERPENTINITE MUD VOLCANOES, NORTHERN MARIANA SUBDUCTION ZONE |
| 31-9 | 12 | Metzger, Ellen*; Gomez, Jorge; Lee, Brent; Valenzuela, Dessire; Smith, Vance; Wakabayashi, John: CONTRASTING ORIGINS OF SERPENTINITES IN THE DIABLO RANGE SEGMENT OF THE CALIFORNIA COAST RANGES |

SESSION NO. 32**T8. At the Crossroads—Addressing Geological Questions and Complexities Near the Boundary of the Basin & Range, Cascadia, and/or Sierra Nevada Provinces (Posters) (GSA Geophysics and Geodynamics Division)**

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | | | Booth # |
|------|----|---|
| 32-1 | 13 | Moran, Steven*; Sousa, Francis; O'Sullivan, Paul: LOW TEMPERATURE THERMOCHRONOLOGY FROM THE MITCHELL INLIER, CENTRAL OREGON |

- | | | | |
|------|---|------|--|
| 32-2 | 14 Bubeck, Alodie*; Gray, Brian; Wong, Ivan: EVALUATING TECTONIC AND VOLCANIC ORIGINS OF FAULTS IN THE HIGH CASCADES: ANALYSIS OF THE WHITE BRANCH FAULT ZONE, CENTRAL OREGON | 34-4 | 29 Dunn, Samantha*; Memeti, Valbone; Durning, Sadie; Quiroz, Ashleigh; Pignotta, Geoffrey: INVESTIGATING THE PETROLOGIC LINKS OF THE JACKASS LAKES VOLCANIC-PORPHYRY-PLUTONIC COMPLEX, SIERRA NEVADA BATHOLITH |
| 32-3 | 15 Gregg, Arianna; Crabtree, Stephen*: A MODERN MAPPING OF THE SOUTHERN OREGON CASCADES | 34-5 | 30 Durning, Sadie*; Memeti, Valbone; Villasano, Edgar; Quiroz, Ashleigh; Dunn, Samantha: CAUSES OF MAGMA COMPOSITIONS AND EXTENT OF MAGMA-MAGMA INTERACTION IN THE JACKASS LAKES PLUTON, CENTRAL SIERRA NEVADA, CA |
| 32-4 | 16 Zuza, Andrew V.*; Say, Michael C.: HETEROGENEOUS MIOCENE EXTENSION IN THE BASIN AND RANGE DEMONSTRATES VERTICALLY DECOUPLED EXTENSION WITH IMPLICATIONS FOR PRE-EXTENSIONAL CRUSTAL THICKNESS: A CASE STUDY FROM THE WESTERN BASIN AND RANGE | 34-6 | 31 Villasano, Edgar*; Memeti, Valbone; Durning, Sadie; Dunn, Samantha; Quiroz, Ashleigh: ANALYZING MAFIC ROCKS AND THEIR INTERACTIONS WITH GRANODIORITIC HOST MAGMA IN THE JACKASS LAKES PLUTON OF THE CENTRAL SIERRA NEVADA BATHOLITH |
| 32-5 | 17 Wesnousky, Steven*: QUATERNARY MAP, ACTIVE FAULTING, TECTONIC GEOMORPHOLOGY, AND UPLIFT RATE OF THE HUMBOLDT RANGE AT THE MARGIN OF THE BASIN AND RANGE AND WALKER LANE PROVINCES | 34-7 | 32 Cugini, Brandon*; Memeti, Valbone; Miranda, Elena; Durning, Sadie; Dunn, Samantha: INVESTIGATING EMPLACEMENT RELATED PLUTON STRUCTURES IN THE JACKASS LAKES PLUTON, SIERRA NEVADA, CALIFORNIA |
| 32-6 | 18 Koehler, Rich*: THE GEOMORPHIC SIGNATURE OF ACTIVE TECTONIC SHEAR ALONG THE WALKER LANE/ BASIN AND RANGE TRANSITION ZONE | 34-8 | 33 Hijazi, Youssef*; Memeti, Valbone: INVESTIGATING THE KUNA CREST AND SENTINEL GRANODIORITE CONTACT ON THE WEST SIDE OF THE TUOLUMNE INTRUSIVE COMPLEX, SIERRA NEVADA BATHOLITH, CALIFORNIA |
| 32-7 | 19 Anderson, Ryan B.*; Faulds, James: LATE MIOCENE ACCELERATION OF BASIN AND RANGE EXTENSION ADJACENT TO THE NORTHERN WALKER LANE | | |
| 32-8 | 20 Leon, Yvonne*; Oskin, Michael E.: SLIP RATE AND HAZARD POTENTIAL OF THE LONG VALLEY FAULT ZONE NEAR MAMMOTH, CALIFORNIA | | |

SESSION NO. 33

T11. Glacier Change in the Western Cordillera (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | Booth # | |
|---------|---|
| 33-1 | 21 Santos, Joao*; Santos-González, Javier; González-Gutiérrez, Rosa; Araujo, Assunção: TIMING OF DEGLACIATION IN THE SERRA DO GERÊS MOUNTAINS (NW PORTUGAL NATIONAL PARK) BASED ON AMS DATING |
| 33-2 | 22 Dawes, Ralph*: GLACIOTECTONICS (GT) OF THE OKANOGAN LOBE (OL) OF THE CORDILLERAN ICE SHEET IN NORTH CENTRAL WASHINGTON STATE |
| 33-3 | 23 Kirk, Jennifer*; Centeno, Diego; Todd, Claire: DEBRIS COVER THICKNESS AND MOISTURE CONTENT ON EMMONS GLACIER, MOUNT RAINIER, WA |
| 33-4 | 24 Levy, Laura*; Cowan, A.; De La Torre, Naomi: PALEOGLACIER FLUCTUATIONS IN THE EASTERN KLAMATH MOUNTAINS, NORTHERN CALIFORNIA |
| 33-5 | 25 El-Rahi, Gideon*; Todd, Claire: COMPARING 1981 AND 2022 ROCK GLACIER EXTENTS IN THE MOUNT WHITNEY, CA QUADRANGLE |

SESSION NO. 34

T14. Nature of Magma Processes in Different Sized and Shaped Plutons (Posters) (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

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|---------|--|
| 34-1 | 26 Wagoner, Matthew*; Aird, Hannah: DUAL MAGMATIC EVENTS FORMING THE BALD ROCK PLUTON IN OROVILLE, CA |
| 34-2 | 27 Bates, Caitlin*; Memeti, Valbone: ARE THE JURASSIC KING CREEK AND STANDARD PLUTONS CRYSTAL CUMULATES THAT HAVE LOST MELT? |
| 34-3 | 28 Quiroz, Ashleigh*; Memeti, Valbone; Dunn, Samantha; Durning, Sadie; Barth, Andrew P.; Pignotta, Geoffrey: |

SESSION NO. 35

T19. General Contributions in Geomorphology (Posters)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- | Booth # | |
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| 35-1 | 34 Santos, Joao*; Pertl, Bianca: GENESIS OF TITAN'S RIAS FROM THE LIGEIA MARE PUGET SINUS REGION USING EARTH ANALOGS FROM NW SPAIN |
| 35-2 | 35 Whitney, John W.*; Pezzopane, Silvio: SUBMERGED KALUTS IN SOUTHWESTERN AFGHANISTAN |
| 35-3 | 36 Bacon, Steven*; Lancaster, Nicholas; Grimm, Sondra; Holder, Grace M.: HISTORICAL AND LATEST HOLOCENE RECORD OF AEOLIAN DEPOSITION IN RESPONSE TO LOWSTANDS OF OWENS LAKE, EASTERN CALIFORNIA |
| 35-4 | 37 Ben-Israel, Michal*; Lukens, Claire; Peyakov, Kolleen; Beman, J. Michael: LANDSCAPE-SCALE LINKS BETWEEN MICROBIAL ECOLOGY AND SURFACE PROCESSES IN THE EASTERN SIERRA MOUNTAINS, CA |
| 35-5 | 38 Nevarez Campos, Jazmin*; Gilchrist, Seth; Ben-Israel, Michal; Peyakov, Kolleen; Buchignani, Keith; Lukens, Claire: QUANTIFYING WEATHERING INTENSITY IN THE EASTERN SIERRA NEVADA ACROSS ELEVATION GRADIENTS |
| 35-6 | 39 Peyakov, Kolleen*; Ben-Israel, Michal; Buchignani, Keith; Gnerre, Luciano; Gilchrist, Seth; Lukens, Claire: CHEMICAL WEATHERING AND SOIL DEVELOPMENT IN A POST-GLACIAL SIERRAN CATCHMENT |
| 35-7 | 40 Van Der Velde, Krista*; Griffin, Julie: THE INFLUENCE OF GLACIAL CYCLES ON PLEISTOCENE SEDIMENTATION OF THE LOWER AMERICAN RIVER (CALIFORNIA, USA) |
| 35-8 | 41 Rothman, Sophie*; Scheingross, Joel; McCoy, Scott: HOW DO WATERFALLS INFLUENCE EROSION RATES? |
| 35-9 | 42 Johnson, Andrew Graham*; Morey, Susannah; Needle, Mattathias; Pol, Selena; Huntington, Katharine: TO BE (ACCURATE) OR NOT TO BE |

- (ACCURATE): CONSTRAINING ERROR OF BOULDER MEASUREMENTS BETWEEN GOOGLE EARTH AND PHOTOGRAMMETRY IN THE EASTERN HIMALAYA
- 35-10 43 Bray, Erin*; Pettyjohn, Sarah; Sklar, Leonard: HOW TOUGH IS TUFF: QUANTIFYING HOW RIVER ROCKS ROUND AND FINE DUE TO ABRASION DURING BEDLOAD TRANSPORT OF DIFFERENT GRAIN SIZE DISTRIBUTIONS
- 35-11 44 Orchard, Naomi*; Leonard, Christina; Schmidt, John C.: EFFECTS OF RESERVOIR OPERATIONS ON CHANNEL MORPHOLOGY IN BROWNS PARK
- 35-12 45 Ring, Caleb*; McCoy, Scott; Cavagnaro, David: THE RELATIONSHIP BETWEEN SCOURED CHANNEL WIDTH AND DRAINAGE AREA FOR RUNOFF- AND LANDSLIDE-GENERATED DEBRIS FLOWS
- 35-13 46 Schmidt, Kevin*; McEachern, Kathryn; Cronkite-Ratcliff, Collin; Minor, Scott: USING GEOLOGIC MAPS AND HYDROLOGIC MONITORING TO ADDRESS LEGACY GRAZING IMPACTS ON EROSION IN CHANNEL ISLANDS NATIONAL PARK, CALIFORNIA
- 35-14 47 Perkins, Jonathan*: THE INFLUENCE OF FUTURE WARMING ON THE SHALLOW LANDSLIDE CHARACTERISTICS OF AN EXTREME STORM SEQUENCE (ARKSTORM 2.0) IN CALIFORNIA
- 35-15 48 Nutt, Mara*; Robinson, Michael; Scheingross, Joel: THE TECTONIC GEOMORPHOLOGY OF THE SANTA YNEZ MOUNTAINS, TRANSVERSE RANGES, CALIFORNIA
- 36-7 55 Aziz, Javaria*; Streck, Martin: THREE FINGERED JACK: A DISSECTED MAFIC COMPOSITE VOLCANO IN THE CENTRAL OREGON CASCADES
- 36-8 56 Buian, Andrea*: PETROLOGY OF ULTRAMAFIC XENOLITHS AND HOST LAVAS OF NGAOUNDÉRE (ADAMAWA PLATEAU, CAMEROON VOLCANIC LINE)
- 36-9 57 Wegener, Jeffrey*; Gordon, Stacia M.: STRUCTURE OF THE SOUTH-CENTRAL SKAGIT GNEISS COMPLEX: IMPLICATIONS FOR TRANSIENT WEAKNESS IN THE MID-CRUST OF A CONTINENTAL MAGMATIC ARC
- 36-10 58 McClure, Hollianne*; Miller, Robert; Arnold, Victoria: THE CONSTRUCTION, EMPLACEMENT, AND STRUCTURE OF CRETACEOUS PLUTONS IN THE EBBETTS PASS REGION, NORTH-CENTRAL SIERRA NEVADA BATHOLITH
- 36-11 59 Urda, Diana*; Metcalf, Kathryn: COMPOSING A TECTONIC HISTORY OF A MÉLANGE, RATTLESNAKE CREEK TERRANE, KLAMATH MOUNTAINS, NORTHERN CALIFORNIA
- 36-12 60 Saglam, Ezgi*; Okay, Aral: GEOLOGICAL EVOLUTION OF THE ANKARA MÉLANGE (CENTRAL ANATOLIA, TURKEY)
- 36-13 61 Ferry, Nicholas*; Blum, Michael D.; Suazo, Amadeo R.: LATE TRIASSIC SEDIMENT ROUTING TO THE DEEPWATER AULD LANG SYNE BACKARC BASIN BASED ON DETRITAL ZIRCON U-PB ANALYSIS, CENTRAL NEVADA, U.S.A
- 36-14 62 Chameroy, Eric*; Rowland, Stephen; Caputo, Mario: PHOTOGRAMMETRIC DOCUMENTATION OF SOME KNOWN, YET UNDESCRIBED, LATE PENNSYLVANNIAN (WESCOGAME FORMATION) TETRAPOD TRACKWAYS OF GRAND CANYON NATIONAL PARK, ARIZONA, USA
- 36-15 63 Stacey, Andrew*; Vervoort, Jeffrey; Wells, Michael: GEOCHRONOLOGY OF THE ALBION, RAFT RIVER, AND GROUSE CREEK MOUNTAINS AND IMPLICATIONS FOR THE ARCHEAN HISTORY OF WESTERN LAURENTIA

SESSION NO. 36

T29. Graduate Student Research (Posters) (GSA Energy Geology Division)

8:00 AM, The Whitney Peak Hotel, Cargo Room

Authors will be present from 4 to 6 PM

- Booth #
- 36-1 49 Mickelson, Emma*; Clark, Douglas; Burdick, Aidan; Culhane, Natalie; Mackenzie, Lydia; McCallum, Adrian; Shulmeister, James; Clark, Jessa: DEGLACIAL AND HOLOCENE ENVIRONMENTAL CHANGE RECORDED IN LAKE SEDIMENTS FROM THE SNOWY MOUNTAINS, KOSCIUSZKO NATIONAL PARK, SOUTHEASTERN AUSTRALIA
- 36-2 50 Gilchrist, Seth*; Lukens, Claire; Nevarez Campos, Jazmin; Ben-Israel, Michal; Peyakov, Kolleen; Buchignani, Keith: DISENTANGLING CLIMATIC AND TOPOGRAPHIC CONTROLS ON CHEMICAL WEATHERING IN THE EASTERN SIERRA NEVADA
- 36-3 51 Hart-Wagoner, Nicole R.*; Faulds, James; Coolbaugh, Mark F.; Mlawsky, Elijah T.; Trainor-Guitton, Whitney; Brown, Stephen: GEOSTATISTICAL EVALUATION OF KNOWN GEOTHERMAL SYSTEMS IN THE GREAT BASIN REGION, USA
- 36-4 52 Sankovitch, Lauren*; Munoz-saez, Carolina; Hudson, Adam; Primus, Miriam; Tompkins, Hannah: ROBUST AND RELIABLE: A MODERN U-TH DATING METHODOLOGY FOR SILICEOUS SINTERS
- 36-5 53 Gonzales, Annika Rose*; Munoz-saez, Carolina; Kaplan, Michael; Schaefer, Joerg M.; Winckler, Gisela; Hanley, Jean; Schwartz, Roseanne; Soteres, Rodrigo L.: COSMOGENIC ³HE AND ¹⁰BE SURFACE EXPOSURE DATING OF MORAINES AT EL TATIO, CHILE
- 36-6 54 Primus, Miriam*; Hudson, Adam; Gray, Harrison; House, P. Kyle; Crow, Ryan: NEW CONSTRAINTS ON THE PLEISTOCENE INCISION AND AGGRADATION HISTORY OF THE LOWER COLORADO RIVER FROM U-TH SERIES DATING OF PEDOGENIC CARBONATES AND LUMINESCENCE DATING OF THE CHEMEHUEVI FORMATION AND BRACKETING UNITS, COTTONWOOD VALLEY, ARIZONA AND NEVADA, USA

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 37

T3. Tectonic Processes along Subduction Zone Margins (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Marine and Coastal Geoscience Division; GSA Geophysics and Geodynamics Division)

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 1

Cailey Condit, Margo Odlum and Devon Orme, Presiding

- 1:30 PM Introductory Remarks
- 37-1 1:40 PM Metcalf, Kathryn*; Urda, Diana: SEARCHING FOR CONTINENTAL SIGNALS AT THE TRENCH
- 37-2 2:00 PM Capaldi, Tomas*: RECONSTRUCTING SUBDUCTION ANGLE THROUGH TIME IN THE SOUTHERN CENTRAL ANDES
- 37-3 2:20 PM Poulaki, Eirini*; Condit, Cailey; Odlum, Margo; Ferrell, Megan: APATITE FROM THE SUBDUCTION SEISMOGENIC ZONE RECORDS A RANGE OF CHEMICAL AND MECHANICAL PROCESSES
- 37-4 2:40 PM Hoover, William*; Condit, Cailey; Moser, Amy; Mulcahy, Sean; Pike, Courteney; Lindquist, Peter; Guevara, Victor: FORMING A SLOW SLIPPING SUBDUCTION INTERFACE: P-T-X HISTORY OF METASOMATIC ROCKS
- 37-5 3:00 PM Ott, Jason*; Condit, Cailey; Pec, Matej; Bonanno, Angelica: PRELIMINARY EXPERIMENTAL

- 37-6 3:20 PM **CONSTRAINTS ON THE RHEOLOGY OF MAFIC BLUESCHISTS**
 Mulcahy, Sean*; Schermer, Elizabeth; Cordova, Jeremy; Cunetta, Nick; Gates, Emily: EVIDENCE AND TIMING FOR MULTIPLE COOLING MECHANISMS IN A LONG-LIVED SUBDUCTION ZONE FROM THE EASTON METAMORPHIC SUITE IN THE NORTHWEST CASCADES
- 37-7 3:40 PM Long, Sean*; Barba, William; McKay, Matthew; Soignard, Emmanuel: THERMAL ARCHITECTURE OF THE SALMON RIVER SUTURE ZONE AT THE LATITUDE OF RIGGINS, IDAHO: IMPLICATIONS FOR THE STRUCTURAL EVOLUTION OF A DUCTILE ACCRETIONARY COMPLEX DURING ARC-CONTINENT COLLISION
- 37-8 4:00 PM Singleton, John*; Arancibia, Gloria; Morata, Diego; Pérez de la Maza, Ignacia: MAGMATISM AND POLYPHASE DEFORMATION IN THE JURASSIC ARC OF CENTRAL CHILE: IMPLICATIONS FOR THE TECTONIC DEVELOPMENT OF THE EARLY ANDEAN MARGIN
- 4:20 PM Concluding Remarks

SESSION NO. 38

T8. At the Crossroads—Addressing Geological Questions and Complexities Near the Boundary of the Basin & Range, Cascadia, and/or Sierra Nevada Provinces (GSA Geophysics and Geodynamics Division)

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 2

Stephen Crabtree, Presiding

- 1:30 PM **Introductory Remarks**
- 38-1 1:35 PM Dunning, Andrew*; Streig, Ashley R.; Madin, Ian; Amidon, William; Balco, Greg; Streck, Martin; McClean, Kyra H.; McHenry, Lichen; Hedrick, Kate: THE SLIP HISTORY AND HOLOCENE ACTIVITY OF THE STRAWBERRY FAULT IN OREGON'S BLUE MOUNTAINS
- 38-2 1:55 PM Muffler, L.J. Patrick*; Clynne, Michael A.; Champion, Duane E.; Downs, Drew T.; Calvert, Andrew T.: THE SOUTHERNMOST CASCADES VOLCANIC ARC AND ITS RELATIONSHIP TO THE BASIN AND RANGE AND THE SIERRA NEVADA
- 38-3 2:15 PM Langenheim, Victoria*; Roberts, M.A.; Dean, Branden; Zielinski, Laurie; Earney, T.E.; Chuchel, B.A.; Anderson, J.E.; Widmer, Michael: INSIGHTS INTO CRUSTAL STRUCTURE OF THE NORTHERN WALKER LANE (CALIFORNIA-NEVADA) FROM GRAVITY AND AEROMAGNETIC DATA
- 38-4 2:35 PM Ogilvie, Izabella*; Darin, Michael; Harlaux, Matthieu; Reynolds, John; Chafetz, Daniel: LITHIUM SOURCE AND STRUCTURAL DEVELOPMENT OF SEDIMENT-HOSTED LITHIUM DEPOSITS AT RHYOLITE RIDGE, SILVER PEAK RANGE, WESTERN NEVADA: NEW INSIGHTS FROM DETAILED GEOLOGIC MAPPING

- 38-5 2:55 PM Hickson, Thomas*; Lamb, Melissa: BALANCING LITHIUM EXPLORATION AND EXTRACTION WITH VALUABLE SCIENTIFIC RESOURCES ON PUBLIC LAND: MICROBIALITES OF THE WHITE BASIN, LAKE MEAD REGION, NEVADA
- 38-6 3:15 PM Phillips, Fred M.: EOCENE TO MODERN TILTING OF THE SIERRA NEVADA: INSIGHTS FROM CENTRAL VALLEY STRATIGRAPHY
- 3:35 PM **Concluding Remarks**

SESSION NO. 39

T11. Glacier Change in the Western Cordillera

1:30 PM, The Whitney Peak Hotel, Whitney Peak Ballroom 3

Claire Todd, Presiding

- 1:30 PM **Introductory Remarks**
- 39-1 1:35 PM Stock, Greg*: 150 YEARS OF GLACIER STUDIES IN YOSEMITE NATIONAL PARK: REPRODUCING JOHN MUIR'S 1872 VELOCITY MEASUREMENTS OF THE MACLURE GLACIER
- 39-2 1:55 PM Aberle, Rainey*; Enderlin, Elyn; Marshall, Hans-Peter; O'Neel, Shad; Flores, Alejandro N.: RECENT SPATIOTEMPORAL PATTERNS IN SEASONAL SNOWLINES FOR GLACIERS IN THE WESTERN CORDILLERA
- 39-3 2:15 PM Benson, Victoria*; Sutherland, Dave; Hood, Eran; Connor, Cathy; Amundson, Jason: EXPLORING SUBAQUEOUS GLACIAL ENVIRONMENTS: WATER TEMPERATURE INFLUENCES ON LAKE-TERMINATING GLACIERS AT MENDENHALL LAKE, AK
- 39-4 2:35 PM Dinney, Meaghan*; Brennand, Tracy: GEOPHYSICAL AND SEDIMENTOLOGICAL INVESTIGATIONS OF MULTI-RIDGE ESKER COMPLEXES IN THE CHILCOTIN REGION, BRITISH COLUMBIA
- 2:55 PM **Discussion**
- 3:00 PM **Break**
- 39-5 3:15 PM Osborn, Gerald*; Samolczyk, Mary; Menounos, Brian; Clark, Douglas: REVISED LATE PLEISTOCENE/EARLY HOLOCENE GLACIAL HISTORY AT MT. RAINIER, WASHINGTON
- 39-6 3:35 PM Todd, Claire*: UNDERSTANDING THE IMPACT OF ATMOSPHERIC CONDITIONS ON GLACIAL MELTWATER IN MOUNT RAINIER NATIONAL PARK, WA
- 39-7 3:55 PM Munoz-saez, Carolina*; Saltiel, Seth; Randolph-Flagg, Noah; Crummett, Robert; Sankovitch, Lauren; Gonzales, Annika: HYDROTHERMAL RESPONSES TO GLACIER DYNAMICS
- 4:15 PM **Concluding Remarks**

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The second number (following the dash) indicates the presentation order of the paper within its session.

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