



THE
GEOLOGICAL
SOCIETY
OF AMERICA®

CORDILLERAN Section Meeting

23–25 May 2017

Hawai'i Convention Center
Honolulu, Hawai'i, USA



PREVIOUS
GSA
MEETINGS

Program CORDILLERAN
113th Annual Meeting of the Cordilleran Section, GSA
Hawai‘i Convention Center
Honolulu, Hawai‘i, USA
23–25 May 2017

The Geoscience Hotspot

Local Program Committee

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Meeting Co-chairs	Steve Martel, Ralph Moberly
Technical Program	Henrietta Dulai, Greg Moore, Brian Popp
Field Trip Co-chairs	Scott Rowland, Bruce Houghton
Student Volunteer Coordinator	Robert Dunn
Exhibits and Sponsorships Coordinator	Garrett Ito
Treasurer	Steve Martel

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Vice Chair	Susan M. Cashman
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Student Representative	Gabriel-Philip Francisco Santos
GSA Councilors	John Clague, Jonathan Price, Bruce R. Clark
Pacific Coast Section of the Paleontological Society	Stephen Schellenberg

Sponsors

We are grateful to those below who made substantial contributions to support and help underwrite the costs of the meeting.

The University of Hawai‘i at Mānoa, Department of Geology and Geophysics
The University of Hawai‘i at Mānoa School of Ocean and Earth Science and Technology
The University of Hawai‘i at Mānoa Office of the Vice Chancellor for Research
The University of Hawai‘i System Office of the Vice President for Research and Innovation
The University of Hawai‘i EPSCoR ‘Ike Wai Project
YSI – a Xylem brand

NOTICE

By registering for this meeting, you have acknowledged that you have read and will comply with the GSA Code of Conduct for Events (full code of conduct listed on page 15). If you need to report unacceptable behavior, please contact:

GSA Executive Director, Vicki McConnell, vmcconnell@geosociety.org

GSA President, Claudia Mora, president@geosociety.org

You may also stop by Registration or the GSA Bookstore Booth to have them directly contacted via phone.



General Information



Hawai‘i is a well-known geological hot spot that has attracted the attention of geoscientists for decades. As host of the GSA Cordilleran Section meeting for the first time in 20 years, Hawai‘i becomes a social and professional hot spot for geoscientists. This location provides a natural venue for research on the entire Pacific Basin and adjacent surroundings. The organizing committee is delighted to offer a suite of diverse, high-quality technical sessions. The multiple field trips highlight the unique geology, hydrology, coastal processes, and volcanic structures on the islands of Hawai‘i, Maui, O‘ahu, and Kaua‘i. These field trips, the short courses, and workshops provide outstanding environments to interact with colleagues old and new. In addition, the student mentoring programs and career workshops offer exceptional opportunities for networking for early career scientists. The meeting at the Hawai‘i Convention Center is steps away from Waikīkī and is a gateway to the spectacular geology and warm waters of the tropical Pacific. *E komo mai* (welcome) to you and your family to our tropical paradise.

LOCATION

Hosted by the University of Hawai‘i Department of Geology and Geophysics, this meeting takes place at the Hawai‘i Convention Center (HCC) in Honolulu, Hawai‘i. This venue offers convenient access to a variety of opportunities for entertainment, shopping, food, and drink. Hawai‘i is one of the most beautiful places in the world, and Honolulu, the State’s Capital on the island of O‘ahu, is known worldwide as a premier visitor destination. Honolulu is famous for its Aloha Spirit, multicultural mix, surfing, Waikīkī beach, and glorious weather. Broad ranges of cuisines are within easy walking distance of the Convention Center and neighboring Ala Moana Hotel. Local attractions include the nearby Ala Moana Beach Park, Diamond Head Crater, Hanauma Bay Nature Preserve (voted the best beach in the United States for 2016), Pearl Harbor with the USS *Arizona* Memorial and Battleship *Missouri* Memorial, the Waikīkī Aquarium, ‘Iolani Palace, and the Bishop Museum. O‘ahu’s 112 miles of shoreline create endless possibilities for world-class activities. Every aquatic adventure you can think of is a possibility on O‘ahu: swimming, boating, diving, snorkeling, surfing, fishing, kayaking, parasailing, whale watching and more. Hiking trails that offer beautiful vistas, waterfalls, and relics of the past abound. A multitude of tour and adventure operations are also available. You can learn more about O‘ahu and her neighbor islands, less than one hour away by air, here: <http://www.gohawaii.com/oahu/>.

TRANSPORTATION

O‘ahu’s main airport is Honolulu International Airport (HNL). HNL is also Hawai‘i’s major airport, serving as the entry point for most of Hawai‘i’s visitors. It is the airport for short flights for field trips to O‘ahu’s neighbor islands of Kaua‘i, Maui, and Hawai‘i Island (the Big Island).

UNITED  United Airlines has partnered with the 2017 Cordilleran GSA Section meeting to offer a discount of up to 10% on your travel. To get a discount on your travel please go to united.com/meetingtravel and enter ZY5F788570 in the offer code box when searching for your flights. This discount is good for flights occurring between 15–31 May 2017.

Rental Cars

Rent a car at Honolulu International Airport (HNL) to explore the island. Other transportation options include tour buses, shuttles, trolleys, taxis, and city buses.

Taxi Service

The fare from Honolulu airport to the Hawai‘i Convention Center and Waikīkī beach area during non-rush hour periods is approximately \$40–\$45, plus a baggage charge of 50 cents per bag. Fare is by meter only. Taxi service is available on the center median fronting the terminal baggage claim areas. See the taxi dispatchers wearing yellow shirts with black lettering, and the wording “TAXI DISPATCHER” for service.

Several taxi services provide transportation to and from the convention center. Please inquire at your hotel. Charley’s Taxi (+1-808-531-2333) and TheCab Company (+1-808-422-2222) operate 24/7 and provide taxi services to and from the convention center, the Ala Moana Hotel, other hotels in Waikīkī, and elsewhere. If you are at a hotel, restaurant, or club, and need a taxi, you can ask someone at the hostess stand or bell stand to call a taxi for you.

Transportation Network Companies

Both Uber and Lyft operate in Honolulu.

Bus Service

Public transportation to the Hawai‘i Convention Center from the airport and all parts of O‘ahu is available on “TheBus.” For information on routes, times and fares, call +1-808-848-5555 or visit their website at www.thebus.org.

ABOUT THE HAWAII CONVENTION CENTER

1801 Kalākaua Avenue
Honolulu, Hawai'i 96815
<https://www.meethawaii.com/convention-center/about/>

The Hawai'i Convention Center (HCC), at the corner of Kalākaua Avenue and Kapi'olani Boulevard, is 8 miles from the Honolulu International Airport. Just steps from Waikīkī, the Hawai'i Convention Center is an event destination like none other—a stunning marriage of form and function, open to sky and sun between the shade of terraces and lanais, graced with courtyards, waterfalls and fishponds. The foyer is crowned with canvas canopies, reminiscent of ocean white caps and the sails of voyaging canoes, and its airy, glass-walled lobby is welcoming. This “sail” design allows cooling trade winds to circulate throughout the towering structure, while venting off heat. Lighting and air conditioning is computer controlled, and automated systems in the restrooms reduce water usage. Recycling programs are in place; ecologically friendly products are used.

Meeting Rooms

The 113th Annual GSA Cordilleran Section meeting rooms are on the 3rd floor of the HCC. The Opening Reception Ice Breaker is in the Roof Top Gardens, 4th floor. See maps on pages 8 and 9 for locations.

ATM Machines

Three (3) Automatic Teller Machines (ATM) are found at the Hawai'i Convention Center. Two are located on the first floor in the lobby area, one under the escalators and one towards the bathrooms. The third ATM is located on the 3rd floor just to right of the escalators that comes up from the lobby.

Hawai'i Convention Center Parking

To access parking at the convention center, enter the Hawai'i Convention Center Parking Garage while driving east towards Waikīkī Beach on Kalākaua Avenue. You exit via an automatic gate. The parking fee is \$10 per entry. There are no in and out privileges. There is a 30-minute grace period for drop off and quick pick-ups in the garage. Whereas there is no time limit on how long you can stay parked once you enter, overnight parking is not allowed. Parking is on the 2nd Floor of the HCC.

HCC Business Center

The Business Center is located on the 3rd level, across from Room 301, open 7:30 a.m.–7 p.m., Monday, 22 May–Thursday, 25 May. This full-service business center offers computer usage, color, black and white copies, prints, faxing, scanning, office supplies, various paper supplies, postcards, and gifts. FedEx and UPS shipping are also available.

WI-FI at the HCC

Complimentary wireless Internet access is limited but will be available at the Hawai'i Convention Center for GSA participants in all public areas. To connect to the WiFi at the

convention center you should enable your wireless access on your device and connect to Network Name (SSID): HAWAII FREE WIFI, followed by the “connect” prompt. No password is necessary.

Charging Stations/Charging Lockers

Located in the HCC 3rd Floor Center Concourse.

Nursing Mother's Room

Mothers who need privacy should go to the First Aid room on the 3rd Floor between Room 318 and Room 319. Staff there will be happy to accommodate you with a semi-private area.

Emergencies/HCC First Aid

First Aid will be available during the following dates and times for your comfort and resource. There will be a registered nurse staffing the First Aid Room on the HCC 3rd floor between Room 318 and Room 319. You may contact the nurse at any time by dialing “0” on any house phone in the convention center. The nurse carries a security radio and can respond anywhere within the facility. This would be your resource for comfort needs such as Band Aids or Tylenol while in the convention center as well as emergency assistance.

Monday, 22 May	5–9 p.m.
Tuesday, 23 May	8 a.m.–6 p.m.
Wednesday, 24 May	8 a.m.–6 p.m.
Thursday, 25 May	8 a.m.–7 p.m.

For emergencies at other dates and times, or outside of the convention center, dial 911.

EATING AND DRINKING

The many restaurants within walking distance of the Hawai'i Convention Center and Ala Moana Hotel should suit all tastes and budgets. See the map on page 5 for locations. Expense symbols (\$ to \$\$\$\$) are from Yelp, February 2017. All restaurants serve lunch and dinner except as noted.

Note: Technical Session Lunch Breaks are from noon to 1:30 p.m.

Hawai'i Convention Center Concessions

Lunch concessions are available each day of the meeting from 11 a.m.–2 p.m. in the Hawai'i Convention Center on the 3rd floor concourse adjacent to the meeting rooms. The convention center offers a variety of deli sandwiches, fruits, salads, and drinks. Please take this opportunity to network with colleagues and feel free to eat anywhere. Enjoy the central Ala Halawai Concourse and the shaded outdoor tables overlooking the waters of the Ala Wai Canal; these are on the Diamond Head side of the convention center, adjacent to the Grand Staircase on the HCC 3rd level.

Ala Moana Hotel

- **Royal Garden Restaurant**, 3rd floor. Traditional Cantonese; dim sum at lunch \$\$.
- **Signature Prime Steak & Seafood**, 36th floor \$\$\$\$.

Ala Moana Center Makai Food Court

Mid-center, lower level of the mall, has 33 quick-service choices, including traditional and many local and ethnic foods \$-\$\$.

Ala Moana Center Full-Service Restaurants

Important note: dining at the following Ala Moana Center full-service restaurants are more appropriate for dinner as they would likely take longer than the 1.5 hours allotted for lunch.

- **Assaggio Ristorante Italiano** \$\$-\$\$\$.
- **Bubba Gump Shrimp Co.** Seafood & American \$.
- **California Pizza Kitchen** \$.
- **Jade Dynasty Seafood Restaurant** Cantonese \$.
- **Macy's The Pineapple Room** 3rd floor American-Asian \$.
- **Morton's The Steakhouse** (dinner only) \$\$\$-\$\$\$\$.
- **Nieman-Marcus's Mariposa** 3rd floor, New American \$\$\$-\$\$\$\$.
- **Romano's Macaroni Grill** Italian \$.
- **Tanaka of Tokyo** Japanese Steak and Seafood (dinner only) \$\$\$.

Kapi'olani Boulevard

Listed west to east (see map below).

- **MW Restaurant** Asian-American fusion \$\$\$\$.
- **Shokudo** Japanese-fusion \$.
- **Papa John's Pizza** \$.
- **Teddy's Bigger Burger** Local chain; awards \$.

- **Odori-Ko** Traditional and contemporary Japanese \$.
- **Pho One Vietnamese Restaurant** \$.
- **Subway** Sandwiches; national retail chain \$.
- **Atkinson Grill** Local food, plate lunches, steak, loco moco \$.
- **Sura** Grill-at-the-table Korean yakiniku BBQ \$.
- **Fook Yuen** Chinese, featuring seafood \$.
- **Hot Pot Heaven** Choice of several Asian broths \$.

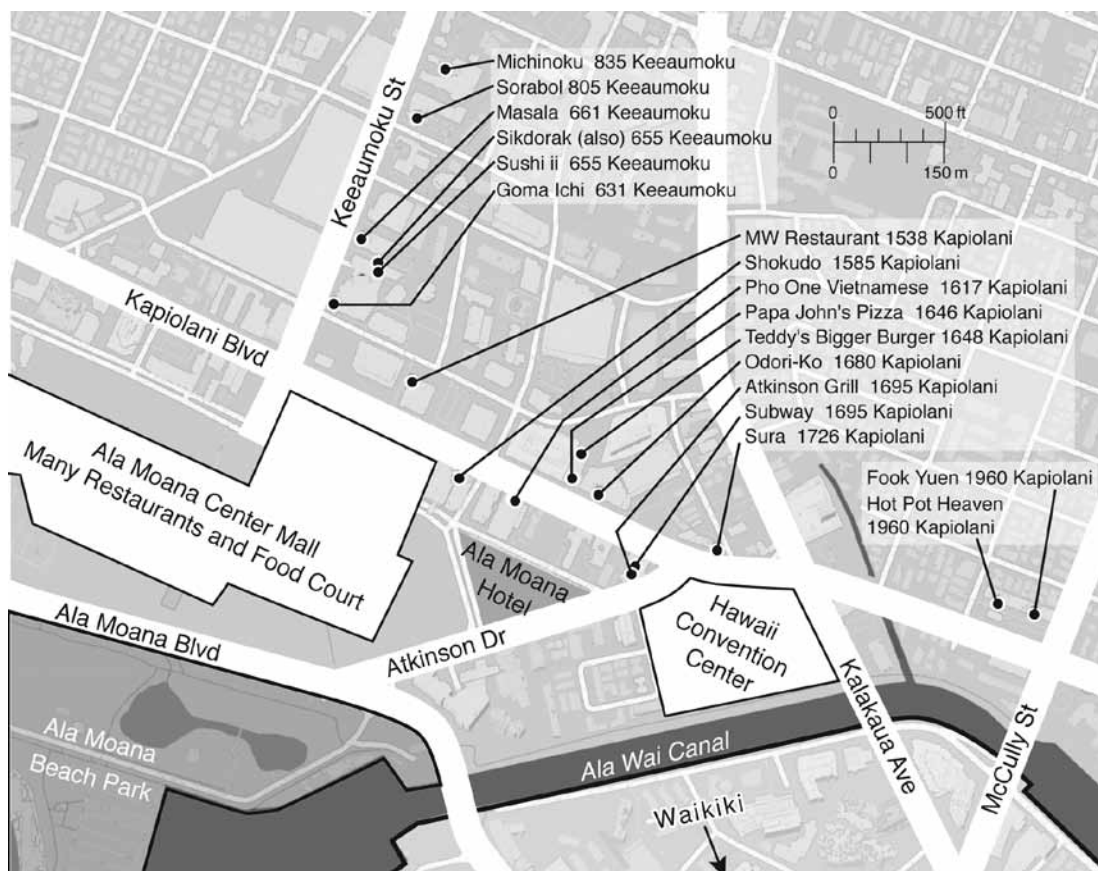
Keeaumoku Street

Listed south to north (see map below).

- **Goma Ichi** Tan tan ramen, gyoza, etc. Japanese \$.
- **Sushi ii** Sushi; full Japanese kitchen \$\$\$.
- **Sikdorak** Korean, barbeque; "all you can" open 24 hrs. \$.
- **Masala** Indian; Nepalese slant \$.
- **Sorabol** Korean restaurant; open 24 hrs. \$.
- **Michinoku** Donburi, sushi; lunch and dinner plates \$.

Other Eating and Drinking Options

A more extensive annotated list of restaurants in Chinatown, Waikiki, and Wai'alae areas of Honolulu may be obtained at the on-site registration area, HCC 322A. In addition, Honolulu has a wide variety of evening dining options within easy reach by taxi or car, so be sure to explore your options online or with your smartphone.



SHOPPING

A short distance from the Hawai'i Convention Center and connected to the Ala Moana Hotel second floor by pedestrian sky bridge is the open-air Ala Moana Center. With more than 330 stores, this is the largest shopping center in the Hawaiian Islands and one of the 7 largest shopping centers in the United States.

WEATHER AND ATTIRE

Average monthly temperatures of O'ahu vary from 70 to 85 degrees F (21 to 29 C). Daytime high temperatures in late May average in the low- to mid-80s F. Nighttime temperatures dip into the lower 70s F. Clear to partly cloudy skies with occasional showers are the norm. Dress casually; aloha attire is welcome.

MEETING APP

A web-based app is available for this meeting. Please download the app at <https://gsa.confex.com/gsa/2017CD/meetingapp.cgi>.

REGISTRATION

Registration is required for anyone attending technical sessions, field trips, short courses, or exhibits. Check-in and on-site registration is at the Hawai'i Convention Center Room 322A, on the following schedule:

Monday, 22 May, 2017	4–8:30 p.m.
Tuesday, 23 May, 2017	7 a.m.–4:30 p.m.
Wednesday, 24 May, 2017	7 a.m.–4:30 p.m.
Thursday, 25 May, 2017	7 a.m.–noon

Registration Fees

On-site registration fees are below and are shown in U.S. dollars. Professionals registering for the meeting are encouraged to donate to the Cordilleran Section Endowment Fund to help a student attend the meeting.

	Standard Full Mtg.	One day
Professional Member	\$335	\$195
Professional Member 70+	\$240	\$145
Professional Nonmember	\$370	\$230
Early Career Professionals	\$240	\$155
Student Member	\$145	\$110
Student Nonmember	\$195	\$145
K–12 Professional	\$65	\$45
Guest or Spouse	\$110	n/a
Field Trip/Workshop Only	\$80	n/a

Cancellations, Changes, and Refunds

All requests for additions, changes, and cancellations must have been made in writing to GSA Headquarters and received by 24 April 2017. There will be no refunds for cancellations received after this date and no refunds for on-site registrations.

GSA ACCOMMODATION AND SERVICES

The Geological Society of America strives to create a pleasant and rewarding experience for every attendee and is committed to providing universal access to our meeting. If you would like to talk with someone to request disability accommodations (e.g., sign language interpreters, alternative formats), or if you have dietary considerations and have registered for a ticketed event, field trip, tour, short course, or workshop that includes a meal, please check the box during the registration process and a GSA staff member will follow up with you. Advanced notice is necessary to arrange for some accessibility and dietary needs.

For further information or if you need special accommodations please contact Meeting Chair Craig Glenn.

CONTINUING EDUCATION UNITS (CEU)

The GSA Cordilleran Section Meeting offers an excellent opportunity to earn Continuing Education Credits (CEUs) toward your continuing education requirements. CEU's can be earned for attendance at technical sessions, short courses, workshops, and field trips. A link will be available on the meeting web site after the meeting to download your meeting certificate.

ABSTRACTS

To view abstracts for this meeting, please go to <https://gsa.confex.com/gsa/2017NE/webprogram/start.html>.

HOTEL ACCOMMODATIONS

We strongly encourage participants to reserve their rooms at **Ala Moana Hotel**, 410 Atkinson Drive, Honolulu, HI 96814. This is the official hotel of the meeting and is a short two-minute walk from the convention enter. Amenities include restaurants, outdoor pool, fitness center, Starbucks, Plantation Café for breakfast, business center, and free Wi-Fi. Make your reservations by calling +1-800-367-6025 and reference the **2017 Annual Meeting of the Cordilleran Section of GSA**. Neighbor islands: Call +1-800-446-8990.

SPECIAL EVENTS



Opening Reception Ice Breaker. Monday, 22 May, 6–8:30 p.m., Hawai‘i Convention Center Rooftop Garden. Join friends and colleagues and make new acquaintances while partaking in light hors d’oeuvres and a complimentary beverage, while enjoying Hawaiian music and the sweeping views at sunset from the Hawai‘i Convention Center Rooftop Gardens.

Poster Session Pau Hana and Libations. Thursday, 25 May, 3–5 p.m. Final-day beer bash. Poster Session and Exhibits Room 323A/B/C.

Meeting Breaks with Refreshments. Breaks with complimentary coffee and other drinks are available each day of the meeting from 9:55–10:25 a.m. and 2:55–3:25 p.m.

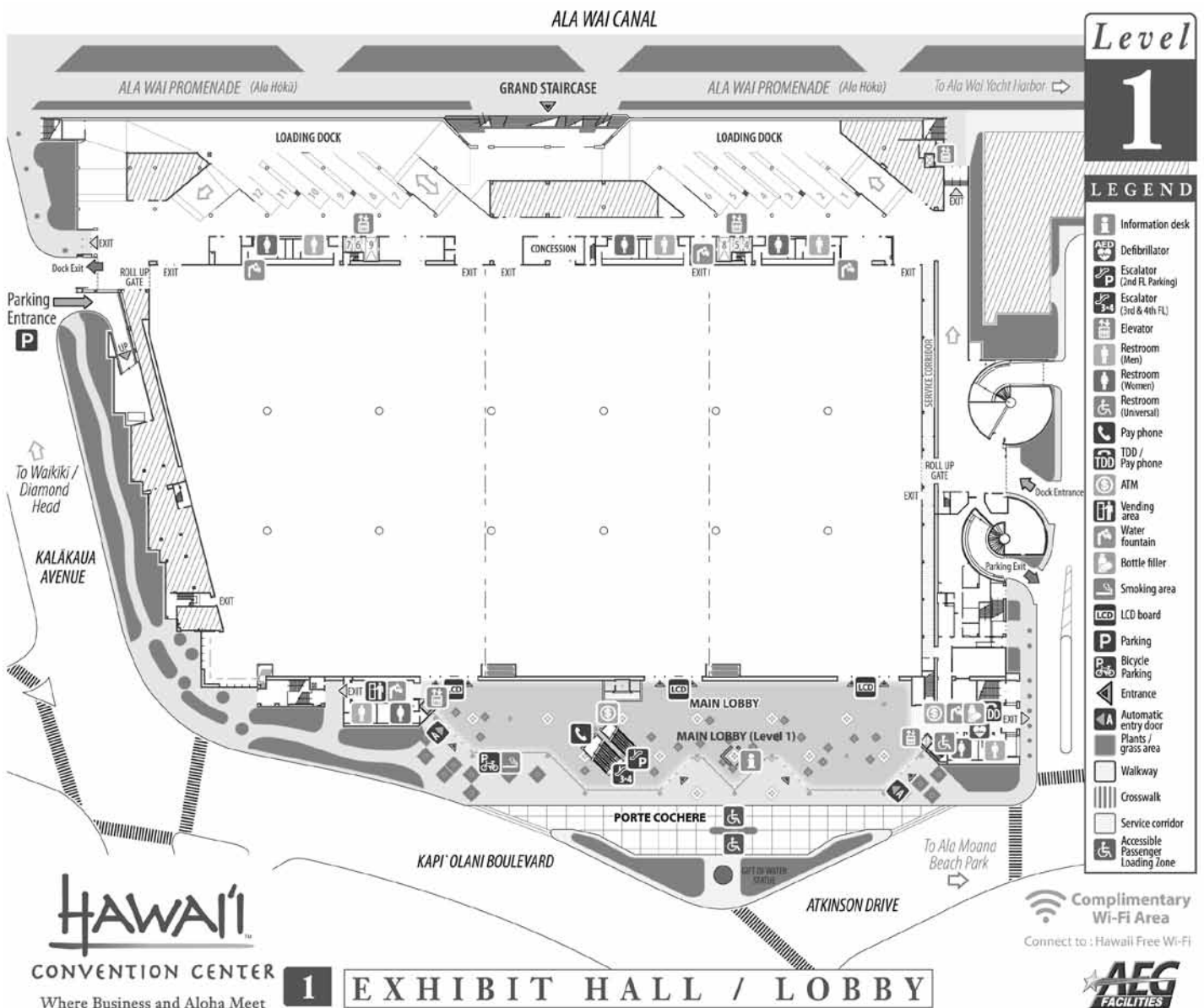
BUSINESS MEETING

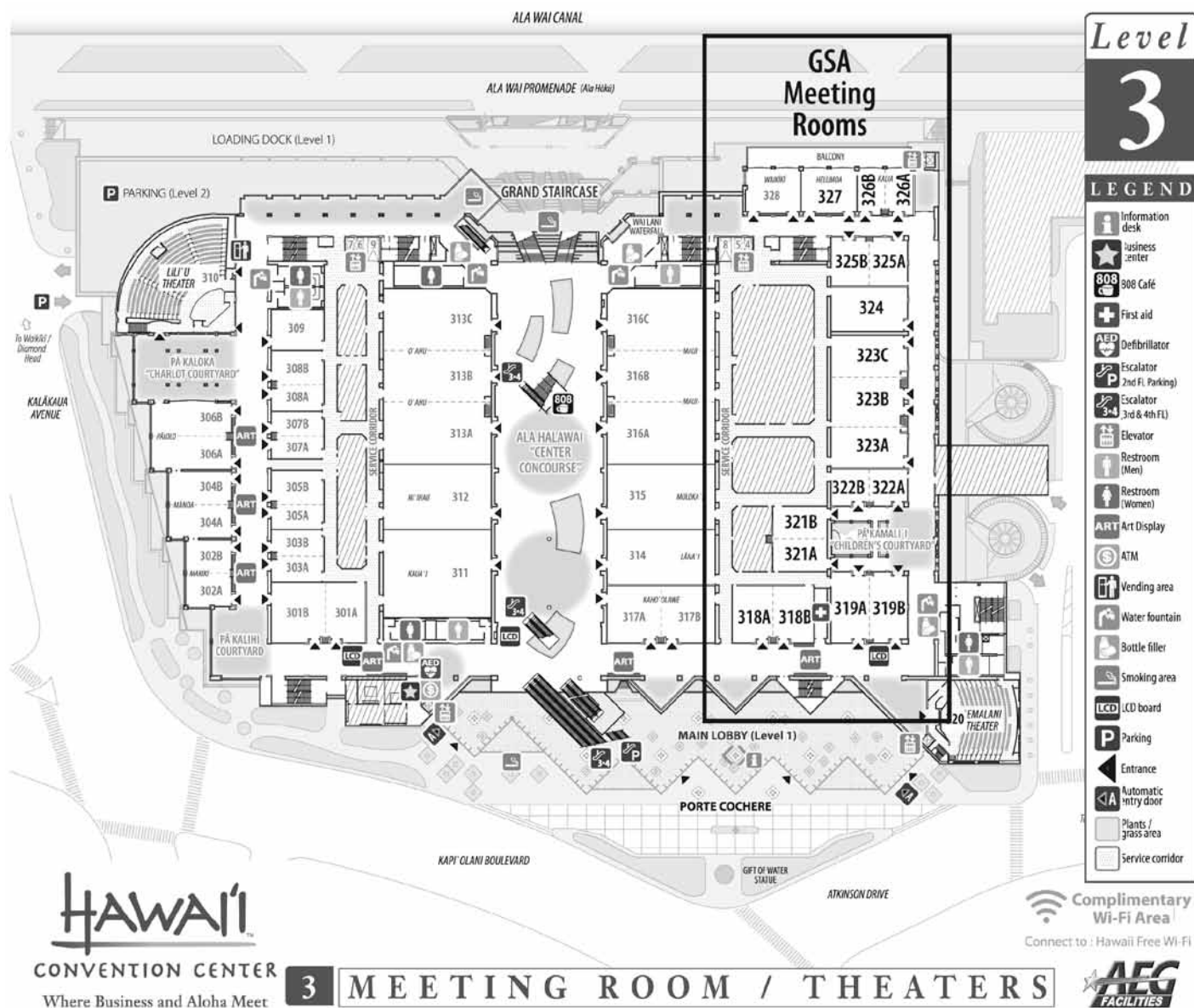
GSA Cordilleran Section Business Meeting. Wednesday, 24 May, 5–6 p.m. HCC 327.

TECHNICAL PROGRAM

Oral Sessions

Oral sessions provide 20 minutes per presentation (17 minutes for presentation; 3 minutes for questions and discussion). Presentations must be prepared using PowerPoint or PDF format. Presentation-concurrent Internet connections are not available. Presentations created on Macintosh systems and converted to run on PCs must be checked before arrival at the meeting and then again in the Speaker Ready Room. One laptop with Windows 7 (no Macs available) with PowerPoint 2010, one LCD projector, and one screen will be provided for all oral sessions. In addition, each room is equipped with a lectern, PowerPoint advancer, laser pointer, wireless lavalier microphone and a speaker timer. Speakers may not use their own laptops for presentation. We ask that oral presenters upload their presentations according to the “Upload Not Later Than” schedule below.





Speaker Ready Room

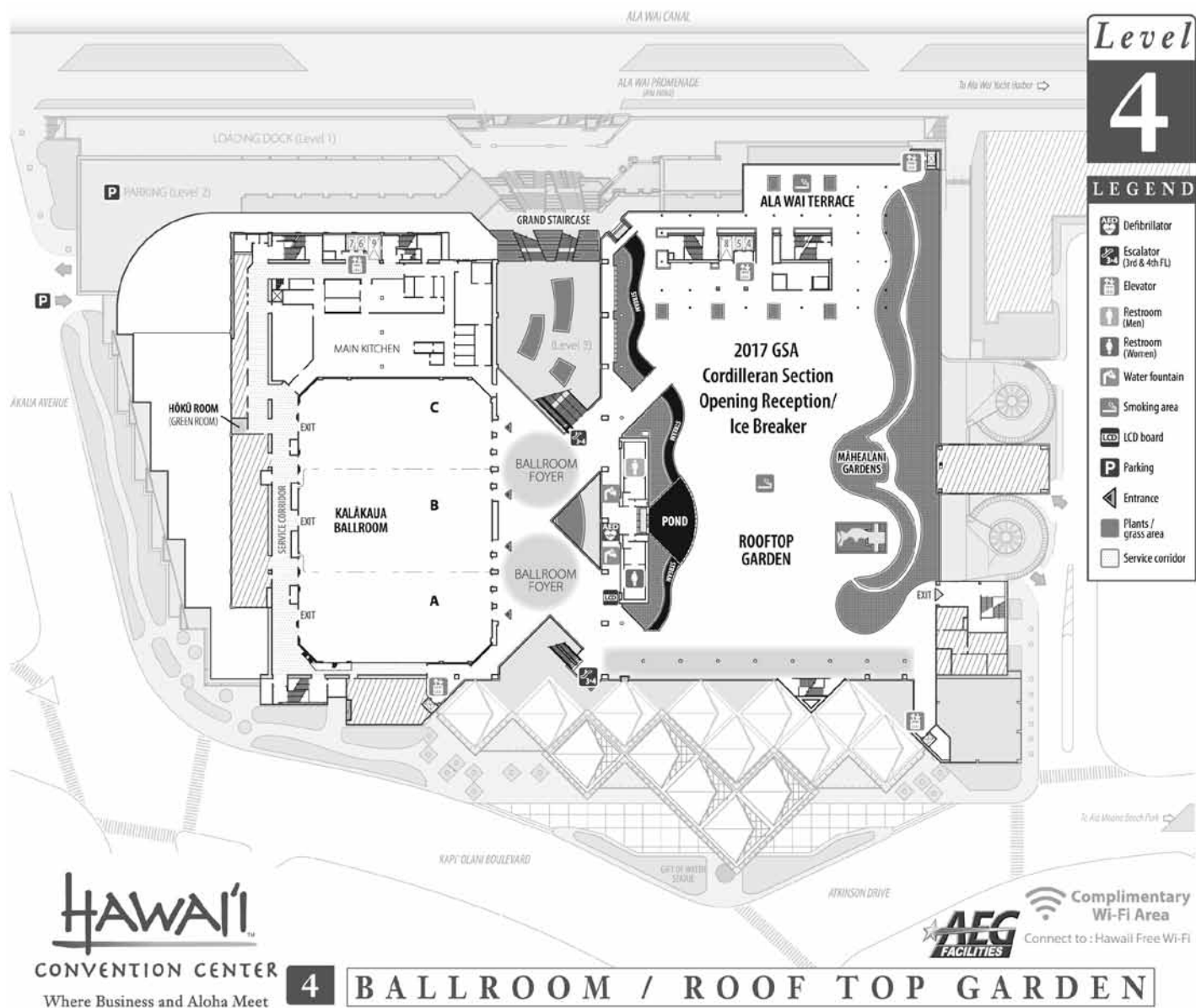
The Speaker Ready Room is located in HCC 322B, and is available for use at the times listed below. Computers and assistance will be available to view presentations. All presentations will be displayed as PowerPoint presentations in technical sessions. The ready room can be used to check presentations prior to uploading files. We ask that oral presenters upload their presentations the evening or afternoon before their morning session, or at least by noon prior to their afternoon session.

Speaker Ready Room Hours, HCC 322B

Monday, 22 May	4–8:30 p.m.
Tuesday, 23 May	7 a.m.–5:30 p.m.
Wednesday, 24 May	7 a.m.–5:30 p.m.
Thursday, 25 May	7 a.m.–2 p.m.

Each speaker must bring his or her PowerPoint or PDF presentation on a USB compatible flash drive (thumb drive or memory stick) or a CD-ROM disk to the Speaker Ready Room for checking and uploading to their session's folder ahead of their session. The deadlines below are to make sure that your presentation gets to the laptop in the meeting room for your session on time.

For Presentation	Upload Not Later Than
Tuesday 23 May, AM	7 p.m., Monday, 22 May
Tuesday 23 May, PM	noon, Tuesday 23 May
Wednesday 24 May, AM	5 p.m., Tuesday 23 May
Wednesday 24 May, PM	noon, Tuesday, 5 April
Thursday 25 May, AM	5 p.m., Wednesday 24 May
Thursday 25 May, PM	noon, Thursday 25 May



Session Chair and Oral Session Student Volunteer Orientations

7:30–7:45 a.m., Tuesday, Wednesday, or Thursday, HCC 319B. All Session Chairs are urged to attend the 15-minute “Session Chairs Orientation” held for them the morning of the day in which their session is scheduled. This meeting includes a review of session time management, AV procedures, and other information affecting the conduct of the day’s sessions. Session chairs are asked to strictly adhere to the technical program schedule and to limit speakers to their allotted time. If a speaker does not appear for an assigned time slot, session chairs should call for a break or discussion period and begin the following presentation at its scheduled time. A student volunteer is assigned to each oral session. Session chairs are asked to meet with the assigned student volunteer before the start of the session. The volunteers are there to help the ses-

sions run smoothly and to contact the AV Coordinator in the event of technical problems.

Poster Sessions

Poster Sessions are located in HCC 323A/B/C. Presenters have one 4' by 8' horizontal (landscape) poster display surface. Numbers on these display surfaces correspond to the poster booth numbers listed in the Program. Posters are to be attached to the display surfaces by pushpins, which will be available at the individual boards. Note that poster boards and the poster areas do not have electrical outlets. All poster presenters should put their posters up for all-day viewing before 8:30 a.m. of the day of their poster presentation, and must remove their posters between 5–6 p.m. that same day. Poster presenters must be present at their poster stands at their designated time, which is 8:30–10 a.m. for morning poster sessions, and 1:30–3 p.m. for afternoon poster sessions.

Thursday poster presenters may want to remain in the poster room during the Pau Hana and Libations beer bash.

Note there are special times for Session T33: Undergraduate Research Posters. Posters for Session T33 are available for viewing for the duration of the meeting. Posters for this session will be put up during the day on 23 May, and must be taken down on May 25 5–6 p.m. The designated poster viewing time in which T33 presenters must be present at their poster stands is Thursday, 25 May, 8:30–10 a.m.

Theme Sessions

T1. Cordilleran Magmatic Forensics—Insights from the Igneous, Metamorphic, and Sedimentary Record. Shanaka de Silva, Oregon State Univ., desilvas@geo.oregonstate.edu; Rita Economos, Southern Methodist Univ., rita.economos@gmail.com; Nancy Riggs, Northern Arizona Univ., Nancy.Riggs@nau.edu; Andy Barth, Indiana Univ.-Purdue Univ. Indianapolis, ibsz100@iupui.edu.

T2. Structural Geology and Tectonics of the Western United States. Stephen Martel, Univ. of Hawai'i, smartel@hawaii.edu; Anne E. Egger, Central Washington Univ., annegger@geology.cwu.edu.

T3. Magmatism and Orogenesis in the Sedimentary Record. Matthew McKay, Missouri State Univ., Matthewmckay@missouristate.edu; William Jackson, Univ. of Alabama/Geological Survey of Alabama, wjackson@gsa.state.al.us; Keith Gray, Wichita State Univ., k.gray@wichita.edu.

T4. The Pacific Plate Through Geologic Time. Paul Wessel, Univ. of Hawai'i, pwessel@hawaii.edu; Simon E. Williams, EarthByte, Univ. of Sydney, Australia, simon.williams@sydney.edu.au.

T6. Magmatic Processes and Sources for Hotspot Volcanoes. Michael Garcia, Univ. of Hawai'i, mogarcia@hawaii.edu; Jasper Konter, Univ. of Hawai'i, jkonter@hawaii.edu.

T8. Explosive Volcanism. Bruce F. Houghton, Univ. of Hawai'i, bhought@soest.hawaii.edu; Don Swanson, USGS, Hawaiian Volcano Observatory, donswan@usgs.gov; Sarah Fagents, Univ. of Hawai'i, fagents@hawaii.edu.

T9. Volcanic Impacts. Costanza Bonadonna, Univ. of Geneva, Costanza.Bonadonna@unige.ch; Sebastien BIASSE, Univ. of Hawai'i, sbiasse@hawaii.edu; Susanna Jenkins, Earth Observatory of Singapore, Susanna.Jenkins@gmail.com; Thomas Wilson, Univ. of Canterbury, New Zealand, thomas.wilson@canterbury.ac.nz; Christina Neal, USGS, Hawaiian Volcano Observatory, tnaal@usgs.gov.

T11. Submarine Volcanism in Hawai'i and Elsewhere. Ken Rubin, Univ. of Hawai'i, krubin@hawaii.edu; Sam Mitchell, Univ. of Hawai'i, samjm@hawaii.edu.

T12. Fluid Flow, Submarine Seeps, and Gas Hydrate Systems: Implications for the Global Carbon Cycle and Seafloor Stability. Katie Taladay, Univ. of Hawai'i, taladay@hawaii.edu; Hitoshi Tomaru, Chiba Univ., tomaru@chiba-u.jp.

T13. Marine Minerals, Key Resources for the Twenty-First Century. James R. Hein, USGS, jhein@usgs.gov; Kira

Mizell, USGS, kmizell@usgs.gov; Amy Gartman, USGS, agartman@usgs.gov.

T14. Advances in Geothermal Resource Investigation. Pete Stelling, Western Washington Univ., pete.stelling@wwu.edu; Nick Hinz, Univ. of Nevada-Reno, nhinz@unr.edu; Nicole Lautze, Univ. of Hawai'i, nlautze@soest.hawaii.edu; Garrett Ito, Univ. of Hawai'i, gito@hawaii.edu.

T15. Mineral Physics Research Aspects Related to Deep Earth's Interior and Phenomena. Murli Manghnani, Univ. of Hawai'i, murli@soest.hawaii.edu; Bin Chen, Univ. of Hawai'i, binchen@hawaii.edu.

T16. New Developments in the Geology and Geochemistry of Mars. Jim Bell, Arizona State Univ., Jim.Bell@asu.edu; Scott Rowland, Univ. of Hawai'i, scott@soest.hawaii.edu.

T17. Volcanism across the Solar System. Sarah A. Fagents, Univ. of Hawai'i, fagents@hawaii.edu; Rosaly Lopes, Jet Propulsion Laboratory, rosaly.m.lopes-gautier@jpl.nasa.gov.

T18. Deposition and Diagenesis of Volcaniclastic Sediments on Earth and Mars. Juergen Schieber, Indiana Univ., jschiebe@indiana.edu; Edgett, Malin Space Science Systems, Edgett@msss.com; David Bish, Indiana Univ., bish@indiana.edu.

T19. Mars On Earth: Understanding Mars Through Earth Surface Processes; Robert A. Craddock, Center for Earth and Planetary Studies, Smithsonian Institution, craddockb@si.edu; Jacob E. Bleacher, Planetary Geodynamics Lab, NASA Goddard Space Flight Center, jacob.e.bleacher@nasa.gov; Christopher Hamilton, Univ. of Arizona, hamilton@lpl.arizona.edu.

T20. Paleomagnetism, Rock Magnetism, and Archaeomagnetism. Emilio Herrero-Bervera, Univ. of Hawai'i, herrero@soest.hawaii.edu; Dr. Evdokia Tema, Univ. degli Studi di Torino (Italy), evdokia.tema@unito.it.

T28. Pacific Coastal Processes. Charles Fletcher, Univ. of Hawai'i, fletcher@soest.hawaii.edu; Patrick Barnard, USGS, pbarnard@usgs.gov.

T29. Coastal Hydrology: Impacts of Natural and Anthropogenic Change. Henrietta Dulai, Univ. of Hawai'i, hdulaiov@hawaii.edu; Craig R. Glenn, Univ. of Hawai'i, glenn@soest.hawaii.edu; Peter Swarzenski, International Atomic Energy Agency (Monaco) and USGS, Santa Cruz, p.swarzenski@iaea.org.

T30. Integrated Approaches for Assessing Water Resources. Aly El-Kadi, Univ. of Hawai'i, elkadi@hawaii.edu; Stephen S. Anthony, USGS, Pacific Islands Water Science Center, santhony@usgs.gov.

T32. Applications of Unmanned Aerial Vehicles (UAVs) in the Earth, Ocean, Planetary, and Life Sciences. Matthew Barbee, Univ. of Hawai'i, mbarbee@hawaii.edu; Craig R. Glenn, Univ. of Hawai'i, glenn@soest.hawaii.edu; Nicolas Turner, Univ. of Hawai'i, nrtturner@hawaii.edu; Charles Devaney, International Building Solutions Group, devaneycharles@gmail.com.

T33. Undergraduate Research Poster Session (Posters). Sponsored by: Council on Undergraduate Research, Geosciences Division. Lydia K. Fox, Univ. of the Pacific,

lkfox@pacific.edu; Jeff Marshall, Cal Poly Pomona Univ., marshall@cpp.edu.

Discipline Sessions

- Past Sedimentation Records and Insight for Predicting Future Climate Impacts to Pacific Shores.
- General Geology, Paleontology, and Geoarcheology.
- Petrology, Mineralogy, and Geochemistry.
- Structural Geology and Tectonics.

FIELD TRIPS

SPECIAL NOTICE: Costs shown below for field trips on the islands of Hawai'i, Maui, and Kaua'i do not include (1) airfare to and from those islands, (2) lodging while on those islands, nor (3) breakfasts and dinners while on those islands. For additional information, please contact field trip co-chair Scott Rowland.

Pre-meeting Trips

FT1. The Geology of East and West Maui. Cost: US\$296. Min 12, max 18. 8 a.m. Fri., 19 May to 4 p.m. Sun., 21 May. John Sinton, Univ. of Hawai'i, sinton@hawaii.edu; Emily First, Univ. of Hawai'i, efirst@hawaii.edu.

Description: Deeply incised West Maui has the most uniformly differentiated (benmoreite-trachyte) postshield alkalic cap in Hawai'i, and four rejuvenated-stage lava flows. East Maui is larger and younger with the longest lived (900 ka) postshield cap in Hawai'i. Features of both volcanoes will be visited, including an all-day hike through Haleakalā Crater. This 3-day trip departs from the Maui Beach Hotel (island of Maui) at 8 a.m., Friday, 19 May, and returns to the hotel by 4 p.m., Sunday, 21 May. There is an all-day moderately strenuous hike at elevations ranging between 6,000–10,000 feet (1800–3000 m). Participants are responsible for their own airfare and reservations to and from Maui, lodging on Maui, breakfasts, and dinners. Transportation during the trip, lunches, and Field Guide provided.

FT2. Eruptions, Structure, and History of the Kīlauea Summit Area, Island of Hawai'i. Cost: US\$169. Min 12, max 24. 8 a.m. Sat., 20 May to 4:30 p.m. Sun., 21 May. Don Swanson, USGS, Hawaiian Volcano Observatory, donswn@usgs.gov; Tina Neal, USGS, Hawaiian Volcano Observatory, tneal@usgs.gov.

Description: The summit area of Kīlauea has a rich history of explosive and effusive eruptions related to different stages of caldera development. This trip focuses on the past 1000 years, highlighting explosive activity, and examines active extension within the Koa'e fault system and its relation to the rift zones. This 2-day trip departs from the Hawaiian Volcano Observatory (island of Hawai'i) at 8 a.m., Saturday, 20 May, and returns to the hotel by 4:30 p.m., Sunday May 21. Participants are responsible for their own airfare and reservations to and from Hilo, lodging in Hilo, breakfasts, and dinners. Transportation during the trip, lunches, and Field Guide provided.

FT3. Geologic features of Hualālai Volcano, Island of Hawai'i. Cost: US\$228. Min 10, max 18. 8 a.m. Sat., 20 May to 4:30 pm Sun., 21 May. Scott Rowland, Univ. of

Hawai'i, scott@hawaii.edu; Julia Hammer, Univ. of Hawai'i, jhammer@hawaii.edu; Jim Kauahikaua, USGS, Hawaiian Volcano Observatory, jimk@usgs.gov.

Description: Hualālai volcano boasts a number of enigmatic features. This trip visits a trachyte pumice cone and lava flow, a lag deposit of ultramafic xenoliths, lava channels, lava tubes, and an ankaramite. (note: sample collecting is not allowed). This 2-day trip departs from Kona airport (island of Hawai'i) at 8 a.m., Saturday, 20 May, and returns to the Kona airport by 4:30 p.m., Sunday, 21 May. Participants are responsible for their own airfare and reservations to and from Kona, lodging in Kona, breakfasts, and dinners. Transportation during the trip, lunches, and Field Guide provided.

FT4. Mauna Loa: Eruptive History, Hazards, and Risk, Island of Hawai'i. Cost: US\$166. Min 12, max 24. 8 a.m. Sat., 20 May to 6:30 p.m. Sun., 21 May. Frank Trusdell, USGS, Hawaiian Volcano Observatory, trusdell@usgs.gov; Steve Schilling, USGS, Hawaiian Volcano Observatory, sshilli@usgs.gov.

Description: This field trip will be volcanological in nature, looking at the growth, evolution, and eruptive history of the world's largest most active volcano. We will circle Mauna Loa counter-clockwise, starting and ending in Hilo. Discussions will also include topics such as geologic hazards and risk. This 2-day trip departs from Wailoa River State Park in Hilo (island of Hawai'i) at 8 a.m., Saturday, 20 May, and returns to Hilo by 6:30 p.m., Sunday, 21 May. Saturday night will be spent in Kona. Participants are responsible for their own airfare and reservations to and from Hilo, lodging in Hilo and Kona, breakfasts, and dinners. Transportation during the trip, lunches, and Field Guide provided.

FT5. Structural Geology and Geothermal Energy of Kīlauea Volcano, Island of Hawai'i. Cost: US\$242. Min 11, max 18. 7:45 a.m. Sat., 20 May to 4:30 p.m. Sun. 21 May. Stephen Martel, Univ. of Hawai'i, smartel@hawaii.edu; Nicole Lautze, Univ. of Hawai'i, nlautze@higp.hawaii.edu; Peter Drakos, Ormat Technologies Inc., pdrakos@ormat.com.

Description: This trip provides an overview of Kīlauea's structure and activity, particularly how they relate to geothermal energy. We will visit a geothermal power plant as well as rift zone faults and pit craters. This 2-day trip departs from the Hilo Hawaiian Hotel (island of Hawai'i) at 7:45 a.m., Saturday, 20 May, and returns to the hotel by 4:30 p.m., Sunday, 21 May. Participants are responsible for their own airfare and reservations to and from Hilo, lodging in Hilo, breakfasts, and dinners. Transportation during the trip, lunches, and Field Guide provided.

FT6. Coastal Geology of Southern O'ahu. Cost: US\$79. Min 10, max 22. 8:30 a.m.–4 p.m. Mon., 22 May. Brad Romine, Univ. of Hawai'i Sea Grant, romine@hawaii.edu; Dolan Eversole, Univ. of Hawai'i Sea Grant, eversole@hawaii.edu.

Description: This trip highlights coastal geology and collaborative efforts with local government to meet the challenges of understanding, conserving, and restoring iconic beaches at Waikīkī, and elsewhere. We will demonstrate innovative, science-based approaches that recognize the unique processes and dynamics of carbonate beach systems

in a central Pacific setting. This 1-day trip begins and ends at the Ala Moana Hotel (near the Hawai'i Convention Center). Minimal walking is involved, and you should be prepared for bright sun and rain. Transportation during the trip, lunches, water, and Field Guide provided.

FT7. Geology of Southeast Ko'olau Volcano, Island of O'ahu. Cost: US\$90. Min 10, max 33. 8:30 a.m.–4 p.m. Mon., 22 May. Jasper Konter, University of Hawai'i, jkonter@hawaii.edu; Val Finlayson, Hawai'i, vfinlays@hawaii.edu.

Description: Ko'olau is the younger of O'ahu's two shield volcanoes. Erosion and catastrophic avalanching have exposed shield-building and caldera-filling flows. The products of rejuvenation-stage volcanism are particularly well-exposed at the SE end of the island. We will drive to most outcrops and viewpoints, but some short walks will occur. This 1-day trip begins and ends at the Ala Moana Hotel (near the Hawai'i Convention Center). Minimal walking is involved, and you should be prepared for both bright sun and rain. Transportation during the trip, lunches, and Field Guide provided.

Post-Meeting Trips

FT8. Hydrology of O'ahu. Cost: US\$68. Min 10, max 24. 7:30 a.m.–3 p.m. Fri., 26 May. Aly El-Kadi, Univ. of Hawai'i, elkadi@hawaii.edu; Arthur Aiu, Honolulu Board of Water Supply, aaiu@hbws.org.

Description: This trip to Nu'uuanu Reservoir #4, a historic site holding a rich heritage of Hawaiian legends, emphasizes the important role of watershed areas. The visit to Waihe'e Tunnel includes a walk inside a 1,500-foot dike tunnel that provides water to Windward O'ahu. The tour introduces the island's water cycle and facility history. This 1-day trip begins and ends at the Ala Moana Hotel (near the Hawai'i Convention center). Minimal walking is involved, and you should be prepared for bright sun and rain. Transportation during the trip, lunches, and Field Guide provided. Some age restrictions apply.

FT9. Geology of Wai'anae Volcano, Island of O'ahu. Cost: US\$92. Min 10, max 33. 8:30 a.m.–4 p.m. Fri., 26 May. Scott Rowland, University of Hawai'i, scott@hawaii.edu; Puakea Nogelmeier, University of Hawai'i, puakea@hawaii.edu.

Description: Wai'anae is the older of O'ahu's two shield volcanoes. Erosion and a mostly dry climate have exposed shield-building and shield-capping lavas and dikes, as well as unusual (for Hawai'i) differentiated compositions. Many Wai'anae localities feature prominently in Hawaiian epic stories. This will mostly involve driving to outcrops and viewpoints, with one steep, hot hike. This 1-day trip begins and ends at the Ala Moana Hotel (near the Hawai'i Convention center). You should be prepared for both bright sun and rain. Transportation during the trip, lunches, and Field Guide provided.

FT10. The Geology and Current Activity of Kilauea Volcano, Island of Hawai'i. Cost: US\$275. Min 10, max 18. 7 a.m. Fri., 26 May to 4 p.m. Sat., 27 May. Thomas Shea, University of Hawai'i, tshea@hawaii.edu; Emily First, University of Hawai'i, efirst@hawaii.edu, Ben Welsh, University of Hawai'i, ben.welsch@gmail.com; Darwina Griffin, University of Hawai'i, darwina@hawaii.edu.

Description: Kilauea has been erupting almost non-stop since January of 1983. This trip highlights major volcano-structural features of Hawai'i's most active volcano, including the active lava lake within Halema'uma'u crater as well as active surface flows and the ocean entry (assuming they are indeed active and accessible). This 2-day trip departs from the Hilo Hawaiian Hotel (island of Hawai'i) at 7 a.m., Friday, 26 May, and returns to the hotel by 5 p.m., Saturday, 27 May. Participants are responsible for their own airfare and reservations to and from Hilo, lodging in Hilo, breakfasts, and dinners. Transportation during the trip, lunches, and Field Guide provided.

FT11. Volcanic History and Coastal Processes of Kaua'i. Cost: US\$208. Min 10, max 20. 8:30 a.m. Fri. 26 May to 4:30 p.m. Sat., 27 May. Chuck Blay, TEOK Investigations, teok@aloha.net; Mike Garcia, University of Hawai'i, mogarcia@hawaii.edu.

Description: At 5-6 million years of age, Kaua'i has had a complex geologic history that has only recently been understood in the context of volcanology, structural failure, rejuvenation, weathering, and erosion. This trip examines evidence for this history as well as the modern coastal processes of sediment generation and accumulation. This 2-day trip departs from Po'ipū Beach Park (island of Kaua'i) at 8:30 a.m., Friday, 26 May, and returns to Po'ipū by 4:30 p.m., Saturday, 27 May. Participants are responsible for their own airfare and reservations to and from Kaua'i, lodging on Kaua'i, breakfasts, and dinners. Transportation during the trip, lunches, and Field Guide provided.

SHORT COURSES

Pre-Meeting

SC1. Generic Mapping Tools for Geologists. Mon., 22 May, 8:30 a.m.–4:30 p.m., HCC 326A. Paul Wessel, Univ. of Hawai'i, pwessel@hawaii.edu.

Description: The Generic Mapping Tools (GMT) is a widely used open source toolset for scientists engaged in data analysis and map making. This short course examines new capability in GMT5 in support of geologists, such as custom symbols, patterns, ternary diagrams and map embellishments. For more information, see <http://www.soest.hawaii.edu/gmt/gsa2017shortcourse/>.

SC2. Tsunami Awareness. Mon., 22 May—*Canceled*.

During-Meeting

SC3. Hawaiian Volcanoes and Hazards Education Using Jigsaw Activities. Wed. 24 May, 1:30–5 p.m. HCC 327. Cost: \$10. This course is held mid-meeting in conjunction with the Technical Sessions. Principal Organizers: Andrew R. Greene, Hawai'i Pacific Univ., agreene@hpu.edu; Michael O. Garcia, Univ. of Hawai'i, mogarcia@hawaii.edu.

Description: Participants will do two new jigsaw activities on the growth and degradation of Hawaiian volcanoes and on natural hazards in a three-hour workshop. Specialty groups will do activities with large maps and datasets before reorganizing into synthesis groups, to learn about newly developed educational activities on Hawaiian geology and hazards. This

half-day short course and workshop will be offered as part of the Technical Program.

Post-Meeting

SC4. Preparing for Volcanic Crises. Fri., 26 May, 8:30 a.m.–4:30 p.m., HCC 326B. Cost: \$5. Principal Organizers: Bruce Houghton, Univ. of Hawai‘i, bhought@soest.hawaii.edu; Wendy Cockshell, Univ. of Hawai‘i, wendyc@soest.hawaii.edu.

Description: This short course workshop was developed jointly by the Univ. of Hawai‘i and the Volcano Hazards program of the USGS. Four modules deal with physical and social aspects of volcanic crises and are followed by a 4-hour long eruption scenario for Mauna Loa volcano.

SC5. Integrating Virtual Grand Canyon Field Trips into Your High-Enrollment Introductory Geoscience Class. Fri., 26 May, 8 a.m.–noon, HCC 326A. Cost: \$10. Principal Organizer: Natalie Bursztyn, California State Univ. Fullerton, nbursztyn@fullerton.edu.

Description: This workshop introduces faculty to mobile augmented reality (AR) field trips through Grand Canyon, covering the topics of geologic time, structures, and hydrologic processes. Participants will download and work through the AR field trips with their iOS or Android devices and receive accompanying materials to help integrate the AR field trips into their classes.

Requirements: This course requires participants to bring an android or iOS cell phone or tablet to the class. If bringing an iPad, this iPad must be cellular enabled (not WiFi only). Prior to arrival, participants must download all three (3) of the following “GCX” apps from the App Store or Google Play. Please search “GCX” and download each of the following your device: (1) GCX: Geologic Time; (2) GCX: Geologic Structures; and (3) GCX: Hydrologic Processes.

App store links:

GCX: Geologic Time
(<https://itunes.apple.com/us/app/gcx-geologic-time/id920186978?mt=8>)

GCX: Geologic Structures
(<https://itunes.apple.com/us/app/gcx-structures/id920186909?mt=8>)

GCX: Hydrologic Processes
(<https://itunes.apple.com/us/app/gcx-hydrological-processes/id934590191?mt=8>)

Google Play links:

GCX: Geologic Time
(<https://play.google.com/store/apps/details?id=com.baxatech.GCX1&hl=en>)

GCX: Geologic Structures
(<https://play.google.com/store/apps/details?id=com.baxatech.GCX2&hl=en>)

GCX: Hydrologic Processes
(<https://play.google.com/store/apps/details?id=com.baxatech.GCX3&hl=en>)

SC6. Earth in Context: Resources for Integrating Earth Literacy with Societal Issues across the Curriculum. Fri., 26 May, 1–5 p.m., HCC 326A. Cost: \$10. Principal Organizer: Anne E. Egger, Central Washington Univ. and National Association of Geoscience Teachers, annegger@geology.cwu.edu.

Description: Are you interested in preparing students to be problem-solvers in a future where sustainability will require a robust understanding of the intersections between the Earth and society? In this workshop, we will explore community-built, data-rich materials that address these grand challenges, and work to adapt the materials to your institutional and geographic setting.

EXHIBITS

Exhibits are located in HCC 323A/B/C and are open 8 a.m.–5 p.m., Tuesday–Thursday, 23–25 March. As of March, the following exhibitors are listed to participate.

- 2018 Cordilleran Section Meeting—Joint with Rocky Mountain Section, Flagstaff, Arizona.
- American Institute of Professional Geologists
- ARCS Foundation, Honolulu Chapter
- Florida Center for Analytical Electron Microscopy, University of South Florida
- Geological Society of America Bookstore
- Geological Society of America Foundation
- JH Technologies, Inc.
- Science is Never Satisfied
- The University of Hawai‘i EPSCoR ‘Ike Wai Project
- YSI – a Xylem brand

OPPORTUNITIES FOR STUDENTS & EARLY CAREER PROFESSIONALS

Co-sponsored by the GSA Foundation. The Mentor Programs and the Career Workshops are located in HCC Room 327. For more information on the mentor programs, go to www.geosociety.org/mentors/ or contact Jennifer Nocerino, jnocerino@geosociety.org.

Geoscience Career Workshops

Geoscience Career Workshop Part 1: 9–10 a.m., Tuesday, 23 May, Career Planning and Informational Interviewing. Your job-hunting process should begin with career planning, not when you apply for jobs. This workshop helps you begin this process and introduces 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 Workshop Part 2: 10–11 a.m., Tuesday, 23 May, Geoscience Career Exploration. 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 address these issues.

Geoscience Career Workshop Part 3: 9–10 a.m., Wednesday, 24 May. Cover Letters, Résumés and CVs. How

do you prepare a cover letter? Does your resume need a good edit? Whether you are currently on the job market or not, learn how to prepare the best resume possible. You will review numerous resumes helping you to learn important resume do's and don'ts.

Mentor Programs

Roy J. Shlemon Mentor Program in Applied Geoscience. Tuesday, 23 May, noon–1:20 p.m. (lunchtime). Students have the opportunity to discuss career prospects and challenges with professional geoscientists from multiple disciplines over a FREE lunch. Learn more about this program at <http://www.geosociety.org/mentors/>.

John Mann Mentors in Applied Hydrogeology Program. Wednesday, 24 May, noon–1:20 p.m. (lunchtime). Students interested in applied hydrogeology or hydrology as a

career will have the opportunity to network with professionals in these fields over a FREE lunch. Learn more at <http://www.geosociety.org/mentors/>.

VOLUNTEERS

The Cordilleran Section offers free meeting registration to student volunteers in return for a total of six hours of work at the meeting. Students who have signed up to volunteer will meet with the Volunteer Coordinator Robert Dunn (dunnr@hawaii.edu) before the meeting begins for assignments and training. Student volunteers are required to check in before each shift at the GSA Meeting and Student Volunteers Office, HCC 321A. Those assigned to assist with oral sessions must attend a morning orientation and meet with session chairs before the start of each session.

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CODE OF CONDUCT AT GSA EVENTS

Approved by GSA Council on 25 September 2016

GSA is a premier, international scientific society whose goals and mission are to advance geoscience research and discovery, to provide service to society and to promote stewardship of Earth, within and beyond the geosciences profession. In fulfilling its goals and mission, and in keeping with its Diversity Position Statement, GSA meetings foster the exchange of scientific ideas, through open and respectful dialogues at oral and poster sessions, field trips, short courses, mentorships and other GSA-supported programs. GSA promotes, provides, expects and endorses a professional and respectful atmosphere and values a diversity of views and opinions.

All registrants, guests, volunteers, exhibitors, GSA staff, service providers, and others in attendance are expected to abide by this GSA Events Code of Conduct, which outlines specific expectations for participants at GSA-supported events and is in addition to the provisions of the GSA Code of Conduct.

Expected Behavior

All registrants, guests, volunteers, exhibitors, GSA staff, service providers, and others in attendance are to:

- Be treated with respect and consideration.
- Be considerate, collegial, and collaborative.
- Communicate openly, with civil attitudes, critiquing ideas rather than individuals.
- Avoid personal attacks directed toward other registrants, guests, volunteers, exhibitors, GSA staff, service providers, and others in attendance.
- Obey the rules and policies of the meeting venue, hotels, GSA contracted facility, or any other venue where your meeting badge and GSA affiliation is likely to be displayed.
- Alert meeting security personnel, GSA staff, or GSA leadership if you notice someone in distress, or perceive a potentially dangerous situation, or witness a dangerous situation.

Procedures to be followed in an emergency situation:

- Evaluate the situation and if appropriate call 911 or activate a local fire alarm.
- Do not endanger yourself. Follow the directions of building security, law enforcement, fire department, military personnel, or GSA staff.
- Initiate first aid if appropriate, so trained and necessary.
- Be as observant as possible in order to communicate to emergency staff.

Unacceptable Behavior includes but is not limited to:

- Harassment, intimidation, or discrimination.

- Physical or verbal abuse of any registrant, guest, volunteer, exhibitor, GSA staff, service provider, or other attendee.
- Disruption of presentations at oral or poster sessions, in the exhibit hall, on field trips, or at other events organized by GSA at the meeting venue, hotels, or other GSA-contracted facilities.
- Audio and video recording, or taking images of an individual's oral presentation without the presenters' permission, is expressly forbidden. Images of posters taken without permission are not allowed. Images of posters may be taken with the explicit consent of the presenter, and images may be acquired only in the presence of the presenter.

Examples of unacceptable behavior include but are not limited to:

- Verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion, national origin or any other identified characteristic outlined in the GSA Diversity Position Statement.
- Inappropriate use of nudity and/or sexual images in public spaces or in presentations.
- Intentional, uninvited physical contact of any form.
- Threats (implied or real) of, physical, professional or financial harm.
- Stalking registrants, guests, volunteers, exhibitors, GSA staff, service providers, or others in attendance.

Consequences of Unacceptable Behavior

- Anyone requested to stop unacceptable behavior is expected to immediately cease and desist.
- GSA staff, leadership, security, or law enforcement personnel shall take action(s) deemed necessary and appropriate. Actions may include immediate removal from the meeting or field trip without warning or refund.
- GSA reserves the right to prohibit attendance at any future GSA meeting or other GSA-sponsored event.

Reporting Unacceptable Behavior

If you are the subject of unacceptable behavior or have witnessed any such behavior, please immediately notify a GSA staff member on-site (see page 2 for contact information) or GSA member with a designated leadership position (i.e. GSA President, GSA Councilor, GSA Section Officer, GSA field trip leader).

Anyone experiencing or witnessing behavior that constitutes an immediate or serious threat to public safety, or a criminal act is expected to contact 911. Those witnessing a potential criminal act should also take actions necessary to maintain their own personal safety.

Schedule of Events

EVENT	TIME	LOCATION
FRIDAY, 19 MAY		
FT1. The Geology of East and West Maui: 19–21 May (Field Trip)	8 a.m.–11:55 p.m.	Maui Beach Hotel (island of Maui)
SATURDAY, 20 MAY		
FT5. Structural Geology and Geothermal Energy of Kīlauea Volcano, Island of Hawai'i: 20–21 May (Field Trip)	7:45 a.m.–11:55 p.m.	Hilo Hawaiian Hotel (island of Hawai'i)
FT2. Eruptions, Structure, and History of the Kīlauea Summit Area, Island of Hawai'i: 20–21 May (Field Trip)	8 a.m.–11:55 p.m.	Hawaiian Volcano Observatory (island of Hawai'i)
FT3. Geologic features of Hualālai Volcano, Island of Hawai'i: 20–21 May (Field Trip)	8 a.m.–11:55 p.m.	Kona Airport (island of Hawai'i)
FT4. Mauna Loa: Eruptive History, Hazards, and Risk, Island of Hawai'i: 20–21 May (Field Trip)	8 a.m.–11:55 p.m.	Wailoa River State Park in Hilo (island of Hawai'i)
MONDAY, 22 MAY		
Exhibitor Set-up	7 a.m.–5 p.m.	Room 323A/B/C
FT6. Coastal Geology of Southern O'ahu (Field Trip)	8:30 a.m.–4 p.m.	Ala Moana Hotel, 410 Atkinson Dr, Honolulu, HI
FT7. Geology of Southeast Ko'olau Volcano, Island of O'ahu (Field Trip)	8:30 a.m.–4 p.m.	Ala Moana Hotel, 410 Atkinson Dr, Honolulu, HI
SC1. Generic Mapping Tools for Geologists (Short Course)	8:30 a.m.–4:30 p.m.	Room 326A
Registration	4–8:30 p.m.	Room 322A
Speaker Ready Room	4–8:30 p.m.	Room 322B
Opening Reception Ice Breaker	6–8:30 p.m.	Rooftop Terrace
TUESDAY, 23 MAY		
Registration	7 a.m.–4:30 p.m.	Room 322A
Speaker Ready Room	7 a.m.–5:30 p.m.	Room 322B
Oral Session Student Volunteer Orientations	7:30–7:45 a.m.	Room 319B
Session Chairs Orientation	7:30–7:45 a.m.	Room 319B
Exhibits Open	8 a.m.–5 p.m.	Room 323A/B/C
Geoscience Career Workshop Part 1: Career Planning and Informational Interviewing (Workshop)	9–10 a.m.	Room 327
Geoscience Career Workshop Part 2: Geoscience Career Exploration (Workshop)	10–11 a.m.	Room 327

EVENT	TIME	LOCATION
Morning Oral Technical Sessions		
General Geology, Paleontology, and Geoarcheology	8:30–11:50 a.m.	Room 325A
T1. Cordilleran Magmatic Forensics I—Insights from the Igneous, Metamorphic, and Sedimentary Record	8:30–11:50 a.m.	Room 318A
T13. Marine Minerals, Key Resources for the Twenty-First Century I	8:30–11:50 a.m.	Room 318B
T16. New Developments in the Geology and Geochemistry of Mars	8:30–11:50 a.m.	Room 319A
T18. Deposition and Diagenesis of Volcaniclastic Sediments on Earth and Mars	8:30–11:50 a.m.	Room 325B
T29. Coastal Hydrology: Impacts of Natural and Anthropogenic Change	8:30–11:50 a.m.	Room 319B
Poster Sessions		
T33. Undergraduate Research Session (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
Authors will be present from 8:30 to 10 AM for the following poster sessions		
Petrology, Mineralogy, and Geochemistry (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
Structural Geology and Tectonics (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T4. The Pacific Plate through Geologic Time (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T14. Advances in Geothermal Resource Investigation (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
Authors will be present from 1:30 to 3 PM for the following poster sessions		
General Geology, Paleontology, and Geoarcheology (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T16. New Developments in the Geology and Geochemistry of Mars (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T18. Deposition and Diagenesis of Volcaniclastic Sediments on Earth and Mars (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T19. Mars on Earth: Understanding Mars through Earth Surface Processes (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T29. Coastal Hydrology: Impacts of Natural and Anthropogenic Change (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
Roy J. Shlemon Mentor Program in Applied Geoscience (Luncheon)	noon–1:20 p.m.	Room 327
Afternoon Oral Technical Sessions		
Petrology, Mineralogy, and Geochemistry	1:30–4:50 p.m.	Room 325A
T1. Cordilleran Magmatic Forensics II—Insights from the Igneous, Metamorphic, and Sedimentary Record	1:30–4:50 p.m.	Room 318A
T4. The Pacific Plate through Geologic Time	1:30–4:50 p.m.	Room 319A
T13. Marine Minerals, Key Resources for the Twenty-First Century II	1:30–4:50 p.m.	Room 318B
T17. Volcanism across the Solar System	1:30–4:50 p.m.	Room 319B

EVENT	TIME	LOCATION
WEDNESDAY, 24 MAY		
Registration	7 a.m.–4:30 p.m.	Room 322A
Speaker Ready Room	7 a.m.–5:30 p.m.	Room 322B
Oral Session Student Volunteer Orientations	7:30–7:45 a.m.	Room 319B
Session Chairs Orientation	7:30–7:45 a.m.	Room 319B
Exhibits Open	8 a.m.–5 p.m.	Room 323A/B/C
Geoscience Career Workshop Part 3: Cover Letters, Résumés, and CVs (Workshop)	9–10 a.m.	Room 327
Morning Oral Technical Sessions		
T2. Structural Geology and Tectonics of the Western United States	8:30–11:50 a.m.	Room 325A
T6. Magmatic Processes and Sources for Hotspot Volcanoes	8:30–11:50 a.m.	Room 325B
T14. Advances in Geothermal Resource Investigation I	8:30–11:50 a.m.	Room 318A
T15. Mineral Physics Research Aspects Related to Deep Earth's Interior and Phenomena I	8:30–11:50 a.m.	Room 318B
T19. Mars on Earth: Understanding Mars through Earth Surface Processes I	8:30–11:50 a.m.	Room 319A
T28. Pacific Coastal Processes I	8:30–11:50 a.m.	Room 319B
Poster Sessions		
T33. Undergraduate Research Session (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
<i>Authors will be present from 8:30 to 10 AM for the following poster sessions</i>		
T1. Cordilleran Magmatic Forensics—Insights from the Igneous, Metamorphic, and Sedimentary Record (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T8. Explosive Volcanism (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T9. Volcanic Impacts (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T11. Submarine Volcanism in Hawai'i and Elsewhere (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T13. Marine Minerals, Key Resources for the Twenty-First Century (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T20. Paleomagnetism, Rock Magnetism, and Archaeomagnetism (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
<i>Authors will be present from 1:30 to 3 PM for the following poster sessions</i>		
Past Sedimentation Records and Insight for Predicting Future Climate Impacts to Pacific Shores (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T2. Structural Geology and Tectonics of the Western United States (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T28. Pacific Coastal Processes (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
John Mann Mentors in Applied Hydrogeology Program (Luncheon)	noon–1:20 p.m.	Room 327
SC3. Hawaiian Volcanoes and Hazards Education Using Jigsaw Activities (Short Course)	1:30–5 p.m.	Room 327

EVENT	TIME	LOCATION
Afternoon Oral Technical Sessions		
T15. Mineral Physics Research Aspects Related to Deep Earth's Interior and Phenomena II	1:30–2:55 p.m.	Room 318B
T28. Pacific Coastal Processes II	1:30–2:55 p.m.	Room 319B
T14. Advances in Geothermal Resource Investigation II	1:30–4:50 p.m.	Room 318A
T19. Mars on Earth: Understanding Mars through Earth Surface Processes II	1:30–4:50 p.m.	Room 319A
T32. Applications of Unmanned Aerial Vehicles (UAVs) in the Earth, Ocean, Planetary, and Life Sciences	1:30–4:50 p.m.	Room 325A
T3. Magmatism and Orogenesis in the Sedimentary Record	3:25–4:50 p.m.	Room 319B
GSA Cordilleran Section Business Meeting	5–6 p.m.	Room 327

THURSDAY, 25 MAY

Registration	7 a.m.–noon	Room 322A
Speaker Ready Room	7 a.m.–2 p.m.	Room 322B
Oral Session Student Volunteer Orientations	7:30–7:45 a.m.	Room 319B
Session Chairs Orientation	7:30–7:45 a.m.	Room 319B
Exhibits Open	8 a.m.–5 p.m.	Room 323A/B/C

Morning Oral Technical Sessions

Past Sedimentation Records and Insight for Predicting Future Climate Impacts to Pacific Shores I	8:30–11:50 a.m.	Room 318A
T8. Explosive Volcanism	8:30–11:50 a.m.	Room 319A
T11. Submarine Volcanism in Hawai'i and Elsewhere	8:30–11:50 a.m.	Room 325A
T20. Paleomagnetism, Rock Magnetism, and Archaeomagnetism I	8:30–11:50 a.m.	Room 318B
T30. Integrated Approaches for Assessing Water Resources	8:30–11:50 a.m.	Room 319B

Poster Sessions

Authors will be present from 8:30 to 10 AM for the following poster sessions

T3. Magmatism and Orogenesis in the Sedimentary Record (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T12. Fluid Flow, Submarine Seeps, and Gas Hydrate Systems: Implications for the Global Carbon Cycle and Seafloor Stability (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T15. Mineral Physics Research Aspects Related to Deep Earth's Interior and Phenomena (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T33. Undergraduate Research Session (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C

Authors will be present from 1:30 to 3 PM for the following poster sessions

T30. Integrated Approaches for Assessing Water Resources (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C
T32. Applications of Unmanned Aerial Vehicles (UAVs) in the Earth, Ocean, Planetary, and Life Sciences (Posters)	8:30 a.m.–5 p.m.	Room 323A/B/C

EVENT	TIME	LOCATION
Afternoon Oral Technical Sessions		
Past Sedimentation Records and Insight for Predicting Future Climate Impacts to Pacific Shores II	1:30–3:00 p.m.	Room 318A
Structural Geology and Tectonics	1:30–3:00 p.m.	Room 325A
T9. Volcanic Impacts	1:30–4:00 p.m.	Room 319A
T12. Fluid Flow, Submarine Seeps, and Gas Hydrate Systems: Implications for the Global Carbon Cycle and Seafloor Stability	1:30–3:00 p.m.	Room 319B
T20. Paleomagnetism, Rock Magnetism, and Archaeomagnetism II	1:30–4:30 p.m.	Room 318B
Poster Session Pau Hana and Libations	3–5 p.m.	Room 323A/B/C
Exhibitor tear down	6–9 p.m.	Room 323A/B/C

FRIDAY, 26 MAY

FT10. The Geology and Current Activity of Kīlauea Volcano, Island of Hawai'i: 26–27 May (Field Trip)	7 a.m.–11:55 p.m.	Hilo Hawaiian Hotel (island of Hawai'i)
FT8. Hydrology of O'ahu (Field Trip)	7:30 a.m.–3 p.m.	Ala Moana Hotel, 410 Atkinson Dr, Honolulu, HI
FT11. Volcanic History and Coastal Processes of Kaua'i: 26–27 May (Field Trip)	8:30 a.m.–11:55 p.m.	Po'ipū Beach Park (island of Kaua'i)
FT9. Geology of Wai'anae Volcano, Island of O'ahu (Field Trip)	8:30 a.m.–4 p.m.	Ala Moana Hotel, 410 Atkinson Dr, Honolulu, HI
SC5. Integrating Virtual Grand Canyon Field Trips into Your High-Enrollment Introductory Geoscience Class (Short Course)	8 a.m.–noon	Room 326A
SC4. Preparing for Volcanic Crises (Short Course)	8:30 a.m.–4:30 p.m.	Room 326B
SC6. Earth in Context: Resources for Integrating Earth Literacy with Societal Issues across the Curriculum (Short Course)	1–5 p.m.	Room 326A

Technical Sessions

Meeting policy prohibits the use of cameras or sound-recording equipment at technical sessions and poster 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

TUESDAY, 23 MAY 2017

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 1

General Geology, Paleontology, and Geoarcheology

8:30 AM, Hawai'i Convention Center Room 325A

Brian N. Popp, Presiding

- | | | |
|-----|----------|--|
| | 8:30 AM | INTRODUCTORY REMARKS |
| 1-1 | 8:35 AM | Richards, Michelle J*: FOOD FOR THOUGHT: THE GEOCHEMISTRY OF MARQUESAN TIKI-HEADED BREADFRUIT POUNDERS |
| 1-2 | 8:55 AM | Jarman, Catrine; Popp, Brian*; Larsen, Thomas; Hunt, Terry; Lipo, Carl; Close, Hilary G.; Wallsgrove, Natalie; Ka'apu-Lyons, Cassie: DIET OF THE PREHISTORIC POPULATION OF RAPA NUI (EASTER ISLAND, CHILE) SHOWS ENVIRONMENTAL ADAPTATION AND RESILIENCE |
| 1-3 | 9:15 AM | Lawrence, John A.*; Marsaglia, Kathie; Fitzpatrick, Scott; Wake, Thomas: ARCHAEOLOGICAL INSIGHTS FROM PETROGRAPHIC ANALYSIS OF CERAMICS FROM THE BOCAS DEL TORO ARCHIPELAGO, PANAMA |
| 1-4 | 9:35 AM | Schorghofer, Norbert*; Prettyman, Thomas H.; Ermakov, Anton I.; Mazarico, Erwan; Platz, Thomas; Schroeder, Stefan E.; Combe, Jean-Philippe; Yamashita, Naoyuki; Raymond, Carol A.; Russell, Christopher T.: HIDDEN ICE ON DWARF PLANET CERES: RESULTS FROM THE DAWN MISSION |
| | 9:55 AM | BREAK |
| 1-5 | 10:25 AM | Bruno, Barbara C.*; Engels, Jennifer; Ito, Garrett; Gillis-Davis, Jeffrey J.; Dulai, Henrietta; Carter, Glenn; Fletcher, Charles H.; Bottjer-Wilson, Daniela: TWO-STAGE EXAMS CAN REDUCE THE ACHIEVEMENT GAP IN UNDERGRADUATE OCEANOGRAPHY AND GEOLOGY CLASSES |
| 1-6 | 10:45 AM | Coates, Molly*: MAGNETIC SUSCEPTIBILITY OF THE PALOUSE LOESS AS A PALEOCLIMATE INDICATOR |

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|-----|----------|--|
| 1-7 | 11:05 AM | Wiley, Thomas J.; McClaughry, Jason D.*; Rivas, Jonathan A.; Schwartz, Joshua J.: DETRITAL ZIRCON ASSEMBLAGES IN SANDSTONE INDICATE REVISED LATE EARLY TO LATE CRETACEOUS AGE FOR THE DOTHAN FORMATION IN SOUTHWESTERN OREGON |
| 1-8 | 11:25 AM | Starratt, Scott W.*: MISSING DIATOMS – HOW LAKE BATHYMETRY AFFECTS THE DISTRIBUTION OF DIATOM ASSEMBLAGES AND THE INTERPRETATION OF LAKE LEVEL VARIABILITY IN SMALL SUBALPINE LAKES |

SESSION NO. 2

T1. Cordilleran Magmatic Forensics I—Insights from the Igneous, Metamorphic, and Sedimentary Record

8:30 AM, Hawai'i Convention Center Room 318A

Shanaka de Silva, Rita C. Economos, Nancy Riggs and Andy Barth, Presiding

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|-----|----------|---|
| | 8:30 AM | INTRODUCTORY REMARKS |
| 2-1 | 8:35 AM | Kay, Suzanne Mahlburg*; Coira, Beatriz: MAGMATIC AND SEISMIC EVIDENCE FOR NEOGENE CRUSTAL AND MANTLE EVOLUTION UNDER THE PUNA PLATEAU OF THE CENTRAL ANDES |
| 2-2 | 8:55 AM | de Silva, Shanaka*: CORDILLERAN HIGH FLUX EVENTS: INSIGHTS FROM AN IGNIMBRITE FLARE-UP IN THE CENTRAL ANDES |
| 2-3 | 9:15 AM | Gans, Phillip B.*: THE EARLY MIOCENE HORSE CAMP BASIN, NAVADA: ARCHITECTURE, DEPOSITIONAL HISTORY, AND TECTONIC EVOLUTION OF A CLASSIC EXTENSIONAL HALF GRABEN |
| 2-4 | 9:35 AM | MacDonald, James H.*; Schoonmaker, Adam: EVIDENCE OF A LATE JURASSIC RIDGE SUBDUCTION EVENT: GEOCHEMISTRY AND AGE OF THE QUARTZ MOUNTAIN STOCK, MANASTASH INLIER, CENTRAL CASCADES, WASHINGTON |
| | 9:55 AM | BREAK |
| 2-5 | 10:25 AM | Mosolf, Jesse G.*: EOCENE HIGH-K, CALC-ALKALINE MAGMATISM WITHIN THE EASTERN LEWIS AND CLARK FAULT ZONE, WEST-CENTRAL MONTANA, USA |

- 2-6** 10:45 AM Davis, Kailyn N.*; Benowitz, Jeff; Layer, Paul W.; Trop, Jeffrey; Brueseke, Matthew: **DATING THE LOST ARC OF ALASKA: CONSTRAINING THE TIMING OF INITIATION OF THE WRANGELL ARC WITH A NEW ⁴⁰AR/³⁹AR GEOCHRONOLOGY APPROACH ON MODERN RIVER DETRITAL LITHIC GRAINS**
- 2-7** 11:05 AM Trop, Jeffrey M.*; Benowitz, Jeff; Brueseke, Matthew; Davis, Kailyn N.; Berkelhammer, Samuel E.; Morter, Bethany K.; Layer, Paul W.; Weber, Maridee; Fitzgerald, Victoria T.; Keast, Ryan T.; Moretti, Brian: **INVESTIGATING THE LOST ARC: GEOLOGIC CONSTRAINTS ON ~29 MILLION YEARS OF CONTINUOUS MAGMATISM ALONG AN ARC-TRANSFORM JUNCTION, WRANGELL ARC, ALASKA**
- 2-8** 11:25 AM Claiborne, Lily L.*; Miller, Calvin F.; Gualda, Guilherme A.R.; Carley, Tamara L.: **NEW ZIRCON-MELT PARTITION COEFFICIENTS FROM NATURAL ZIRCON-GLASS PAIRS APPLIED TO MOUNT ST. HELENS, USA: UNDERSTANDING MSH MELT COMPOSITIONS THROUGH TIME**

SESSION NO. 3

T13. Marine Minerals, Key Resources for the Twenty-First Century I

8:30 AM, Hawai'i Convention Center Room 318B

James R. Hein, Kira Mizell and Amy Gartman, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 3-1** 8:35 AM Kuhn, Thomas*; Wegorzewski, Anna V.; Rühlemann, Carsten: **MANGANESE NODULES FROM THE PACIFIC OCEAN: MIXTURES OF OXIC-HYDROGENETIC AND SUBOXIC-DIAGENETIC PRECIPITATES – WHY OXIC DIAGENESIS IS NEGLIGIBLE**
- 3-2** 8:55 AM Suzuki, Katsuhiko*; Kashiwabara, Teruhiko; Kato, Shingo; Usui, Akira: **CHEMICAL SPECIATION AND MICROBIAL CHARACTERISTICS OF FERRO-MANGANESE CRUSTS IN THE WESTERN PACIFIC SEAMOUNTS**
- 3-3** 9:15 AM Usui, Akira*; Suzuki, Katsuhiko: **HOW GEOLOGY WORKS ON EXPLORATION OF MARINE MANGANESE DEPOSITS: A CASE STUDY FOR THE SEAMOUNT HYDROGENETIC FERROMANGANESE CRUSTS**
- 3-4** 9:35 AM Ren, Xiangwen*; Hein, James R.: **CONTROLS ON THE CONCENTRATION OF CO IN FERROMANGANESE CRUSTS FROM THE MAGELLAN SEAMOUNTS, WEST PACIFIC**
- 9:55 AM **BREAK**
- 3-5** 10:25 AM Mizell, Kira*; Hein, James R.: **INSIGHT FROM CHLORINE ON ELEMENT ACCUMULATION IN FEMN CRUSTS**
- 3-6** 10:45 AM Shimizu, Eri*; Usui, Akira: **MICROSTRATIGRAPHY OF THE HYDROGENETIC FERROMANGANESE CRUSTS IN THE NORTHWEST PACIFIC**
- 3-7** 11:05 AM Amakawa, Hiroshi*; Usui, Akira; Iijima, Koichi; Suzuki, Katsuhiko: **SURFACE LAYER ND ISOTOPIC COMPOSITION OF FE-MN CRUSTS COLLECTED FROM THE TAKUYO-DAIGO SEAMOUNT IN THE NORTHWEST PACIFIC REFLECTS AMBIENT SEAWATER**
- 3-8** 11:25 AM Amezcua, Natalia*: **POTENTIAL MARINE MINERAL RESOURCES OF MÉXICO**

SESSION NO. 4

T16. New Developments in the Geology and Geochemistry of Mars

8:30 AM, Hawai'i Convention Center Room 319A

James F. Bell III and Scott Rowland, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 4-1** 8:35 AM Edgett, Kenneth S.*: **A MORE VAST EARLY MARS SEDIMENTARY ROCK RECORD**
- 4-2** 8:55 AM McEwen, Alfred S.*: **SURPRISING GEOLOGIC PROCESSES OF MARS: EARTH-LIKE GEOMORPHOLOGIES MAY BE DECEIVING**

- 4-3** 9:15 AM Bell, James F.*; Wellington, Danika F.: **THE CHANGING SURFACE OF MARS FROM RECENT SPACE-BASED OBSERVATIONS**
- 4-4** 9:35 AM Murchie, Scott L.*; Bibring, Jean-Pierre; Arvidson, Raymond E.; Bishop, Janice L.; Carter, John; Ehmann, Bethany; Langevin, Yves; Mustard, John F.; Poulet, Francois; Riu, Lucie; Seelos, Kimberly D.; Viviano-Beck, Christina E.: **SPECTRAL ANALYSES OF MARS FROM ORBIT USING CRISM AND OMEGA**
- 9:55 AM **BREAK**
- 4-5** 10:25 AM Mouginiis-Mark, Peter*: **AN ENIGMATIC LANDFORM ON MARS: THE ZEPHYRIA FLUCTUS SOURCE AREA**
- 4-6** 10:45 AM Barlow, Nadine G.*: **USING IMPACT CRATERS TO INVESTIGATE THE ROLE OF VOLATILES IN MARTIAN HISTORY**
- 4-7** 11:05 AM Bridges, Nathan T.*: **INTEGRATED SURFACE AND ORBITAL PERSPECTIVES ON DUNE ACTIVITY ON MARS**
- 4-8** 11:25 AM Michalski, Joseph*: **HYDROTHERMAL MARS: HOW THE MARTIAN CRUST COULD PROVIDE ESSENTIAL CLUES TO ABIOGENESIS**

SESSION NO. 5

T18. Deposition and Diagenesis of Volcaniclastic Sediments on Earth and Mars

8:30 AM, Hawai'i Convention Center Room 325B

Juergen Schieber, Kenneth Edgett and David L. Bish, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 5-1** 8:35 AM Craddock, Robert A.*; Rose, Timothy R.: **CHARACTERISTICS OF BASALTIC SEDIMENTS DEPOSITED IN A VARIETY OF GEOLOGIC ENVIRONMENTS ON HAWAII**
- 5-2** 8:55 AM Marsaglia, Kathleen M.*: **CHARACTERISTICS OF MAFIC TO INTERMEDIATE VOLCANICLASTIC SAND AND ITS DIAGENETIC TRANSFORMATION TO SANDSTONE IN MARINE BASINS ON PLANET EARTH: LESSONS FOR MARS?**
- 5-3** 9:15 AM Schieber, Juergen*; Li, Zhiyang: **VOLCANIC CONTRIBUTIONS TO MUDSTONES – AN APPRAISAL FROM A SEDIMENTOLOGICAL AND PETROGRAPHIC PERSPECTIVE**
- 5-4** 9:35 AM Edgett, Kenneth S.*; Siebach, Kirsten L.; Stack, Kathryn M.; Edgar, Lauren A.; Fedo, Christopher M.; Stein, Nathaniel T.; Rivera-Hernandez, Frances; Banham, Steven G.; Yingst, R. Aileen; Minitti, Michelle E.: **RECOGNITION AND OBSERVATIONS OF THE MAFIC SANDSTONES OF GALE CRATER, MARS, USING CURIOSITY'S MARS HAND LENS IMAGER (MAHLI)**
- 9:55 AM **BREAK**
- 5-5** 10:25 AM Bennett, Kristen A.*; Horgan, Briony H.N.; Edwards, Christopher S.: **MARTIAN CENTRAL MOUNDS AS VOLCANICLASTIC SEDIMENT?**
- 5-6** 10:45 AM Horgan, Briony H.N.*; Smith, Rebecca J.; Chadwick, Oliver A.; Retallack, Gregory J.; Noe Dobrea, Eldar; Christensen, Philip R.: **THE EFFECTS OF CLIMATE, ENVIRONMENT, AND DIAGENESIS ON THE SPECTRAL PROPERTIES OF VOLCANIC SOILS**
- 5-7** 11:05 AM Heydari, Ezat*; Calef, Fred J.; Schroeder, Jeffrey F.; Parker, Timothy; Hallet, Bernard; Fairen, Alberto G.; Rowland, Scott: **DEPOSITIONAL ENVIRONMENTS OF THE MURRAY FORMATION AT THE PAHRUMP HILLS LOCALITY, GALE CRATER, MARS: SEDIMENTATION ON A LAKE-FLOOR FAN DRIVEN BY CLIMATIC-RELATED LAKE-LEVEL FLUCTUATIONS**

SESSION NO. 6**T29. Coastal Hydrology: Impacts of Natural and Anthropogenic Change**

8:30 AM, Hawai'i Convention Center Room 319B

Henrietta Dulai, Craig R. Glenn and Peter W. Swarzenski, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 6-1 8:35 AM Thomas, Donald*; Haskins, Eric: **RECONSIDERING HAWAII'S HYDROGEOLOGIC CONDITIONS IN LIGHT OF RECENT EXPLORATION RESULTS**
- 6-2 8:55 AM Fackrell, Joseph K.*; Glenn, Craig R.; Whittier, Robert; Popp, Brian: **NATURAL AND ANTHROPOGENIC CONTROLS ON GROUNDWATER NUTRIENT AND DISSOLVED INORGANIC CARBON CONCENTRATIONS: WEST HAWAII, USA**
- 6-3 9:15 AM Montiel, Daniel*; Dimova, N.T.; Andreo, Bartolome; Prieto, Jorge; Garcia-Orellana, Jordi; Rodellas, Valenti: **ASSESSING SUBMARINE GROUNDWATER DISCHARGE (SGD) IN HIGHLY HETEROGENEOUS COASTAL KARST AQUIFERS: CHALLENGES AND SOLUTIONS**
- 6-4 9:35 AM Lee, Eunhee*; Hyun, Sung Pil; Yoon, Heesung; Moon, Hee Sun; Shin, Doyun; Burnett, William; Koh, Dong-Chan; Ha, Kyoochul: **STUDY OF SUBMARINE GROUNDWATER DISCHARGE PROCESSES FROM JEJU VOLCANIC ISLAND, SOUTH KOREA: COUPLING UAV-TIR REMOTE SENSING MAPPING AND COASTAL IN-SITU ANALYSIS**
- 9:55 AM **BREAK**
- 6-5 10:25 AM Whittier, Robert*; Barnes, Megan; Oleson, Kirsten L.L.: **VALIDATING COASTAL NUTRIENT FLUX MODELS USING STABLE ISOTOPES**
- 6-6 10:45 AM Shuler, Christopher K.*; Leta, Olkeba Tolessa; Dulai, Henrietta: **GROUNDWATER-STREAM WATER INTERACTION, SUBMARINE GROUNDWATER DISCHARGE, AND QUANTIFICATION OF ASSOCIATED NUTRIENT LOADING IN FAGAALU WATERSHED, AMERICAN SAMOA**
- 6-7 11:05 AM Amato, Daniel William*; Bishop, James M; Glenn, Craig R.; Dulai, Henrietta; Smith, Celia M: **REEF PLANTS SHOW THAT GROUNDWATER DISCHARGE IS A MAJOR SOURCE OF ANTHROPOGENIC NITROGEN FOR COASTAL ECOSYSTEMS IN HAWAII**
- 6-8 11:25 AM Habel, Shellie L.*; Fletcher, Charles H.; El-Kadi, Aly; Rotzoll, Kolja: **SIMULATIONS OF GROUNDWATER INUNDATION INDUCED BY SEA-LEVEL RISE AND HIGH TIDES REVEAL WIDESPREAD FLOODING IN THE WAIKIKI AREA ON OAHU, HAWAII**

POSTER TECHNICAL SESSIONS

SESSION NO. 7**General Geology, Paleontology, and Geoarchaeology (Posters)**

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

- Booth #
- 7-1 17 Ramírez-Calderón, Mónica*; Martini, Michelangelo; Abdullin, Fanis; Solari, Luigi: **NEW PETROLOGIC AND STRATIGRAPHIC CONSTRAINTS FOR THE TIANGUISTENGO FORMATION IN SOUTHERN MEXICO: A NEW RECORD OF A TRIASSIC RIVER DRAINING EQUATORIAL PANGAEA?**
- 7-2 18 Bristol, Isabelle M.*; Trop, Jeffrey M.; Benowitz, Jeff; Davis, Kailyn N.: **MAJOR MIOCENE PALEODRAINAGE IN SOUTH-CENTRAL ALASKA: SEDIMENTOLOGY, DEPOSITIONAL AGE, AND PROVENANCE OF STRATA EXPOSED IN THE SOUTHWESTERN TALKEETNA MOUNTAINS**

- 7-3 19 Leggitt, V. Leroy*: **NEW ARTHROPOD SITES IN THE MUD HILLS: MIOCENE BARSTOW FORMATION, CALIFORNIA**
- 7-4 20 Kendall, Shana L.*; Storrie-Lombardi, Michael; Cady, Sherry: **STROMATOLITE TEXTURE ANALYSIS: HOT SPRING SPICULAR GEYSERITE**

SESSION NO. 8**Petrology, Mineralogy, and Geochemistry (Posters)**

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

- Booth #
- 8-1 21 Barron, Arturo J*; Miggins, Daniel P.; Paz-Moreno, Francisco: **FIRST GEOCHRONOLOGY DATA FROM THE CAMBRIAN-PRECAMBRIAN ULTRAMAFIC FLOWS IN THE CABORCA REGION, NW SONORA, MEXICO**
- 8-2 22 Barth, Andrew P.*; Tani, Kenichiro; Meffre, Sebastien; Wooden, J.L.; Coble, Matthew A.: **LINKING ARC INITIATION TO SILICIC MELT EVOLUTION IN AN OCEANIC ARC SETTING USING DETRITAL ZIRCONS**
- 8-3 23 Ramírez-Salazar, Anthony*; Gómez-Tuena, Arturo; Ortega-Gutiérrez, Fernando: **CRUSTAL XENOLITHS AS POSSIBLE REMNANTS OF RELAMINATED SUBDUCTED SEDIMENTS BENEATH THE TRANSMEXICAN VOLCANIC BELT**
- 8-4 24 Cruze, Robert*; Kent, Adam J.R.; Miller, Robert B.; Shea, Erin: **U-PB ZIRCON AGE OF DYKES IN THE ROOF OF THE BLACK PEAK INTRUSIVE COMPLEX, NORTH CASCADES**
- 8-5 25 Gutierrez, Evelyn P.*; Memeti, Vali: **INVESTIGATING THE VOLCANIC-PLUTONIC CONNECTIONS USING GEOCHEMISTRY IN THE MINARETS CALDERA, EASTERN-CENTRAL SIERRA NEVADA MOUNTAIN RANGE, CALIFORNIA**

SESSION NO. 9**Structural Geology and Tectonics (Posters)**

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

- Booth #
- 9-1 26 Yamashita, Mikiya*; Nakanishi, Ayako; Moore, Gregory F.; Kodaira, Shuichi; Nakamura, Yasuyuki; Miura, Seiichi; Kaneda, Yoshiyuki: **STRUCTURAL CHARACTERISTICS AROUND THE FRONTAL THRUST ALONG THE NANKAI TROUGH REVEALED BY RED RELIEF IMAGE MAPPING AND SEISMIC REFLECTION SURVEY**
- 9-2 27 Martini, Michelangelo*; Segura, Sidney; Ortega-Rivera, Amabel: **TECTONO-STRATIGRAPHIC REASSESSMENT OF THE EASTERN PART OF THE GUERRERO TERRANE BASED ON NEW ⁴⁰AR/³⁹AR DATA: SINGLE-ARC VS MULTIPLE-ARC MODEL**
- 9-3 28 Meise, Ashley C.*; Orr, Walter P.; Smith, Hannah C.; Glazner, Allen F.: **JOINTING IN THE SAGE HEN FLAT AND COTTONWOOD PLUTONS, WHITE MOUNTAINS, CALIFORNIA: A FIELD AND REMOTE SENSING STUDY**
- 9-4 29 Barefoot, John*; Nadin, Elisabeth S.; Newberry, Rainer: **ROCK AND AGE RELATIONSHIPS OF THE TALKEETNA FOREARC SUBDUCTION COMPLEX IN THE NELCHINA AREA, SOUTHERN ALASKA**

SESSION NO. 10**T4. The Pacific Plate through Geologic Time (Posters)**

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

- Booth #
- 10-1 30 Wessel, Paul*; Conrad, Clinton P.: **ASSESSING PACIFIC ABSOLUTE PLATE AND PLUME MOTIONS**
- 10-2 31 Wright, Nicky M.*; Seton, Maria; Williams, Simon E.; Müller, R. Dietmar: **THE INFLUENCE OF THE PACIFIC OCEAN BASIN ON RECONSTRUCTIONS OF OCEAN BASIN VOLUME AND GLOBAL SEA LEVEL FLUCTUATIONS**

- 10-3 32 Chandler, Michael T.; Wessel, Paul*; Taylor, Brian; Benyshek, Elizabeth: **NEW SHIPBOARD MAGNETIC AND GRAVITY DATA FROM THE CRETACEOUS ELLICE BASIN**

SESSION NO. 11

T14. Advances in Geothermal Resource Investigation (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

- | | Booth # | |
|------|---------|---|
| 11-1 | 33 | Somma, Renato*; Granieri, Domenico; Troise, Claudia; Terranova, Carlo; De Natale, Giuseppe; Pedone, Maria: THE EULERIAN CODE DISGAS (DISPERSION OF GAS) APPLICATION TO H2S DISPERSION EMITTED FROM GEOTHERMAL POWER PLANTS OF TUSCANY (ITALY): |
| 11-2 | 34 | Villanueva-Estrada, Ruth Esther*; Ruiz Armenta, Juan Ramón; Rocha Miller, Roberto Gerardo; Rodríguez Díaz, Augusto Antonio; Briceño Prieto, Sandra Beatriz; Pita de la Paz, Carlos; Sanchez Galindo, Luis Alfredo; Rodríguez-Salazar, María Teresa de J.; Pérez Martínez, Isabel; Ramos Chaparro, Patricia Jaqueline; Cruz Martín, Patricia: FIRST STAGE IN THE CONSTRUCTION OF A MAP OF GEOTHERMAL PROVINCES FOR MEXICO |
| 11-3 | 35 | Pérez Martínez, Isabel*; Cardona Benavides, Antonio; Villanueva strada, Ruth Esther; Rodríguez Díaz, Augusto Antonio; Rocha Miller, Roberto Gerardo; Bernard Romero, Rubén Alejandro; Rodríguez Salazar, María Teresa de Jesús; Castillo López, Michael Eduardo; Guadalupe Rojas, Josué: EVALUATION OF GEOTHERMAL SYSTEMS IN TWO TECTONIC DEPRESSIONS IN CENTRAL MEXICO |
| 11-4 | 36 | Silva Fragoso, Argelia*; Ferrari, Luca; Norini, Gianluca: GEOLOGY OF THE DOMUYO GEOTHERMAL AREA, PATAGONIA, ARGENTINA |
| 11-5 | 37 | Sowers, Theron*; Wagner, Amy; Fau, Evan: GEOGRAPHIC TRENDS IN THE HYDROTHERMAL WATERS OF YELLOWSTONE |

SESSION NO. 12

T16. New Developments in the Geology and Geochemistry of Mars (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

- | | Booth # | |
|------|---------|--|
| 12-1 | 38 | Johnson, Jeffrey R.*; Bell, James F.; Cloutis, Edward A.; Fraeman, Abigail A.; Wiens, Roger C.; Maurice, Sylvestre: FERRIC OXIDE VARIABILITY IN THE MURRAY FORMATION FROM CHEMCAM PASSIVE REFLECTANCE OBSERVATIONS |
| 12-2 | 39 | Rowland, Scott K.*; Krezoski, Gillian M.; Wiens, Roger C.; Mangold, N.; Williams, Amy J.; Thompson, Lucy M.; Edgett, Kenneth; Kennedy, Megan R.: THE POINT LAKE OUTCROP, GALE CRATER, MARS: SANDSTONE OR (LESS LIKELY) LAVA FLOW? |
| 12-3 | 40 | Heydari, Ezat*; Calef, Fred J.; Schroeder, Jeffrey F.; Parker, Timothy; Fairen, Alberto G.; Rowland, Scott: SEDIMENTOLOGICAL FRAMEWORK, SEQUENCE STRATIGRAPHY, AND RELATIVE DATING OF GEOLOGICAL EVENTS IN THE LANDING ELLIPSE OF THE CURIOSITY ROVER, GALE CRATER, MARS |
| 12-4 | 41 | Rampe, Elizabeth B.*; Ming, Douglas W.; Grotzinger, John P.; Bristow, Thomas F.; Blake, David F.; Vaniman, David T.; Chipera, Steve; Gellert, Ralf; Morris, Richard V.; Morrison, Shaunna M.: MINERALOGICAL CHANGES IN A PREDOMINANTLY FLUVIOLACUSTRINE SUCCESSION AT GALE CRATER, MARS |
| 12-5 | 42 | Taylor, Niky*; Scuderi, L.; Newsom, Horton; Palucis, Marisa; Wiens, Roger C.; Le Mouellic, Stephane; Gasnault, Olivier; Deleewerk, Karen; Rowland, Scott K.; Van Beek, Jason; Calef, Fred: MATCHING MARS CURIOSITY ROVER PICTURES WITH HIRISE ORBITAL IMAGERY TO EXAMINE THE PEACE VALLIS FAN |
| 12-6 | 43 | Jackson, Ryan S.*; Wiens, Roger C.; Frydenvang, Jens; Beegle, Luther W.; Cousin, Agnes; Vaniman, D.T.; Forni, Olivier; Newsom, Horton E.: CHEMCAM INVESTIGATION OF THE STIMSON DRILL SITES, GALE CRATER, MARS |

- 12-7 44 Wellington, Danika F.; Bell, James F.*; Ehlmann, Bethany; Fraeman, Abigail A.; Horgan, Briony H.N.; Johnson, Jeffrey R.; Rice, Melissa S.: **SPECTRAL VARIABILITY ALONG CURIOSITY'S TRAVERSE THROUGH THE MURRAY FORMATION FROM MARS SCIENCE LABORATORY/MASTCAM MULTISPECTRAL OBSERVATIONS**

SESSION NO. 13

T18. Deposition and Diagenesis of Volcaniclastic Sediments on Earth and Mars (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

- | | Booth # | |
|------|---------|--|
| 13-1 | 45 | Brown, Sarah R.*; Andrews, Graham D.M.; Musgrave, Robert: THE COMPACTION GRADIENT THROUGH A CONTINUOUS MIOCENE TO RECENT FINE-GRAINED VOLCANICLASTIC SUCCESSION AT IODP SITE U1437, IZU-BONIN REAR ARC, JAPAN |

SESSION NO. 14

T19. Mars on Earth: Understanding Mars through Earth Surface Processes (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

- | | Booth # | |
|------|---------|--|
| 14-1 | 46 | Rasmussen, Brandon*; Calvin, Wendy M.: ALTERED BASALTS FROM HAWAII AS AN ANALOG FOR ALTERATION ON MARS |
| 14-2 | 47 | McBride, Marie J.*; Horgan, Briony H.N.; Oxley, Benjamin M.; Rowe, Michael C.; Wall, Kellie T.; Smith, Rebecca J.: DETERMINING GLASS CONTENT AND ERUPTION STYLE FROM SPECTRAL ANALYSIS OF VOLCANIC TEPHRAS |
| 14-3 | 48 | Xiao, Long; Wang, Jiang*; Dang, Yanan; Cheng, Ziyi; Huang, Ting; Zhao, Jiannan; Xu, Yi; Huang, Jun; Xiao, Zhiyong; Komatsu, Goro: A NEW TERRESTRIAL ANALOGUE SITE FOR MARS RESEARCH: THE QAIDAM BASIN, TIBETAN PLATEAU (NW CHINA) |

SESSION NO. 15

T29. Coastal Hydrology: Impacts of Natural and Anthropogenic Change (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

- | | Booth # | |
|------|---------|---|
| 15-1 | 49 | Heskett, Marvin*; Gray, Julia: STUDY OF PESTICIDE IMPACTS TO THE SURFACE WATER AND SEDIMENTS IN THE NEAR SHORE ENVIRONMENTS OF OAHU AND KAUAI |
| 15-2 | 50 | Hudson, Catherine Y.*; Dulai, Henrietta: VARIABILITY OF SUBMARINE GROUNDWATER DISCHARGE DURING SPRING AND NEAP TIDAL CYCLES ON THE KONA COAST, HAWAII |
| 15-3 | 51 | Welch, Eric M*: GROUNDWATER CONTRIBUTION TO GLYPHOSATE CONCENTRATIONS IN THE FAGA'ALU STREAM, AMERICAN SAMOA |
| 15-4 | 52 | McKenzie, Trista*; Dulai, Henrietta: SEASONALITY OF GROUNDWATER INPUTS AND ASSOCIATED ANTHROPOGENIC FLUXES IN THE KAHALU-U STREAM COMPLEX, O'AHU |
| 15-5 | 53 | O'Shea, Patrick M*; Cromwell, Geoffrey; Danskin, Wesley R.: FIRST 3D LITHOLOGIC MODEL OF THE SAN DIEGO COASTAL AQUIFER, SOUTHERN CALIFORNIA, USA |
| 15-6 | 54 | Dulai, Henrietta*: SUBMARINE GROUNDWATER DISCHARGE ON THE HAWAIIAN ISLANDS |
| 15-7 | 55 | Richardson, Christina M.*; Dulai, Henrietta; Popp, Brian; Fackrell, Joseph K.; Ruttenberg, Kathleen: SUBMARINE GROUNDWATER DISCHARGE AND BIOLOGICALLY DRIVEN VARIABILITY IN MARINE CARBONATE CHEMISTRY IN MAUNALUA BAY, OAHU, HAWAII |
| 15-8 | 56 | Dores, Daniel E.*; Mathioudakis, Michael R.; Glenn, Craig R.; Whittier, Robert; Dulai, Henrietta: IDENTIFYING POLLUTANT |

SOURCES ALONG GROUNDWATER FLOWPATHS IN KANEHOE, OAHU, HAWAII

- 15-9 57 Ghazal, Kariem A.*; El-Kadi, Aly; Dulai, Henrietta; Leta, Olkeba Tolessa: **QUANTIFYING DISSOLVED SILICATE FLUXES ACROSS HEEIA SHORELINE IN HAWAII VIA INTEGRATED HYDROLOGICAL MODELING APPROACH**

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 16

Petrology, Mineralogy, and Geochemistry

1:30 PM, Hawai'i Convention Center Room 325A

J.F. Magloughlin and Tamara L. Carley, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 16-1 1:35 PM Magloughlin, J.F.*: **NATIVE IRON, AWARUITE, AND POLYGONAL SERPENTINE IN VEINS CUTTING METAPERIDOTITE TECTONITES, WHITE RIVER SHEAR ZONE, WASHINGTON**
- 16-2 1:55 PM Magloughlin, J.F.*: **CHEMISTRY AND TECTONIC SETTING OF AMPHIBOLITES FROM THE NASON TERRANE, NORTH CASCADE MOUNTAINS, WASHINGTON**
- 16-3 2:15 PM Berger, Gilles*; Beaufort, Daniel; Antoine, Raphaël: **TARDI-MAGMATIC CLAYS IN THE MOST DIFFERENTIATED TERMS OF THE OCEANITE SERIES OF THE PITON DES NEIGES (REUNION ISLAND)**
- 16-4 2:35 PM Carley, Tamara L.*; Sosa, Emma S.; Banik, Tenley J.; Coble, Matthew A.; Fisher, Christopher M.; Miller, Calvin F.: **COMBINED INSIGHT FROM TEPHRA AND GLACIALLY-DERIVED SEDIMENTS: A ZIRCON-BASED STUDY ORAEFAJOKULL, SE ICELAND**

SESSION NO. 17

T1. Cordilleran Magmatic Forensics II—Insights from the Igneous, Metamorphic, and Sedimentary Record

1:30 PM, Hawai'i Convention Center Room 318A

Shanaka de Silva, Rita C. Economos, Nancy Riggs and Andy Barth, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 17-1 1:35 PM Miller, Jonathan S.*; Lackey, Jade Star; Sendek, Callie; Davies, Gareth R.: **ZIRCON TRACE ELEMENT AND ISOTOPIC RECORDS OF SIERRA NEVADAN ARC MAGMATISM DURING AN ARCHETYPAL MAGMATIC FLARE-UP**
- 17-2 1:55 PM Field, Derek*; Riggs, Nancy: **RECORD OF SIERRAN ARC ACTIVITY IN VOLCANIC STRATA OF THE MOUNT MORRISON PENDANT, EAST-CENTRAL SIERRA NEVADA, CALIFORNIA: IMPLICATIONS FOR MAGMATIC TEMPO AND PALEO GEOGRAPHIC SETTING**
- 17-3 2:15 PM Shulaker, Danielle Ziva*; Grove, Marty J.; Hourigan, Jeremy K.; Sharman, Glenn R.: **CONSTRAINTS ON THE CENOZOIC EXHUMATION HISTORY OF THE SOUTHERN SIERRA NEVADA AND NW MOJAVE DESERT REGION USING BASEMENT AND DETRITAL THERMOCHRONOLOGY**
- 17-4 2:35 PM Foley, Michelle L.*; Miller, Calvin F.; Gualda, Guilherme A.R.: **HETEROGENEITIES IN PUMICE AND FIAMME PROVIDES INSIGHTS INTO THERMAL AND MECHANICAL HISTORY OF PARTIALLY REMELTED AND REMOBILIZED CRYSTAL MUSH IN THE MAGMA CHAMBER THAT FED THE PEACH SPRING SUPERERUPTION (AZ, USA)**
- 2:55 PM **BREAK**
- 17-5 3:25 PM Friesenhahn, Brody P.*; Economos, Rita C.; Ianno, Adam; Wewer, Madeline L.; Tavazzani, Lorenzo: **ZIRCON U-PB GEOCHRONOLOGY AND GEOCHEMICAL ANALYSES ELUCIDATE MAGMATIC PROCESSES IN A TILTED**

CRUSTAL SECTION: LITTLE SAN BERNARDINO MOUNTAINS, CALIFORNIA

- 17-6 3:45 PM Fidler, Mary Kate*; Gans, Phillip B.: **EXPLORING THE GEOCHEMICAL CHARACTER OF VOLCANISM IN THE WHIPPLE MOUNTAINS REGION, CA AND AZ; DID CRUSTAL MELTING PLAY A ROLE IN THE EXTENSIONAL COLLAPSE OF THE COLORADO RIVER EXTENSIONAL CORRIDOR?**
- 17-7 4:05 PM Barnes, Calvin G.*; Barnes, Melanie A.; Allen, Charlotte M.: **HIGH-PRESSURE AMPHIBOLE IN JURASSIC ARC MAGMAS: INSIGHTS INTO DEEP CRUSTAL MAGMATIC PROCESSES**
- 17-8 4:25 PM Ferrari, Luca*; Orozco Esquivel, Teresa; Bryan, Scott; López Martínez, Margarita: **CENOZOIC EXTENSION AND MAGMATISM IN WESTERN MEXICO: LINKING THE SIERRA MADRE OCCIDENTAL SILICIC LARGE IGNEOUS PROVINCE AND THE COMONDÚ GROUP WITH THE GULF OF CALIFORNIA RIFT**

SESSION NO. 18

T4. The Pacific Plate through Geologic Time

1:30 PM, Hawai'i Convention Center Room 319A

Paul Wessel and Simon E. Williams, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 18-1 1:35 PM Gordon, Richard G.*; Phipps Morgan, Jason: **RECENT PROGRESS IN UNDERSTANDING THE ORIGIN OF THE HAWAIIAN-EMPEROR BEND**
- 18-2 1:55 PM Bodinier, Guillaume; Conrad, Clinton P.; Wessel, Paul*: **PLUME-SPOTTING: DERIVING THE ABSOLUTE MOTION OF HOTSPOTS AND PLATES**
- 18-3 2:15 PM Bono, Richard K.*; Tarduno, John A.: **LINKING THE HISTORY OF THE HAWAIIAN HOTSPOT MOTION TO PACIFIC PLATE EVOLUTION AND DEEP MANTLE PROCESSES: NEW PALEOMAGNETIC DATA FROM MIDWAY ATOLL (~27 MA)**
- 18-4 2:35 PM Williams, Simon E.*; Matthews, Kara J.; Whittaker, Joanne M.; Seton, Maria; Müller, Dietmar: **GEOLOGIC AND KINEMATIC CONSTRAINTS ON LATE CRETACEOUS TO MID EOCENE PLATE BOUNDARIES IN THE SOUTHWEST PACIFIC**
- 2:55 PM **BREAK**
- 18-5 3:25 PM Wright, Nicky M.*; Seton, Maria; Williams, Simon E.; Müller, R. Dietmar: **THE TECTONIC HISTORY OF THE PACIFIC OCEAN BASIN SINCE CHRON 34Y (83 MA)**
- 18-6 3:45 PM Benyshek, Elizabeth*; Wessel, Paul; Chandler, Michael T.; Taylor, Brian; Wright, Nicky M.; Hellebrand, Eric; Davidson, Peter; Koppers, Anthony: **MAPPING THE ELLICE BASIN: PRELIMINARY RESULTS FROM CRUISE KM1609**
- 18-7 4:05 PM Kim, Seung-Sep*; Choi, Hakkyum; Dymment, Jérôme; Granot, Roi; Park, Sung-Hyun; Chandler, Michael T.: **REVISED MACQUARIE PLATE MOTION AND ITS TECTONIC IMPLICATIONS ON PACIFIC-ANTARCTIC-AUSTRALIAN INTERACTION**
- 18-8 4:25 PM Yasushi, Harada*; Wessel, Paul: **ESTIMATION OF THE PACIFIC PLATE DEFORMATION**

SESSION NO. 19

T13. Marine Minerals, Key Resources for the Twenty-First Century II

1:30 PM, Hawai'i Convention Center Room 318B

James R. Hein, Kira Mizell and Amy Gartman, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 19-1 1:35 PM Ellefmo, Steinar*: **THE DEEP SEA MINING PILOT - AN INTERDISCIPLINARY APPROACH TO DEEP SEA MINING**
- 19-2 1:55 PM González, Francisco Javier*; Rincón-Tomás, Blanca; Somoza, Luis; Hein, James R.; Medialdea, Teresa; Madureira, Pedro; Reyes, Jesús; Hoppert, Michael; Reitner, Joachim: **FE-RICH MINERALIZED MICROBES FROM HYDROTHERMAL VENTS**

**AT TAGORO SUBMARINE VOLCANO, EL HIERRO ISLAND
(CENTRAL EAST ATLANTIC)**

- 19-3** 2:15 PM Babaeva, Svetlana*; Sukhanova, Anna: **GEOCHEMISTRY OF SMS AS THE ASSESSED CRITERION FOR THEIR MINERAL RESOURCES POTENTIAL**
- 19-4** 2:35 PM Tatsuo, Nozaki*; Toshiro, Nagase; Junji, Torimoto; Yutaro, Takaya; Jun-Ichiro, Ishibashi; Kazuhiko, Shimada; Masayuki, Watanabe; Yuka, Masaki; Tomokazu, Saruhashi; Masanori, Kyo: **SULFIDE CORE SAMPLE FROM THE DEEP-SEA ARTIFICIAL HYDROTHERMAL VENT AT THE IHEYA-NORTH KNOLL, OKINAWA TROUGH: NATURAL ANALOGUE OF SUB-SEAFLOOR MINERALIZATION ON A SEAFLOOR**
- 2:55 PM **BREAK**
- 19-5** 3:25 PM Kitada, Kazuya*; Yamada, Yasuhiro; Sanada, Yoshinori; Nozaki, Tatsuo; Kumagai, Hidenori; Ishibashi, Junichiro; Maeda, Lena: **CHARACTERIZATION OF SEAFLOOR HYDROTHERMAL DEPOSITS BY GAMMA RAY LOGGING IN THE IZENA HOLE, THE MID-OKINAWA TROUGH**
- 19-6** 3:45 PM Masaki, Yuka*; Nozaki, Tatsuo; Watanabe, Masayuki; Saruhashi, Tomokazu; Kyo, Masanori; Sakurai, Noriaki; Yokoyama, Takahiro; Akiyama, Keita; Maeda, Lena; Kumagai, Hidenori: **LONG-TERM SENSOR MONITORING EQUIPPED WITH THE KUROKO CULTIVATION APPARATUS ON THE DEEP-SEA ARTIFICIAL HYDROTHERMAL VENT AT THE MIDDLE OKINAWA TROUGH**
- 19-7** 4:05 PM Takahashi, Ayu*; Kitada, Kazuya; Kumagai, Hidenori; Miyazaki, Junichi: **DEEP-SEA HYDROTHERMAL EXPLORATION BASED ON MULTI-SENSOR DATA PROCESSING: A CASE STUDY IN THE OKINAWA TROUGH**
- 4:25 PM **DISCUSSION**

SESSION NO. 20

T17. Volcanism across the Solar System

1:30 PM, Hawai'i Convention Center Room 319B

Sarah A. Fagents and Rosaly Lopes, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 20-1** 1:35 PM Mougini-Mark, Peter J.*; Boyce, Joseph: **MARE INFILLING OF TSOLKOVSKY CRATER, THE MOON**
- 20-2** 1:55 PM Fagents, Sarah A.*; Baloga, Stephen M.; Fitch, Erin P.; Tremblay, Jason: **THE INFLUENCE OF TOPOGRAPHY ON THE EMPLACEMENT DYNAMICS OF LAVA FLOWS ON MARS**
- 20-3** 2:15 PM Grosfils, Eric B.*: **COMPARING RING FAULT AND CALDERA FORMATION CONDITIONS ON EARTH AND MARS USING FINITE ELEMENT MODELS**
- 20-4** 2:35 PM Fagents, Sarah A.*; Baloga, Stephen M.; Fitch, Erin; Langdalen, Zachary: **DISPERSAL OF ASH IN THE MARTIAN ATMOSPHERE**
- 2:55 PM **BREAK**
- 20-5** 3:25 PM Radebaugh, Jani*; Lopes, Rosaly; Howell, Robert; Lorenz, Ralph; Turtle, Elizabeth; Carling, Gregory T.: **TEMPERATURES AND BEHAVIORS OF LAVA LAKES FROM FIELD OBSERVATIONS AND COMPARISONS WITH IO**
- 20-6** 3:45 PM Lopes, Rosaly M.C.*; Solomonidou, Anezina; Mitchell, Karl L.: **CRYOVOLCANISM ON TITAN AND ELSEWHERE IN THE SOLAR SYSTEM**
- 20-7** 4:05 PM Solomonidou, Anezina*; Lopes, Rosaly; Coustenis, A.; Radebaugh, Jani; Rodriguez, Sebastien; Bratsolis, Emmanuel; Malaska, Michael J.; Schmitt, B.; Drossart, Pierre; Brown, Robert; Matsoukas, Christos: **THE SURFACE OF TITAN AND THE INTERACTIONS WITH THE INTERIOR AND THE ATMOSPHERE: INDICATIONS OF CRYOVOLCANISM**
- 20-8** 4:25 PM Carey, Elizabeth*: **LABORATORY STUDIES ON THE RHEOLOGY OF CRYOGENIC SLURRIES WITH IMPLICATIONS FOR ICY SATELLITES**

WEDNESDAY, 24 MAY 2017

**MORNING
ORAL TECHNICAL SESSIONS**

SESSION NO. 21

T2. Structural Geology and Tectonics of the Western United States

8:30 AM, Hawai'i Convention Center Room 325A

Stephen J. Martel and Anne E. Egger, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 21-1** 8:35 AM Terhune, Patrick*; Benowitz, Jeff; Layer, Paul W.; O'Sullivan, Paul B.: **TOPOGRAPHIC DEVELOPMENT OF THE TALKEETNA MOUNTAINS ALASKA: THE RELATIONSHIP TO THE CASTLE MOUNT FAULT AND TWO CENOZOIC FLAT SLAB SUBDUCTION EVENTS**
- 21-2** 8:55 AM Gabet, Emmanuel*; Tipp, Christina: **LATE CENOZOIC UPLIFT OF THE NORTHERN SIERRA NEVADA IS NOT SUPPORTED BY THE GEOMORPHIC EVIDENCE**
- 21-3** 9:15 AM Glazner, Allen F.*; Bartley, John M.: **DIKING, DEFORMATION, AND DILEMMAS ALONG LYE L FORK IN THE HALF DOME GRANODIORITE, YOSEMITE NATIONAL PARK, CALIFORNIA**
- 21-4** 9:35 AM Hacker, David B.*; Dasgupta, Tathagata: **RAPID ASCENT OF RHYOLITIC MAGMAS WITHIN THE BLACK HILLS IGNEOUS PROVINCE, SOUTH DAKOTA: IMPLICATIONS FOR EXTENSION WITHIN A LARAMIDE TRANSVERSE STRUCTURAL ZONE**
- 9:55 AM **BREAK**
- 21-5** 10:25 AM Davidson, Cameron*; Garver, John I.: **YAVAPAI-MAZATZAL DETRITAL ZIRCON AGES IN ACCRETED ROCKS IN SOUTHERN ALASKA: LOOKING FOR POTENTIAL SOURCE ROCKS IN THE NORTH AMERICAN CORDILLERA**
- 21-6** 10:45 AM Ernst, W. Gary; Wu, Cailai*: **U-PB AGES AND PROVENANCE OF DETRITAL ZIRCONS FROM EASTERN HAYFORK (EHF) META-ARGILLITES, SAWYERS BAR AREA, CENTRAL KLAMATH MOUNTAINS, NW CALIFORNIA**
- 21-7** 11:05 AM Gross, Emily J.*; Chapman, Alan D.: **PRESERVATION OF A SUBDUCTION-RELATED GEOTHERMAL GRADIENT IN THE SCHIST OF SIERRA DE SALINAS, CENTRAL CALIFORNIA COAST RANGES**
- 21-8** 11:25 AM Dennis, Kristen N.*; Webb, Heather N.; Peppard, Dan W.: **ASSESSMENT OF FAULT ZONE ARCHITECTURE ALONG A BIMATERIAL INTERFACE, A CASE STUDY SAN JACINTO FAULT, SOUTHERN CA, USA**

SESSION NO. 22

T6. Magmatic Processes and Sources for Hotspot Volcanoes

8:30 AM, Hawai'i Convention Center Room 325B

Michael O. Garcia and Jasper Konter, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 22-1** 8:35 AM Konter, Jasper*; Koppers, Anthony A.P.; Jackson, Matthew G.; Finlayson, Valerie; Konrad, Kevin: **THE TWO LONGEST-LIVED PACIFIC HOTSPOTS, DIVERGING SINCE 80 MA**
- 22-2** 8:55 AM Hassan, Rakib; Müller, Dietmar; Gurnis, Michael; Williams, Simon*; Flament, Nicolas: **THE ROLE OF DEEP MANTLE FLOW IN SHAPING THE HAWAIIAN-EMPEROR BEND**
- 22-3** 9:15 AM Togia, Harrison F. R.*; Conrad, Clinton P.; Wessel, Paul; Ito, Garrett: **NEW CONSTRAINTS ON TEMPORAL VARIATIONS IN HAWAIIAN PLUME BUOYANCY FLUX**
- 22-4** 9:35 AM Garcia, Michael O.*; Jicha, Brian R.; Marske, Jared P.; Pietruszka, Aaron J.: **HOW OLD IS KILAUEA VOLCANO?**

INSIGHTS FROM ⁴⁰AR/³⁹AR DATING OF THE 1.7-KM-DEEP SOH-1 CORE

- 9:55 AM **BREAK**
- 22-5 10:25 AM Walker, Brett H.*; Garcia, Michael O.; Orr, Tim R.: **PETROLOGIC INSIGHTS INTO RIFT ZONE MAGMATIC INTERACTIONS UNDER KILAUEA'S NAPAU CRATER (1963-2011)**
- 22-6 10:45 AM Garcia, Michael O.*; Pietruszka, Aaron J.; Marske, Jared P.; Rhodes, J. Michael; Greene, Andrew R.: **PETROLOGY AND GEOCHEMICAL EVOLUTION OF LAVAS FROM THE ONGOING AND VOLUMINOUS PUU OO ERUPTION OF KILAUEA VOLCANO, HAWAII**
- 22-7 11:05 AM Thordarson, Thorvaldur*; Garcia, Michael O.: **REJUVENATION STAGE VOLCANIC SUCCESSION AT LAEO KILAUEA, KAUAI, HAWAII**
- 22-8 11:25 AM Jordan, Brennan T.*: **MIXING AND MINGLING IN ICELAND: DIVERSE VOLCANIC PRODUCTS OF INJECTION OF PLAGIOCLASE-ULTRAPHYRIC BASALT MAGMA INTO A ZONED SILICIC MAGMA CHAMBER**

SESSION NO. 23***T14. Advances in Geothermal Resource Investigation I***

8:30 AM, Hawai'i Convention Center Room 318A

Pete Stelling, Nicholas H. Hinz, Nicole Lautze and Garrett Ito, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 23-1 8:35 AM Thomas, Donald*; Lautze, Nicole: **GEOTHERMAL ENERGY IN HAWAII: A HISTORICAL PERSPECTIVE**
- 23-2 8:55 AM Drakos, Peter*; Spielman, Paul; Peters, Brad: **SUCCESSFUL MULTI-LEG COMPLETION OF KS-13 ML-1 & INCREASED POWER GENERATION OF PUNA GEOTHERMAL VENTURE (PGV), HAWAII**
- 23-3 9:15 AM Tachera, Diamond K*; Lautze, Nicole; Thomas, Donald; Whittier, Robert: **A GEOTHERMAL RESOURCE ASSESSMENT FOR THE STATE OF HAWAII USING HYDROGEOCHEMICAL ANALYSIS**
- 23-4 9:35 AM Frazer, Neil*; Ito, Garrett; Lautze, Nicole; Thomas, Donald; Hinz, Nicholas H.; Whittier, Robert: **TWO SIMPLE METHODS IN GEO-RECONNAISSANCE: THE VOTER-VETO-CONFIDENCE METHOD AND THE BACK-PROPAGATION OF ADVECTED GEOCHEMICAL SIGNALS**
- 9:55 AM **BREAK**
- 23-5 10:25 AM Witter, Jeffrey B.*: **3D GEOPHYSICAL INVERSION MODELLING OF POTENTIAL FIELD DATA APPLIED TO THE INVESTIGATION OF FOUR GEOTHERMAL RESOURCE AREAS**
- 23-6 10:45 AM Siler, Drew L.*; Faulds, James E.: **THE GEOLOGIC CONTROLS OF GEOTHERMAL FLUID FLOW: A 3D ANALYSIS OF THE BRADYS GEOTHERMAL FIELD, NV, USA**
- 23-7 11:05 AM Hinz, Nicholas H.*; Faulds, James E.; Coolbaugh, Mark F.: **FAULT-HOSTED GEOTHERMAL RESOURCES IN THE GREAT BASIN REGION, USA –EVOLUTION OF STRUCTURAL-TECTONIC CHARACTERIZATION OVER THE PAST FOUR DECADES**
- 23-8 11:25 AM Co, Carla*; Horne, Roland: **THERMAL EFFECTS OF CHANNELING FLOW WITHIN ROUGH FRACTURES**

SESSION NO. 24***T15. Mineral Physics Research Aspects Related to Deep Earth's Interior and Phenomena I***

8:30 AM, Hawai'i Convention Center Room 318B

Murli Manghnani and Bin Chen, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 24-1 8:35 AM Zhang, Jin*; Bass, Jay D.: **ELASTICITY CHANGE ACROSS THE OLIVINE-WADSLEYITE TRANSITION AND ITS**

IMPLICATIONS FOR THE COMPOSITION AND DYNAMICS NEAR THE 410 DISCONTINUITY

- 24-2 8:55 AM Schmerr, Nicholas C.*; Waszek, Lauren; Ballmer, Maxim: **MANTLE REFLECTIVITY STRUCTURE BENEATH THE HAWAIIAN HOTSPOT**
- 24-3 9:15 AM Prakapenka, Vitali*: **ADVANCED TECHNIQUES FOR MINERAL CHARACTERIZATION IN-SITU AT EXTREME CONDITIONS**
- 24-4 9:35 AM Shieh, Sean*: **ZIRCON UNDER PRESSURE: STRENGTH, TEXTURE AND MICROSTRUCTURE**
- 9:55 AM **BREAK**
- 24-5 10:25 AM Mookherjee, Mainak*; Peng, Ye; Hossain, Kariza; Hermann, Andreas: **STRUCTURE, ENERGETICS, AND ELASTICITY OF HYDROUS PHASES**
- 24-6 10:45 AM Williams, Quentin*; Manghnani, Murli: **DYNAMIC AND ELASTIC EFFECTS OF LARGE THERMAL EXPANSIONS OF CORE-FORMING ALLOYS: IMPLICATIONS FOR CONVECTIVE STYLE OF PLANETARY CORES**
- 24-7 11:05 AM Yang, Wenge*; Hu, Qingyang; Kim, Duckyoung; Mao, Ho-kwang: **IN-SITU HIGH PRESSURE AND TEMPERATURE INVESTIGATION ON IRON OXIDES AT DEEP EARTH'S INTERIOR CONDITIONS**
- 24-8 11:25 AM Chen, Bin*; Lai, Xiaojing: **EFFECT OF CARBON ON THE SEISMIC PROPERTIES SOLID IRON AT HIGH PRESSURES: HIDDEN CARBON RESERVOIR IN EARTH'S CORE**

SESSION NO. 25***T19. Mars on Earth: Understanding Mars through Earth Surface Processes I***

8:30 AM, Hawai'i Convention Center Room 319A

Robert A. Craddock, Jacob E. Bleacher and Christopher W. Hamilton, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 25-1 8:35 AM Bleacher, J.*; Orr, Tim R.; de Wet, Andrew P.; Zimbelman, James R.; Hamilton, Christopher W.; Garry, W. Brent; Crumpler, Larry S.; Williams, David A.: **PLATEAUS AND SINUOUS RIDGES AS EVIDENCE OF LAVA FLOW INFLATION IN THE THARSIS REGION OF MARS**
- 25-2 8:55 AM Hamilton, Christopher W.*; Mouginiis-Mark, Peter J.; Sori, Michael M.; Scheidt, Stephen; Bleacher, Jacob E.: **TERRESTRIAL LAVA-RISE PLATEAUS AS ANALOGS FOR LOBATE FLOW UNITS NEAR HRAD VALLIS, MARS**
- 25-3 9:15 AM Garry, W. Brent*; Whelley, Patrick; Shiro, Brian R.; Rowland, Scott K.; Bleacher, Jacob E.: **ANALYSIS OF A LAVA TUBE WITH LIDAR ON MAUNA LOA VOLCANO, HAWAII**
- 25-4 9:35 AM Shiro, Brian R.*; Rowland, Scott K.; Bleacher, Jacob E.; Garry, W. Brent; Whelley, Patrick; Schmerr, Nicholas C.: **GEOPHYSICAL MAPPING OF A LAVA TUBE CAVE ON MAUNA LOA VOLCANO, HAWAII**
- 9:55 AM **BREAK**
- 25-5 10:25 AM de Wet, Andrew P.*; Hamilton, Christopher W.; Scheidt, Stephen; Zeller, Lucas; Sainvil, Anny K.; Bryson, Nora: **LARGE CHANNEL-FED ROOTLESS VOLCANIC CONE COMPLEX, LAKI, ICELAND**
- 25-6 10:45 AM Morgan, Alexander M.*; Craddock, Robert A.: **MARS-ANALOG ALLUVIAL FANS ALONG THE HILINA PALI, HAWAII**
- 25-7 11:05 AM Leng, Qin*; Yang, Hong: **THE MID-MIOCENE CLARKIA LAKE: A TERRESTRIAL LAKE ANALOG FOR PALEOLAKES ON MARS**

SESSION NO. 26***T28. Pacific Coastal Processes I***

8:30 AM, Hawai'i Convention Center Room 319B

Charles H. Fletcher and Patrick L. Barnard, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**

26-1	8:35 AM	Osborn, Gerald*; Norsworthy, Kaylee; Blay, Charles: ORIGIN OF THE FLUTED CLIFFS OF THE NA PALI COAST, KAUAI: OBSERVATIONS, ISSUES, AND SPECULATIONS
26-2	8:55 AM	Barry, James H.*; Walker, Robert A.: COASTAL PROCESSES, COASTAL MORPHOLOGY, AND COASTAL ENGINEERING PRACTICE ON TWO HAWAII SHORELINES: THE NORTH SHORE OF OAHU AND THE WEST SHORE OF MAUI
26-3	9:15 AM	Linsley, Derek P.*; Conger, Christopher L.: CONTRASTING BEACH DYNAMICS IN ABUTTING LITTORAL CELLS WITH A REEF BOUNDARY, KAAHAPALI BEACH, MAUI, HAWAII
26-4	9:35 AM	Blay, Charles T.*: MONITORING AND GEOSPACIAL MODELING OF WEST KAUAI'S CARBONATE SAND BEACHES IN RESPONSE TO ANNUAL AND DECADEAL SCALE WAVE DYNAMICS
	9:55 AM	BREAK
26-5	10:25 AM	Barry, James H.*: COASTAL PROCESSES AT POIPU BEACH PARK: THE EFFECTS OF A BIMODAL WAVE CLIMATE ON THE STABILITY OF THE POIPU TOMBOLO
26-6	10:45 AM	Stanley, Steven M.*; Rowley, Sonia J.: SHIFTING SANDS AROUND OAHU AND THE SPARSE FAUNA OF SHALLOW-WATER INFAUNAL BIVALVES
26-7	11:05 AM	Azouri, Assaf*; Luther, Douglas S.; Roeber, Volker: THE RESPONSE OF A COASTAL REGION WITH IRREGULAR REEF BATHYMETRY TO STRONG GRAVITY WAVE FORCING - A NUMERICAL MODELING STUDY
26-8	11:25 AM	Jordan, Benjamin R.*: 2015-2016 EL NINO-GENERATED OCEAN WAVE IMPACTS AND OTHER RECENT EROSIONAL CHANGES TO KUKUIHOOLUA ISLAND SEA ARCH AT LAIE, HAWAII, U.S.A

POSTER TECHNICAL SESSIONS

SESSION NO. 27

Past Sedimentation Records and Insight for Predicting Future Climate Impacts to Pacific Shores (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

	Booth #	
27-1	17	Lehnhoff, Laura*; Rixen, Tim; Darou, Wang: COASTAL ENVIRONMENTAL CONDITIONS DURING THE 20TH CENTURY INDICATED BY VARIATIONS OF SKELETAL PARAMETERS OF A PORITES LUTEA CORAL FROM EAST HAINAN, SOUTH CHINA SEA
27-2	18	Yang, Dong-Yoon*: HOLOCENE STORMS LANDING ON THE KOREAN PENINSULA AND THEIR RELATIONSHIP TO CLIMATE FACTORS
27-3	19	Keene, Dakota*; Wagner, Amy; Lane, Chad S.: LATE HOLOCENE CLIMATE VARIABILITY FROM ST. CROIX, USVI REEF CORALS
27-4	20	Neilson, Gwynn C*: OBSERVATIONS ON DIATOM PRESERVATION IN POST-EARTHQUAKE MUDDY DEPOSITS, HUMBOLDT BAY, CALIFORNIA
27-5	21	Nunez, Carlos E*: SAND PETROLOGY AS A PROXY FOR EXTREME WAVE EVENTS, A CASE STUDY FROM ANEGADA, BRITISH VIRGIN ISLANDS
27-6	22	McKinney, Lautisha Annamay*; Colbert, Steven: CORAL TAXONOMIC RICHNESS AND CHEMICAL ANALYSIS OF BASALTS IN BIOCLASTIC ROCKS, MOLOKAI, HI
27-7	23	Shope, James Brandon*; Storlazzi, Curt D.: ASSESSING MORPHOLOGIC CONTROLS ON ATOLL ISLAND SHORELINE STABILITY DUE TO SEA-LEVEL RISE

SESSION NO. 28

T1. Cordilleran Magmatic Forensics—Insights from the Igneous, Metamorphic, and Sedimentary Record (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

	Booth #	
28-1	24	Wooden, J.L.*; Barth, Andrew P.; Mueller, Paul A.; Miller, David M.; Howard, Keith A.: HF ISOTOPIC RECORD OF MAGMATIC SECULAR VARIATION IN THE CORDILLERAN CONTINENTAL ARC IN SOUTHERN CALIFORNIA
28-2	25	Pack, Brenda*; Andrews, Graham D.M.; Brown, Sarah R.; Hames, Willis E.; Moreno, N.; Davila-Harris, Pablo: DOUBLE DATING AND OXYGEN ISOTOPE ANALYSIS OF SILICIC LAVAS AND IGNIMBRITES FROM THE SIERRA MADRE OCCIDENTAL LARGE IGNEOUS PROVINCE (MEXICO): INSIGHTS INTO THE SOURCES AND TIMESCALES OF MAGMA GENERATION IN AN ARC FLARE-UP
28-3	26	Weber, Maridee A*; Brueseke, Matthew E.; Benowitz, Jeff; Trop, Jeffrey M.; Berkelhammer, Samuel E.; Davis, Kailyn N.; Layer, Paul W.; Morter, Bethany K.; Mertzman, Stanley A.: GEOLOGICAL AND GEOCHEMICAL CONSTRAINTS ON OLIGO-MIOCENE HYPABYSSAL INTRUSIVE BODIES FROM THE WRANGELL ARC, ALASKA
28-4	27	Patzke, Mollie*; Johnson, Jah Isaac; Tremain, Thomas; Surpless, Kathleen D.; Tikoff, Basil; Wang, Da; Vervoort, Jeff D.: RECONSTRUCTING THE WESTERN IDAHO SHEAR ZONE: A GEOCHRONOLOGY FRAMEWORK
28-5	28	Murray, Bryan P.*; Hames, Willis E.; Andrews, Graham D.M.; Busby, Cathy J.: NEW ⁴⁰AR/³⁹AR AGES FROM THE CEROCACHUI BASIN REGION OF THE NORTHERN SIERRA MADRE OCCIDENTAL, CHIHUAHUA, MEXICO: IMPLICATIONS FOR IGNIMBRITE CORRELATION AND THE TIMING OF SYNEXTENSIONAL DEPOSITION
28-6	29	Arntson, Erin*; Olson, Haley; Davidson, Cameron; Garver, John I.: GEOCHEMISTRY, U-PB AGES, AND HF ISOTOPES OF THE MT. DRAPER AND MT. STAMY PLUTONS, NUNATAK FJORD, ALASKA: IMPLICATIONS FOR THE SANAK-BARANOF PLUTONIC BELT
28-7	30	Benowitz, Jeff*; Addison, Jason: DEVELOPING A TEPHRA DATABASE FOR IODP SITES U1417 & U1418: LATE MIOCENE TO PRESENT EVOLUTION OF ERUPTIVE VOLCANISM ALONG THE GULF OF ALASKA
28-8	31	Duccini, Kalie M.*: OLIVINE-PLAGIOCLASE-PYROXENE CUMULATES ASSOCIATED WITH THE HORNBLENDE-RICH SUMMIT GABBRO: EARLY STAGES OF DIFFERENTIATION WITHIN THE LATE JURASSIC SIERRA NEVADA ARC

SESSION NO. 29

T2. Structural Geology and Tectonics of the Western United States (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

	Booth #	
29-1	32	Davidson, Benjamin P*: DEFORMATION OF THE ERRATICS AT HENDERSON SUMMIT, VININI CREEK, MINERAL HILL, AND LONE MOUNTAIN IN EUREKA COUNTY, NEVADA
29-2	33	Mejia, Cesar*: DEFORMATION OF THE MINERAL HILL ERRATIC ALONG THE HENDERSON THRUST, EUREKA COUNTY, NEVADA
29-3	34	Redmond, Maureen*; Anfinson, Owen A.; Rico, Mayerline; Fleming, Kaitlyn Chelsea; Peoples, James Patrick; Chapman, Alan D.: DETRITAL ZIRCON U-PB GEOCHRONOLOGY PROVIDES CONSTRAINTS ON THE DEPOSITIONAL AGE OF SUR SERIES METASEDIMENTS WITHIN THE SALINIAN TERRANE, CALIFORNIA
29-4	35	Horst, Alison*; Chapman, Alan D.; Garver, John I.; Davidson, C.: U-PB GEOCHRONOLOGY AND HF ISOTOPIC SYSTEMATICS

OF METAMORPHIC AND DETRITAL ZIRCON DOMAINS IN THE SCHIST OF SIERRA DE SALINAS, CENTRAL CALIFORNIA COAST RANGES

- 29-5 36 Fleming, Kaitlyn Chelsea*; Anfinson, Owen A.; Peoples, James Patrick; Redmond, Maureen; Rico, Mayerline; Chapman, Alan D.: **INSIGHT ON THE ORIGIN OF THE SUR SERIES WITHIN THE SALINIAN TERRANE, CALIFORNIA EVALUATED THROUGH PETROGRAPHY, ZIRCON LA-ICPMS U-PB GEOCHRONOLOGY, AND HF ISOTOPES**
- 29-6 37 Olson, Haley*; Sophis, Julie; Davidson, Cameron; Garver, John I.: **DETRITAL ZIRCON FROM THE YAKUTAT TERRANE: DIFFERENTIATING THE YAKUTAT GROUP AND THE SCHIST OF NUNATAK FJORD**
- 29-7 38 Sophis, Julie M.*; Garver, John I.; Davidson, C.; Dolcimascolo, Alexander; Olson, Haley: **PROVENANCE AND AGE DISTRIBUTION OF DETRITAL ZIRCON IN THE UPPER CRETACEOUS-PALEOCENE FLYSCH AND MÉLANGE OF THE YAKUTAT GROUP, YAKUTAT BAY AND RUSSELL FJORD, ALASKA**
- 29-8 39 Grischuk, Jennifer M.*; Chapman, Alan D.: **DETRITAL ZIRCON GEOCHRONOLOGY OF THE CONDREY MOUNTAIN SCHIST (NORTHERN CALIFORNIA/SOUTHERN OREGON) REVEALS A ~30 MILLION YEAR RECORD OF SUBDUCTION-RELATED UNDERPLATING**
- 29-9 40 Klapper, Meghan G.*; Chapman, Alan D.: **INVERTED METAMORPHISM OF THE CONDREY MOUNTAIN SCHIST (NORTHERN CALIFORNIA/SOUTHERN OREGON): A ~30 MYR RECORD OF SUBDUCTION INITIATION AND MATURATION BENEATH A COOLING UPPER PLATE**
- 29-10 41 Wrobel, Alexander J.*; Gans, Phillip B.: **CHARACTERIZING PRE-MIOCENE LOWER PLATE STRUCTURES OF THE NORTHERN SNAKE RANGE METAMORPHIC CORE COMPLEX, EASTERN NEVADA: INSIGHTS INTO THE ROLE OF TECTONIC HEREDITY IN METAMORPHIC CORE COMPLEX EVOLUTION**
- 29-11 42 Womer, Jason*: **GEOMETRY AND TECTONIC IMPLICATIONS OF THE NORTHERN SNAKE RANGE FOLD AND THRUST SYSTEM**
- 29-12 43 Budimirovic, Natasha*; Miller, Robert B.: **DISPLACEMENT HISTORY OF THE PASAYTEN FAULT ZONE IN THE NORTH CASCADES, WASHINGTON AND BRITISH COLUMBIA**
- 29-13 44 Selander, Jacob*: **EVIDENCE FOR CONTINUOUS SHORTENING WITHIN THE MOJAVE DESERT, CALIFORNIA: CASE STUDY OF THE NORTHERN RODMAN MOUNTAINS**
- 29-14 45 Singleton, Drake M.*; Rockwell, Thomas K.; Murbach, Diane; Murbach, Monte; Maloney, Jillian; Marquez, Eui-jo; Weidman, Luke; Levy, Yuval; Rugg, Scott: **TIMING OF LATE HOLOCENE EARTHQUAKES ON THE ROSE CANYON FAULT AT OLD TOWN, SAN DIEGO CA**

SESSION NO. 30

T8. Explosive Volcanism (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

Booth #

- 30-1 46 Blass, Sebastien*; Swanson, Donald A.; Houghton, Bruce F.: **A NEW PERSPECTIVE ON THE 19TH-CENTURY GOLDEN PUMICE DEPOSIT OF KĪLAUEA**
- 30-2 47 Mitchell, Samuel J.*; Blass, Sebastien; Houghton, Bruce F.; Walker, Brett H.; Anderson, Alyssa; Bonny, Estelle; Mintz, Bianca G.; Turner, Nicolas; Frank, David: **THE INTERPLAY OF CLAST SIZE, VESICULARITY AND SECONDARY FRAGMENTATION: AN EXAMPLE FROM THE 1.8KA TAUPO ERUPTION**

SESSION NO. 31

T9. Volcanic Impacts (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

Booth #

- 31-1 48 Samsonov, Sergey*; Feng, Wanpeng; Peltier, Aline; Geirsson, Halldor; d'Oreye, Nicolas; Tiampo, Kristy: **MULTIDIMENSIONAL SMALL BASELINE SUBSET (MSBAS) FOR VOLCANO MONITORING IN TWO DIMENSIONS: OPPORTUNITIES AND CHALLENGES. CASE STUDY PITON DE LA FOURNAISE VOLCANO**
- 31-2 49 Andrews, Graham D.M.*; Martens, Abigail E.; Krugh, William; Brown, Sarah R.: **NEW AIRBORNE LIDAR IMAGERY OF THE INYO DOMES AND INYO CRATERS, LONG VALLEY CALDERA, CALIFORNIA**

SESSION NO. 32

T11. Submarine Volcanism in Hawai'i and Elsewhere (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

Booth #

- 32-1 50 Andrews, Graham D.M.*; Schindlbeck, Julie; Kars, Myriam; Kaess, Alyssa B.; Brown, Sarah R.: **DISTAL, ERUPTION-FED TURBIDITES FROM THE MIOCENE IZU ARC FRONT IN THE MODERN REAR ARC: LITHOFACIES, TRANSPORT AND DEPOSITIONAL HISTORY, AND IMPLICATIONS FOR STRUCTURAL EVOLUTION OF THE ARC**

SESSION NO. 33

T13. Marine Minerals, Key Resources for the Twenty-First Century (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

Booth #

- 33-1 51 Goto, Kosuke T.*; Sakaguchi, Aya; Tejada, Maria Luisa G; Lachner, Johannes; Ploner, Marco; Usui, Akira; Marquez, Ren T.; Hanyu, Takeshi; Suzuki, Katsuhiko: **COMPARISON OF OS ISOTOPE AND BE-10 AGES OF HYDROGENOUS FERROMANGANESE CRUSTS**
- 33-2 52 Torimoto, Junji*; Kawagucci, Shinsuke; Fujiwara, Taisei; Kumagai, Hidenori: **THE MODE OF OCCURRENCE OF HYDROTHERMAL DEPOSITS FROM THE ANA-SITE, WEST OFFSHORE OF KUME-JIMA ISLAND, OKINAWA TROUGH**
- 33-3 53 Takaya, Yutaro*; Fujinaga, Koichiro; Kato, Yasuhiro: **HYDROMETALLURGY METHOD OF REY-RICH MUD - CHEMICAL LEACHING AND SEPARATION -**
- 33-4 54 Foley, Nora*; Ayuso, Robert: **ADVANCES IN DEPOSIT GENESIS FOR THE WORLD-CLASS VOLCANIC-HOSTED BERYLLIUM DEPOSITS AT SPOR MOUNTAIN, UTAH, USA**
- 33-5 55 Purcell, Ceara KQ*; Aird, Hannah; De Witt, Nancy: **PRECIOUS METAL BEARING ASSEMBLAGES IN THE ANN MASON PORPHYRY DEPOSIT, YERINGTON, NEVADA**
- 33-6 56 Ayuso, Robert A.*; Vazquez, Jorge A.; Foley, Nora K.; Jackson, John C.: **SHRIMP U-PB GEOCHRONOLOGY OF THE SPOR MOUNTAIN FORMATION AND OF BE-U-RICH OPAL, UTAH: CONTINUOUS OPAL FORMATION, EPISODIC BE-U MINERALIZATION, AND REMOBILIZATION EVENTS**

SESSION NO. 34

T20. Paleomagnetism, Rock Magnetism, and Archaeomagnetism (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

Booth #

- 34-1 57 Ortega, Beatriz*; Soler, Ana; Rodriguez, Alejandro; Lozano, Socorro; Caballero, Margarita: **A ROCK MAGNETISM RECORD FROM LAKE CHALCO, CENTRAL MEXICO**

SESSION NO. 35

T28. Pacific Coastal Processes (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

Booth #

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|------|----|---|
| 35-1 | 58 | Walker, Robert A.*; Romine, Bradley M.: COASTAL OBSERVATIONS ALONG OAHU'S NORTH SHORE DURING A STRONG EL NINO YEAR |
| 35-2 | 59 | Stephenson, Morgan*: MODERN SPECTRAL WAVE HINDCASTING APPLIED TO THE ANALYSIS OF COASTAL PROCESSES |
| 35-3 | 60 | Roeber, Volker*; Bricker, Jeremy D.; Mitobe, Yuta; Takagi, Hiroshi; Esteban, Miguel; Tanaka, Hitoshi: WAVES AND CURRENTS IN THE VICINITY OF HARBORS – AN EXAMPLE FROM SENDAI PORT, TOHOKU, JAPAN |

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 36

T14. Advances in Geothermal Resource Investigation II

1:30 PM, Hawai'i Convention Center Room 318A

Pete Stelling, Nicholas H. Hinz, Nicole Lautze and Garrett Ito, Presiding

1:30 PM **INTRODUCTORY REMARKS**

- | | | |
|------|---------|---|
| 36-1 | 1:35 PM | Elders, Wilfred A.*; Friðleifsson, Guðmundur Ó: THE ICELAND DEEP DRILLING PROJECT 4.5 KM DEEP WELL IN THE REYKJANES GEOTHERMAL FIELD, IN SW ICELAND, HAS SUCCESSFULLY REACHED ITS SUPERCRITICAL TARGET |
| 36-2 | 1:55 PM | Higgins, Brian*: COMPARATIVE PROCESS MODELING OF WATER AND SUPERCRITICAL FLUIDS IN CLOSED-LOOP TUBE-IN-TUBE HEAT EXCHANGERS FOR THE PRODUCTION OF POWER FROM UNPRODUCTIVE HYDROTHERMAL WELLS |
| 36-3 | 2:15 PM | Harvey, Mark C.*; Rowland, Julie V.: CO₂ FLUX INVESTIGATION AT WAIRAKEI, A LOW-CO₂ GEOTHERMAL SYSTEM IN THE TAUPO VOLCANIC ZONE, NEW ZEALAND |
| 36-4 | 2:35 PM | Sewell, Steven Michael*: PRELIMINARY ANALYSIS OF SEISMIC VELOCITY VARIATION AT THE ROTOKAWA AND NGATAMARIKI GEOTHERMAL FIELDS IN NEW ZEALAND |
| | 2:55 PM | BREAK |
| 36-5 | 3:25 PM | Brandt, Adam*: ENHANCING GEOTHERMAL PLAY FAIRWAY ANALYSIS DEVELOPMENT THROUGH EFFECTIVE PUBLIC ENGAGEMENT |
| 36-6 | 3:45 PM | Cladouhos, Trenton T.*; Swyer, Michael; Forson, Corina: PLAY FAIRWAY ANALYSIS FOR GEOTHERMAL EXPLORATION IN THE WASHINGTON CASCADES |
| 36-7 | 4:05 PM | Schermerhorn, William D.; Ritzinger, Brent; Anderson, Megan; Witter, Jeffrey B.; Glen, Jonathan; Forson, Corina; Stelling, Pete*; Fournier, Dominique: GROUND-BASED GEOPHYSICAL SURVEYS OF GEOTHERMAL SYSTEM AT MOUNT BAKER, WA, USA |

SESSION NO. 37

T15. Mineral Physics Research Aspects Related to Deep Earth's Interior and Phenomena II

1:30 PM, Hawai'i Convention Center Room 318B

Murli Manghnani and Bin Chen, Presiding

1:30 PM **INTRODUCTORY REMARKS**

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|------|---------|--|
| 37-1 | 1:35 PM | Lai, Xiaojing*; Chen, Bin; Zhu, Feng; Zhang, Dongzhou: THERMAL EQUATION OF STATE OF FE3P BY X-RAY DIFFRACTION: IMPLICATIONS FOR PHOSPHORUS IN THE PLANETARY CORES |
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| 37-2 | 1:55 PM | Gao, Jing*; Chen, Bin; Wu, Xiang: ULTRADEEP DIAMOND GENESIS AT REDOX CONDITIONS OF SLAB-MANTLE BOUNDARY |
| 37-3 | 2:15 PM | Shelton, Hannah L.*; Dera, Przemyslaw; Zhang, Dongzhou: NOBLE GAS TRANSPORT BY AMPHIBOLES: IN SITU STRUCTURAL ANALYSIS OF NEON WITHIN FERROACTINOLITE |
| 37-4 | 2:35 PM | Amulele, George*; Clark, Simon; Lanati, Anthony: THE INFLUENCE OF HYDROUS MELTING ON THE ELECTRICAL CONDUCTIVITY IN FELDSPAR LABRADORITE |

SESSION NO. 38

T19. Mars on Earth: Understanding Mars through Earth Surface Processes II

1:30 PM, Hawai'i Convention Center Room 319A

Robert A. Craddock, Jacob E. Bleacher and Christopher W. Hamilton, Presiding

1:30 PM **INTRODUCTORY REMARKS**

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|------|---------|---|
| 38-1 | 1:35 PM | Kerber, Laura*; Radebaugh, Jani: TERRESTRIAL ANALOGS FOR MARTIAN YARDANGS: THE ARGENTINIAN ALTIPLANO AND THE LUT DESERT OF IRAN |
| 38-2 | 1:55 PM | Craddock, Robert A.*: FORMATION OF LINEAR DUNES AND IMPLICATIONS FOR PLANETARY SURFACE PROCESSES |
| 38-3 | 2:15 PM | Kling, Corbin L.*; Pierce, Austin C.; Byrne, Paul K.: JOCKEY'S RIDGE STATE PARK, NC, AS A POTENTIAL MARS DUNE ANALOGUE |
| 38-4 | 2:35 PM | Yingst, R. Aileen*; Bartley, Julie K.; Chidsey, Thomas C.; Cohen, Barbara A.; Gilleaudeau, Geoffrey J.; Hynek, Brian M.; Kah, Linda C.; Minitti, Michelle E.; Williams, Rebecca M.E.; Black, Sarah R.; Gemperline, John D.; Schauler, Ruby L.; Thomas, Rebecca Jane: DETERMINING EFFICIENT ROVER SCIENCE PROTOCOLS FOR ROBOTIC SAMPLE SELECTION: A GEOHEURISTIC OPERATIONAL STRATEGIES TEST IN GREATER CANYONLANDS, UTAH, US |
| | 2:55 PM | BREAK |
| 38-5 | 3:25 PM | Bell, Ernest R.*; Schmerr, Nicholas C.; Bleacher, Jacob E.; Porter, Ryan C.; Young, Kelsey E.; Pettit, Donald R.: PLANETARY TRAVERSE BASED GEOPHYSICAL FIELD ANALYSIS OF SAN FRANCISCO VOLCANIC FIELD STUDY REGION |
| 38-6 | 3:45 PM | Calvin, Wendy M.*; Rasmussen, Brandon: MINERALOGY IN DRILL CORE FROM HAWAII: AN ANALOG FOR MARS |
| 38-7 | 4:05 PM | Greenberger, Rebecca N.*; Ehlmann, Bethany L.; Osinski, Gordon R.; Tornabene, Livio L.; Green, Robert O.: IMPACT MELT ROCK HETEROGENEITY AT THE HAUGHTON IMPACT STRUCTURE, CANADA: AN ANALOG FOR PLANETARY CRATERS |
| 38-8 | 4:25 PM | Wright, Shawn P.*: A WEALTH OF ANALOG LITHOLOGIES AND FIELD LOCALITIES AT LONAR CRATER, INDIA REGARDING BASALTIC VOLCANISM, ALTERATION, AND SHOCK |

SESSION NO. 39

T28. Pacific Coastal Processes II

1:30 PM, Hawai'i Convention Center Room 319B

Charles H. Fletcher and Patrick L. Barnard, Presiding

1:30 PM **INTRODUCTORY REMARKS**

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|------|---------|--|
| 39-1 | 1:35 PM | Goody, Christopher*: COASTAL PROCESSES ON A TYPICAL WINDWARD, FRINGING REEF SHORELINE - KAPAA, KAUAI |
| 39-2 | 1:55 PM | Blay, Charles T.*: KIKIAOLA SMALL BOAT HARBOR SAND BYPASS REPLENISH PROGRAM, SOUTHWEST KAUAI WAIMEA/KIKIAOLA VOLCANICLASTIC BEACH COMPLEX |
| 39-3 | 2:15 PM | Summers, Alisha Kay*; Fletcher, Charles H.; McDonald, Kristian; Barbee, Matthew: FAILURE OF HAWAII COASTAL MANAGEMENT POLICIES |

39-4 2:35 PM Burns, Scott F.*: **FOREDUNE GROWTH ENHANCED BY EUROPEAN BEACH GRASS IN OREGON - IMPORTANT NATURAL TSUNAMI BARRIERS**

SESSION NO. 40

T32. Applications of Unmanned Aerial Vehicles (UAVs) in the Earth, Ocean, Planetary, and Life Sciences

1:30 PM, Hawai'i Convention Center Room 325A

Matthew Barbee, Craig R. Glenn, Nicholas Turner and Charles Devaney, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 40-1 1:35 PM Sloan, Jeff*: **PUTTING UNMANNED AIRCRAFT SYSTEMS TO WORK FOR SCIENTIFIC RESEARCH - THE USGS NATIONAL UAS PROJECT OFFICE**
- 40-2 1:55 PM Ralston, Edward*: **WORKING THROUGH THE CHALLENGE OF UAS REGULATIONS**
- 40-3 2:15 PM Porter, John; Mougini-Mark, Peter*; Nunes, Miguel; Garbeil, Harold: **CUSTOM INSTRUMENTATION FOR DRONE MEASUREMENTS OF VOLCANIC GASES**
- 40-4 2:35 PM Turner, Nicolas R.*; Houghton, Bruce F.; Taddeucci, J.: **UNMANNED AIRCRAFT APPLICATIONS FOR ACTIVE VOLCANO MONITORING**
- 2:55 PM **BREAK**
- 40-5 3:25 PM Levy, Joshua*; Hunter, Cynthia; Franklin, Erik. C: **A NEW PERSPECTIVE: THE UTILIZATION OF SUAS FOR CORAL REEF ASSESSMENTS**
- 40-6 3:45 PM Kennedy, Joseph J.*; Glenn, Craig R.; Dulai, Henrietta; Lucey, Paul G.: **COUPLING AIRCRAFT AND TIME SERIES UNMANNED AERIAL VEHICLE THERMAL INFRARED IMAGING WITH SIMULTANEOUS IN SITU RADON MONITORING REVEALS DYNAMICS OF GROUNDWATER DISCHARGE TO THE OCEAN**
- 40-7 4:05 PM Barbee, Matthew*; Palaseanu-Lovejoy, Monica; Fletcher, Charles H.; Danielson, Jeffrey; Gesch, Dean; Kottermair, Maria; Helweg, David A.; Carlson, Edward; Thatcher, Cindy: **CREATING ACCURATE DIGITAL SURFACE MODELS USING UAV MOUNTED COMMERCIAL GRADE CAMERAS: A PRACTICAL METHODOLOGY TO GENERATE MAP QUALITY GEOREFERENCED IMAGERY AND TOPOGRAPHY**
- 40-8 4:25 PM DeMario, Anthony*; Plewka, Eli; Lopez, Pete; Wix, Ryan; Xia, Hai; Zamora, Emily; Gessler, Dan; Yalin, Azer P.: **WATER TEMPERATURE MEASUREMENTS BY AN UNMANNED AERIAL SYSTEM (UAS) OF POWERPLANT HOT WATER DISCHARGES**

SESSION NO. 41

T3. Magmatism and Orogenesis in the Sedimentary Record

3:25 PM, Hawai'i Convention Center Room 319B

Matthew P. McKay, William T. Jackson Jr. and Keith Gray, Presiding

- 3:25 PM **INTRODUCTORY REMARKS**
- 41-1 3:30 PM Azevedo, Marcelo; Parizek, Jason; Webb, Heather N.*; Dennis, Kristen N.; Dorsey, Matthew Thomas; Fenton, Nicole C.; Hall, Craig M.; Girty, Gary H.: **CORRECTING FOR K-METASOMATISM REVEALS A LATE CRETACEOUS NON-STEADY-STATE WEATHERING REGIME, POINT LOMA FORMATION, SOUTHWESTERN CALIFORNIA, USA**
- 41-2 3:50 PM Junkin, William*; Gans, Phillip B.: **INSIGHTS INTO MIDDLE-LATE JURASSIC ANDEAN BACKARC VOLCANISM--GEOLOGY AND GEOCHRONOLOGY OF THE NACIENTES DEL TENO FORMATION (35°10'S)**
- 41-3 4:10 PM Rafferty, Kevin C.*; Bonde, Joshua W.: **WEDGE KINEMATICS AND PALEOGEOGRAPHY OF THE SEVIER RETROARC: BIOSTRATIGRAPHIC CONSTRAINTS FROM THE LOWER CRETACEOUS NEWARK CANYON FORMATION**
- 41-4 4:30 PM McKay, Matthew P.*: **ROUTING OF SYNOROGENIC SEDIMENT IN COLLISIONAL OROGENS**

THURSDAY, 25 MAY 2017

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 42

Past Sedimentation Records and Insight for Predicting Future Climate Impacts to Pacific Shores I

8:30 AM, Hawai'i Convention Center Room 318A

Charles H. Fletcher and Bruce Richmond, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 42-1 8:35 AM Erikson, Li*; Barnard, Patrick L.; O'Neill, Andrea; Foxgrover, Amy; Hegermiller, Christie A.; Vitousek, Sean; Limber, Patrick; Herdman, Liv: **MODELING CLIMATE CHANGE-DRIVEN FLOOD HAZARDS ALONG PACIFIC BASIN COASTS USING THE COASTAL STORM MODELING SYSTEM (COSMOS)**
- 42-2 8:55 AM Vitousek, Sean*; Barnard, Patrick L.; Limber, Patrick; Erikson, Li; Cole, Blake: **PREDICTING LONG-TERM SHORELINE RESPONSE TO CLIMATE CHANGE IN SOUTHERN CALIFORNIA**
- 42-3 9:15 AM Li, Ning*; Cheung, Kwok Fai: **PROBABILISTIC MAPPING OF STORM-INDUCED COASTAL INUNDATION FOR CLIMATE CHANGE ADAPTATION**
- 42-4 9:35 AM Hegermiller, Christie A.*; Shope, James Brandon; Erikson, Li; Storlazzi, Curt D.; Barnard, Patrick L.: **PROJECTIONS OF FUTURE WAVE CONDITIONS OFFSHORE OF PACIFIC ISLANDS**
- 9:55 AM **BREAK**
- 42-5 10:25 AM Storlazzi, Curt D.; Barnard, Patrick L.*: **CLIMATE CHANGE, CORAL REEFS, AND ATOLL SUSTAINABILITY**
- 42-6 10:45 AM Richmond, Bruce*; La Selle, SeanPaul; Jaffe, Bruce E.; Kane, Haunani H.: **THE SEARCH FOR GEOLOGIC EVIDENCE OF PALEOTSUNAMIS IMPACTING THE HAWAIIAN ISLANDS**
- 42-7 11:05 AM Yang, Hong*; Leng, Qin: **THE IMPACT OF EXTREME HYDROLOGICAL EVENTS AND SEA-LEVEL CHANGES ON EARLY CIVILIZATION IN ASIAN PACIFIC: A MOLECULAR ISOTOPE ANALYSIS OF SEDIMENTARY RECORDS**
- 42-8 11:25 AM Cann, John H.*; Murray-Wallace, Colin V.: **LATE PLEISTOCENE PALEOSEALEVELS INFERRED FROM FOSSIL FORAMINIFERA, GULF ST VINCENT, SOUTHERN AUSTRALIA**

SESSION NO. 43

T8. Explosive Volcanism

8:30 AM, Hawai'i Convention Center Room 319A

B.F. Houghton, Donald A. Swanson and Sarah A. Fagents, Presiding

- 8:30 AM **INTRODUCTORY REMARKS**
- 43-1 8:35 AM Isgett, Samantha J*; Houghton, B.F.; Gonnermann, Helge: **BALLISTIC BLOCK TEXTURES: INDICATORS OF A DYNAMIC AND COMPLEX SHALLOW CONDUIT DURING THE VULCANIAN PHASE OF THE 1912 ERUPTION OF NOVARUPTA, ALASKA**
- 43-2 8:55 AM Gudnason, J.*; Thordarson, T.; Houghton, B.F.; Larsen, G.: **THE OPENING SUBPLINIAN PHASE OF THE HEKLA 1991 ERUPTION: PROPERTIES OF THE TEPHRA FALL DEPOSIT**
- 43-3 9:15 AM Houghton, B.F.*; Orr, T.R.; Taddeucci, J.; Carey, R.J.: **STYLES OF PYROCLASTIC ACTIVITY AT KILAUEA, 2011-2017**
- 43-4 9:35 AM Mintz, Bianca G.*; Houghton, Bruce F.; Orr, Tim R.; Taddeucci, Jacopo; Gaudin, Damien; Kueppers, Ulrich; Carey, Rebecca J.; Scarlato, Piergiorgio; Del Bello, Elisabetta: **ANALYSIS OF PYROCLAST SIZE DISTRIBUTIONS DURING SPATTERING ACTIVITY AT HALEMA'UMA'U IN 2015**

9:55 AM **BREAK**

- 43-5** 10:25 AM Moreland, W.M.*; Thordarson, T.; Houghton, B.F.: **NATURE OF EXPLOSIVE ACTIVITY IN THE 10TH CENTURY ELDGJA ERUPTION, ICELAND**
- 43-6** 10:45 AM Swanson, Donald A.*; Blass, Sebastien; Garcia, Michael O.: **END OF AN ERA: THE FINAL EXPLOSIVE ERUPTIONS OF KEANAKĀKO'I TEPHRA AT KĪLAUEA**
- 43-7** 11:05 AM Fitch, Erin P.*; Fagents, Sarah A.: **HIGH-ENERGY LAVA-WATER EXPLOSIONS: A CASE STUDY FROM HAWAII**
- 43-8** 11:25 AM Ward, Peter L.*: **VOLCANOES CONTROL CLIMATE CHANGE WITH SUBDUCTION-RELATED, EXPLOSIVE, AEROSOL-FORMING ERUPTIONS CAUSING SLOW, INCREMENTAL COOLING AND RIFT-RELATED, BASALTIC, EFFUSIVE ERUPTIONS CAUSING RAPID WARMING IN SEQUENCES THAT ARE SPORADIC AND CLEARLY NOT CYCLIC BUT AVERAGE A FEW THOUSAND YEARS**

SESSION NO. 44

T11. Submarine Volcanism in Hawai'i and Elsewhere

8:30 AM, Hawai'i Convention Center Room 325A

Ken Rubin and Sam Mitchell, Presiding

8:30 AM **INTRODUCTORY REMARKS**

- 44-1** 8:35 AM Mills, Sara Renea*; Perfit, Micheal; Clague, David A.; Paduan, Jennifer Brophy: **PETROLOGY AND PETROGENESIS OF ANDESITES FROM AXIAL SEAMOUNT, JUAN DE FUCA RIDGE**
- 44-2** 8:55 AM Finlayson, Valerie*; Konter, Jasper; Rubin, Kenneth H.; Nie, Nicole X.; Dauphas, Nicolas: **A SUBDUCTION ZONE-SPREADING RIDGE TRANSITION SIGNATURE PRESERVED IN RECENT VOLCANIC ACTIVITY IN THE NE LAU BASIN**
- 44-3** 9:15 AM Rubin, Kenneth H.*: **DEEP SUBMARINE ERUPTION STYLES AT WEST MATA VOLCANO REVEALED BY VIDEO OBSERVATIONS AND DEPOSIT MAPPING**
- 44-4** 9:35 AM Mitchell, Samuel J*; Houghton, Bruce F.; Carey, Rebecca J.: **MAGMA CHAMBER TO THE OCEAN SURFACE: WHAT WATER TELLS US ABOUT PRE- AND SYN-ERUPTIVE SUBMARINE VOLCANIC PROCESSES**
- 9:55 AM **BREAK**
- 44-5** 10:25 AM Tree, Jonathan Patrick*; Smith, John R.; Miller, Joyce; Kang, Andrew: **DETAILED GEOLOGIC MAPPING EXPOSES COMPLEX ERUPTIVE HISTORY AND FUNDAMENTALLY DIFFERENT RELATIVE AGES OF NEWLY SURVEYED SEAMOUNTS WITHIN THE JOHNSTON ATOLL UNIT OF THE PACIFIC REMOTE ISLANDS MARINE NATIONAL MONUMENT**
- 44-6** 10:45 AM Smith, John R.*; Tree, Jonathan Patrick: **ENORMOUS RIFT ZONES, GIANT LANDSLIDES, AND UBIQUITOUS PALEO-REEF TERRACES: DETAILED SUBMARINE GEOLOGIC MAPPING REVEALS COMPLEXITY OF THE NORTHWESTERN HAWAIIAN RIDGE**
- 44-7** 11:05 AM Fujii, Masakazu*; Okino, Kyoko; Sato, Hiroshi; Sato, Taichi; Yamazaki, Toshi; Nakamura, Kentaro: **NEW EVOLUTION MODEL OF ULTRAMAFIC HOSTED HYDROTHERMAL SYSTEMS CONSTRAINED BY NEAR-SEAFLOOR MAGNETICS**
- 44-8** 11:25 AM Michalski, Joseph*: **A NEW DISCOVERY OF 3.8 BILLION-YEAR-OLD HYDROTHERMAL VOLCANIC SEAFLOOR DEPOSITS ON MARS PROVIDES A WINDOW INTO EARLY EARTH**
- 11:45 AM **DISCUSSION**

SESSION NO. 45

T20. Paleomagnetism, Rock Magnetism, and Archaeomagnetism I

8:30 AM, Hawai'i Convention Center Room 318B

Emilio Herrero-Bervera and Evdokia Tema, Presiding

8:30 AM **INTRODUCTORY REMARKS**

- 45-1** 8:35 AM Gordon, Richard G.*; Seidman, Lily E.; Zheng, Lin; Woodworth, Daniel T.: **ORIGIN OF THE HAWAIIAN-EMPEROR BEND: NEW EVIDENCE FROM PACIFIC PLATE APPARENT POLAR WANDER**
- 45-2** 8:55 AM Fuller, Michael D*: **EVIDENCE FOR A GEODYNAMO, DRIVEN BY THERMAL ENERGY AT THE CORE MANTLE BOUNDARY AND BY PRECESSION DEEPER IN THE OUTER CORE**
- 45-3** 9:15 AM Tarduno, John A.*; Hare, Vincent; Cottrell, R.D.; Huffman, Thomas; Watkeys, Michael; Bono, Richard K.; Blackman, Eric: **AN ARCHEOMAGNETIC RECORD FROM SOUTHERN AFRICA AND ITS BEARING ON THE HISTORY OF THE SOUTH ATLANTIC ANOMALY**
- 45-4** 9:35 AM Korte, Monika*; Constable, Catherine: **ON REGIONAL AND GLOBAL ASPECTS OF ARCHEOMAGNETIC INTENSITY SPIKES**
- 9:55 AM **BREAK**
- 45-5** 10:25 AM Paterson, Greig A.*; Heslop, David; Pan, Yongxin: **THE PSEUDO-THELLIER PALEOINTENSITY METHOD: NEW CALIBRATION AND UNCERTAINTY ESTIMATES**
- 45-6** 10:45 AM Shibuya, Hidetoshi*; Mochizuki, Nobutatsu; Hasegawa, Takeshi; Okada, Makoto: **CONNECTING MARINE AND ON-LAND PALEOINTENSITY STUDIES**
- 45-7** 11:05 AM Finn, David*; Coe, Robert S.; Branney, Michael J.; Brown, Ethan; Reichow, Marc; Knott, Thomas; Storey, Michael; Bonnichsen, Bill: **DISTINGUISHING AND CORRELATING DEPOSITS FROM LARGE IGIMBRITE ERUPTIONS USING PALEOMAGNETISM**
- 45-8** 11:25 AM Smirnov, Aleksey V.*: **A PALEOINTENSITY PERSPECTIVE ON THE LONG-TERM HISTORY OF THE GEODYNAMO**

SESSION NO. 46

T30. Integrated Approaches for Assessing Water Resources

8:30 AM, Hawai'i Convention Center Room 319B

Aly El-Kadi and Stephen S. Anthony, Presiding

8:30 AM **INTRODUCTORY REMARKS**

- 46-1** 8:35 AM Schorghofer, Norbert*; Leopold, Matthias; Martin, Jake; Morelli, Amanda; Yoshikawa, Kenji: **PERMAFROST AND PERCHED GROUNDWATER ON THE SUMMIT PLATEAU OF MAUNAKEA VOLCANO, HAWAII**
- 46-2** 8:55 AM Roberts, Michael; Demaagd, Nathan*: **NONLINEAR EFFECTS OF TEMPERATURE ON WATER DEMAND**
- 46-3** 9:15 AM Haggard, Brian E.*: **CAN WE USE NUTRIENT CONCENTRATIONS DURING BASEFLOW CONDITIONS TO MANAGE NONPOINT SOURCE POLLUTION AND PRIORITIZE SUBWATERSHEDS FOR MANAGEMENT OPTIONS?**
- 46-4** 9:35 AM Demaagd, Nathan*: **USING HISTORICAL PUMPING AND HEAD LEVEL DATA TO ESTIMATE THE MAXIMUM SUSTAINABLE YIELD OF OAHU'S AQUIFERS**
- 9:55 AM **BREAK**
- 46-5** 10:25 AM Strauch, Ayron M*; Uyeno, Dean D: **ESTABLISHMENT AND MAINTENANCE OF INSTREAM FLOW STANDARDS FOR THE STATE OF HAWAII**
- 46-6** 10:45 AM Okuhata, Brytne K.*; El-Kadi, Aly; Dulai, Henrietta; Carr, Bradley J.: **MODELING AQUIFER RESPONSE TO WATER HARVESTING IN NUUANU AND KALIHI, OAHU, HAWAII**
- 46-7** 11:05 AM Leta, Olkeba Tolessa*; El-Kadi, Aly; Dulai, Henrietta; Ghazal, Kariem A.: **ASSESSING THE EFFECT OF RAINFALL DATA**

**SCARCITY ON DAILY STREAMFLOW SIMULATION IN
SPATIALLY HETEROGENEOUS WATERSHEDS**

46-8 11:25 AM Rotzoll, Kolja*; Izuka, Scot K: **IMPACTS OF GROUNDWATER
WITHDRAWALS IN HAWAII**

POSTER TECHNICAL SESSIONS

SESSION NO. 47

T3. Magmatism and Orogenesis in the Sedimentary Record (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

- | | Booth # | |
|------|---------|--|
| 47-1 | 17 | Jackson, William T.*: LATE CRETACEOUS PALEOSEISMES IN THE NORTHERN BIGHORN BASIN: A RESULT OF INITIAL LARAMIDE DEFORMATION |
| 47-2 | 18 | Zepeda-Martínez, Mildred*; Martini, Michelangelo; Solari, Luigi: SINISTRAL NORMAL BLOCK MOTION OF CRUSTAL BLOCKS IN SOUTHERN MEXICO DURING PANGAEA BREAKUP: NEW EVIDENCE FROM SANDSTONE PROVENANCE ANALYSIS OF THE TEZOATLÁN BASIN |
| 47-3 | 19 | McGillivray, Krista M.*; Banik, Tenley J.; Carley, Tamara L.; Coble, Matthew A.; Claiborne, Lily L.; Miller, Calvin F.: EXPLORING SUBGLACIAL MAGMATISM IN ICELAND USING DETRITAL ZIRCON: A CASE STUDY FROM NORTHEASTERN VATNAJÖKULL |
| 47-4 | 20 | Nygaard, Elysha D*; Pelaez, Jess: SEDIMENTARY AND VOLCANIC HISTORY OF THE CANE SPRING AREA IN THE MOJAVE NATIONAL PRESERVE |
| 47-5 | 21 | Dolcimascolo, Alexander*; Davidson, C.; Garver, John I.; Sophis, Julie: PROVENANCE OF AND AGE OF GRANITOID AND SANDSTONE CLASTS IN CONGLOMERATES OF THE PALEOCENE TO UPPER CRETACEOUS YAKUTAT GROUP, RUSSELL FJORD, ALASKA |

SESSION NO. 48

T12. Fluid Flow, Submarine Seeps, and Gas Hydrate Systems: Implications for the Global Carbon Cycle and Seafloor Stability (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

- | | Booth # | |
|------|---------|---|
| 48-1 | 22 | Tomaru, Hitoshi*; Yamamoto, Itsuki: SOURCE AND ACCUMULATION OF METHANE IN GAS HYDRATE DEPOSIT IN KUMANO BASIN, NANKAI TROUGH, JAPAN: INTERPRETATIONS FROM ¹²⁹I DISTRIBUTION IN PORE WATER |
| 48-2 | 23 | Tanaka, Makoto*; Fujii, Tetsuya; Aung, Than Tin; Wada, Naoya; Komatsu, Yuhei: INTERPRETATION OF GAS HYDRATE PROSPECT IN THE MIYAZAKI-OKI FOREARC BASIN, JAPAN |

SESSION NO. 49

T15. Mineral Physics Research Aspects Related to Deep Earth's Interior and Phenomena (Posters)

8:30 AM, Hawaii Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

- | | Booth # | |
|------|---------|---|
| 49-1 | 25 | Hushur, Anwar*; Manghnani, Murli; Williams, Quentin: ELASTICITY AND STRUCTURE OF Na₂FeSi₂O₆ GLASS TO 14 GPa BY BRILLOUIN AND RAMAN SPECTROSCOPIES |
| 49-2 | 26 | Fang, Yihang*; Lai, Xiaojing; Chen, Bin: EQUATION OF STATE OF Fe₂Si AT HIGH PRESSURE AND ITS IMPLICATIONS FOR SILICON IN EARTH'S CORE |

SESSION NO. 50

T30. Integrated Approaches for Assessing Water Resources (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

- | | Booth # | |
|------|---------|--|
| 50-1 | 27 | Tachera, Diamond K*; Lautze, Nicole: A HYDROGEOCHEMICAL INVESTIGATION OF HAWAII'S GROUNDWATER RESOURCES THROUGH THE 'IKE WAI PROJECT |
| 50-2 | 28 | Cabrera Vera, Teresa*; McClure, Sheila; Pelaez, Jess; Pelaez, Carlos: ANALYZING THE EFFECT OF WATER CONSTRAINTS AND SEASONAL FLUCTUATIONS ON INVERTEBRATE POPULATIONS WITHIN AN INTERDISCIPLINARY FRAMEWORK |

SESSION NO. 51

T32. Applications of Unmanned Aerial Vehicles (UAVs) in the Earth, Ocean, Planetary, and Life Sciences (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 1:30 to 3 PM

- | | Booth # | |
|------|---------|--|
| 51-1 | 29 | Kochel, R. Craig*; Trop, Jeffrey M.; Jacob, Robert W.; Bliss, Ben; Moretti, Brian; Scales, Charles A.; Williams, Keith; Grune, Steven: MORPHOLOGY, DEPOSITIONAL PACE, AND ICE VOLUME CONTRIBUTION OF ICY DEBRIS FANS TO MCCARTHY CREEK GLACIER, WRANGELL MOUNTAINS, ALASKA (2013-2015): AN INTEGRATED APPROACH USING FIELD OBSERVATIONS, TIME-LAPSE AND DRONE IMAGERY, GROUND PENETRATING RADAR, AND TERRESTRIAL LASER SCANNING |
| 51-2 | 30 | Elliott, Michael*: USE OF AEROPOINTS FOR HIGH ACCURACY DRONE SURVEYS |
| 51-3 | 31 | Taladay, Katie B.*: INVASIVE ALIEN ALGAE DETECTION IN MAUNALUA BAY, ALONG PAIKO BEACH, OAHU, USING UNMANNED AERIAL VEHICLE (UAV) IMAGERY |
| 51-4 | 32 | Mathioudakis, Michael R.*; Glenn, Craig R.; Dore, Daniel E.: EXAMINING GROUNDWATER AND SURFACE WATER INTERACTIONS TO DETERMINE THE EFFECTS OF ANTHROPOGENIC NUTRIENT LOADING ON STREAM AND COASTAL WATER QUALITY |
| 51-5 | 33 | Jachimowicz, Adam*: EVALUATING LASERS VS PHOTOGRAPHS FOR CREATING 3D MODELS |

SESSION NO. 52

T33. Undergraduate Research Session (Posters)

8:30 AM, Hawai'i Convention Center Room 323A/B/C

Authors will be present from 8:30 to 10 AM

- | | Booth # | |
|------|---------|---|
| 52-1 | 1 | Richter, Addison Kaye*; Selander, Jacob: REGIONAL KINEMATIC ANALYSIS OF THE YAKIMA FOLD AND THRUST BELT, WASHINGTON |
| 52-2 | 2 | Olson, Anson E.*; Valentine, Michael J.: INVESTIGATION OF THE OLYMPIA STRUCTURE AT VANCE CREEK, MASON COUNTY, WA |
| 52-3 | 3 | Raisle, Megan*; Tomlin, Ruth; Weckstein, Taylor; Lyda, Kaleb; Glazner, Allen F.: FRACTURE OR FAULT? USING 3D IMAGING TO DETERMINE THE DILATION VECTOR OF THE EARTHQUAKE FAULT NEAR MAMMOTH LAKES, CALIFORNIA |
| 52-4 | 4 | Bird, Antonio M.*; Kelker, Katherine A.; Brogden, Elizabeth S.; Glazner, Jeff; Glazner, Allen F.: THREE-DIMENSIONAL MEASUREMENT OF COLUMNAR JOINTING IN THE BISHOP TUFF, OWENS RIVER GORGE, CALIFORNIA |
| 52-5 | 5 | Nelson, Joann*; McCarley, Justin; Booth, Adam M.: MODELING 3D SURFACE DISPLACEMENTS AND FAILURE PLANE SURFACE OF EARTHFLAWS: THE MILL GULCH EARTHFLOW, CA |
| 52-6 | 6 | Angenent, Janine M.*; Valenciano, Jessica L.; Marshall, Jeffrey S.; Clark, Kate J.; Litchfield, Nicola J.: LIDAR MAPPING OF EARTHQUAKE UPLIFTED PALEO-SHORELINES: TE KAUKAU |

POINT TO GLENDHU ROCKS, SOUTHERN WAIRARAPA COAST, NORTH ISLAND, NEW ZEALAND

- 52-7 7 Valenciano, Jessica L.*; Angenent, Janine M.; Marshall, Jeffrey S.; Clark, Kate J.; Litchfield, Nicola J.: **LIDAR MAPPING OF EARTHQUAKE UPLIFTED PALEO-SHORELINES: GLENDHU ROCKS TO FLAT POINT, SOUTHERN WAIRARAPA COAST, NORTH ISLAND, NEW ZEALAND**
- 52-8 8 Sharp, Emily*; Claiborne, Lily L.; Foley, Michelle L.; Cribb, Warner: **PETROGRAPHY AND GEOCHEMISTRY OF MOUNT ST. HELENS INCLUSIONS AND HOST DACITES: IMPLICATIONS FOR MAGMA TRANSPORT AND STORAGE BENEATH ARC VOLCANOES**
- 52-9 9 Lemke, Jennifer V.*; Wenner, Jennifer M.; Teasdale, Rachel: **PRIMITIVE BASALTS IN THE POISON LAKE CHAIN, LASSEN REGION, DEMONSTRATE THE SMALL SCALE OF MANTLE HETEROGENEITIES BENEATH THE SOUTHERN CASCADES**
- 52-10 10 Mcleod, Jennifer R.*; Wenner, Jennifer M.; Teasdale, Rachel; Anderson, Samantha J.: **PLAGIOCLASE TEXTURES REVEAL A COMPLEX MAGMATIC HISTORY FOR BASALTS IN THE POISON LAKE CHAIN, LASSEN REGION, CALIFORNIA**
- 52-11 11 Dykstra, Michael Ray*; Murray, Bryan P.: **A GEOCHEMICAL ANALYSIS OF THE MID-MIOCENE GLENDORA VOLCANICS OF THE NORTHEASTERN LOS ANGELES BASIN, CA**
- 52-12 12 Van Gundy, Daniel N.*; Riggs, Nancy; Stevens, Laney E.: **HYDROTHERMAL CEMENTING AGENTS IN A VOLCANIC SETTING AND RESULTANT CATASTROPHIC FAILURE, RED MOUNTAIN, ARIZONA**
- 52-13 13 Langdalen, Zachary*; Fagents, Sarah A.; Fitch, Erin: **DISPERSAL OF VOLCANIC ASH ON MARS: ASH PARTICLE SHAPE ANALYSIS**
- 52-14 14 Wheeler, Aspen R*: **ABUNDANCE AND COMPOSITION OF PRECIPITATION FEATURES ON WEST ANTARCTIC SUBGLACIAL TILL GRAINS**
- 52-15 15 Howins, Noah*; Guidry, Michael; Mackenzie, Fred T.: **EFFECTS OF INCREASING PCO₂ AND SEA SURFACE TEMPERATURE ON THE DISSOLUTION KINETICS OF MG-CALCITES: A LABORATORY STUDY**
- 52-16 16 Humphrey, Rebecca*: **LATE CRETACEOUS ORNITHOPOD DINOSAUR FOSSIL ASSMBLEGE FROM THE WILLOW TANK FORMATION OF SOUTHEASTERN NEVADA**

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 53

Past Sedimentation Records and Insight for Predicting Future Climate Impacts to Pacific Shores II

1:30 PM, Hawai'i Convention Center Room 318A

Charles H. Fletcher, Bruce Richmond and Ken Rubin, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 53-1 1:35 PM Blay, Charles T.*: **CHARACTER AND ORIGIN OF THE SANDY BEACHES OF HAWAII ISLAND'S YOUTHFUL SHIELD VOLCANIC MOUNTAIN COMPLEX**
- 53-2 1:55 PM Bishop, Kim M.*: **EVIDENCE FOR A GIANT LANDSLIDE ON THE NORTHEASTERN FLANK OF HALEAKALA VOLCANO, ISLAND OF MAUI, HAWAII**
- 53-3 2:15 PM Rowley, Sonia J.*: **THE INFLUENCE OF EUSTATIC SEA-LEVEL FLUCTUATIONS ON GORGONIAN OCTOCORALS OF THE TROPICAL PACIFIC**
- 53-4 2:35 PM Tavares, Kammie-Dominique A.*; Fletcher, Charles H.; Barbee, Matthew; Anderson, Tiffany: **SEA LEVEL RISE TRIGGER TO WIDESPREAD COASTAL ARMORING ON HAWAII'S SHORES**

SESSION NO. 54

Structural Geology and Tectonics

1:30 PM, Hawai'i Convention Center Room 325A

Garrett Ito and Gregory F. Moore, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 54-1 1:35 PM Withdrawn
- 54-2 1:55 PM Moore, Gregory F.*; Asada, Miho; Kopf, Achim; Morita, Sumito; Kodaira, Shuichi: **EXTENSIVE MUD DIAPIRISM IN NORTHERN KUMANO BASIN, NANKAI TROUGH FOREARC**
- 54-3 2:15 PM Ito, Garrett*; Moore, Gregory F.; Olive, Jean-Arthur L.; Weiss, Jonathan: **FORWARD VERSUS BACK THRUSTS IN ACCRETIONARY WEDGES: EFFECTS OF RHEOLOGY AND THICKNESS OF THE DECOLLEMENT LAYER**
- 54-4 2:35 PM Martel, Stephen J.*: **A NEW EXPLANATION FOR SHEETING JOINTS BASED ON FRACTURE MECHANICS**

SESSION NO. 55

T9. Volcanic Impacts

1:30 PM, Hawai'i Convention Center Room 319A

Costanza Bonadonna, Sebastien Biasse, Susanna Jenkins, Thomas Wilson and Christina Neal, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 55-1 1:35 PM Aguirre-Diaz, Gerardo J.*; Suñe-Puchol, Ivan; Davila-Harris, Pablo; Pedrazzi, Dario; Hernandez, Walter; Gutierrez, Eduardo: **VOLCANIC HISTORY OF THE ILOPANGO CALDERA, CENTRAL AMERICAN VOLCANIC ARC**
- 55-2 1:55 PM Todd, Claire E.*: **HYDROTHERMAL INFLUENCE, DEBRIS-FLOW HAZARDS, AND GLACIAL PROCESSES IN MOUNT RAINIER NATIONAL PARK, WA**
- 55-3 2:15 PM Parcheta, Carolyn*; Parness, Aaron; Nash, Jeremy; Mitchell, Karl L.: **A NOVEL TECHNIQUE TO APPROACH FIELD ANALOG STUDIES OF VOLCANIC FISSURE ERUPTIONS**
- 55-4 2:35 PM Murphy, Samuel W*; Wright, Robert: **COLOR AND TEMPERATURE OF VOLCANIC CRATER LAKES**
- 55-5 2:55 PM Martens, Abigail E.*; Andrews, Graham: **STRUCTURAL ANALYSIS OF THE MARGINS OF AN OBSIDIAN LAVA: INSIGHTS INTO FLOW MECHANISMS AND THE FORMATION OF FLOW LOBES**
- 55-6 3:15 PM Neal, Christina*; Babb, Janet; Kauahikaua, Jim; Brantley, Steven: **EFFECTIVE COMMUNICATION STRATEGIES DURING A VOLCANIC EVENT: LESSONS FROM THE 2014-2015 KILAUEA EAST RIFT ZONE LAVA FLOW**
- 55-7 3:35 PM Tsang, Sophia W R*; Lindsay, Jan M.; Wilson, Thomas; Neal, Christina; Stewart, Carol; Wallace, Kristi L.; Leonard, Graham S.; Deligne, Natalia Irma; Kennedy, Ben: **RESPONSE TO EFFUSIVE BASALTIC ERUPTIONS IN URBAN ENVIRONMENTS: LESSONS FROM THE 2014-2015 PAHOA LAVA FLOW CRISIS**

SESSION NO. 56

T12. Fluid Flow, Submarine Seeps, and Gas Hydrate Systems: Implications for the Global Carbon Cycle and Seafloor Stability

1:30 PM, Hawai'i Convention Center Room 319B

Katie B. Taladay and Hitoshi Tomaru, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 56-1 1:35 PM Coffin, Richard B*; Rose, Paula; Yoza, Brandon; Boyd, Thomas; Crutchley, Gareth; Mountjoy, Joshu; Pecher, Ingo: **VARIATION IN VERTICAL METHANE MIGRATION ON THE HIKURANGI MARGIN OFF THE MAHIA PENINSULA, NEW ZEALAND: PRESENCE AND ABSENCE OF A BSR**
- 56-2 1:55 PM Shedd, William*; Kramer, Kody: **BOEM USES 3-D SEISMIC DATA TO CHARACTERIZE THE SEAFLOOR OF THE GULF OF MEXICO AND MAP GAS HYDRATE DISTRIBUTION: IDENTIFYING NATURAL HYDROCARBON SEEPAGE AND**

		OTHER FEATURES USING AMPLITUDE RESPONSE AND BUILDING THE HIGHEST RESOLUTION BATHYMETRY MAP TO DATE	57-3	2:15 PM	Wang, Huapei*; Kent, Dennis V.: PLIO-PLEISTOCENE EQUATORIAL PALEOINTENSITIES FROM KENYA
56-3	2:15 PM	Imajo, Takumi*; Kobayashi, Takeshi; Terahara, Takeshi; Imada, Chiaki; Matsumoto, Ryo: THE ESTIMATION OF BACTERIA MAT AND METHANE PLUME FORMATION TREND BY COMMUNITY STRUCTURE ANALYSIS OF METHANE RELATED ARCHAEA	57-4	2:35 PM	Kapper, Lisa*; Calvo-Rathert, Manuel; Cejudo Ruiz, Ruben; Sanchez Bettucci, Leda; Irurzun, Alicia; Carrancho, Angel; Gogichaishvili, Avto; Morales, Juan; Sinito, Ana: NEW INSIGHTS FROM PALEODIRECTIONAL AND -INTENSITY RESULTS OF CRETACEOUS DIKES FROM EASTERN PARAGUAY
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			57-6	3:25 PM	Herrero-Bervera, Emilio*; Henry, Bernard; Moreira, Mario: MAGMA FLOW AND INFLATION WITHIN THE WAI'ANAE VOLCANO (OAHU, HAWAII, USA): IMPLICATIONS FROM MAGNETIC FABRIC DATA OF DIKES
			57-7	3:45 PM	McMurtry, Gary M.*; Herrero-Bervera, Emilio; Dasilveira, Luis A.: ELUCIDATING TSUNAMI EVENTS PRESERVED IN THE ROCK AND DEPOSIT RECORD AT KA LAE (SOUTH POINT) AND OTHER SITES IN THE HAWAIIAN ISLANDS: PALEOMAGNETIC, ROCK MAGNETIC AND RADIOMETRIC CONSTRAINTS
			57-8	4:05 PM	Singh, Kumar Hemant*; Kumar, Anil: A CONSTRAINED INDEPENDENT COMPONENT ANALYSIS BASED APPROACH TO SEPARATE THE WEAK OCEAN INDUCED MAGNETIC SIGNALS FROM THE OBSERVATORY RESIDUALS

SESSION NO. 57***T20. Paleomagnetism, Rock Magnetism, and Archaeomagnetism II***

1:30 PM, Hawai'i Convention Center Room 318B

Emilio Herrero-Bervera and Evdokia Tema, Presiding

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57-2	1:55 PM	Scott, Gary R.*: REFINING THE AGE OF HOMINID SITES USING MAGNETOSTRATIGRAPHY

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