

Joint Southeastern & Northeastern Section Meeting Program

Vol. 55, No. 2



Reston Town Center water fountain. Photo credit: J. Rodysill.

17–19 March
Reston, Virginia, USA

www.geosociety.org/se-mtg

2023

SPONSORS

We are grateful to several societies, companies, and agencies that made substantial contributions to underwrite the cost of the 2023 meeting. We also want to thank sponsors from the 2020 meeting that generously contributed to a meeting that was canceled due to COVID-19. Look for their names prominently displayed on signs throughout the meeting. Please take time to thank these sponsors for their contributions to help make this meeting a success. Listed below are sponsorship received by time of press in early January 2023.



Pittsburgh Geological Society

Sponsors from 2020

Pittsburgh Geological Society

University of Pennsylvania | Charles H. Shultz, PhD

Paul Rizza, PhD | Northeastern SEPM | Subhorizon Geologic Resources, LLC,

**Dept. of Earth Sciences, Syracuse University | Patrick Burkhardt, PhD
Dept. of Geography, Geology and the Environment, Slippery Rock University**

NOTICE

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

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

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

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

PROGRAM

72nd Annual Meeting
Southeastern Section of The Geological Society of America
And
58th Annual Meeting
Northeastern Section of The Geological Society of America

*Sediments, Structures, Shores, and Storms:
Keeping a keen eye on eastern geology*



Southeastern Section GSA Officers for 2022–2023

| | |
|-------------------------------|--------------------|
| Chair | Katherine Luciano |
| Chair-elect | Bill Hames |
| Vice-Chair | Arthur J. Merschat |
| Secretary-Treasurer | Blair R. Tormey |

Northeastern Section GSA Officers for 2022–2023

| | |
|-------------------------------|---|
| Chair | Howell Bosbyshell |
| Secretary-Treasurer | David P. West, Jr., |
| Past Chair | Sarah M. Principato |
| Members-at-large | Michelle J. Markley, Amber T.H. Whittaker |

Committee for the 2020 Meeting

| | |
|---------------------------------------|------------------------------------|
| General Co-Chairs | Arthur Merschat, Patrick Burkhart |
| Technical Program Co-chairs | Chuck Bailey, Wendell Barner |
| Exhibits | Daniel Harris |
| Field Trips | Jean Self-Trail, Laurel Bybell |
| Short Course Co-Chairs | Daniel H. Doctor, Patrick Burkhart |
| Student Volunteer Chair | Michael H. Trippi |
| Treasurer | Patrick Burkhart |

General Information



2023 SE-NE GSA Plenary Talk

Please join us for the 2023 SE-NE GSA Plenary Talk by Dr. David Kring in Regency Ballroom A&B at 6 p.m. on Saturday, 18 March. The talk is sponsored by GSA's Continental Scientific Drilling Division. This presentation will be simulcast on the web for all GSA members to enjoy, in part to remind all that GSA meetings bring you the very best of cutting-edge science. The link will be publicized.

Drilling into the Chicxulub Impact Crater And a World-wide Calamity 66 Million Years Ago

Dr. David Kring

One of the greatest sedimentological events in the Phanerozoic occurred when an impacting asteroid collided with the margin of the Gulf of Mexico, displacing $\sim 1 \times 10^5$ km³ of the Earth's crust and ejecting >25 trillion metric tons of debris, most of which splashed down on the surrounding seas and continental surfaces in the western hemisphere, but included debris distributed globally in a layer of silt- and sand-sized particles. IODP-ICDP Expedition 364 recently drilled to a depth of 1.3 km into the peak ring of that crater, the Chicxulub crater, providing new insights into the crater-forming processes that excavated a 180-km diameter structure and, simultaneously, uplifted rocks from a depth of 8 to 10 km to the surface where they formed, within minutes, a 100-km diameter ring of rocky peaks. The drill core also reveals how surges of water and sediment blanketed those peaks and how life recovered within the basin. These observations at impact ground zero are being tied together with observations made elsewhere in the world and, incrementally, revealing how life at the end of the Cretaceous was extinguished and how survivors thereafter recovered.

Biosketch:

Dr. David A. Kring received his Ph.D. in earth and planetary sciences from Harvard University. He specializes in impact cratering processes produced when asteroids and comets collide with planetary surfaces. Kring is perhaps best known for his work with the discovery of the Chicxulub impact crater, which he and his colleagues linked to the K-T boundary mass extinction of dinosaurs and over half of the plants and animals that existed on Earth 65 million years ago. He has also studied the environmental effects of impact cratering and shown how impact processes can affect both the geological and biological evolution of a planet. This work includes studies of the dramatic environmental perturbations (e.g., prolonged darkness, acid rain, wildfires) expected after

the Chicxulub impact event, plus studies of several smaller local, regional, and global effects produced by the thousands of impact events that affected Earth after life evolved. Kring is a Principal Scientist for the Universities Space Research Association's Lunar and Planetary Institute where he leads the Center for Lunar Science and Exploration. He is a Fellow of GSA, a former Chair of the GSA Planetary Geology Division, currently the Chair of the Eugene M. Shoemaker Impact Crater Award Committee for the GSA Planetary Geology Division, and a recipient of that division's Ronald Greeley Award for Distinguished Service.

Welcome

The local committee and officers of the Southeastern and Northeastern Sections graciously welcome you to the 2023 Joint Meeting of the 72nd Annual Meeting of the Southeastern Section and 58th Annual Meeting of the Northeastern Section of the Geological Society of America in Reston, Virginia. We are humbled and excited to have the opportunity to return to Reston. In 2020, ten days before the Joint Meeting of the GSA's Southeastern and Northeastern Sections, we made the critical decision to cancel the meeting due to the rising global threat from COVID-19. In the following days, a global pandemic and National Emergency were declared, and our lives have since changed. Three years later we have rebuilt a robust and diverse technical program that links together the geology of the southeastern and northeastern U.S. and examines many key issues including sea-level rise, climate and environmental change, energy and critical minerals, and Diversity, Equity, and Inclusion in the geosciences. The program has many opportunities for students to develop and build their career paths, and townhall meetings to learn about changes within GSA.

The joint meeting is proudly hosted by representatives of the U.S. Geological Survey, Department of Geography, Geology, and the Environment at Slippery Rock University, the Department of Geology at William and Mary, Barner Consulting, and the Department of Geosciences at PennWest University. We ask that you have a safe, Respectful, Inclusive Scientific Event (RISE) with an open and constructive exchange of ideas and information. Please be mindful to conduct oneself in a safe and healthy manner, and respect different comfort levels with returning to group interactions in a post-pandemic COVID-19 era.

Location

The 2023 Joint Meeting of the Southeastern and Northeastern Sections of the Geological Society of America is in Reston, Virginia, in the Hyatt Regency Reston, in Reston Town Center.

Located in Fairfax County in northern Virginia, Reston is in the D.C. Capital Region and near the heart of America's government and federal agencies, and numerous historical and cultural attractions, and national museums, parks, and monuments. The location of the meeting offers a unique opportunity to explore many aspects of eastern geology.

Reston is a planned community and was named after founder Robert E. Simon, who envisioned a modern community that intertwined residential and commercial property with greenspaces and nature. The goal was to create a community where people could Live, Work, and Play, a motto that remains with the town today. The residential and commercial properties are often nestled in forested spaces throughout the town, and greenways connect parks, lakes, and other recreational areas for the residents to enjoy. The Town Center is lined with inviting restaurants, bistros, bars, and shops, which are literally just out the door of the Hyatt Regency Reston, the meeting venue. The town has received many accolades, which include the 2018 Best Place to Live in Virginia. Reston is part of the Dulles Technology Corridor which contains many defense and technology companies, e.g., Carasoft, Leidos, and Verisign. Reston is home to the headquarters for the U.S. Geological Survey and is a short distance from Washington D.C. and many National Monuments and Parks, the Smithsonian Museums, and many other government and historical attractions.

Reston is situated near the Fall zone, the onlap of Coastal Plain on crystalline bedrock, and the structural and stratigraphic break between the southern, and central and northern Appalachians. Reston is located on an elevated high of crystalline rocks of the Potomac terrane; to the west, Late Triassic sedimentary rocks of the Culpeper Basin unconformably overlie the crystalline rocks. The contact between the Mesozoic Culpeper Basin and Precambrian rocks strikes north-northeast and crosses the through Town Center (west of the Hyatt). The sandstones and conglomerates belong to the Reston Member of the Manassas Sandstone. The Potomac terrane consists of the Peters Creek schist and metagraywacke and are dramatically exposed at Great Falls on the Potomac River (a short drive from the hotel) and Mather Gorge before the river drains into the Chesapeake Bay. Blocks of ultramafic rocks occur in the Peters Creek Schist; the Bear Island Granodiorite intruded the Peters Creek Schist. East of Reston and the Fall zone, Coastal Plain sediments unconformably overlie crystalline rocks of the Potomac and other buried terranes. The Coastal Plain records evidence of dramatic paleoclimatic changes, the Eocene Chesapeake impact structure, and the effects of modern climate change on the environment and civilization. There is much to study and learn about eastern geology, so bring keen eyes and mind to Reston 2023. Reston will rock!

Climate

Late winter weather can be variable, and Reston is not an exception. Temperatures in mid-March may vary drastically from highs in the 70s to 30s, but typical daily temperatures range in the mid-50s with nighttime lows in the 30s.

Precipitation is common and even light snow is possible. Please be prepared for all possibilities, especially if participating in any field trips.

Transportation and Directions

The Washington D.C. metropolitan area offers numerous ways to get to the meeting: a large network of interstates, parkways and roads, international airports, rail, and even bicycle and pedestrian trails. Local commuters may take advantage of the meeting venue being located along the Washington and Old Dominion Trail, a pedestrian and bike trail, use the new Reston Town Center metro shuttle (visit linkRTC.org/shuttle), or commute via car and park in one of the Reston Town Center garages. The Metro rapid rail transit now extends service from Washington D.C. to Dulles International Airport and connecting Reston with both places (visit wmata.com). Those traveling by automobile from farther away have various possible routes to take to the meeting. Below are a few general directions following major routes from the south and north. If you are traveling from Pennsylvania, West Virginia, Ohio and parts of western Maryland, there several different routes to follow; however, consult a map or mobile navigation device for the best route. Traffic in the Capital Region, especially I-495 Beltway, can be high volume and congested, so plan accordingly. Try to arrive before the 4 pm to 6:30 pm rush-hours traffic.

From I-81 traveling north and south. Traveling north or south on I-81 from the Shenandoah Valley and further south, take exit 300 to I-66 east. Continue 55 miles and take exit 55 toward Reston/Herndon, and merge onto VA 268 Fairfax County Parkway and continue north 8.7 miles. Turn right onto New Dominion Parkway, continue 0.7 miles to Reston Parkway, VA 602. Turn right on Reston Parkway, then right onto Market Street, and then after ~125 feet turn right onto Presidents Street and the Hyatt Regency is on your right (main entrance to hotel and parking garage). If you are traveling south from Pennsylvania, West Virginia, Ohio and parts of western Maryland, it is possible to follow I-81 south to the intersection with I-66 and follow the instructions above. Alternately, there are several other routes to Reston (see I-270 traveling south), but some may involve multiple turns. These are not described here, and one should consult maps or mobile navigation devices for the best route.

From I-95 traveling north. Take I-95 N to northern Virginia and then onto I-495N; keep right at the fork and continue to I-395 N and follow signs for I-495 N Washington/Tysons Corner/I-395N, use the right two lanes to merge onto I-495N toward Tysons Corner. Continue 11.9 miles and take exit 45 to VA-267 W toward Dulles Airport (note this is a toll road). Continue 8 miles to exit 12 Reston Parkway, turn right onto Reston Parkway continue 0.3 miles and turn left onto Bluemont Way. After ~250 feet turn right onto Presidents Street and the Hyatt Regency is on your left (main entrance to hotel and parking garage).

From I-95 traveling south. Take I-95 south to Washington D.C. Take exit 27 W using the right two lanes to merge onto I-495W toward Silver Spring, Maryland. Continue 19.3

miles and take exit 45A to VA-267 W toward Dulles Airport (note this is a toll road). Continue 8 miles to exit 12 Reston Parkway, turn right onto Reston Parkway continue 0.3 miles and turn left onto Bluemont Way. After ~250 feet turn right onto Presidents Street and the Hyatt Regency is on your left (main entrance to hotel and parking garage).

From I-270 traveling south. If you are traveling from parts of central and western Pennsylvania, and western Maryland, it is possible to follow I-70 or another route to Fredrick, Maryland then south on I-270 and merge with I-495. Take the I-270 south spur to I-495 W. Continue 8 miles and take exit 45A to VA-267 W toward Dulles Airport (note this is a toll road). Continue 8 miles to exit 12 Reston Parkway, turn right onto Reston Parkway continue 0.3 miles and turn left onto Bluemont Way. After ~250 feet turn right onto Presidents Street and the Hyatt Regency is on your left (main entrance to hotel and parking garage).

From Air. Two major airports are located within 25 miles of Reston and can be reached by car or Metro. Dulles International Airport in Herndon, VA is 6 miles away, and the closest option. The Metro Silver line connects Dulles International Airport with Reston Town Center Station. By car take the VA 267 E toward Reston and Washington, D.C. Take exit 11 to VA-268/Fairfax County Parkway and use the left to lanes to turn left. Follow Fairfax County Parkway 0.7 miles and right onto New Dominion Parkway, continue 0.7 miles to Reston Parkway, VA 602. Turn right on Reston Parkway, then right onto Market Street, and then after ~125 feet turn right onto Presidents Street and the Hyatt Regency is on your right (main entrance to hotel and parking garage). Ronald Reagan Washington National Airport in Washington, D.C. is 24 miles from the Hyatt Regency. Leaving Reagan National Airport take the Aviation Circle/W Entrance Road and S Smith Boulevard to George Washington Memorial Parkway and follow the parkway 8 miles to State Route 123/VA-123 South Chain Bridge Road in McLean, VA. Take the VA-123 S exit from George Washington Memorial Parkway and continue 4 miles on VA-123 Chain Bridge Road to McLean, VA. Exit on right to VA-267W toward Reston and Dulles International Airport (note this a toll road). Continue on VA 267 8 miles to exit 12 to Reston Parkway. Turn right onto Reston Parkway continue 0.3 miles and turn left onto Bluemont Way. After ~250 feet turn right onto Presidents Street and the Hyatt Regency is on your left (main entrance to hotel and parking garage).

D.C. Metro. Local commuters may take advantage of the rapid rail transit system of the Metro now extending service to Dulles International Airport on the Silver Line. Reston Town Center Station is 0.8 miles from the Hyatt Regency Ballroom and is an easy way to explore D.C. or travel to the Dulles International Airport. The station may be reached by the linkRTC shuttle service or brisk walk. From the Hyatt's Front Drive, head right toward Bluemont Way and turn right onto Bluemont Way. Cross the street at the corner of Democracy Street and take the pedestrian bridge and follow the sidewalk to Sunset Hills Road. Turn right onto Sunset Hills Road and the Metro entrance will be on your left. For train schedules and maps visit WMATA.com.

Accommodations

We strongly encourage meeting participants to reserve rooms at the Hyatt Regency Reston, 1800 Presidents Street, Reston, Virginia, 20190, USA, located in the vibrant Reston Town Center. The hotel offers many amenities (restaurants, bar, pool, Wi-Fi) and a complimentary shuttle to/from Dulles International Airport. Reservations can be made by calling +1-703-709-1234. Please be sure to identify yourself with the group code SEGSA23 and that you are attending the GSA Southeastern and Northeastern Sections Joint Meeting. The Hyatt Regency Reston is an exceptional facility, and we strongly urge all meeting attendees to reserve rooms at the hotel.

Parking

Parking is available at the hotel garage, 1800 Presidents Street, Reston, Virginia, and in several Reston Town Center parking garages located within a few blocks of the meeting venue. Entrances are on Library and Explorer Streets. Reston Town Center garages do not allow overnight parking. Also limited public parking spaces are available on some streets in the Town Center.

Registration

Registration is required to participate in all events associated with the meeting, including technical sessions, field trips, short courses, exhibits, special meetings, and planned social events. Registration badges must be worn for access to all activities, and guest registration is required for attendance at the welcoming reception, scheduled lunches, breakfasts, dinners, and field trips. A current student ID is required to obtain student registration rates. K-12 professionals are invited to attend at reduced rates.

On-site Registration Fees shown in U.S. dollars.

| | Full Mtg. | One Day |
|------------------------------|-----------|---------|
| Professional Member | \$295 | \$200 |
| Professional Member 70+ | \$160 | \$130 |
| Professional Nonmember | \$320 | \$230 |
| Early Career Professional | \$200 | \$175 |
| Student Member | \$101 | \$95 |
| Student Nonmember | \$150 | \$125 |
| K-12 Professional | \$110 | \$95 |
| Guest or Spouse | \$85 | \$65 |
| Field Trip/Short Course Only | \$40 | n/a |

Guest registration is intended for non-geoscientists accompanying a registered professional, student or K-12 professional. Guest registration does not include attendance at workshops or field trips. All guests, volunteers, exhibitors, GSA staff, service providers and others in attendance are expected to abide by the GSA Events Code of Conduct, which outlines specific expectations for participants at GSA-supported events.

Registration Schedule

On-site registration and badge pick-up is located in the Conservatory on the main floor of the hotel and is available on the following schedule:

Thursday, 16 March: 4–8 p.m.

Friday, 17 March: 7 a.m.–5 p.m.

Saturday, 18 March: 7 a.m.–5 p.m.

Sunday, 19 March: 7 a.m.–noon

Cancellations, Changes, and Refunds

Requests for additions, changes, and cancellations must have been made in writing to GSA Headquarters, in writing, by 21 February. No refunds will be made on cancellation notices received after this date. GSA cannot provide refunds for on-site registration or event ticket sales. Refunds will be mailed from GSA after the meeting; refunds for fees paid by credit card will be credited to the card identified on the registration form.

Meeting App and Abstracts

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

Accessibility

GSA is committed to ensuring full participation for all conference attendees. You may indicate special requirements on your registration form; please inform the local organizing committee of these requirements at least one month prior to the meeting. Accessible rooms at the hotel are available and can be reserved.

Continuing Education Units (CEU credit)

Continuing Education Unit (CEU) credits are available for attending GSA Meetings, Field Trips, and Short Courses. This is an excellent opportunity to earn CEUs toward your requirements for your employer, K–12 school, or professional license. A contact hour is defined as a typical 60-minute classroom instructional session or its equivalent. Each meeting day equals 0.8 CEU, offering 2.4 CEUs for the joint meeting technical program, with additional CEUs available from field trips and short courses. After the Meeting, there will be a link on the meeting website for you to generate your CEU certificate.

Special Events and Activities

We graciously thank our sponsors for support of these special events! Please see signage at the meeting and list of sponsors at the beginning of the program.

Thursday, 16 March

Welcoming Reception. 6–8 p.m. Join us in the Grand Ballroom A-D to visit with friends and colleagues, and

officially kick-off the Joint meeting of the Southeastern and Northeastern Sections. Exhibits are open, and hors d'oeuvres and one complementary drink are included with each registration. A cash bar is also available.

Friday, 17 March

Session Chair Orientation. 7–7:15 a.m., Reston C. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day's sessions.

Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing. Fri., 17 March, 9–10 a.m., Grand Ballroom G.

Geoscience Career Program Workshop Part 2: Geoscience Career Exploration. 10–11 a.m., Grand Ballroom G.

Roy J. Shlemon Mentors Program in Applied Geoscience. Noon–1:30 p.m., Grand Ballroom EF.

GSA Southeastern Section Management Board Meeting. Noon–1:30 p.m., The Living Room.

USGS Mentoring Café. 1:30–4 p.m., Grand Ballroom G.

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

Mentoring Roundtables. 4–5:30 p.m., Grand Ballroom G.

GSA Townhall Meeting. 5:30–6:30 p.m., Regency Ballroom A. Join us to meet the new GSA Executive Director and CEO Melanie Brandt for greetings and updates on happenings at GSA and a townhall discussion.

SEPM Meeting and Reception. 6:30–8 p.m., Lake Thoreau. Join the Eastern Section of SEPM for their annual reception. This year's speaker is: Bosiljka Glumac (Dwight W. Morrow Professor of Geosciences, Smith College & Global SEPM President-Elect)

LGBTQ Geoscientists Social Hour. 6:30–8 p.m., Lake Anne. Stop by for conversation and informal networking. Students welcome.

Saturday, 18 March

Session Chair Orientation. 7–7:15 a.m., Reston C. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day's sessions.

Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs. 9–10 a.m., Grand Ballroom G.

John Mann Mentors Program in Applied Hydrogeology. Noon–1:30 p.m., Grand Ballroom EF.

GSA Northeastern Section Management Board Meeting. Noon–1:30 p.m., The Living Room.

USGS Mentoring Café. 1:30–5:30 p.m., Grand Ballroom G.

Mentoring Panel. 4:30–5:30 p.m., Grand Ballroom G.
Plenary Speaker: Dr. David Kring. 6–7 p.m., Regency Ballroom A&B. Join us and the GSA Continental Drilling Division for the Plenary Talk by Dr. David Kring: *Drilling into the Chicxulub Impact Crater and a World-wide Calamity 66 Million Years Ago.*

Northeast Tectonics Group 7–9 p.m., Grand Ballroom A-D.

Map and Art Blast. 7–9 p.m., Grand Ballroom A-D. Building upon the longstanding tradition of hanging draft maps, ongoing investigations, and recently published maps in the poster hall, we now seek artistic creations. Please share your recent efforts for discussion. Art lifts science! Cash bar and free pizza!

Sunday, 19 March

Session Chair Orientation. 7–7:15 a.m., Reston C. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day's sessions.

National Association of Geoscience Teachers Luncheon. Noon–1:30 p.m., Grand Ballroom EF. Hosted by the New England and Southeastern NAGT sections. Cost \$35.

Opportunities for Students

Roy J. Shlemon Mentors Program in Applied Geoscience. Fri., 17 March, noon–1:30 p.m., Grand Ballroom EF. The Shlemon Mentor Program is designed to extend the mentoring reach of individual professionals from applied geology to students and early career professionals attending GSA section meetings. Over free lunches, mentors and attendees discuss real-life issues including professional opportunities and challenges. This is a ticketed event and GSA student members will receive priority; any remaining space will be offered on first come, first served.

John Mann Mentors Program in Applied Hydrogeology. Sat. 18 March, noon–1:30 p.m., Grand Ballroom EF. The Mann Mentor Program presents mentoring opportunities for undergraduate and graduate students, as well as recent graduates with a declared interest in applied hydrogeology as a career to interact and network with practicing hydrogeology professionals. This relaxed, small-scale event features a free lunch for attendees and mentors. This is a ticketed event and GSA student members will receive priority; any remaining space will be offered on first come, first served.

USGS Mentoring Café. Fri.–Sat., 17–18 March, 1:30–5:30 p.m., Grand Ballroom G. Mentoring and résumé review on a first come, first-served basis. Show up early to secure your 30-minute consultation. If you need résumé assistance, please bring a copy of your résumé with you.

Mentoring Roundtables. Fri., 17 March, 4–5:30 p.m., Grand Ballroom G. Numerous mentors will be available to answer your questions, offer advice about career plans, and comment on job opportunities in their fields.

Mentoring Panel. Sat., 18 March, 4:30–5:30 p.m., Grand Ballroom G. Panelists will be geologists working in positions you may not have considered for employment. They will discuss their jobs and offer advice.

Geology Club Meetup. Fri. 17 March, 2:00–3:00 p.m., Grand Ballroom G. If you are a geology club member or are interested in starting a club on your campus, plan to meet

up and chat with other representatives about their activities, goals, and accomplishments.

GSA Career Workshops

We graciously thank our sponsors for support of these workshops!

Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing. Fri., 17 March, 9–10 a.m., Grand Ballroom G. Your job-hunting process should begin with career planning, not when you apply to jobs. This workshop will help you begin this process and will introduce you to informational interviewing. This section is highly recommended for freshman, sophomores, and juniors. The earlier you start your career planning the better.

Geoscience Career Program Workshop Part 2: Geoscience Career Exploration. Fri., 17 March, 10–11 a.m., Grand Ballroom G. What do geologists in various sectors earn? What do they do? What are the pros and cons to working in academia, government, and industry? Workshop presenters and professionals in the field will address these issues.

Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs. Sat., 18 March, 9–10 a.m., Grand Ballroom G. How do you prepare a cover letter? Does your résumé need a good edit? Whether you are currently in the market for a job or not, learn how to prepare the best résumé possible. You will review numerous résumés helping you to learn important résumé dos and don'ts.

Student Volunteers

Students accepted as meeting volunteers must check in at the Student Volunteer and Information Desk, located in front of Lake Fairfax on the second level of the hotel.

Exhibits

Exhibits are located in the Grand Ballroom A-D on the second floor of the hotel. Hours of Exhibits are:

Set up: Thursday, 16 March, 12 p.m.–5 p.m.

Open: Thursday, 16 March, 5 p.m.–8 p.m.

Open: Friday, 17 March, 8 a.m.–5 p.m.

Open: Saturday, 18 March, 8 a.m.–5 p.m.

Open: Sunday, 19 March, 8 a.m.–noon

Tear Down: Sunday, 19 March, noon–6 p.m.

As of January, Exhibitors include:

2024 Section Meetings booth

ASBOG

GSA Bookstore

GSA Foundation

I. Miller Microscopes

Micropaleontology Press

Mineralogical Society of America

ODM Mineral Extraction Division

Pittsburgh Geological Society

Sharon Lyon Author

Smart Gas

University of North Carolina Charlotte

University of Pennsylvania, Penn MSAG
University of Pittsburgh at Johnstown Geology Club
University of Southern Mississippi
USGS
Virginia Energy—Geology and Mineral Resources Program
West Chester University of PA

Technical Program

The technical program consists of Symposia, Theme, and Discipline sessions organized into oral and posters sessions. The technical program begins at 8 a.m., Friday, 17 March and concludes by 5:30 p.m. on Sunday, 19 March. All technical sessions (oral and poster) are located on the second floor of the Hyatt Regency.

Oral Sessions

Most oral sessions have 20 minutes per presentation (17 minutes, presentation; 3 minutes, question and discussion). Presentations must be prepared using PowerPoint or PDF formats, using a 16:9 screen ratio. One laptop with Windows 7 (no Macs available) with PowerPoint, one LCD projector, and one screen is provided for all oral sessions. In addition, each room is equipped with a lectern, microphone, wireless computer mouse and slide advancer, and a speaker timer.

Speaker Ready Room

All oral session presenters must visit the Speaker Ready Room in the Town Center Room A&B before their scheduled presentation to ensure their PowerPoint or PDF file is properly configured and operating and load it on one of the laptops. Failure to do so may result in presentations being omitted from sessions. Speaker Ready Room hours are as follows:

Thursday, 16 March: 4–8:30 p.m.
Friday, 17 March: 7 a.m.–6 p.m.
Saturday, 18 March: 7 a.m.–6 p.m.
Sunday, 19 March: 7–10 a.m.

Each speaker must bring his or her PowerPoint or PDF presentation on a USB-compatible flash drive (a.k.a. thumb drive or memory stick) to the Speaker Ready Room to upload to the appropriate session folder according to the deadlines below. Morning presentations must be uploaded by the end of the day prior to the presentation. All afternoon presentations must be uploaded by noon on the day of the presentation.

Session Chair Orientations

Each Session Chair is requested to attend a 15-minute “Session Chairs Orientation” held in Reston C, from 7–7:15 a.m. on the morning of the day on which your session is to take place. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day’s sessions. Session chairs are asked to strictly adhere to the technical program schedule and to limit speakers to their allotted

time. If a speaker does not appear for an assigned time slot, session chairs should call a break or discussion period and begin the following presentation at its scheduled time.

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

Poster Sessions

Poster Sessions are located in the Grand Ballroom A-D. Poster presenters have one 4' x 8' horizontal (landscape) poster display surface. Please check the program for specific times and locations. Numbers on the display surfaces correspond to the poster booth numbers listed in the Program. Push pins are recommended to mount posters, and some pins are furnished for each poster board.

Technical Sessions

Discipline Sessions:

- D1. Sedimentary Geology, Paleontology, Geoarchaeology, and Landscapes
- D2. Economic, Energy, and Environmental Geology
- D3. Structural Geology, Tectonics, Petrology, and Planetary Geology
- D4. Energy Resource Development and Potential Environmental Effects
- D5. Paleontology and Paleoclimatology (Posters)
- D6. Geoscience Education and Public Policy (Posters)
- D7. Geochemistry, Mineralogy, Petrology, and Volcanology (Posters)
- D8. Structural Geology and Tectonics (Posters)
- D9. Energy Geology and Environmental Geoscience (Posters)
- D10. Geomorphology, Quaternary Geology, and Soils (Posters)
- D11. Hydrogeology, Karst, Limnogeology, and Marine Geoscience (Posters)
- D12. Geochronology, Sediments, and Stratigraphy (Posters)

Theme Sessions:

- T1. Resilience and Resource Strategies for the Coastal and Nearshore Zone in a Changing World
- T3. Geologic Maps, Geophysical Maps, 3-D Geological Models, Digital Mapping Techniques, Map Derivatives, and Digital Map Preparation (Posters)
- T4. Taconic Orogeny in the North, Central, and Southern Appalachians: Tectonics of the Early Paleozoic Margin of Laurentia
- T7. Integrated Ichnostratigraphy: Trace Fossils at Unconformities
- T8. Small-Scale Geologic Mapping in the Northeastern U.S.: Addressing the USGS National Cooperative Geologic Mapping Program’s Goals for a Seamless, National 2D/3D Geologic Framework Model of the United States
- T9. Landslide Investigations in the Eastern United States
- T10. Trace Elements in the Environment
- T11. Geomorphic Evolution of River Corridors in the Eastern United States from the Pleistocene to the Anthropocene
- T12. Undergraduate Research Poster Session

- T15. Using the Sedimentary Record to Investigate Appalachian and Ouachita Tectonics
 T16. Geoscience for National Security and Law Enforcement
 T18. Alleghanian Overprinting of Pre-Alleghanian Accreted Terranes
 T19. Mapping in the Geosciences: Processes and Products (Posters)
 T20. Early Career Voices of Appalachian Tectonics
 T23. Soil, Water, and Biogeochemical Interactions
 T24. Undergraduate and Graduate Geoscience Student Showcase Lightning Talks
 T29. Mapping Surficial Deposits in the Appalachians: Field Methods, Digital Techniques, and Classification Strategies (Posters)
 T30. The 200th Anniversary of the First State Geological Survey—the North Carolina Geological Survey
 T32. Conventional and Unconventional Critical Mineral Resources in the Eastern United States
 T34. Geological, Seismological, and Paleoseismological Research into Eastern North American Earthquakes
 T35. Breaking Barriers and Challenging Traditions in Geoscience Education
 T41. Barrier Island and Backbarrier Sediment Dynamics
 T42. Paleoenvironment and Paleobiology of Late Cretaceous Sediments Near Coon Creek, Tennessee
 T43. Geoscience Careers for New Geoscience Graduates

Symposium:

- S1. Sea-Level History from the U.S. East Coast—Insights for Projecting Future Change
 S2. Deciphering the Devonian World, from Biotic to Environmental Crises across the Globe
 S4. Enhancing Diversity in the Geosciences
 S5. Environmental Radionuclides: Geochemical Behavior, Tracer Applications, and Potential Health Consequences
 S6. The Grenville Orogen in Eastern North America
 S7. From the Margins to the Deep: A Tribute to the Science and Art of A. Conrad Neumann

FIELD TRIPS

All trips leave from the Hyatt Regency Reston, Reston, Virginia, Hotel Lobby. Please check below for specific field trip departure and return times.

FT1. Geology and the Civil War at the North Anna River Fall Zone, Virginia. Wed.–Thurs., 15–16 Mar. US\$175. Depart 15 Mar at 11:30 a.m., return 16 Mar at 4 p.m. Chuck Bailey, William & Mary, cmbail@wm.edu.

Description: In May 1864, the Union and Confederate armies clashed along the Fall Zone of the North Anna River in central Virginia. The underlying Fall Zone geology played a significant role in the battle. This trip will visit sites of geological and historical interest on or near the battlefield and discuss both the tectonic history and record of Neogene sea-level change in the region.

FT2. Experience Capitol Hill: Geoscience and Public Policy in Washington, D.C. Mon., 20 Mar. US\$67. Depart 8 a.m., return 5 p.m. Max. Kasey White, Geological Society of America, kwhite@geosociety.org.

Description: Participants will travel to Washington, D.C., for a day of meetings on Capitol Hill to learn about current science policy topics and how geoscientists can become involved in the policy-making process.

FT3. Geology and Paleontology of Cretaceous and Paleocene Sediments of Cabin Branch and Tinkers Creek, Prince Georges County, Maryland. Mon., 20 Mar. US\$78. Depart 8 a.m., return 5 p.m. Jean M. Self-Trail, U.S. Geological Survey, jstrail@usgs.gov; David L. Govoni, U.S. Geological Survey (emeritus), dgovoni@usgs.gov; Laurel M. Bybell, U.S. Geological Survey (emeritus), lbybell@usgs.gov.

Description: This one-day trip examines the Cretaceous Severn Formation and the Paleocene Brightseat and Aquia formations from two localities in Prince Georges County, Maryland. Analyses of calcareous nannofossils, ostracodes, planktic and benthic foraminifera, gastropods, and bivalves provide environmental and temporal control. A discussion of possible depositional models will provide regional context.

FT4. Proterozoic and Paleozoic Tectonic Evolution of the Northern Shenandoah Massif. Mon., 20 Mar. US\$67. Depart 7:30 a.m., return 5 p.m. Bill Burton, U.S. Geological Survey, bburton@usgs.gov; J. Steven Schindler, U.S. Geological Survey, sschindl@usgs.gov; Alan Pitts, U.S. Geological Survey, apitts@usgs.contractor.gov.

Description: This will be a one-day trip across the northern Virginia Blue Ridge geologic province highlighting published geologic mapping and ancillary studies of Mesoproterozoic rocks that constitute the core of the Blue Ridge anticlinorium and Neoproterozoic cover-sequence rocks on the fold limbs.

SHORT COURSES

Short courses are located in the Hyatt Regency Reston and in the USGS National Center (12201 Sunrise Valley Drive, Reston, Virginia). Please see below for specific location and time of short course.

SC1. Applied Micropaleontology for Non-Paleontologists: How to Interpret and Use Fossil Data. Thu., 16 Mar., 9 a.m.–5 p.m., USGS National Center. US\$50 for professionals; US\$25 for students. Marci M. Robinson, U.S. Geological Survey, mmrobinson@usgs.gov; Jean M. Self-Trail, U.S. Geological Survey, jstrail@usgs.gov.

Description: This full day workshop will introduce and discuss different microfossil groups, such as benthic and planktic foraminifera, calcareous nannofossils, ostracods, diatoms, conodonts, and palynomorphs, and their applications for biostratigraphy and paleoecological and paleoclimate reconstructions. Detailed examples of regional and global correlations and paleoceanographic reconstructions will be provided.

SC2. Stormwater Management in Karst Terrain—A Regional Perspective. Thu., 16 Mar., 9 a.m.–1 p.m., Hyatt Regency Reston, Lake Anne. US\$50 for professionals; US\$25 for students. Robert K. Denton, Jr., Terracon Consultants, Inc., robert.denton@terracon.com.

Description: This four-hour course will discuss stormwater management with an emphasis on protection of the karst

groundwater aquifer within the Chesapeake Bay watershed. The course will cover the basics of karst geology and hydrology, survey and assessment, stormwater management design, and special challenges that designers face in karst terrains.

SC3. Integrating ESRI Mobile, Online, and Desktop GIS for Real-Time Collaborative Field Data Acquisition.

Thu., 16 Mar., 9 a.m.–4:30 p.m., USGS National Center. US\$50 for professionals; US\$25 for students. Alan Pitts, U.S. Geological Survey, apitts@usgs.contractor.gov; Daniel H. Doctor, U.S. Geological Survey, dhdoctor@usgs.gov.

Description: This course focuses on introducing web GIS-enabled workflows using ArcGIS Pro, ArcGIS Online, and ESRI Field Maps. The first portion of this short course will guide participants through publishing GIS data as web services using ArcGIS Pro followed by a field demo collecting data using ESRI Field Maps.

SC4. Luminescence (OSL) Dating Short Course: Essential Guide for Sampling and Dark Secrets Behind the Technique.

Thu., 16 Mar., 9 a.m.–4:30 p.m., Hyatt Regency Reston, Lake Fairfax. US\$50 for professionals; US\$25 for students. Michelle Nelson, Utah State University and Virginia Geological Survey; Paula Figueirdo, North Carolina State University-Raleigh; Ginni DeWitt, East Carolina University; Shannon Mahan, U.S. Geological Survey.

Description: This short course is designed for researchers, professionals, and students interested in applying luminescence in their research. We will review the scientific basis for luminescence dating, outline sample collection, talk about “dose rates”, describe a broad range of suitable applications, and have practical demonstration during a field trip (if possible).

Cultural and Recreational Attractions

In the Reston area and Washington D.C. Capital Region there are many cultural and recreational activities. The list below is just a few general ideas of things to do or places to visit.

Washington D.C. Reston is a short distance by car or Metro to numerous historical, cultural and recreational attrac-

tions in Washington D.C. Attractions of interest include the Smithsonian National Museums, National Monuments and Parks, head offices of the U.S. government, other historical sites and much more. There are also numerous restaurants and shops to visit.

Great Falls National Park. The Great Falls of the Potomac River are one of the more spectacular waterfalls located along the Fall zone in the eastern U.S. The Potomac River plunges over several falls and into Mather Gorge before flowing calmly into D.C. and the Chesapeake Bay. The Park offers many hiking trails along the river, falls and canyon walls, and along parts of the historic C&O Canal.

Steven F. Udvar-Hazy Center. The Smithsonian’s Steven F. Udvar-Hazy Center is the sister companion to the National Air and Space Museum on the Nation Mall. Admission is free. Visit thousands of aviation and space craft, including the Space Shuttle Discovery, and a SR-71 Blackbird, in two huge hangers. Also see 360-degree views of the Reston area from the Donald D. Engen Tower.

Wolf Trap National Park for the Performing Arts. This 18th century barn and amphitheater hosts numerous music concerts and other events throughout the year. Plan ahead to enjoy a concert during the meeting with performances from renowned music stars.

Local Craft Breweries. There are many local craft breweries in Fairfax County and northern Virginia. Visit the local breweries, like Bike Lane Brewing, and enjoy great food and beer.

Mount Vernon. Visit the home and estate of George Washington, America’s first president. This 400-acre estate is located in southern Fairfax County along the Potomac River and offers a glimpse into the life of George Washington.

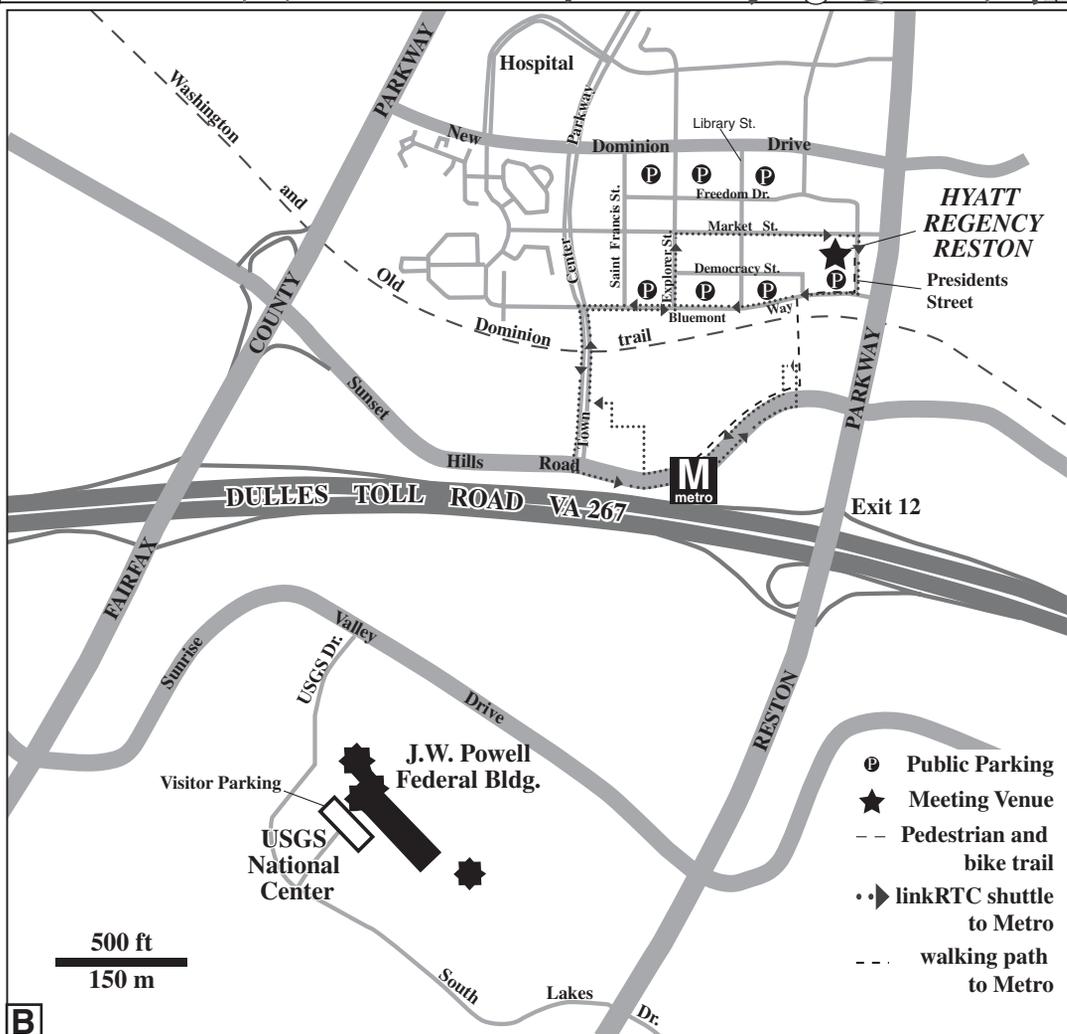
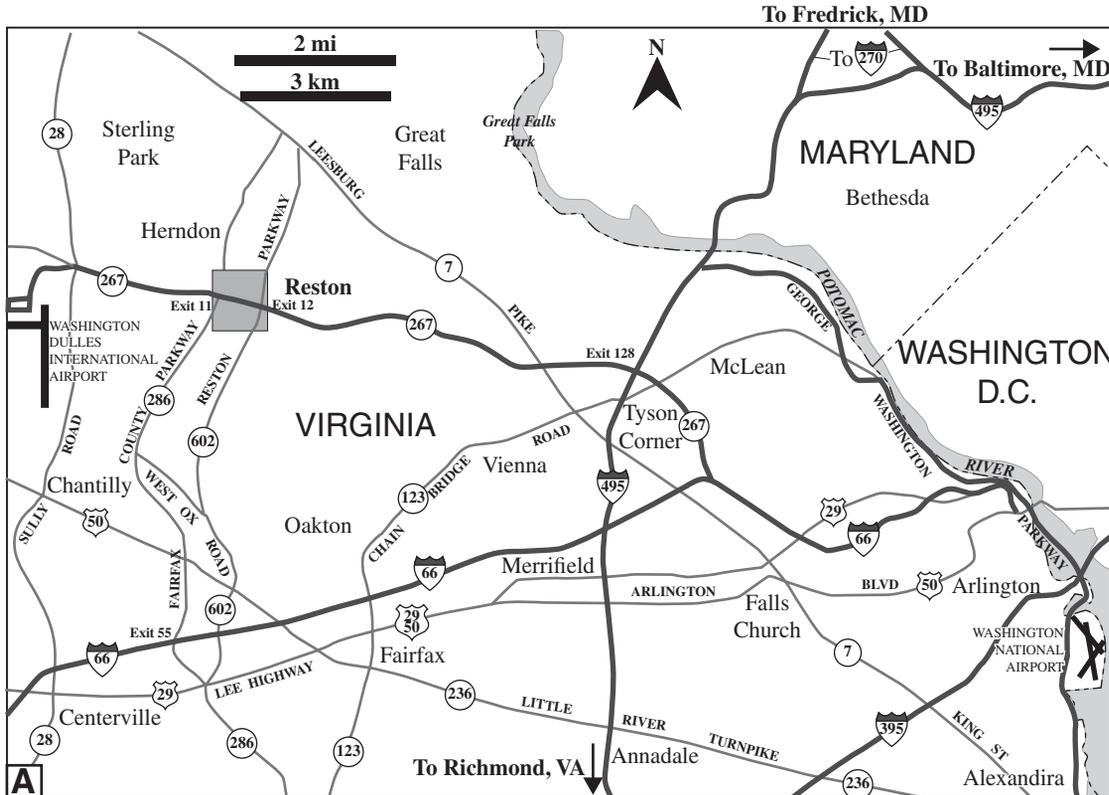
National Cherry Blossom Festival. As the climate has become more variable, spring may arrive early with an explosion of blossoms and color. Many of the parks and other natural areas may be a bloom in splendid color. Of particular notice, the National Mall in Washington D.C. is known Japanese Yoshino cherries that line the edge of the Tidal Basin and throughout other parts of D.C.

Schedule of Events

| EVENT | TIME | LOCATION |
|--|------------------|---|
| WEDNESDAY, 15 MARCH | | |
| FT1. Geology and the Civil War at the North Anna River Fall Zone, Virginia DEPARTURE (Field Trip) | 11–11:30 a.m. | Hyatt Regency Reston Hotel Lobby |
| THURSDAY, 16 MARCH | | |
| SC2. Stormwater Management in Karst Terrain—A Regional Perspective (Short Course) | 9 a.m.–1 p.m. | Lake Anne |
| SC3. Integrating ESRI Mobile, Online, and Desktop GIS for Real-Time Collaborative Field Data Acquisition (Short Course) | 9 a.m.–4:30 p.m. | USGS National Center (12201 Sunrise Valley Drive, Reston, Virginia) |
| SC4. Luminescence (OSL) Dating Short Course: Essential Guide for Sampling and Dark Secrets Behind the Technique (Short Course) | 9 a.m.–4:30 p.m. | Lake Fairfax |
| SC1. Applied Micropaleontology for Non-Paleontologists: How to Interpret and Use Fossil Data (Short Course) | 9 a.m.–5 p.m. | USGS National Center (12201 Sunrise Valley Drive, Reston, Virginia) |
| Exhibitor Set up | noon–5 p.m. | Grand Ballroom A–D |
| Registration Open | 4–8 p.m. | Conservatory |
| Speaker Ready Room | 4–8:30 p.m. | Town Center A&B |
| Exhibits Open | 5–8 p.m. | Grand Ballroom A–D |
| Welcoming Reception | 6–8 p.m. | Grand Ballroom A–D |
| FRIDAY, 17 MARCH | | |
| Session Chair Orientation | 7–7:15 a.m. | Reston C |
| Registration Open | 7 a.m.–5 p.m. | Conservatory |
| Speaker Ready Room | 7 a.m.–6 p.m. | Town Center A&B |
| Exhibits Open | 8 a.m.–5 p.m. | Grand Ballroom A–D |
| Morning Oral Technical Sessions | | |
| T34. Geological, Seismological, and Paleoseismological Research into Eastern North American Earthquakes | 8–10 a.m. | Lake Audubon |
| D1. Sedimentary Geology, Paleontology, Geoarchaeology, and Landscapes | 8 a.m.–noon | Lake Thoreau |
| T1. Resilience and Resource Strategies for the Coastal and Nearshore Zone in a Changing World | 8 a.m.–noon | Regency Ballroom B |
| S5. Environmental Radionuclides: Geochemical Behavior, Tracer Applications, and Potential Health Consequences | 8 a.m.–noon | Regency Ballroom A |
| T9. Landslide Investigations in the Eastern United States | 8 a.m.–noon | Lake Fairfax |
| T24. Undergraduate and Graduate Geoscience Student Showcase Lightning Talks | 10:15 a.m.–noon | Lake Audubon |
| Morning Poster Sessions: authors will be present 10 AM–noon | | |
| D5. Paleontology and Paleoclimatology (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| D6. Geoscience Education and Public Policy (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| D7. Geochemistry, Mineralogy, Petrology, and Volcanology (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| D8. Structural Geology and Tectonics (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing | 9–10 a.m. | Grand Ballroom G |
| Geoscience Career Program Workshop Part 2: Geoscience Career Exploration | 10–11 a.m. | Grand Ballroom G |
| Undergraduate and Graduate Geoscience Student Lightning- Round Showcase | 10:15 am–noon | Lake Audubon |
| GSA Southeastern Section Management Board Meeting | noon–1:30 p.m. | The Living Room |
| Roy J. Shlemon Mentors Program in Applied Geoscience | noon–1:30 p.m. | Grand Ballroom EF |
| USGS Mentoring Café | 1:30–4 p.m. | Grand Ballroom G |
| Afternoon Oral Technical Sessions | | |
| T7. Integrated Ichnostratigraphy: Trace Fossils at Unconformities | 1:30–3:10 p.m. | Regency Ballroom B |
| D2. Economic, Energy, and Environmental Geology | 1:30–5:30 p.m. | Lake Thoreau |
| S6. The Grenville Orogen in Eastern North America | 1:30–5:30 p.m. | Regency Ballroom A |
| T10. Trace Elements in the Environment | 1:30–5:30 p.m. | Lake Fairfax |
| T41. Barrier Island and Backbarrier Sediment Dynamics | 1:30–5:30 p.m. | Lake Audubon |

| EVENT | TIME | LOCATION |
|--|----------------|--------------------|
| T15. Using the Sedimentary Record to Investigate Appalachian and Ouachita Tectonics | 3:25–5:30 p.m. | Regency Ballroom B |
| Afternoon Poster Sessions: authors will be present 3–5 PM | | |
| T1. Resilience and Resource Strategies for the Coastal and Nearshore Zone in a Changing World (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| T9. Landslide Investigations in the Eastern United States (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| T12. Undergraduate Research Poster Session I (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| T24. Undergraduate and Graduate Geoscience Student Showcase (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| T29. Mapping Surficial Deposits in the Appalachians: Field Methods, Digital Techniques, and Classification Strategies (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| Geology Club Meetup | 2–3 p.m. | Grand Ballroom G |
| Remembering Dr. Bill Thomas (T15) | 3:25–5:30 p.m. | Regency Ballroom B |
| Mentoring Roundtables | 4–5:30 p.m. | Grand Ballroom G |
| Town Hall: What's Happening at GSA | 5:30–6:30 p.m. | Regency Ballroom A |
| LGBTQ Geoscientists Social Hour | 6:30–8 p.m. | Lake Anne |
| SEPM Meeting and Reception | 6:30–8 p.m. | Lake Thoreau |
| SATURDAY, 18 MARCH | | |
| Session Chair Orientation | 7–7:15 a.m. | Reston C |
| Registration Open | 7 a.m.–5 p.m. | Conservatory |
| Speaker Ready Room | 7 a.m.–6 p.m. | Town Center A&B |
| Exhibits Open | 8 a.m.–5 p.m. | Grand Ballroom A–D |
| Morning Oral Technical Sessions | | |
| S4. Enhancing Diversity in the Geosciences | 8 a.m.–noon | Regency Ballroom A |
| T20. Early Career Voices of Appalachian Tectonics | 8 a.m.–noon | Regency Ballroom B |
| T23. Soil, Water, and Biogeochemical Interactions | 8 a.m.–noon | Lake Fairfax |
| T32. Conventional and Unconventional Critical Mineral Resources in the Eastern United States | 8 a.m.–noon | Lake Audubon |
| Morning Poster Sessions: authors will be present 10 AM–noon | | |
| T10. Trace Elements in the Environment (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| T12. Undergraduate Research Poster Session II (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| T41. Barrier Island and Backbarrier Sediment Dynamics (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs | 9–10 a.m. | Grand Ballroom G |
| GSA Northeastern Section Management Board Meeting | noon–1:30 p.m. | The Living Room |
| John Mann Mentors Program in Applied Hydrogeology | noon–1:30 p.m. | Grand Ballroom EF |
| USGS Mentoring Café | 1:30–5:30 p.m. | Grand Ballroom G |
| Afternoon Oral Technical Sessions | | |
| T4. Taconic Orogeny in the North, Central, and Southern Appalachians: Tectonics of the Early Paleozoic Margin of Laurentia | 1:30–5:30 p.m. | Regency Ballroom B |
| T11. Geomorphic Evolution of River Corridors in the Eastern United States from the Pleistocene to the Anthropocene | 1:30–5:30 p.m. | Lake Fairfax |
| S7. From the Margins to the Deep: A Tribute to the Science and Art of A. Conrad Neumann | 1:30–5:30 p.m. | Regency Ballroom A |
| T43. Geoscience Careers for New Geoscience Graduates | 1:30–5:30 p.m. | Lake Audubon |
| Afternoon Poster Sessions: authors will be present 3–5 PM | | |
| T3. Geologic Maps, Geophysical Maps, 3-D Geological Models, Digital Mapping Techniques, Map Derivatives, and Digital Map Preparation (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| S5. Environmental Radionuclides: Geochemical Behavior, Tracer Applications, and Potential Health Consequences (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| T19. Mapping in the Geosciences: Processes and Products (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| T20. Early Career Voices of Appalachian Tectonics (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| T23. Soil, Water, and Biogeochemical Interactions (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |

| EVENT | TIME | LOCATION |
|---|----------------|----------------------------------|
| T32. Conventional and Unconventional Critical Mineral Resources in the Eastern United States (Posters) | 1:30–5:30 p.m. | Grand Ballroom A–D |
| Mentoring Panel | 4:30–5:30 p.m. | Grand Ballroom G |
| 2023 SE-NE GSA Plenary Speaker: Dr. David Kring, <i>Drilling into the Chicxulub Impact Crater and a World-wide Calamity 66 Million Years Ago</i> | 6–7 p.m. | Regency Ballroom A&B |
| Map and Art Blast | 7–9 p.m. | Grand Ballroom A–D |
| SUNDAY, 19 MARCH | | |
| Session Chair Orientation | 7–7:15 a.m. | Reston C |
| Speaker Ready Room | 7–10 a.m. | Town Center A&B |
| Registration Open | 7 a.m.–noon | Conservatory |
| Exhibits Open | 8 a.m.–noon | Grand Ballroom A–D |
| Morning Oral Technical Sessions: | | |
| T42. Paleoenvironment and Paleobiology of Late Cretaceous Sediments Near Coon Creek, Tennessee | 8–9:40 a.m. | Lake Audubon |
| S2. Deciphering the Devonian World, from Biotic to Environmental Crises across the Globe | 8 a.m.–noon | Regency Ballroom A |
| T18. Alleghanian Overprinting of Pre-Alleghanian Accreted Terranes | 8 a.m.–noon | Regency Ballroom B |
| T30. The 200th Anniversary of the First State Geological Survey—The North Carolina Geological Survey | 8 a.m.–noon | Lake Fairfax |
| T8. Small-Scale Geologic Mapping in the Northeastern U.S.: Addressing the USGS National Cooperative Geologic Mapping Program's Goals for a Seamless, National 2D/3D Geologic Framework Model of the United States | 9:55 a.m.–noon | Lake Audubon |
| Morning Poster Sessions: authors will be present 10 AM–noon | | |
| D10. Geomorphology, Quaternary Geology, and Soils (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| D11. Hydrogeology, Karst, Limnogeology, and Marine Geoscience (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| D12. Geochronology, Sediments, and Stratigraphy (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| D9. Energy Geology and Environmental Geoscience (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| S1. Sea-Level History from the U.S. East Coast—Insights for Projecting Future Change (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| S2. Deciphering the Devonian World, from Biotic to Environmental Crises across the Globe (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| T8. Small-Scale Geologic Mapping in the Northeastern U.S.: Addressing the USGS National Cooperative Geologic Mapping Program's Goals for a Seamless, National 2D/3D Geologic Framework Model of the United States (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| T11. Geomorphic Evolution of River Corridors in the Eastern United States from the Pleistocene to the Anthropocene (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| T42. Paleoenvironment and Paleobiology of Late Cretaceous Sediments Near Coon Creek, Tennessee (Posters) | 8 a.m.–noon | Grand Ballroom A–D |
| Exhibitor Tear Down | noon–6 p.m. | Grand Ballroom A–D |
| National Association of Geoscience Teachers Luncheon (Ticketed Event) | noon–1:30 p.m. | Grand Ballroom EF |
| Afternoon Oral Technical Sessions: | | |
| S1. Sea-Level History from the U.S. East Coast—Insights for Projecting Future Change | 1:30–3:15 p.m. | Regency Ballroom B |
| D3. Structural Geology, Tectonics, Petrology, and Planetary Geology | 1:30–5:30 p.m. | Lake Fairfax |
| D4. Energy Resource Development and Potential Environmental Effects | 1:30–5:30 p.m. | Lake Audubon |
| T35. Breaking Barriers and Challenging Traditions in Geoscience Education | 1:30–5:30 p.m. | Regency Ballroom A |
| T16. Geoscience for National Security and Law Enforcement | 3:30–5:30 p.m. | Regency Ballroom B |
| MONDAY, 20 MARCH | | |
| FT4. Proterozoic and Paleozoic Tectonic Evolution of the Northern Shenandoah Massif DEPARTURE (Field Trip) | 7–7:30 a.m. | Hyatt Regency Reston Hotel Lobby |
| FT2. Experience Capitol Hill: Geoscience and Public Policy in Washington, D.C. DEPARTURE (Field Trip) | 7:30–8 a.m. | Hyatt Regency Reston Hotel Lobby |
| FT3. Geology and Paleontology of Cretaceous and Paleocene Sediments of Cabin Branch and Tinkers Creek, Prince Georges County, Maryland DEPARTURE (Field Trip) | 7:30–8 a.m. | Hyatt Regency Reston Hotel Lobby |

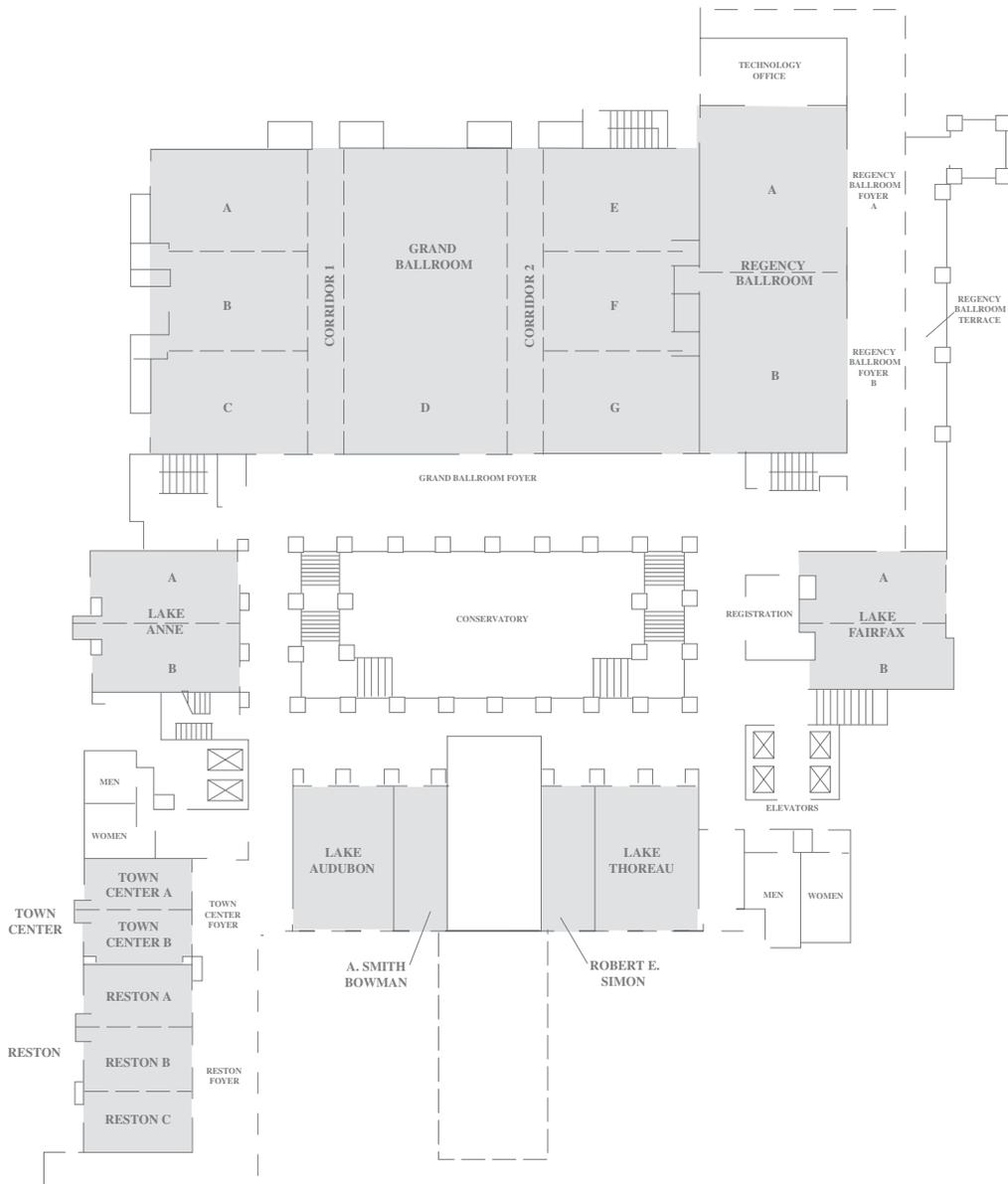


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FLOOR PLAN
Second Floor



Memorial Pages

A. Conrad Neumann—One for the Ages



A. Conrad Neumann as a post-doctoral instructor at Lehigh University ~1963-1964.

The Early Years

Andrew Conrad Neumann was born in 1933 in Oak Bluffs, Martha's Vineyard, MA and grew up in Chilmark on the Island. His earliest recollection was his grandfather reciting stories and poetry to his sister and him before bedtime. Most likely this sparked his love for writing poetry later in life, culminating in a book about the Island (*Up-Island Poems; Tales of a Life on Island and Sea*, 2017; published by Up-Island Books, Menemsha, MA).

"I didn't realize that I had poetry in me, actually until high school. I wrote a poem, and I remember the teacher said – it was about the waves, This has the rhythm of waves. My poems are very much poems of place. I do a lot with salt spray and sounds. Like at night on the Vineyard in my little room, I used to hear the rumble – it's not really a rumble – of the boulders on the shore like Stonewall Beach. So the surf had a sound, and the rocks had a sound." From an interview in 2015, published in 2017 as *The Deep, Deep Pigment of the Mind*; Chilmark, Fishing, Oceanography, Poetry; from *Vineyard Voices Three*, interviews and portraits by Linsey Lee, oral historian for the Martha's Vineyard Museum; same source for other quotations from Conrad cited below).

Early on, Conrad connected poetry with geology and the sea, which he did for the rest of his life. Also, early on, he experienced one of nature's most powerful meteorological and, ultimately, geological processes.

"The '38 Hurricane caught us by surprise. I remember the chickens went to bed and there were other signs. The sky got all colored yellowy. During the storm our Model A Ford had the top blown off, and so there was chicken wire up there. We drove to Menemsha and I saw a grown man cry. That stuck in my mind. I forget who it was, but his boat was demolished. And of all things, as a child, a five-year-old, I just took in the scenery of devastation without really feeling, until this man spoke with his choked voice. And that made an impression on me as a five-year-old". The Great Hurricane of 1938 killed 564 people in New England.

Conrad's interest in geology started by looking for fossils in the Gay Head area of the Island. His grandmother's cousin "was a great naturalist kind of lady. Birds and fossils. And mineral deposits. Marcasite crystals. She had shoeboxes of them". The famous brightly colored Pleistocene clay cliffs of Gay Head, a national landmark, contain fossils bones of whales, camels, and wild horses—a great place for a kid to begin to appreciate Earth history.

As a high school student on the Vineyard, his family convinced him to move to New York City to establish residence and attend college. He graduated from Brooklyn College in 1955 with a degree in geology. "Everybody was going off to different graduate schools when I graduated from Brooklyn College. And somebody left a graduate bulletin on the table in the lunchroom, and it had a ship on the cover. I picked it up. Texas A&M had this beautiful schooner (Jakkula), three masts, and had graduate courses in meteorology and oceanography. So I wrote a letter, one thing led to another and I was off." Conrad graduated from Texas A&M University in 1958 with a MS in oceanography.

Childhood ties probably brought him back to Woods Hole (Woods Hole Oceanographic Institution--WHOI) where he met and was interviewed by Columbus Iselin, WHOI's Director. Dr. Iselin said "We don't have anything on the Red Sea circulation since 1931. And we're going over there, and you could do the circulation of the Red Sea." I said, 'but I'm a geologist'. He said, "I thought you wanted to be an oceanographer? So next thing I know, I'm in the Red Sea. I had a wonderful time working at WHOI. For three years I was on the old Atlantis I (142 ft, 460 ton, steel hulled, ketch-rigged sailing vessel; built in 1930 specifically as a research vessel for WHOI and used by famous scientists of the day) and those were probably the most formative years, in some ways, to my education and work. And that was before the days of computers. We used crayons. Every oceanographer had a big box of colored pencils. We called it Crayola oceanography." In 1963 Conrad received his PhD from Lehigh University with Keith Chave as his major advisor. His dissertation addressed the sedimentology of Harrington Sound, Bermuda. Then, it was off to a faculty position at the Rosenstiel School of Marine and Atmospheric Science at the University of Miami thus beginning his amazing career as a geological oceanographer.

The Professional Years

Conrad's primary scientific gift was his intense, unconventionally creative and wonderfully imaginative mind. Anyone who had met Conrad (he hated "Connie") instantly realized that he/she was facing an intellect that, at times, defied description. In another life he might have authored a comic strip that blended "Bizarro" with the "Far Side". Indeed, Conrad was known for his spot-on, hilarious cartoons depicting life at sea, life as a program manager at the National Science Foundation, or life inside a submersible. More to the point, he possessed the great advantage of being able to illustrate geologic phenomena using his hand-crafted depictions to entertain, but most assuredly to educate. His caricature of carbonate diagenesis was brilliant and should be part of any resource book on the topic—one look and you are an expert—forget about reading the text. Sadly, the rest of us have had to struggle with Adobe Illustrator or whatever to get our points across visually.

More seriously, Dr. Neumann was one of the keynote players in carbonate sedimentology and carbonate depositional systems for 40 years. The quality of his work was recognized early on by SEPM as he received the Outstanding Presentation Award for his paper given in 1969, Honorable Mention for Outstanding Paper in JSP in 1970, and Outstanding Paper in Journal of Sedimentary Petrology in 1975 with Lynton Land. He was an experimentalist (e.g., measuring boring rates of sponges in limestone under lab conditions), a theoretician (e.g., cement loading hypothesis), and a far-seeing observationist (e.g., long list of outstanding papers). He lived in the world of ideas, he saw things others did not see, and his research was never tied to any research tool. He was as comfortable with deep-penetrating seismic reflection data as he was with amino-acid racemization age dating. His mind was a cauldron of ideas producing innumerable sparks and an occasional eruption—each a gem advanced by his graduate students and colleagues—ultimately to find their way into the literature.

Specifically, he made major contributions concerning: (1) the origin of lime mud and the flux of these sediments cast off into deep basins, (2) the geologic variability of carbon-

ate platforms margins (shallow and deep) and the processes that build and shape them, (3) the effects of algal mats on sedimentary processes, (4) discovery of huge lithified, deepwater coral mounds in the ocean, (5) late Pleistocene/Holocene sea level history, (6) methane-derived carbonates, (7) carbonate island geology of the Bahamas, (8) geochemobiology of modern stromatolites, (9) organic influences on carbonate cements, (10) origin of ancient mud mounds, and (11) geobiology of hardbottoms. His published abstract illustrating his famous late Pleistocene/Holocene sea-level curve derived from basal peats in Bermuda is widely cited and was the best measurement of global eustasy at the time. Some of Conrad's insights have so permeated current thinking that they are now taken for granted. One example is the importance of "bioerosion", a term he originated in 1966. In subsequent decades sedimentologists and biologists designed whole research programs and careers around expanding and quantifying the concept. Another example is his conception (with Ian Macintyre) of "keep-up, catch-up and give-up reefs". This concept has been cited more frequently in the past decade than it was in the decade following its publication. These are but two of many "Neumannisms" that have become entrenched in the science. He was also one of the most effective early users of submersibles to conduct oceanographic research including the submersible *Aluminaut* and an amazing 33 dives on WHOI's DSV *Alvin*.

At his academic home within the Marine Sciences Curriculum now the Department of Marine Science at the University of North Carolina—Chapel Hill, he won acclaim as being an outstanding member of the faculty. He was awarded the Bowman and Gordon Gray Chaired Professorship for Excellence in University Teaching, won the Student's Undergraduate Teaching Award (selected by student vote), was inducted into the UNC Distinguished Teaching and Research Scholars, and perhaps most importantly he was voted UNC's Favorite Faculty Award by that university's students.

What Conrad taught his students, scientific associates, and people lucky enough to be around him, represents his greatest scientific legacy. There is a generation of people who see things quite differently—much for the better—because they were fortunate enough to know Dr. A. Conrad Neumann.



William A. "Bill" Thomas 1936–2022

The beginning of October 2022, brought with it the unexpected loss of one of the true stalwarts and gentlemen of our profession, William A. (Bill) Thomas. Bill's lifetime contributions to geoscience, professional activities, and leadership carried him to the pinnacle of the geological sciences. He had an exceptionally productive career in research, teaching, administration, and service to the profession that spans more than 60 years: four years in the petroleum industry, 47 years in academics at five universities, and 12 years as a research scientist with the Geological Survey of Alabama. Dr. Thomas' leadership capabilities have risen to the forefront in every position he has held in academics and industry.

Bill Thomas published >150 articles in journals, monographs, and field trip guidebooks, with >120 peer reviewed publications. He had over 200 presentations at professional meetings. Bill's publications span several categories with major scientific contributions: Appalachian-Ouachita orogen; subsidence history of orogenic foreland basins; transfer of the Argentine Precordillera terrane from Laurentia to Gondwana; transverse zones, lateral ramps, and mushwads (ductile duplexes) in foreland thrust belts; continental rifting, rift-related intracratonic faults, and tectonic inheritance; and detrital zircons as indicators of provenance and sediment dispersal pathways. The Journal of Geology paper by Thomas et al. (2004) demonstrated that detrital zircons in the Appalachian foreland basins are rarely derived from rocks formed by the orogeny that produced the clastic wedge, and

that a foreland basin produced by a subsequent orogeny will contain detrital zircons from an earlier orogeny. This discovery should be referred to as 'Thomas' Law.'

Bill Thomas mentored numerous undergraduates in the courses he taught, and directed 25 M.S. students, 14 Ph.D. students at the Universities of Alabama and Kentucky. Bill was a very popular teacher. Today his former graduate students hold a variety of positions in industry, state and federal government agencies, and universities, and still hold him in highest esteem.

Bill served on numerous committees of the Geological Society of America, American Association of Petroleum Geologists, American Geological Institute, Association of Earth Science Editors, Society of Economic Paleontologists and Mineralogists, Council of Scientific Society Presidents, and the Geological Societies of Alabama (charter member) and Kentucky. He served as Vice President (2004), President (2005), and Past President (2006) of the Geological Society of America. He also served as an Editor of the Geological Society of America Bulletin from 1981-1988, and he and Bob Hatcher saved the journal from extinction. Neither could have accomplished this alone. In addition to leading numerous Geological Society of America section and annual meeting field trips, Bill led several regional field trips in Alabama and Georgia.

Bill Thomas has received numerous awards and commendations in recognition of his professional accomplishments.

He is the recipient of one of the first Distinguished Service Awards by the Geological Society of America in 1988, the Best Paper Award by the Structural Geology and Tectonics Division of the Geological Society of America in 2007, and the 2018 American Geosciences Institute Marcus Milling Legendary Geoscientist Medal in 2018.

Even though William A. Thomas officially "retired" in 2010, his passion to learn and address interesting and fundamental problems in geology remained undiminished. He was still publishing important papers with no sign of decreasing the intensity of his quest to address new research problems, collaborate with others, make presentations at meetings, and share the results in writing. He and wife Rachel were preparing to travel to Denver to participate in the GSA Annual meeting when he passed away unexpectedly at age 86. William A. Thomas was truly one of the great geoscientists of our time.

Robert D. Hatcher, Jr.,

Remembering Dr. Bill Thomas

Join colleagues and friends of Bill Thomas in T15. Using the Sedimentary Record to Investigate Appalachian and Ouachita Tectonics. The session will begin with a brief summary of his career and contributions, a few field stories, and then time for others to remember Bill.



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Technical Sessions

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

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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

FRIDAY, 17 MARCH 2023

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 1

D1. Sedimentary Geology, Paleontology, Geoarchaeology, and Landscapes

8:00 AM, Hyatt Regency Reston, Lake Thoreau

Kayla Cahoon, Presiding

- 1-1 8:00 AM Davias, Michael*: GEOPHYSICAL MASS FLOWS FROM A COSMIC IMPACT DURING THE MID PLEISTOCENE MAY HAVE PERTURBED LANDSCAPE EVOLUTION ACROSS NORTH AMERICA
- 1-2 8:20 AM Brooks, William*: ENIGMA OF ALLUVIAL GOLD MINING IN PRE-CONTACT PERU-THE PRESENT IS KEY TO THE PAST
- 1-3 8:40 AM Maxwell, Aaron*; Odom, William; Doctor, Daniel; Shobe, Charles: FEATURE SPACE CONSIDERATIONS FOR GEOMORPHIC DEEP LEARNING USING DIGITAL TERRAIN VARIABLES
- 1-4 9:00 AM Suh, Ji Won*; Ouimet, William: REGIONAL MAPPING OF STONE WALLS IN NORTHEASTERN U.S USING DEEP LEARNING
- 1-5 9:20 AM Cahoon, Kayla*; Hein, Christopher; Fenster, Michael; Clarke, Cameron G.; Vaughn, Joseph P.; Huot, Sebastien; Wehmiller, John; Ramsey, Kelvin W.: REFINED CHRONOSTRATIGRAPHIC MAPPING PROVIDES NEW INSIGHTS INTO THE LATE-PLEISTOCENE RELATIVE SEA-LEVEL HISTORY OF THE DELMARVA PENINSULA
- 1-6 9:40 AM Epstein, Samuel*; Epstein, Peggy; Sassen, Roger: THE OCCURRENCE OF NON-INDIGENOUS MARINE LIFE ON THE NEW YORK SHALLOW SHELF, ROCKAWAY BEACH, QUEENS- IMPLICATIONS TO THE PHANEROZOIC BIODIVERSITY
- 1-7 10:00 AM Olsen, Paul E.*; Slibeck, Bennett B.; Sues, Hans-Dieter: THE DINOSAUR THAT CAME IN FROM THE COLD: THE

OLDEST DEFINITIVE ORNITHISCHIAN DINOSAURS AND ORIGIN OF THEIR ABRUPT APPEARANCE

- 1-8 10:20 AM Olsen, Paul*; Park Boush, Lisa; Drzewiecki, Peter; Kinney, Sean; Schaller, Morgan; Stueeken, Eva; Reichgelt, Tammo; Ross, Michael; Whiteside, Jessica: TESTING THE ROLE OF CAMP VOLCANIC WINTERS AS A MAIN DRIVER OF TRIASSIC-JURASSIC CONTINENTAL ECOSYSTEM CHANGE WITH THE PROPOSED DINODRILL PROJECT (HARTFORD BASIN, USA)

SESSION NO. 2

S5. Environmental Radionuclides: Geochemical Behavior, Tracer Applications, and Potential Health Consequences

8:00 AM, Hyatt Regency Reston, Regency Ballroom A

James Kaste and Joshua Landis, Presiding

- 8:00 AM Introductory Remarks
- 2-1 8:05 AM Vengosh, Avner*; Wang, Zhen; Williams, Gordon; Hill, Robert; Hu, Jun; Dwyer, Gary S.; Duckworth, Owen; Gatiboni, Luke; Schnug, Ewald; Sun, Yajie; Bol, Ronald; El-Hasan, Tayel; Haneklaus, Silvia; Bahadir, Müfit; Singh, Anjali; Shrivastava, Ankush: URANIUM- AND THORIUM-DECAY NUCLIDES IN GLOBAL PHOSPHATE ROCKS AND FERTILIZERS
- 2-2 8:25 AM McDevitt, Bonnie*; Blondes, Madalyn S.: RADIUM TRANSPORT FOLLOWING PRODUCED WATER DISCHARGES AND APPLICATIONS TO TREATMENT AND REUSE
- 2-3 8:45 AM Christensen, Heather*; Kaste, James M.; Lockwood, Rowan; Berquist, Carl; Farrell, Kathleen: RADON RISK MAPPING USING HIGH RESOLUTION GAMMA SPECTROMETRY AND SOCIAL VULNERABILITY INDICES IN NORTHEASTERN NORTH CAROLINA
- 2-4 9:05 AM Moore, Willard S.*; Vincent, Jacob; Pinckney, James; Wilson, Alicia; Benitez-Nelson, Claudia: PREDICTION AND VERIFICATION OF A STRONG PULSE OF SUBMARINE GROUNDWATER DISCHARGE ONTO THE SOUTH CAROLINA, USA, CONTINENTAL

SHELF, AND ITS EFFECT ON DISSOLVED OXYGEN CONCENTRATIONS

Scott M.: ELGIN, SOUTH CAROLINA EARTHQUAKE SWARM, DECEMBER 2022 TO PRESENT

- 2-5 9:25 AM Volante, Paul W.*; Kaste, James M.; Waters, Matthew; Clift, Troy: A HIGH RESOLUTION ²⁴¹AM AND ²¹⁰PB CHRONOLOGY OF THE EUTROPHIC LAKE BONNY IN LAKELAND, FL
- 9:45 AM Break
- 2-6 10:00 AM Karwan, Diana*; Hankins, Ryan; Pawlowski, Ethan; Williamson, Tanja; Rose, Lucy; Kolka, Randy; Fitzpatrick, Faith: USE OF FALLOUT RADIONUCLIDES TO ASSESS FIELD-TO-GAUGE CONNECTIVITY IN GREAT LAKES RESTORATION INITIATIVE PRIORITY WATERSHEDS
- 2-7 10:20 AM Baskaran, Mark*; Denny, Max: A NOVEL TECHNIQUE TO DATE ROAD SEDIMENT USING ²¹⁰PO:²¹⁰PB DISEQUILIBRIA: CASE STUDY FROM AN URBAN AREA, DETROIT, MI
- 2-8 10:40 AM Landis, Joshua*: CONCORDANT CHRONOMETERS OF MODERN SOIL PROCESSES: ALIGNING ⁷BE:²¹⁰PB, ²²⁸TH:²²⁸RA, ²⁴¹AM BOMB-PULSE METHODS
- 2-9 11:00 AM Sturchio, Neil*: 210-PB PROFILES SHOW THAT DEEPER SNOW INCREASES THE NET SOIL ORGANIC CARBON ACCRUAL RATE IN MOIST ACIDIC TUSsock TUNDRA OF ARCTIC ALASKA
- 2-10 11:20 AM Kaste, James*; Bailey, Savannah; Bailey, Scott W.; Bailey, Amey; Green, Mark B.; Landis, Joshua; Renshaw, Carl E.; Dethier, Evan N.; Warren, Dana R.: FOREST PROCESSES AND A TILL-DOMINATED LANDSCAPE LIMIT HEADWATER EROSION IN THE POST-GLACIAL WHITE MOUNTAINS OF NEW HAMPSHIRE
- 2-11 11:40 AM Portes, Raquel*; Ketterer, Michael; Spinola, Diogo; Gundersen, Eli; D'Amore, David V.: THE USE OF ²³⁹⁺²⁴⁰PU AND STABLE CARBON ISOTOPES AS EROSION TRACERS FOR QUANTIFYING AND EVALUATING SOIL EROSION AND SEDIMENTATION RATES

SESSION NO. 3

T34. Geological, Seismological, and Paleoseismological Research in Eastern North American Earthquakes (GSA Geophysics and Geodynamics Division)

8:00 AM, Hyatt Regency Reston, Lake Audubon

Kevin Stewart and Mark Carter, Presiding

- 3-1 8:00 AM Pratt, Thomas*: CHARACTERIZING PRECARIOUSLY BALANCED ROCKS IN THE EASTERN U.S. FOR ESTIMATING GROUND MOTIONS
- 3-2 8:20 AM Monecke, Katrin*; Brabander, Daniel J.; Boyce, Joseph I.; Ebel, John E.; Hubeny, Brad; McCarthy, Francine: TOWARDS A LONG-TERM EARTHQUAKE RECORD FOR EASTERN MASSACHUSETTS: A MULTIPROXY ANALYSIS OF DEFORMATION FEATURES IN LAKE SEDIMENTS
- 3-3 8:40 AM Rodysill, Jessica*; Carter, Mark; Steele, Kristen; Everett, Andrew: INVESTIGATING LAKE SEDIMENTARY DEPOSITS FOR EVIDENCE OF THE 2011 EARTHQUAKE IN THE CENTRAL VIRGINIA SEISMIC ZONE
- 3-4 9:00 AM Carter, Mark*; Merschat, Arthur; Odom, William; Figueiredo, Paula; Stewart, Kevin; Lynn, Ashley S.; Mahan, Shannon A.: GEOLOGIC AND PALEOLIQUEFACTION CONSTRAINTS ON PAST SEISMICITY IN THE EPICENTRAL AREA OF THE 9 AUGUST 2020 M5.1 SPARTA, NORTH CAROLINA, EARTHQUAKE
- 3-5 9:20 AM Figueiredo, Paula*; Bohnenstiehl, DelWayne R.; Merschat, Arthur; Carter, Mark W.; Wegmann, Karl; Szymanski, Eric; Owen, L.A.; Ricker, Matthew C.: INVESTIGATIONS OF SURFACE RUPTURE CAUSED BY THE 2020 MW 5.1 SPARTA, NORTH CAROLINA, USA EARTHQUAKE AND ASSOCIATED PALEOSEISMOLOGY OF THE LITTLE RIVER FAULT
- 3-6 9:40 AM Howard, Scott; Morrow, Robby*; Crotwell, H. Philip; Frost, Daniel; Jaume, Steven; Kellogg, James; White,

SESSION NO. 4

T9. Landslide Investigations in the Eastern United States

8:00 AM, Hyatt Regency Reston, Lake Fairfax

Jonathan Kim, George Springston and Keith Klepeis, Presiding

- 8:00 AM Introductory Remarks
- 4-1 8:05 AM Springston, George*; Kim, Jonathan; DeJong, Benjamin; Boyles, Julia; Klepeis, Keith: TWO DECADES OF COLLABORATIVE LANDSLIDE RESEARCH IN VERMONT
- 4-2 8:25 AM Delano, Helen*: RECORD-SETTING LANDSLIDE YEAR IN THE GREATER PITTSBURGH AREA, PENNSYLVANIA: 5 YEARS LATER
- 4-3 8:45 AM Klepeis, Keith*; Kim, Jonathan; Juozelskis, Siga; Springston, George; Myrick, Emma: QUANTIFYING LANDSCAPE CHANGE AT VERMONT'S LARGEST LANDSLIDE USING TIME-LAPSE SPATIAL DIFFERENCING OF 3D SURFACE MODELS FROM DRONE AND FIELD SURVEY DATA, WATERBURY, VERMONT
- 4-4 9:05 AM Karimi, Bobak*: EXPLORING BEYOND 3D DATA FOR THE AUTOMATED DETECTION OF LANDSLIDES USING PERSISTENT HOMOLOGY
- 4-5 9:25 AM Palaseanu, Monica*; Becker, Richard; Yellich, John A.: STRUCTURE-FROM-MOTION TO MONITOR BLUFF EROSION IN DIFFERENT SETTINGS ALONG EASTERN SHORE OF LAKE MICHIGAN
- 9:45 AM Break
- 4-6 10:00 AM Kim, Jonathan*; Klepeis, Keith; Springston, George; Zylka, Adam; Robinson, Evan: INTEGRATING STRUCTURAL GEOLOGY, UAV SURVEYS, AND PHOTOGRAMMETRY TO UNDERSTAND ROCKSLIDE MECHANISMS AT SMUGGLERS NOTCH, VERMONT
- 4-7 10:20 AM Prince, Philip*; Bauer, Jennifer: PATTERNS IN LANDSLIDE PROCESSES ACROSS APPALACHIA'S DISTINCT LITHOTECTONIC PROVINCES: INSIGHTS FROM QL1 LIDAR-DERIVED IMAGERY
- 4-8 10:40 AM Wright, Stephen*: LANDSLIDES IN GLACIAL LAKES: A FUNDAMENTAL PROCESSES GOVERNING THE STRATIGRAPHY OF GLACIAL LAKES IN MOUNTAINOUS TERRAINS
- 4-9 11:00 AM Kite, J. Steven*; Maynard, Shannon Marie; Donaldson, Kurt; Maxwell, Aaron E.; Bell, Matthew L.: DISSIMILAR SURFICIAL GEOLOGY MAPS FROM DISSIMILAR APPROACHES TO MAPPING LANDSLIDES ALONG RAIL TRAILS IN NORTH-CENTRAL WEST VIRGINIA
- 4-10 11:20 AM DeJong, Benjamin*; Springston, George; Kim, Jonathan J.; Boyles, Julia; Smith, Stephanie A.: CHALLENGES IN DETERMINING "IMMINENCE" IN LANDSLIDE EVALUATIONS FOR FEMA BUYOUTS

SESSION NO. 5

T1. Resilience and Resource Strategies for the Coastal and Nearshore Zone in a Changing World (GSA Energy Geology Division; GSA Marine and Coastal Geoscience Division)

8:00 AM, Hyatt Regency Reston, Regency Ballroom B

Joshua Long, Till Hanebuth, Katherine Luciano, Clark Alexander, Frank Manheim, Kathleen Farrell, William R. Doar III and M. Harris, Presiding

- 8:00 AM Introductory Remarks
- 5-1 8:05 AM Rossiello, Camille*; Wilson, Alicia M.: GROUNDWATER FLOW AND SALT MARSH MIGRATION: THE FOREST/ MARSH BOUNDARY
- 5-2 8:25 AM McLachlan, Robin*; Bertram, Conlan; Brown, Chelsea; Herrera, Eric; Lewis, Skye; Marshall, Aaron; Warehime, Jonathan: A LOCAL-SCALE APPROACH TO PREDICTING FUTURE TIDAL FLOODING DUE TO SEA-LEVEL RISE: LITTLE CUMBERLAND ISLAND, GA

AM

FRIDAY

Friday, 17 March 2023

- 5-3 8:45 AM Harris, M.*; Wright, Eric: A REVIEW OF THE GEOLOGIC AND GEOMORPHOLOGIC STUDIES OF SOUTH CAROLINA'S LOWER COASTAL PLAIN AND CONTINENTAL SHELF REGIONS WITH IMPLICATIONS TO THE FUTURE
- 5-4 9:05 AM Mallinson, David*; Culver, Stephen; Leorri, Eduardo; DeWitt, Regina; King, Jessica: NEW INSIGHTS INTO THE LATE PLEISTOCENE STRATIGRAPHY AND PALEOENVIRONMENTS OF EASTERN NORTH CAROLINA, USA
- 5-5 9:25 AM Brothers, Laura*; Foster, David S.; Pendleton, Elizabeth A.; Baldwin, Wayne E.; Wehmiller, John; Ramsey, Kelvin W.; Mattheus, C. Robin: PALEODRAINAGE CONTROLS ON COASTAL AND SHELF CONFIGURATION IN A MID-LATITUDE PASSIVE MARGIN
- 9:45 AM Break
- 5-6 10:00 AM Malinconico, MaryAnn*: DETRITAL HIGH-VOLATILE BITUMINOUS TO SEMI-ANTHRACITE COAL IN MIDDLE MIOCENE COASTAL PLAIN SEDIMENTS, EASTERN SHORE CHESAPEAKE BAY, MARYLAND: EVIDENCE OF SUSQUEHANNA RIVER HEADWATERS ERODING THE VALLEY AND RIDGE PROVINCE DURING THE NEOGENE
- 5-7 10:20 AM Counts, John*; Gooley, Jared; Long, Joshua; Craddock, William H.: DECIPHERING THE ORIGINS OF COASTAL SEDIMENTS IN THE OUTER BANKS (VA, NC) THROUGH DETRITAL ZIRCON SIGNATURES
- 5-8 10:40 AM Cofield, Shannon*; Knorr, Paul; Mueller, Mark: BUREAU OF OCEAN ENERGY MANAGEMENT, MARINE MINERALS PROGRAM (BOEM MMP): STEWARDS OF OFFSHORE CRITICAL MINERAL RESOURCES
- 11:00 AM Discussion
- 10:38 AM Lightning talk: EXPLORING CRITICAL ZONE CONTROLS ON RUNOFF GENERATION IN 92 WATERSHEDS ACROSS THE SOUTHERN APPALACHIAN MOUNTAIN REGION, L. Finks and J. Gannon
- 10:41 AM Lightning talk: EVALUATING LAKE RESPONSE TO RAPID WARMING IN WESTERN NEW YORK USING A PROXY SYSTEM MODEL, R. G. Topness, E. K. Thomas, J. Briner, K. Prince, and O. Cowling
- 10:44 AM Lightning talk: FAYETTEVILLE GREEN LAKE DENSITY DATA REVEALS LOCAL IMPLICATIONS OF CLIMATE CHANGE, J. Marshall, S. Nippani, M. Ryan, T. Bowlby, F. Chalk, J. T. Pietras, and J. Schmitkons
- 10:47 AM Lightning talk: QUANTIFYING CLIMATE-DRIVEN SALTMARSH PLATFORM DEGRADATION THROUGH THE FORMATION OF POTHoles IN THE GREAT MARSH, MA, S. Tigges, D. FitzGerald, Z. Hughes, and A. Novak
- 10:50 AM Lightning talk: FILLING IN THE GAPS FOR LAURENTIDE DEGLACIAL THINNING IN THE ADIRONDACK MOUNTAINS, NEW YORK, USA, K. Barker, A. Barth, and J. Cuzzone
- 10:53 AM Lightning talk: HOLOCENE PEATLAND FIRE RECONSTRUCTION IN THE APPALACHIAN MOUNTAINS OF WEST VIRGINIA, USA, J. Chimezie, D. A. Willard, M. C. Jones, and S. C. Hotchkiss
- 10:56 AM Lightning talk: PYROGENIC ORGANIC MATTER IN SEDIMENTS FROM LAKE BOSUMTWI AS A PROXY FOR HOLOCENE CLIMATE IN NORTHERN AFRICA, M. Zigah
- 10:59 AM Lightning talk: PALEOSOLS OF FLORISSANT FOSSIL BEDS NATIONAL MONUMENT, CENTRAL COLORADO, A. Miranda and D. O. Terry Jr.
- 11:02 AM Lightning talk: ISOLATION OF PYROGENIC CARBON POOLS ACROSS THE K-PG AT THE BRAZOS RIVER SITE VIA THE CHEMO-THERMAL OXIDATION 375 (CTO-375) SOOT ISOLATION TECHNIQUE, R. Wheatley and S. Mitra
- 11:05 AM Lightning talk: APATITE (U-TH)/HE THERMOCHRONOLOGY FROM THE COACHELLA FANGLOMERATE: PRELIMINARY CONSTRAINTS ON MIOCENE BASIN INVERSION AND EXHUMATION ALONG THE SOUTHERN SAN ANDREAS FAULT SYSTEM, CALIFORNIA (USA), T. A. Sijpol, J. Fosdick, J. Giblin, and K. Blisniuk
- 11:08 AM Lightning talk: BEDROCK GEOLOGY MAP AND STRUCTURAL ANALYSES OF THE COW HEAD PENINSULA IN NEWFOUNDLAND, CANADA, A. Robillard, B. Karimi, D. Sensenig, and M. Finkenbinder
- 11:11 AM Lightning talk: GEOCHEMICAL ANALYSIS OF THE SHALLOW BAY FORMATION AT THE COW HEAD PENINSULA IN NEWFOUNDLAND, CANADA, D. Sensenig, M. Finkenbinder, A. Robillard, and B. Karimi
- 11:14 AM Lightning talk: LOW TEMPERATURE, OXIDATIVE ALTERATION OF BASALT: SPECIAL IMPLICATIONS FOR BIOCORROSION, J. Peluso and D. Cardace
- 11:17 AM Lightning talk: LIFESPANS OF ARCTICA ISLANDICA FROM THE PLIOCENE TJÖRNES BEDS OF ICELAND, B. Weinzapfel, B. Duati, and L. Ivany
- 11:20 AM Lightning talk: ISOTOPE PALEOECOLOGY OF THE MIOCENE PLANKTIC FORAMINIFERA GLOBOQUADRINA DEHISCENS AS INFERRED FROM INTERNATIONAL OCEAN DISCOVERY PROGRAM SITE U1510, SOUTHWEST PACIFIC, A. Corsello, A. R. Lam, C. Beck, and B. Wegter
- 11:23 AM Lightning talk: RECONSTRUCTION OF MID-LATITUDE SURFACE OCEAN HIGHLY DEPENDENT ON PALEOECOLOGY: ASYNCHRONOUS RESPONSE TO DIFFERENT WARMING EVENTS IN THE KUROSHIO CURRENT EXTENSION DURING THE MPWP, C. Heo, A. R. Lam, M. O. Patterson, B. Wegter, and C. Beck
- 11:26 AM Lightning talk: ANNUALLY-RESOLVED ENSO-HYDROCLIMATE ACTIVITIES AS RECORDED IN STABLE

SESSION NO. 6

T24. Undergraduate and Graduate Geoscience Student Showcase Lightning Talks (Council on Undergraduate Research Geosciences Division; GSA Energy Geology Division)

10:15 AM, Hyatt Regency Reston, Lake Audubon

James MacDonald Jr., Marian Buzon and Mary Abercrombie, Presiding

- 10:15 AM Introductory Remarks
- 10:20 AM Lightning talk: ANTHROPOGENIC FLOATING DEBRIS ACCUMULATION IN ESTUARINE SYSTEMS, G. Dellinger, T. Hanebuth, and R. Nagai
- 10:23 AM Lightning talk: DETERMINING THE DOMINANT SOURCE(S) OF FRESHWATER TO A COASTAL ESTUARY: BISCAYNE BAY, FLORIDA, M. Lara
- 10:26 AM Lightning talk: ANALYSIS OF SUBMERGED FOSSILIFEROUS LAG DEPOSITS FROM VENICE, SARASOTA COUNTY, FL, USA, H. Maisch IV, M. C. Ellis, P. J. Bakker, G. F. Ayala, D. R. Pecora, C. G. Merrill, B. K. Judson, and M. A. Becker
- 10:29 AM Lightning talk: POWDERED X-RAY DIFFRACTION AND PORTABLE X-RAY FLUORESCENCE STUDY OF THE CALOOSAHATCHEE AND FORT THOMPSON FORMATIONS, LEE AND HENDRY COUNTIES, SOUTHWEST FLORIDA. INSIGHTS INTO THE MINERALOGY AND ORIGIN OF THESE CARBONATES, E. S. Lentz, R. P. Aurelio, R. L. Pennella, D. R. Pecora, E. P. Gordon, J. MacDonald Jr., and A. Barbosa
- 10:32 AM Lightning talk: SEISMIC REFLECTION IMAGERY AIDS LATE QUATERNARY EARTHQUAKE HISTORY RECONSTRUCTIONS AT LAKE CRESCENT, WASHINGTON, USA, G. Colip, E. L. Leithold, K. W. Wegmann, D. S. Brothers, and R. Burr
- 10:35 AM Lightning talk: MID-HOLOCENE DROUGHTS IN THE SOUTHEASTERN U.S RECORDED IN LACUSTRINE SEDIMENT LITHOLOGY AND SUB-BOTTOM STRATIGRAPHY, A. Jelic, J. Rodysill, M. Toomey, and J. P. Donnelly

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| | OXYGEN ISOTOPE OF TECTONA GRANDIS L. F. FROM SOUTHEAST SULAWESI OVER THE PAST ~300 YEARS, S. Herho, M. N. Evans, J. C. Wollney, A. C. Carter, M. A. Gbenro, and R. D'Arrigo | 7-3 |
| 11:29 AM | Lightning talk: MULTI-PROXY RECONSTRUCTION OF THE MID LATITUDES, TASMAN SEA, IODP SITE U1510, DURING THE MIOCENE CLIMATE OPTIMUM AND MID-MIOCENE CLIMATE TRANSITION, Z.M. Voss, A.E. Silvernail, N.T. Janowski, S.R. Licata, Z.C. Ellis, T. A. North, J. Schmitkons, and A.R. Lam | 7-4 |
| 11:32 AM | Lightning talk: CT SCAN ANALYSIS OF PLEISTOCENE DEGLACIATION RECORDED IN ANTARCTIC SEDIMENT AT IODP SITE U1524, S. Schwarz-Eise, C. McCarthy, J. Cvetanovic, A. Patino, A. Usmani, D. K. Kulhanek, R. M. McKay, M. O. Patterson, and J. Schmitkons | 7-5 |
| 11:35 AM | Lightning talk: MIDDLE MIOCENE QUALITATIVE RECONSTRUCTION OF THE OLIGOTROPHIC SOUTH ATLANTIC GYRE, IODP EXPEDITIONS 390/393, R. K. Koorapati, A. R. Lam, G. Guerin, J. Yeon, D. Teagle, J. S. Reece, R. M. Coggon, J. Sylvan, T. Williams, and E. R. Estes | 7-6 |
| 11:38 AM | Lightning talk: PLIOCENE DEEP OCEAN CIRCULATION IN THE SOUTHWEST PACIFIC, T. C. Barbelet, B. Royce, C. Heo, M. O. Patterson, and J. T. Pietras | 7-7 |
| 11:41 AM | Lightning talk: EXPLORING THE IMPACTS OF PRESERVATION ON PALEONTOLOGICAL DATA: A LITERATURE-BASED SURVEY OF BODY SIZE AND BIODIVERSITY IN LATE MESOZOIC-PALEOGENE GASTROPODS, Y. S. Crestohl and A. M. Bush | 7-8 |
| 11:44 AM | Lightning talk: ASSESSMENT OF BIOMECHANICAL FUNCTION AS A POSSIBLE CONTROL ON SOFT TISSUE PRESERVATION IN EOCENE-OLIGOCENE BONES FROM THE WHITE RIVER GROUP OF SOUTH DAKOTA AND NEBRASKA, B. Kibelstis, D. O. Terry Jr., and P. Ullmann | 7-9 |
| 11:47 AM | Lightning talk: EXPERIMENTAL EVIDENCE FOR GENERATION OF NET ALKALINE MINE DRAINAGE VIA CATION EXCHANGE-ENHANCED LIMESTONE DISSOLUTION, IRWIN COAL BASIN, PENNSYLVANIA, M. B. Wallace, C. Schaffer, D. J. Vesper, B. Stewart, and R. C. Capo | 7-10 |
| 11:50 AM | Lightning talk: PAH CONTAMINATION IN TOWN CREEK, NC FROM A HISTORICAL SEEP, D. Reed and S. Mitra | 7-11 |
| 11:53 AM | Lightning talk: ASSESSING THE RELATIONSHIPS BETWEEN PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) AND MICROBIAL COMMUNITIES IN PFAS-CONTAMINATED ARID SOILS, J. Foeppel | 7-12 |
| 11:56 AM | Lightning talk: LOBATE FEATURES ON MARS EXHIBIT SAME SCALING AS TERRESTRIAL SOLIFLUCTION PATTERNS, J. Sleiman and R. C. Glade | 7-13 |

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| | NEMATOTHALLUS-BEARING BEDS, SILURIAN BLOOMSBURG FORMATION, PORT CLINTON, PENNSYLVANIA, USA | 7-14 |
| 3 | Hunt, Brielle*; Gishlick, Alan: THE "TAPHONOMY" OF PYRITE SUNS | 7-15 |
| 4 | Maaleki moghadam, Mahdi*; Young, Seth; Noble, Paula; Owens, Jeremy: CONSTRAINING PALEOREDOX CONDITIONS DURING THE MIDDLE SILURIAN MULDE/LUNDGREN EVENT, CAPE PHILLIPS FORMATION, ARCTIC CANADA | 7-16 |
| 5 | McDowell, Ronald*; Hunt, Paula J.; Burns, Mary Sue; Avary, Katharine L.; Britton, James Q.: PTERIDICHNITES BISERIATUS ABUNDANCE ZONE – 25 YEARS ON | 7-17 |
| 6 | LaBell, Rayna M.*; Claxton, Robert O.; DePoy, Melissa; Rising, Daniel; Saunders, Ashley; Stafford, Emily S.; Forcino, Frank L.: IS NATICID CANNIBALISM PREFERRED IN THE MIOCENE ST MARY'S FORMATION? | 7-18 |
| 7 | Jennings, Corielle*; Stafford, Emily S.; Forcino, Frank L.: PALEOECOLOGY OF THE PENNSYLVANIAN KEECHIE CREEK SHALE OF MINERAL WELLS, TEXAS | 7-19 |
| 8 | Wooten, Trace McLean*; Stafford, Emily S.; Forcino, Frank L.: PALEOECOLOGY AND FAUNAL ANALYSIS OF THE PENNSYLVANIAN KEECHIE CREEK SHALE AT RAMSEY RANCH, TEXAS | 7-20 |
| 9 | Sipe, Rachel L.*; Bragg, Dillon; Drye, Carley; Evans, Matthew; Fail, Megan; Simpson, Lyncoya; Forcino, Frank L.; Stafford, Emily S.: THE INFLUENCE OF SIZE ON THE NUMBER OF REPAIR SCARS IN GASTROPODS FROM THE MIOCENE ST. MARY'S FORMATION | 7-21 |
| 10 | Duncan, Kniya*; McLaughlin, Jack; Patten, Jenna; Ibrahim, Halima; Kulhanek, Denise K.; Patterson, Molly O.; McKay, Robert M.: LATE MIOCENE TO PLEISTOCENE LITHOSTRATIGRAPHIC CHANGES FROM IODP SITE U1522 ON THE ROSS SEA CONTINENTAL SHELF | 7-22 |
| 11 | Silverstein, Anna*; Mannucci, Agnese; Weirens, Sierra; Farrell, Audrey; Lang, Asha; Glumac, Bosiljka; Curran, H. Allen; Griffing, David: IDENTIFICATION AND SPECIES ABUNDANCE OF ENCRUSTING FORAMINIFERA WITHIN PLEISTOCENE (MIS 5E AND 7) CORAL REEFS IN THE BAHAMAS | 7-23 |
| 12 | Spage, Natalie*; Lockwood, Rowan; Topness, Emily R.: METABOLIC RATE AS A PREDICTOR OF MOLLUSCAN ABUNDANCE ACROSS THE MID-PLIOCENE WARM PERIOD IN THE VIRGINIA COASTAL PLAIN | 7-24 |
| 13 | Clarke, Edward*; Nesbitt, Sterling J.; Lockwood, Rowan: DISTINGUISHING TOOTH MORPHOTYPES FROM A MICROVERTEBRATE ASSEMBLAGE FROM THE CHINLE FORMATION (LATE TRIASSIC, ARIZONA) HELPS CHRONICLE ECOLOGICAL DIFFERENTIATION OF ARCHOSAURMORPHS | 7-25 |
| 14 | Sumrall, Colin*; Smith, Nicholas; Holterhoff, Peter; Thuy, Ben: BIODIVERSITY AND TAXONOMIC TURNOVER OF LATE PENNSYLVANIAN – EARLY PERMIAN OPHIUROIDS OF TEXAS, OKLAHOMA AND KANSAS, USA | 7-26 |
| 15 | Slibeck, Bennett*; Olsen, Paul E.: DECIPHERING THEROPOD-DOMINATED COMMUNITIES IN LATEST TRIASSIC ICHNOFOSSIL ASSEMBLAGES (NEWARK BASIN, NJ) | 7-27 |
| 16 | Eury, Kayla*; Eppes, Martha Cary; Fall, Patricia; Vaughan, Nora; Diemer, John; Ryley, April; Ferguson, Terry; Willard, Debra A.; Richter, Daniel D.; Nelson, Michelle: A PLEISTOCENE PALEOENVIRONMENTAL RECORD FROM THE PIEDMONT OF SOUTH CAROLINA | 7-28 |
| 17 | Bast, Shawn; Davis, Kathryn; Evans, Matthew; Sipe, Rachel L.; Waters-Tormey, Cheryl; Schoepfer, Shane*: THE EDIACARAN-CAMBRIAN TRANSITION IN THE CAROLINA TERRANE | 7-29 |

AM
FRIDAY

POSTERS

MORNING POSTER TECHNICAL SESSIONS

SESSION NO. 7

D5. Paleontology and Paleoclimatology (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A-D

Authors will be present from 10 AM to 12 PM

| Booth # | |
|---------|---|
| 7-1 | 1 Feldman, Howard R.*; Blodgett, Robert; Gray, Floyd; Scotese, Christopher; Lunzer, Shoshana: A RENEWED STUDY OF DEERPARKIAN (LATE PRAGIAN) BRACHIOPOD BIOGEOGRAPHY OF SOUTHEASTERN LAURENTIA AND ITS IMPLICATIONS FOR THE PALEOECOLOGY OF THE PRESENT-DAY WESTERN HEMISPHERE |
| 7-2 | 2 Rogers, Garrett*; Simpson, Edward; Wizevich, Michael: SEDIMENTOLOGY AND TAPHONOMY OF |

7-18 18 Burns, Aubrey*; Nagel-Myers, Judith: ANTHROPOGENIC IMPACT ON FRESHWATER BIVALVE GROWTH IN NORTHERN NEW YORK AND THE ADIRONDACK PARK

7-19 19 Ferrone, James; Thomka, James R.*: DISTRIBUTION AND TAPHONOMY OF CRINOIDS THROUGH THE 'ROARING BROOK BUTTER SHALE' INTERVAL OF THE WAYNESVILLE FORMATION (UPPER ORDOVICIAN: KATIAN, RICHMONDIAN), SOUTHEASTERN INDIANA

7-20 20 Wittmer, Jacalyn M.*; Masman, Jack; Rogerson, Julia; Gerstler, Kaitlyn; Burns, Katherine; Tobia, Carlo; Abbati, Emily; Gaudio, Sarah; Michelson, Andrew V.: ENVIRONMENTAL DIATOM RECORD OF CONESUS LAKE (WESTERN NEW YORK)

7-21 21 Tarlton, Laikin*; Patel, Alyssa A.; Horsfall, Taylor; Romero, Ingrid; Nuñez Otaño, Noelia B.; Wallace, Malcolm W.; Korasidis, Vera; O'Keefe, Jennifer: HIGH-LATITUDE FUNGAL PALYNOLOGY OF COALS AND INTERSEAM ROCKS LEADING TO THE MIOCENE CLIMATE OPTIMUM WARMING EVENT, VICTORIA, AUSTRALIA

7-22 22 Cabrera, Ryan J.*; Marsh, Christopher A.; VanderEspt, L. Olivia; Smallwood, Liberty F.; Romero, Ingrid; Nuñez Otaño, Noelia B.; Ochoa, Diana; O'Keefe, Jennifer: TROPICAL FUNGAL PALYNOLOGY OF EARLY-MIDDLE MIOCENE SEDIMENTS FROM NORTHWESTERN PERU

7-23 23 Goodin, John*; Them, Theodore; Newby, Sean; Caruthers, Andrew H.; Hagen, Amy; Marroquin, Selva M.; McCabe, Kayla; Trabucho Alexandre, João; Gill, Benjamin; Owens, Jeremy: REDOX FLUCTUATIONS ACROSS THE END TRIASSIC MASS EXTINCTION: TL ISOTOPIC EVIDENCE FOR EXPANSIONS IN GLOBAL ANOXIA

7-24 24 Collins, Catherine*; Mastro, Halley; Souza, Juliana; Christ, Andrew; Perdrial, Nico; Schauer, Andrew J.; Steig, Eric J.; Bierman, Paul R.: GEOCHEMISTRY, SEDIMENTOLOGY, AND PALEOECOLOGY OF SUBGLACIAL SEDIMENT IN THE 1966 CAMP CENTURY CORE REVEAL MULTI-MILLION-YEAR HISTORY OF NORTHWEST GREENLAND

7-25 25 Thomka, James R.*; Gunderson, Lilian K.; Billups, Drew A.; Bantel, Thomas E.: NAUTILOID CEPHALOPODS AS SUBSTRATA FOR ENCRUSTATION BY STALKED ECHINODERMS IN THE MIDDLE SILURIAN (WENLOCK) MASSIE FORMATION OF SOUTHEASTERN INDIANA

7-26 26 Anil, Busra*; Forbes, Michaela: COMPARISON OF ISOTOPIC CARBON EMISSIONS ON A GLOBAL SCALE IN THE LATE CRETACEOUS AND HUMAN IMPACT TODAY ON THE EAST COAST : THROUGH THE LENS OF EUSTATIC VARIATIONS AND NEGATIVE ISOTOPE EXCURSIONS

SESSION NO. 8

D6. Geoscience Education and Public Policy (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A-D

Authors will be present from 10 AM to 12 PM

| | Booth # | |
|-----|---------|--|
| 8-1 | 27 | Guertin, Laura*; Yakutchik, Maryalice; Pincus, Maya: AUDIO NARRATIVES FROM SCIENTIFIC OCEAN DRILLING: GATHERING CONTENT FOR STORYCORPS |
| 8-2 | 28 | Lam, Adriane*; Bauer, Jennifer E.; Daemmer, Linda K.; Sheffield, Sarah; Barclay, Kristina M.; Bolger, Lexi; Lundgren, Lisa; Slater, Emily: SUPPORTING THE NEXT GENERATION OF EARTH SCIENCE STEWARDS THROUGH INITIATIVES, SOCIAL MEDIA RESEARCH, AND COLLABORATIONS |
| 8-3 | 29 | Daniels, Stacey*; Walter, Robert; Merritts, Dorothy J.; Fleming, Patrick; Sauder, Anthony: THE H2GEO CAMP: BUILDING FUTURE GEOSCIENTISTS WITH HANDS-ON, PLACE-BASED EXPERIENCE THROUGH A CHESAPEAKE BAY WATERSHED HYDROGEOLOGY |

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| | | FIELD SCHOOL TARGETING HIGH SCHOOL STUDENTS IN LANCASTER AND CUMBERLAND COUNTIES, PENNSYLVANIA |
| 8-4 | 30 | Gonzalez, Stephany*; Brunstad, Keith: CHALLENGES OF RESERVOIR SEDIMENTATION AND PUBLIC POLICY: WHAT THE SEDIMENTARY RECORD CAN TEACH US AND HOW TO COMMUNICATE THE FINDS TO THE PUBLIC AND STAKEHOLDERS |
| 8-5 | 31 | Tindall, Sarah*; Eckert, Andreas; Hogan, John; Locmelis, Marek; Kaiser, Jason: ROADMAPS INTO THE GEOSCIENCES (RIGS): DETOURS AND SHORTCUTS DURING A GEOPATHS-EXTRA SUMMER PROGRAM, 2019-2022 |
| 8-6 | 32 | Stapleton, Colleen*: SUSTAINABLE ECOTOURISM IN COSTA RICA: BEGINNING TO BUILD STUDENT INTEREST IN GEOSCIENCE THROUGH PROGRAMMATIC CHANGE |
| 8-7 | 33 | Alberti, Anna*; Ernst, Joshua; Pooler, Tadhg; Roberts, Alaska; Freed, Tessa; Cook, Jamie; Burbank, Hope: STUDENT PERSPECTIVES OF THE 2022 PENNSYLVANIA STATE SYSTEM OF HIGHER EDUCATION (PASSHE) GEOSCIENCE SUMMER FIELD COURSE |
| 8-8 | 34 | Fredrick, Kyle*; Harris, Daniel: GAUGING STUDENTS' PERCEPTIONS FROM INTRODUCTORY GEOLOGY COURSES THROUGH PRE- AND POST-COURSE SURVEYS |

SESSION NO. 9

D7. Geochemistry, Mineralogy, Petrology, and Volcanology (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A-D

Authors will be present from 10 AM to 12 PM

| | Booth # | |
|-----|---------|--|
| 9-1 | 35 | Barnard, Michael*; Westerman, David: NEWLY RECOGNIZED PETROLOGIC AND GEOCHEMICAL EVIDENCE FOR SILURO-DEVONIAN FELSIC VOLCANISM ALONG THE MARGIN OF THE CONNECTICUT VALLEY- GASPÉ BASIN |
| 9-2 | 36 | Martin, Jeremiah*; Severs, Matthew: MINERAL GEOCHEMISTRY OF MANTLE XENOLITHS AND THEIR HOST LAMPROPHYRES, WESTERLY, RHODE ISLAND |
| 9-3 | 37 | Rosal, Joseph*; Severs, Matthew J.: GEOCHEMICAL ANALYSES OF MINERALS IN LAMPROPHYRES FROM THE CORTLANDT-BEEMERVILLE TREND, NEW JERSEY- NEW YORK |
| 9-4 | 38 | McCoy-Bruce, Thomas*; Lewis, Gregory P.; Muthukrishnan, Suresh: BIOGEOCHEMISTRY OF SMALL HEADWATER WETLANDS IN THE SOUTH CAROLINA PIEDMONT |
| 9-5 | 39 | Caccamesi, Dylan D.*; Steup, Kadie J.; Severs, Matthew J.: LINKING LAMPROPHYRE DIKES AND HYDROTHERMAL GOLD DEPOSITS IN GREAT FALLS PARK, MARYLAND AND VIRGINIA |
| 9-6 | 40 | Allman, Lindsay*; Sengupta, Kanwa; Stewart, Emily; Mookherjee, Mainak; Basu, Abhisek: CONTACT METAMORPHISM AND DECARBONATION DURING EMPLACEMENT OF THE CENTRAL ATLANTIC MAGMATIC PROVINCE, FLORIDA |
| 9-7 | 41 | Miller, Jesse*; Munoz, Sebastian; Ramos, Evan J.; Custado, Manuel Justin; Ibarra, Daniel E.: TEMPERATURE DEPENDENT DISSOLUTION EXPERIMENTS OF BASALT, DACITE AND PUMICE FROM THE LITTLE DESCHUTES RIVER VALLEY, OR |
| 9-8 | 42 | Tefend, Karen*; Kath, Randy L.: GEOCHEMICAL INVESTIGATION OF THE LONG ISLAND CREEK GNEISS: IMPLICATIONS FOR THE PALEOZOIC TECTONICS OF THE SOUTHERN APPALACHIANS |
| 9-9 | 43 | Harper, Abigail*; Fleck, Bella; Depalma, Raymond; Revels, Isabella; Chadwick, John: EVIDENCE FOR |

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| | | | | 10-6 | 59 | Jaret, Steven*; Tailby, Nicholas D.; DiPadova, Emmett; Yuan, Victoria; Spaeth, Lynsey; Randle, David; Ebel, Denton; Hammond, Keiji: A TEACHER'S GUIDE FOR THE GEOLOGY OF CENTRAL PARK, NEW YORK CITY |
| 9-10 | 44 | Warren, Kayla*; Boroughs, Scott: INVESTIGATION OF MIOCENE AGE RHYOLITE TUFFS ALONG THE YELLOWSTONE HOT SPOT TRACK | | 10-7 | 60 | Grudovich, Cory*; Brink-Roby, David; Walsh, Talor: INCORPORATING TEMPORAL CHANGES IN MATERIAL PROPERTIES INTO ANALOG MODELING |
| 9-11 | 45 | Dietsch, Craig*; Hannon, Jeff: THE TRACE ELEMENT GEOCHEMISTRY OF BENTONITE ZIRCONS RECORDS IGNEOUS PROVENANCE AND MAGMATIC PROCESSES: AN EXAMPLE USING CRETACEOUS BENTONITES FROM THE BIGHORN BASIN, WYOMING | | 10-8 | 61 | Frost, Daniel*; Ford, Ashley; Robinson, Chase; Zollinger, Logan; White, Scott M.; Crotwell, H. Philip: ANALYSIS OF NETWORK AND NODAL SEISMIC DATA TO CHARACTERIZE THE ELGIN, SOUTH CAROLINA EARTHQUAKE SWARM |
| 9-12 | 46 | Elvidge, Aphelion*; Lavis, Shaun; Mazza, Sarah E.: EVIDENCE OF AN ERODED VOLCANO: ORIGIN OF MAFIC GRAINS IN WHALEBONE BAY, BERMUDA | | 10-9 | 62 | Nielsen, Julia*; Gage, Henry J.M.; Eyles, Carolyn H.: FRACTURE APERTURE EFFECT ON THE DYNAMIC THERMAL GRADIENT REGIME IN FRACTURED SEDIMENTARY ROCKWALL |
| 9-13 | 47 | Jaeschke, Jeanne*; Polite, Bridgette; Varonka, Matthew; Kent, Douglas B.; Cozzarelli, Isabelle: PRODUCED WATER GEOCHEMICAL CHARACTERIZATION FROM A MARCELLUS-SHALE NATURAL GAS WELL RESEARCH SITE | | | | |
| 9-14 | 48 | Currier, Ryan*; Hidalgo, Paulo; Guerrier, Anjelica; Bitner, Lucian; Ruhukya, Jessica; Stephens, Zion: USING CRYSTAL PREFERRED ORIENTATION (CPO) TO BETTER INTERPRET IGNEOUS ROCK TEXTURE | | | | |
| 9-15 | 49 | Del conte, Joseph*; Severs, Matthew; Hayden, Russell P.; Briggs, Ryan D.; Recchia, Rosalie T.: REMAPPING AND GEOCHEMICAL ANALYSIS OF THE CROTON FALLS AND PEACH LAKE PLUTONS IN SOUTHERN NEW YORK AND PLACING THEM IN THE CONTEXT OF THE BEEMERVILLE-CORTLANDT TREND | | | | |
| 9-16 | 50 | Hale, Jason*; Appelle, Samantha; Evans, Mark A.; Oyewumi, Yinka: EVALUATING MOBILIZATION AND TRANSPORT OF TRACE ELEMENTS ALONG MINE BROOK SEDIMENTS WITHIN COBALT LEGACY MINE WATERSHED, EAST HAMPTON, CT | | | | |
| 9-17 | 51 | Hirosky, Breanna*; Dragovic, Besim; Brown, Allison: THERE AND BACK AGAIN: AN ELOGITE TALE FROM THE ASHE METAMORPHIC SUITE | | | | |
| 9-18 | 52 | Hart, Roger*; Cardace, Dawn: PRELIMINARY MODELS OF MINERALOGIES FROM NEAR-SURFACE WATER-ROCK SIMULATIONS AT THE NILI FOSSAE REGION, MARS | | | | |
| 9-19 | 53 | Hess, Mark Patrick*; McClellan, Elizabeth: GLACIERS AND VOLCANISM: INVESTIGATING THE CONTACT BETWEEN THE NEOPROTEROZOIC KONNAROCK AND MOUNT ROGERS FORMATIONS, SW VA | | | | |

SESSION NO. 10**D8. Structural Geology and Tectonics (Posters)**

8:00 AM, Hyatt Regency Reston, Grand Ballroom A-D

Authors will be present from 10 AM to 12 PM

| Booth # | |
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| 10-1 | 54 Evans, Mark*: DEEP SYNTECTONIC BURIAL OF THE ANTHRACITE BELT, PENNSYLVANIA |
| 10-2 | 55 Kuiper, Yvette*; Barr, Sandra: AN OVERVIEW OF INTERPRETED NORTHWEST AFRICAN CRUSTAL FRAGMENTS IN THE NORTHERN APPALACHIAN OROGEN |
| 10-3 | 56 Cooper Boemmels, Jennifer*; Crespi, Jean: EXPLORING THE CRUSTAL EXPRESSION OF EDGE-DRIVEN CONVECTION WITHIN THE PASSIVE MARGIN SETTING: AN EARLY CRETACEOUS EXAMPLE FROM THE NORTHERN APPALACHIANS |
| 10-4 | 57 Keirs, Austin*; Anderson, Thomas: DISCONTINUITIES AT THE BASE OF LATE PALEOZOIC SECTIONS- ANCESTRAL ROCKIES UNCONFORMITIES, TERTIARY DETACHMENTS, OR BOTH? |
| 10-5 | 58 Meenan, Natalie*; Arora, Shreya: PALEOSEISMIC INVESTIGATION OF THE CENTRAL SEISMIC GAP AND AD1505 EARTHQUAKE: NORTHWEST HIMALAYA, INDIA |

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 11**D2. Economic, Energy, and Environmental Geology**

1:30 PM, Hyatt Regency Reston, Lake Thoreau

Graham Lederer, Presiding

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| 11-1 | 1:30 PM | Wu, Kongyou*: TYPES AND EVOLUTION OF FAULTS IN THE EAST AREA OF THE WUSHI SAG, BEIBUWAN BASIN |
| 11-2 | 1:50 PM | Lederer, Graham*; Rosera, Joshua M.; Goldman, Margaret: AUTOMATED SOLUTIONS FOR GEOREFERENCING AND VECTORIZING GEOLOGICAL MAPS |
| 11-3 | 2:10 PM | Epstein, Samuel*; Sassen, Roger: A CASE FOR MESOZOIC HYDROCARBON ULTRA-DEEP EXPLORATION: BALTIMORE CANYON, U.S. OFFSHORE EAST COAST |
| 11-4 | 2:30 PM | Isphording, Wayne*: FAUNAL MORTALITY AT A GULF COAST AQUACULTURE SITE...CARELESS DREDGE SPOIL RELEASE OR "NATURAL SEDIMENTATION"? PLM-XRD ANSWERS THE QUESTION! |
| 11-5 | 2:50 PM | Moore, Alexandra*; Belle, Donald; Haas, Don; Lienau, Kurt; Matthews, Danita; Rangasammy, Godfrey; Sookdeo, Ashok; Ross, Robert; Zabel, Ingrid H.H.: A WATERSHED OF TREES, PRINCE GEORGE'S COUNTY PUBLIC SCHOOLS, MD: STUDENT DATA COLLECTION IN SUPPORT OF CLIMATE ACTION AND ENVIRONMENTAL JUSTICE |
| 11-6 | 3:10 PM | Fulginiti, John*; Paterson, Audrey; Engel, Annette Summers; Rigoni, Hannah; Frazier, Victoria: FUNCTIONAL POTENTIAL AND DIVERSITY OF THE BACTERIAL FAMILY PSEUDONOCARDIACEAE FROM CAVES |

SESSION NO. 12**S6. The Grenville Orogen in Eastern North America (GSA Geophysics and Geodynamics Division)**

1:30 PM, Hyatt Regency Reston, Regency Ballroom A

Gregory Walsh, Paul Mueller and Peter Valley, Presiding

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| | 1:30 PM | Introductory Remarks |
| 12-1 | 1:35 PM | Turner, Brian*: ORIGIN OF AMCG BODIES IN THE HUDSON RIVER LINEAMENT: AN OUTRAGEOUS HYPOTHESIS UPDATED |
| 12-2 | 1:55 PM | Walsh, Gregory*; Valley, Peter; Regan, Sean P.; Geer, Phillip S.; Merschat, Arthur; Suarez, Kaitlyn A.; Aleinikoff, John N.; McAleer, Ryan J.: BEDROCK GEOLOGIC MAPPING IN THE ADIRONDACK HIGHLANDS, NEW YORK |
| 12-3 | 2:15 PM | Toraman, Erkan*; Chiarenzelli, Jeffrey R.: WHAT LIES BENEATH THE ADIRONDACK LOWLANDS? INSIGHTS FROM U-PB ZIRCON GEOCHRONOLOGY |

- 12-4 2:35 PM Valley, Peter*; Walsh, Gregory; McAleer, Ryan; Holm-Denoma, Chris; Odom, William: NEOPROTEROZOIC DIKES OF THE NORTHEASTERN ADIRONDACK MOUNTAINS
- 12-5 2:55 PM Aleinikoff, John*; Walsh, Gregory: EVIDENCE FOR MULTIPLE AGES OF ANORTHOSITE EMPLACEMENT, MARCY MASSIF, ADIRONDACKS, NY
- 3:15 PM Break
- 12-6 3:30 PM Miller, Brent V.; Barr, Sandra*; White, Chris E.: STENIAN-TONIAN ANORTHOSITE AND RELATED ROCKS IN MARITIME CANADA: U-PB, TRACE-ELEMENT AND HF ISOTOPIC EVIDENCE FOR PROVENANCE
- 12-7 3:50 PM Tebbens, Hannah*; Bailey, C.M.; Foster-Baril, Zachary; Ruiz, Daniel; Juarez-Zuniga, Sandra; Stockli, Daniel F.: THE AGE AND ORIGIN OF NELSONITE IN THE CENTRAL VIRGINIA BLUE RIDGE: EVIDENCE OF POST-GRENVILLE MAGMATISM DUE TO OROGENIC COLLAPSE
- 12-8 4:10 PM Samson, Scott*; Moecher, David P.: TAKING THE TEMPERATURE OF GRENVILLIAN GRANITIC MAGMAS – HOW HOT IS HOT?
- 12-9 4:30 PM Moecher, David*; Samson, Scott: THE GRENVILLIAN EVOLUTION OF SOUTHEASTERN LAURENTIA AND POTENTIAL TECTONIC LINKS TO WESTERN AMAZONIA
- 4:50 PM Concluding Remarks

SESSION NO. 13

T41. Barrier Island and Backbarrier Sediment Dynamics (GSA Marine and Coastal Geoscience Division; GSA Geophysics and Geodynamics Division)

1:30 PM, Hyatt Regency Reston, Lake Audubon

Zoe Hughes, Lucila J. Houttuijn Bloemendaal and Alice Staro, Presiding

- 13-1 1:30 PM Epstein, Samuel*; Epstein, Peggy; Sassen, Roger; Benimoff, Alan; Peters, Jonathan: COASTAL RISK MANAGEMENT- A GEOLOGICAL PERSPECTIVE, ROCKAWAY BEACH, QUEENS, NEW YORK
- 13-2 1:50 PM Warehime, Jonathan*; McLachlan, Robin: DETERMINING THE IMPACT OF SEDIMENT PROPERTIES ON RATES OF GEOMORPHIC CHANGE: LITTLE CUMBERLAND ISLAND, GA
- 13-3 2:10 PM Alexander, Clark*; Venherm, Claudia; Robinson, Michael: SEDIMENT PROCESSES IN BARRIER ISLAND SYSTEMS IN GEORGIA, USA: STATUS AND IMPLICATIONS FOR FUTURE PERSISTANCE
- 13-4 2:30 PM Hansen, Lucy*; Cook, Tim; Woodruff, Jonathan D.; Griswold, Frances; Autery, Molly: INVESTIGATING THE SEDIMENT DYNAMICS OF NEW ENGLAND SALT MARSH POOLS AT REID STATE PARK, MAINE
- 13-5 2:50 PM Fenster, Michael*; Dominguez, Rachele; McManus, John: QUANTIFYING STORMINESS AND THE CUMULATIVE IMPACT OF STORMS ALONG THE U.S. EAST COAST USING STORM SURGE AND WAVE POWER
- 13-6 3:10 PM Heminway, Selwyn*; Davis, Elizabeth H.; Cohn, Nicholas; Hein, Christopher J.: MODELED INFLUENCE OF VARIABLE STORM INTENSITY AND SEA-LEVEL RISE ON BARRIER-ISLAND FOREDUNE STABILITY
- 13-7 3:30 PM Huffman, Emily*; Simms, Alexander R.; Ciarletta, Daniel; Lorenzo-Trueba, Jorge: THE IMPORTANCE OF AUTOGENIC PROCESSES IN THE DEVELOPMENT OF BEACH RIDGES IN AREAS UNDERGOING UPLIFT DUE TO POST-GLACIAL REBOUND

SESSION NO. 14

T7. Integrated Ichnostratigraphy: Trace Fossils at Unconformities

1:30 PM, Hyatt Regency Reston, Regency Ballroom B

Andrew Rindsberg and Corey Hensen, Presiding

- 14-1 1:30 PM Hensen, Corey*; Rindsberg, Andrew; Ivany, Linda: MARINE FIRMGROUNDS OF THE MIDDLE EOCENE

COOK MOUNTAIN AND LISBON FORMATIONS: UNDERSTANDING SHELF EVOLUTION DURING THE LATE LUTETIAN HIGHSTAND, EASTERN U.S. GULF COASTAL PLAIN

- 14-2 1:50 PM Rindsberg, Andrew K.*; Hensen, Corey: "IRREGULAR THALASSINOIDES" AT EOCENE UNCONFORMITIES IN THE U.S. GULF COASTAL PLAIN
- 14-3 2:10 PM Martino, Ronald*: INTEGRATED ICHNOLOGY, SEDIMENTOLOGY, AND SEQUENCE STRATIGRAPHY OF A LOWER PENNSYLVANIAN OIL PLAY, SOUTHERN OHIO
- 14-4 2:30 PM Etensohn, Frank*: LATE ORDOVICIAN TRACE FOSSILS LEFT BY FIXOSESSILE CORAL COLONIES AT A PRE-BENTONITE DIASTEM, CENTRAL KENTUCKY, USA
- 14-5 2:50 PM Kopaska-Merkel, David C.; Rindsberg, Andrew*; Ebersole, Sandy: IT WAS A DARK AND STORMY NIGHT: THE ICHNOSTRATIGRAPHIC RECORD OF A BRIEF EVENT IN THE PENNSYLVANIAN OF NORTHWESTERN ALABAMA

SESSION NO. 15

T10. Trace Elements in the Environment (GSA Hydrogeology Division)

1:30 PM, Hyatt Regency Reston, Lake Fairfax

Melissa Lombard, Isabelle M. Cozzarelli and Madeline Schreiber, Presiding

- 1:30 PM Introductory Remarks
- 15-1 1:35 PM Lombard, Melissa*; Brown, Eric E.; Saftner, Daniel; Brown, Craig J.; Arienzo, Monica; Ayotte, Joseph; Fuller-Thomson, Esme: A MACHINE LEARNING MODEL TO ESTIMATE THE OCCURRENCE OF LITHIUM IN GROUNDWATER USED AS DRINKING WATER FOR THE CONTIGUOUS UNITED STATES
- 15-2 1:55 PM Hayes, Audrey*; Beutel, Erin K.: BEDROCK AND FRACTURE PATTERNS CONTROL HIGH NATURAL GROUNDWATER ARSENIC CONCENTRATIONS IN THE PIEDMONT OF NORTH CAROLINA
- 15-3 2:15 PM Cozzarelli, Isabelle*; Ziegler, Brady; Jones, Katherine; Lacey, Zoe; Schreiber, Madeline: MOBILIZATION OF ARSENIC AND TRACE ELEMENTS FROM ORGANIC CARBON DEGRADATION IN AQUIFERS AFFECTED BY SPILLS
- 15-4 2:35 PM Ming, Cissy*; Schreiber, Madeline: GEOCHEMICAL DRIVERS OF MN REMOVAL IN DRINKING WATER RESERVOIRS UNDER HYPOLIMNETIC OXYGENATION
- 15-5 2:55 PM Vengosh, Avner*; Wang, Zhen; Williams, Gordon; Hill, Robert; Dwyer, Gary S.; Duckworth, Owen; Gatiboni, Luke; Schnug, Ewald; Sun, Yajie; Bol, Ronald; El-Hasan, Tayel; Haneklaus, Silvia; Bahadir, Müfit; Singh, Anjali; Shrivastava, Ankush: TRACKING TRACE ELEMENT CONTAMINATION FROM PHOSPHATE ROCKS AND FERTILIZERS USING STRONTIUM ISOTOPES
- 3:15 PM Break
- 15-6 3:30 PM Hu, Jun*; Wang, Zhen; Williams, Gordon; Dwyer, Gary S.; Gatiboni, Luke; Duckworth, Owen; Vengosh, Avner: ACCUMULATION AND DISTRIBUTION OF TRACE ELEMENTS IN AGRICULTURAL SOILS IMPACTED FROM LONG-TERM PHOSPHATE FERTILIZER APPLICATION
- 15-7 3:50 PM Nwoko, Chukwudi*; Singer, David: LEAD SPECIATION IN URBAN SOILS AT THE HOUSE-SCALE
- 15-8 4:10 PM Calderon, Anna*; Hayhow, Claire; Jim, Rebecca; Lively, Martin; Brabander, Daniel: INFORMING ACTIVIST AGENDAS BY DOCUMENTING HISTORIC AND CURRENT TRANSPORT PATHWAYS OF LEGACY METALS AT THE TAR CREEK SUPERFUND SITE, OK
- 15-9 4:30 PM Mokhtar, Yossra*; Warner, Nathaniel: OIL AND GAS PRODUCED WATERS VERSUS COMMERCIAL DUST SUPPRESSANTS APPLIED TO GRAVEL ROADS: AIR QUALITY IMPACTS

4:50 PM Discussion

5:05 PM Concluding Remarks

SESSION NO. 16**T15. Using the Sedimentary Record to Investigate Appalachian and Ouachita Tectonics**

3:25 PM, Hyatt Regency Reston, Regency Ballroom B

William Jackson Jr., Matthew McKay and Brian Cook, Presiding

3:25 PM Introductory Remarks

16-1 3:30 PM Weislogel, Amy*: DECIPHERING THE CONTROLS ON SYNOROGENIC SEDIMENT COMPOSITION DURING THE PENNSYLVANIAN ALLEGHENY OROGENY

16-2 3:50 PM Ettensohn, Frank*: UNDERSTANDING THE SPATIAL AND TEMPORAL DISTRIBUTION OF APPALACHIAN OROGENIES USING THE SEDIMENTARY RECORD OF FLEXURAL, FORELAND-BASIN, TECTOPHASE CYCLES: EXAMPLES FROM THE TACONIAN OROGENY

16-3 4:10 PM Larsen, Daniel*; Harrison, Valarie; Myrman, Tyler; Cox, Randel T.: ANALYSIS OF MESOSCALE STRUCTURES IN PALEOZOIC STRATA ON THE WESTERN HIGHLAND RIM, TENNESSEE, WITH IMPLICATIONS FOR APPALACHIAN AND OUACHITA TECTONICS

16-4 4:30 PM Ver Straeten, Charles*: INVESTIGATING THE ACADIAN-NEOACADIAN OROGENIES: MULTIPLE FORELAND LESSONS

16-5 4:50 PM Cook, Brian; Jackson, William*: INVESTIGATING STRUCTURAL AND STRATIGRAPHIC RELATIONSHIPS WITH DETRITAL HEAVY MINERAL GEOCHRONOLOGY FOR THE DEVONIAN FROG MOUNTAIN SANDSTONE IN ALABAMA, SOUTHERN APPALACHIANS

5:10 PM Tribute to Bill Thomas

18-2 5 Doctor, Daniel*; Odom, William; Cox, Cheyenne L.; Pitts, Alan: OPTIMIZED LIDAR-DERIVED TERRAIN IMAGERY FOR LANDFORM IDENTIFICATION, MAPPING AND CLASSIFICATION IN THE APPALACHIANS

18-3 6 Witt, Anne*; Kelly, Wendy: DEFINING AND DELINEATING ANCIENT LANDSLIDE DEPOSITS DURING HAZARD MAPPING IN VIRGINIA

18-4 7 Heller, Matthew*; Mangum, Holly E.; Lang, Katherine E.; Swanger, William R.; Witt, Anne C.; Occhi, Marcie E.; Williams, Lauren A.: A SCALE-BASED APPROACH TO MAPPING SURFICIAL DEPOSITS IN VIRGINIA

18-5 8 Parker, Mercer*; Self-Trail, Jean; Govoni, David L.; Bybell, Laurel M.: GRAIN-SIZE AND PETROGRAPHIC ANALYSIS OF PALEOGENE AQUIA FORMATION SEDIMENTS AND INDURATED BEDS IN THE NORTHERN SALISBURY EMBAYMENT: TINKERS CREEK, MARYLAND – MID-ATLANTIC COASTAL PLAIN

SESSION NO. 19**T1. Resilience and Resource Strategies for the Coastal and Nearshore Zone in a Changing World (Posters) (GSA Energy Geology Division; GSA Marine and Coastal Geoscience Division)**

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

Booth #

19-1 9 Balasuriya, Divomi*; Passchier, Sandra: THE EFFECT OF SAND NOURISHMENT ON BEACH SEDIMENT COMPOSITION OF SANDY HOOK, NEW JERSEY

19-2 10 Long, Ashley McCleaf*; Dobbs, Kerby M.; Turner, Lora A.: GENERATING SWELL: HOW THE BUREAU OF OCEAN ENERGY MANAGEMENT'S NATIONAL OFFSHORE SAND INVENTORY AND MARINE MINERALS INFORMATION SYSTEM SUPPORT COASTAL RESILIENCE AND OCEAN USE PLANNING

19-3 11 Rosenberg, Brittany*; Myers, Braden; Ku, Timothy; Hernandez, Shay; Martini, Anna; Main, Roxanne; Ruderman, Ethan; Thorhaug, Anitra: SOURCES OF BLUE CARBON IN NATURAL AND RESTORED MANGROVE ECOSYSTEMS OF BISCAYNE BAY, FLORIDA, USA

19-4 12 Hernandez, Shay*; Martini, Anna; Ruderman, Ethan; Main, Roxanne; Ku, Timothy; Myers, Braden; Rosenberg, Brittany; Thorhaug, Anitra: DIAGENESIS IN MANGROVE AND SEAGRASS CORES TAKEN FROM NATURAL AND RESTORED BLUE CARBON ECOSYSTEMS IN BISCAYNE BAY, FLORIDA

19-5 13 King, Jessica*; Mallinson, David; Culver, Stephen J.: PALEOENVIRONMENTAL CHANGES RELATED TO RAPID SEA-LEVEL RISE DURING THE LATE PLEISTOCENE IN THE LOWER NEUSE RIVER BASIN, NORTH CAROLINA

19-6 14 Wykel, C. Andrew; Doar, William*: STRUCTURE CONTOUR MAP OF THE CRETACEOUS PEEDEE FORMATION, Horry COUNTY, SOUTH CAROLINA WITH PALEO-VALLEYS AND PALEO-ESCARPMENTS

SESSION NO. 20**T24. Undergraduate and Graduate Geoscience Student Showcase (Posters) (Council on Undergraduate Research Geosciences Division; GSA Energy Geology Division)**

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

Booth #

20-1 15 Dellinger, Georgia*; Hanebuth, Till; Nagai, Renata: ANTHROPOGENIC FLOATING DEBRIS ACCUMULATION IN ESTUARINE SYSTEMS

**AFTERNOON
POSTER TECHNICAL SESSIONS****SESSION NO. 17****T9. Landslide Investigations in the Eastern United States (Posters)**

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

Booth #

17-1 1 Galarza, Bella; Brencher, Reed; Klepeis, Keith*; Kim, Jonathan: ROCKSLIDE HAZARD MITIGATION USING DRONE SURVEYS, FRACTURE MEASUREMENTS, AND VOLUMETRIC ANALYSIS OF A CLIFF FACE, WRIGHTSVILLE DAM SPILLWAY, CENTRAL VERMONT

17-2 2 Palmer, Megan*; Mcsweeney, Robert; Nandi, Arpita: ANALYZING DEBRIS FLOW HAZARDS IN EAST TENNESSEE TRANSPORTATION CORRIDORS

17-3 3 Ruiz Perea, Anishka M.; Hughes, Stephen*: SLIDES-PR: DRIVING LANDSLIDE HAZARD SCIENCE AND RISK COMMUNICATION IN PUERTO RICO

SESSION NO. 18**T29. Mapping Surficial Deposits in the Appalachians: Field Methods, Digital Techniques, and Classification Strategies (Posters)**

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

Booth #

18-1 4 Jackson, Rachel*; Doctor, Daniel; Odom, William: PROGRESS TOWARDS A COMPILATION OF SURFICIAL MAP UNITS IN THE DELAWARE RIVER BASIN

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| 20-2 | 16 | Lara, Melaney*: DETERMINING THE DOMINANT SOURCE(S) OF FRESHWATER TO A COASTAL ESTUARY: BISCAYNE BAY, FLORIDA | 20-17 | 31 | Robillard, Andrew*; Karimi, Bobak; Sensenig, Dawson; Finkenbinder, Matthew: BEDROCK GEOLOGY MAP AND STRUCTURAL ANALYSES OF THE COW HEAD PENINSULA IN NEWFOUNDLAND, CANADA |
| 20-3 | 17 | Maisch, Harry*; Ellis, Marie C.; Bakker, Pierce J.; Ayala, Giulia F.; Pecora, Domenic R.; Merrill, Caleigh G.; Judson, Breona K.; Becker, Martin A.: ANALYSIS OF SUBMERGED FOSSILIFEROUS LAG DEPOSITS FROM VENICE, SARASOTA COUNTY, FL, USA | 20-18 | 32 | Sensenig, Dawson*; Finkenbinder, Matthew; Robillard, Andrew; Karimi, Bobak: GEOCHEMICAL ANALYSIS OF THE SHALLOW BAY FORMATION AT THE COW HEAD PENINSULA IN NEWFOUNDLAND, CANADA |
| 20-4 | 18 | Lentz, Evan S.*; Aurelio, R. Peter; Pennella, Rocco L.; Pecora, Domenic R.; Gordon, Emily P.; MacDonald, James; Barbosa, Alli: POWDERED X-RAY DIFFRACTION AND PORTABLE X-RAY FLUORESCENCE STUDY OF THE CALOOSAHATCHEE AND FORT THOMPSON FORMATIONS, LEE AND HENDRY COUNTIES, SOUTHWEST FLORIDA. INSIGHTS INTO THE MINERALOGY AND ORIGIN OF THESE CARBONATES | 20-19 | 33 | Peluso, Jessica*; Cardace, Dawn: LOW TEMPERATURE, OXIDATIVE ALTERATION OF BASALT: SPECIAL IMPLICATIONS FOR BIOCORROSION |
| 20-5 | 19 | Colip, Grant*; Leithold, Elana L.; Wegmann, Karl; Brothers, Daniel S.; Burr, Rika: SEISMIC REFLECTION IMAGERY AIDS LATE QUATERNARY EARTHQUAKE HISTORY RECONSTRUCTIONS AT LAKE CRESCENT, WASHINGTON, USA | 20-21 | 35 | Corsello, Alexander*; Lam, Adriane R.; Beck, Catherine; Wegter, Bruce: ISOTOPE PALEOECOLOGY OF THE MIOCENE PLANKTIC FORAMINIFERA GLOBOQUADRINA DEHISCENS AS INFERRED FROM INTERNATIONAL OCEAN DISCOVERY PROGRAM SITE U1510, SOUTHWEST PACIFIC |
| 20-6 | 20 | Jelic, Amelia*; Rodysill, Jessica; Toomey, Michael; Donnelly, Jeffrey P.: MID-HOLOCENE DROUGHTS IN THE SOUTHEASTERN U.S RECORDED IN LACUSTRINE SEDIMENT LITHOLOGY AND SUB-BOTTOM STRATIGRAPHY | 20-22 | 36 | Heo, Charlotte*; Lam, Adriane R.; Patterson, Molly O.; Wegter, Bruce; Beck, Catherine: RECONSTRUCTION OF MID-LATITUDE SURFACE OCEAN HIGHLY DEPENDENT ON PALEOECOLOGY: ASYNCHRONOUS RESPONSE TO DIFFERENT WARMING EVENTS IN THE KUROSHIO CURRENT EXTENSION DURING THE MPWP |
| 20-7 | 21 | Finks, Lindsey*; Gannon, John: EXPLORING CRITICAL ZONE CONTROLS ON RUNOFF GENERATION IN 92 WATERSHEDS ACROSS THE SOUTHERN APPALACHIAN MOUNTAIN REGION | 20-23 | 37 | Herho, Sandy*; Evans, Michael N.; Wollney, Jenna C.; Carter, Austin C.; Gbenro, Mary A.; D'Arrigo, Rosanne: ANNUALLY-RESOLVED ENSO-HYDROCLIMATE ACTIVITIES AS RECORDED IN STABLE OXYGEN ISOTOPE OF TECTONA GRANDIS L. F. FROM SOUTHEAST SULAWESI OVER THE PAST ~300 YEARS |
| 20-8 | 22 | Topness, Rebecca G.*; Thomas, Elizabeth K.; Briner, Jason; Prince, Karlee; Cowling, Owen: EVALUATING LAKE RESPONSE TO RAPID WARMING IN WESTERN NEW YORK USING A PROXY SYSTEM MODEL | 20-24 | 38 | Voss, Zachary Martin*; Silvernail, Adam Emerson; Janowski, Nicholas T.; Licata, Sydney R.; Ellis, Zachary Connor; North, Thomas Andrea; Schmitkons, Jonathan; Lam, Adriane R.: MULTI-PROXY RECONSTRUCTION OF THE MID LATITUDES, TASMAN SEA, IODP SITE U1510, DURING THE MIOCENE CLIMATE OPTIMUM AND MID-MIOCENE CLIMATE TRANSITION |
| 20-9 | 23 | Marshall, Julian; Nippani, Siddharth*; Ryan, Maris; Bowlby, Thomas; Chalk, Francis; Pietras, Jeffrey T.; Schmitkons, Jonathan: FAYETTEVILLE GREEN LAKE DENSITY DATA REVEALS LOCAL IMPLICATIONS OF CLIMATE CHANGE | 20-25 | 39 | Schwarz-Eise, Sophie*; McCarthy, Colin; Cvetanovic, Jovana; Patino, Alfredo; Usmani, Aiesha; Kulhanek, Denise K.; McKay, Robert M.; Patterson, Molly O.; Schmitkons, Jonathan: CT SCAN ANALYSIS OF PLEISTOCENE DEGLACIATION RECORDED IN ANTARCTIC SEDIMENT AT IODP SITE U1524 |
| 20-10 | 24 | Tigges, Sophia*; FitzGerald, Duncan; Hughes, Zoe; Novak, Alyssa: QUANTIFYING CLIMATE-DRIVEN SALT MARSH PLATFORM DEGRADATION THROUGH THE FORMATION OF POTHOLES IN THE GREAT MARSH, MA | 20-26 | 40 | Koorapati, Ravi Kiran*; Lam, Adriane R.; Guerin, Gilles; Yeon, Jesse; Teagle, Damon; Reece, Julia S.; Coggon, Rosalind M.; Sylvan, Jason; Williams, Trevor; Estes, Emily Racz: MIDDLE MIOCENE QUALITATIVE RECONSTRUCTION OF THE OLIGOTROPHIC SOUTH ATLANTIC GYRE, IODP EXPEDITIONS 390/393 |
| 20-11 | 25 | Barker, Kelsey*; Barth, Aaron; Cuzzzone, Joshua: FILLING IN THE GAPS FOR LAURENTIDE DEGLACIAL THINNING IN THE ADIRONDACK MOUNTAINS, NEW YORK, USA | 20-27 | 41 | Barbelet, Thea C.*; Royce, Bethany; Heo, Charlotte; Patterson, Molly O.; Pietras, Jeffrey T.: PLIOCENE DEEP OCEAN CIRCULATION IN THE SOUTHWEST PACIFIC |
| 20-12 | 26 | Chimezie, Joan*; Willard, Debra A.; Jones, Miriam C.; Hotchkiss, Sara C.: HOLOCENE PEATLAND FIRE RECONSTRUCTION IN THE APPALACHIAN MOUNTAINS OF WEST VIRGINIA, USA | 20-28 | 42 | Crestohl, Yettive S.*; Bush, Andrew: EXPLORING THE IMPACTS OF PRESERVATION ON PALEONTOLOGICAL DATA: A LITERATURE-BASED SURVEY OF BODY SIZE AND BIODIVERSITY IN LATE MESOZOIC-PALEOGENE GASTROPODS |
| 20-13 | 27 | Zigah, Michael*: PYROGENIC ORGANIC MATTER IN SEDIMENTS FROM LAKE BOSUMTWI AS A PROXY FOR HOLOCENE CLIMATE IN NORTHERN AFRICA | 20-29 | 43 | Kibelstis, Brian*; Terry, Dennis O.; Ullmann, Paul: ASSESSMENT OF BIOMECHANICAL FUNCTION AS A POSSIBLE CONTROL ON SOFT TISSUE PRESERVATION IN EOCENE-OLIGOCENE BONES FROM THE WHITE RIVER GROUP OF SOUTH DAKOTA AND NEBRASKA |
| 20-14 | 28 | Miranda, Ariana*; Terry, Dennis O.: PALEOSOLS OF FLORISSANT FOSSIL BEDS NATIONAL MONUMENT, CENTRAL COLORADO | 20-30 | 44 | Wallace, Morgan B.*; Schaffer, Camille; Vesper, Dorothy J.; Stewart, Brian; Capo, Rosemary: EXPERIMENTAL EVIDENCE FOR GENERATION OF NET ALKALINE |
| 20-15 | 29 | Wheatley, Rachel*; Mitra, Siddhartha: ISOLATION OF PYROGENIC CARBON POOLS ACROSS THE K-PG AT THE BRAZOS RIVER SITE VIA THE CHEMOTHERMAL OXIDATION 375 (CTO-375) SOOT ISOLATION TECHNIQUE | | | |
| 20-16 | 30 | Sihpol, Tatiana A.*; Fosdick, Julie; Gibling, Jacqueline; Blisniuk, Kimberly: APATITE (U-TH)/HE THERMOCHRONOLOGY FROM THE COACHELLA FANGLOMERATE: PRELIMINARY CONSTRAINTS ON MIOCENE BASIN INVERSION AND EXHUMATION | | | |

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| | | MINE DRAINAGE VIA CATION EXCHANGE-ENHANCED LIMESTONE DISSOLUTION, IRWIN COAL BASIN, PENNSYLVANIA |
| 20-31 | 45 | Reed, Daniel; Mitra, Siddhartha*: PAH CONTAMINATION IN TOWN CREEK, NC FROM A HISTORICAL SEEP |
| 20-32 | 46 | Foeppel, Jared*: ASSESSING THE RELATIONSHIPS BETWEEN PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) AND MICROBIAL COMMUNITIES IN PFAS-CONTAMINATED ARID SOILS |
| 20-33 | 47 | Sleiman, Johnpaul*; Glade, Rachel C.: LOBATE FEATURES ON MARS EXHIBIT SAME SCALING AS TERRESTRIAL SOLIFLUCTION PATTERNS |

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| 21-13 | 60 | Colasante, Joshua M.*; Warnock, Jonathan: PALEOENVIRONMENTAL STRATIGRAPHIC RECONSTRUCTION AND CONTROL ON THE DISTRIBUTION OF THE LOWER KEYSER FORMATION OF CENTRAL PENNSYLVANIA |
| 21-14 | 61 | Emick, Tami M.*; Pfeifer, Lily S.; Trop, Jeffrey: GEOCHEMISTRY OF UPPER DEVONIAN PALEOSOLS FROM THE CATSKILL FORMATION, APPALACHIAN BASIN, NORTH-CENTRAL PENNSYLVANIA |
| 21-15 | 62 | Dixon, Mikayla*; Culver, Stephen J.; Mallinson, David; Self-Trail, Jean: CRETACEOUS AND PLIOCENE MICROFOSSILS FROM GREENS MILL RUN, NORTH CAROLINA, USA |

SESSION NO. 21

T12. Undergraduate Research Poster Session I (Posters) (Council on Undergraduate Research Geosciences Division; GSA Energy Geology Division)

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

| Booth # | | |
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| 21-1 | 48 | Gies, Sherrie*; Buchanan, Michael; Johnson, Elizabeth: PETROGRAPHIC AND SPECTROSCOPIC ANALYSES OF TEXTURES IN METEORITE NWA 5480 FROM 4 VESTA |
| 21-2 | 49 | Kreck, James*; McClellan, Elizabeth A.: ANALYSIS OF GREISEN-FORMING ANOROGENIC GRANITOIDS IN IRISH CREEK, VIRGINIA |
| 21-3 | 50 | Ralph, Victoria*; McClellan, Elizabeth: COMPARISON OF DIABASE DIKES FROM AMHERST COUNTY, VA, VIA THIN SECTION AND XRF ANALYSIS |
| 21-4 | 51 | Hetrick, Jessica*; Marquez, L. Lynn: FIELD AND PETROGRAPHIC STUDY OF THE BALTIMORE MAFIC COMPLEX, CECIL COUNTY, MARYLAND |
| 21-5 | 52 | Patil, Kiran*; Lasinsky, Cameron; Mathur, Ryan; Simon, Adam; Khoshnoodi, Khalegh: FE ISOTOPE COMPOSITIONS OF MAGNETITE FROM THE BAFQ DISTRICT, IRAN |
| 21-6 | 53 | King, JeKai*; Harris, Daniel: MAPPING THE GATES-ADAH KIMBERLITE INTRUSION USING A GEM-MAGNETOMETER |
| 21-7 | 54 | Prabhakar, Lakshman*: USING THE PLAGIOCLASE MELT HYGROMETER FOR CAMP FLOWS; DOES IT HOLD WATER? |
| 21-8 | 55 | Merritt, Morgan*; Carley, T.L.; Banik, Tenley J.; Driggs, Lauren: INITIAL CHARACTERIZATION OF SILICIC NUNATAKS FROM ÞÓRÐARHYRNA (THORDARHYRNA), ICELAND |
| 21-9 | 56 | Holsinger, Ashley*; Malosky, Kristen N.; Johnson, Elizabeth; Lukens, William E.: EVALUATING THE DECOMPOSITION OF MINERAL MUSEUM VIVIANITE SPECIMENS USING VISIBLE LIGHT, LONGWAVE UV LIGHT, AND HEAT EXPERIMENTS |
| 21-10 | 57 | Couch, Bradley*; Elmi, Chiara: MINERALOGICAL CHARACTERIZATION OF A FULGURITE FROM OUTER BANKS NORTH CAROLINA (U.S.A.): FORMATION CONDITIONS AND ENVIRONMENT |
| 21-11 | 58 | Kimball, Jacob*; Barineau, Clinton: THE EFFECTS OF GRAIN SIZE ON STRAIN PARTITIONING IN COARSE-GRAINED METAMORPHIC ROCKS:EXAMPLES FROM THE SOUTHERN APPALACHIANS (USA) |
| 21-12 | 59 | Dickerson, M.P. Capability*; Levine, Jamie S.F.; Casale, Gabriele: INVESTIGATING CLASTIC SEDIMENTS DEPOSITED DURING RIFTING: EBSD AND MINERALOGICAL ANALYSIS OF THE LATE PROTEROZOIC GRANDFATHER MOUNTAIN METACONGLOMERATE OF WESTERN NORTH CAROLINA |

SATURDAY, 18 MARCH 2023

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 22

S4. Enhancing Diversity in the Geosciences (GSA Geoscience Education Division; GSA Energy Geology Division)

8:00 AM, Hyatt Regency Reston, Regency Ballroom A

Alec Gates and MJ Suiter, Presiding

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| | 8:00 AM | Introductory Remarks |
| 22-1 | 8:05 AM | Bililign, Solomon*: INTERDISCIPLINARY UNDERGRADUATE RESEARCH EXPERIENCES AND FLEXIBLE MAJORS TO INCREASE DIVERSITY IN GEOSCIENCES |
| 22-2 | 8:25 AM | Levine, Jamie S.F.*; Liutkus-Pierce, Cynthia; Armstrong, William; Carmichael, Sarah; Evans, Sarah G.; Marshall, Scott; Riegel, Hannah B.; Waterworth, Lauren: INCREMENTAL CHANGES TO PROMOTE DIVERSITY, EQUITY, AND INCLUSION IN GEOLOGICAL AND ENVIRONMENTAL SCIENCES AT APPALACHIAN STATE UNIVERSITY |
| 22-3 | 8:45 AM | Moore, Devin*; Archer, Reginald; Byl, Tom: INCREASING DIVERSITY IN THE GEOSCIENCES THROUGH COMMUNITY PROJECTS: HARMFUL ALGAL BLOOMS IN URBAN ENVIRONMENTS |
| 22-4 | 9:05 AM | Sibert, Elizabeth*: FROM CLASSROOM TO CAREER: BUILDING A CULTURE OF ACCESS FOR GEOSCIENTISTS WITH DISABILITIES |
| 22-5 | 9:25 AM | Duncan, Candice*; Shockley, Ebony Terrell; Duncan, Akua: OUR COLLECTIVE VOICES: ACCOUNTS AND RECOMMENDATIONS FOR RECRUITMENT OF UNDER-REPRESENTED GROUPS IN THE GEOSCIENCE STEM DISCIPLINE FROM 3 FACULTY, WOMEN OF COLOR |
| | 9:45 AM | Break |
| 22-6 | 10:00 AM | Gates, Alec*: BUILDING A DEI PROGRAM IN GEOSCIENCES AROUND AN LSAMP CORE |
| 22-7 | 10:20 AM | Weislogel, Amy*; Hessler, Amy; Russoniello, Christopher: BUILDING AN INCLUSIVE APPALACHIAN GEOSCIENCE LEARNING ECOSYSTEM (AGLE) AND SOLUTIONS-ORIENTED CURRICULUM |
| 22-8 | 10:40 AM | Bennett, Isabella B.*; Bierman, Paul R.; Soto-Villanueva, Krizzia; Corbett, Lee B.: LESSONS LEARNED FROM A PILOT UNDERGRADUATE ENVIRONMENTAL SCIENCE ACCESS AND INCLUSION PROGRAM |
| 22-9 | 11:00 AM | Chen, Jason*: VIRTUAL REALITY AND THEATRE TO CHANGE DEPARTMENTAL CLIMATE |

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SATURDAY

SESSION NO. 23

T32. Conventional and Unconventional Critical Mineral Resources in the Eastern United States (GSA Geophysics and Geodynamics Division; GSA Environmental and Engineering Geology Division; GSA Sedimentary Geology Division; GSA Soils and Soil Processes Division; GSA Structural Geology and Tectonics Division)

8:00 AM, Hyatt Regency Reston, Lake Audubon

Anjana Shah, Nora K. Foley, Bernard Hubbard and Arthur Merschat, Presiding

- 8:00 AM Introductory Remarks
- 23-1 8:05 AM Hammarstrom, Jane*; Woodruff, Laurel; Dicken, Connie; Foley, Nora K.: CRITICAL MINERAL POTENTIAL OF THE EASTERN UNITED STATES
- 23-2 8:25 AM Hawkins, David W.*; Lassetter, William L.: STANDARDIZING A FIELD SCREENING PROTOCOL USING PORTABLE X-RAY FLUORESCENCE AND RADIATION SPECTROMETRY TO ASSESS CRITICAL MINERAL COMMODITIES IN HEAVY MINERAL PLACERS: HOW CAN WE BETTER STREAMLINE DECISIONS IN THE FIELD?
- 23-3 8:45 AM Nelson, Michelle*; Lassetter, William L.; Shah, Anjana; Carter, Mark; Hawkins, David W.; Occhi, Marcie E.: MAPPING CRITICAL (HEAVY) MINERAL SOURCE ROCKS AND SINKS ALONG THE FALL ZONE IN VIRGINIA USING AIRBORNE MAGNETIC AND RADIOMETRIC DATA TO GUIDE GEOCHEMICAL AND MINERALOGICAL SAMPLING
- 23-4 9:05 AM Hunt, Emma*: A SUSTAINABLE APPROACH TOWARDS DOMESTIC CRITICAL MINERAL RESOURCES: EDUCATING ENVIRONMENTALLY, SOCIALLY AND ECONOMICALLY AWARE SCIENTISTS AND POLICY MAKERS
- 23-5 9:25 AM Shah, Anjana*; Doctor, Daniel; Kavage Adams, Rebecca; Hand, Kristen; Ianno, Adam; Shank, Stephen; Dinterman, Philip; Lassetter, William L.: PIEDMONT TO PLATEAU: NEW HIGH-RESOLUTION AIRBORNE GEOPHYSICAL DATA OVER A TRANSECT OF THE APPALACHIAN PROVINCES
- 9:45 AM Break
- 23-6 10:00 AM Kavage Adams, Rebecca*; Brezinski, David: HIGHLY MANGANIFEROUS RESIDUAL SOILS OVERLYING INTERLAYERED CARBONATE AND VOLCANIC BEDROCK IN MARYLAND'S WESTERN PIEDMONT
- 23-7 10:20 AM Ianno, Adam*; Burmeister, Kurtis C.: CHARACTERIZING THE CHEMISTRY OF ROSENDALE NATURAL CEMENT TO AID IN THE IDENTIFICATION OF SIMILAR DEPOSITS IN THE NORTHERN AND CENTRAL APPALACHIANS
- 10:40 AM Discussion

SESSION NO. 24

T20. Early Career Voices of Appalachian Tectonics (GSA Geochronology Division; GSA Structural Geology and Tectonics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division)

8:00 AM, Hyatt Regency Reston, Regency Ballroom B

Allie Nagurney, Elizabeth Bollen, PhD, Zachary Foster-Baril and Jonathan Prouty, Presiding

- 8:00 AM Introductory Remarks
- 24-1 8:05 AM Becker, Naomi*; Guice, George; George, Freya; Viète, Daniel: "APPA-LAY-CHA" VS. "APPA-LATCH-A": POTENTIAL ORIGINS OF FUNDAMENTAL DIFFERENCES BETWEEN THE NORTHERN AND SOUTHERN SECTORS OF THE APPALACHIAN OROGEN
- 24-2 8:25 AM Germain, Rémi*; Kuiper, Yvette; White, Shawna; Snyder, Morgan; Crowley, James L.: U-PB DETRITAL ZIRCON GEOCHRONOLOGY RESULTS OF THE OLDEST ROCKS OF THE MESOZOIC SCOTIAN BASIN AND UNDERLYING BASEMENT IN OFFSHORE NOVA SCOTIA, CANADA

- 24-3 8:45 AM Greger, Gianna*; Carley, Tamara; Garber, Joshua; Sunderlin, David; Hinchey, Aidan; Gold, David: TECTONOMAGMATIC ORIGIN OF ORDOVICIAN K-BENTONITES IN CENTRAL PA BASED ON ZIRCON PETROCHRONOLOGY
- 24-4 9:05 AM Hull, Sarah*; Stewart, Kevin: EXTENSIONAL FAULTING IN A CONVERGENT OROGEN, WESTERN NORTH CAROLINA
- 24-5 9:25 AM OKeefe, Brendon*; Barineau, Clinton: AGE AND TECTONIC ORIGIN OF THE MITCHELL DAM AMPHIBOLITE, ASHLAND SUPERGROUP, EASTERN BLUE RIDGE, SOUTHERN APPALACHIANS (USA)
- 9:45 AM Break
- 24-6 10:00 AM Wachob, Olivia M.*; Bailey, Christopher; Foster-Baril, Zachary; Ruiz, Daniel; Juarez-Zuniga, Sandra; Stockli, Daniel: FROM THE IAPETUS TO THE ATLANTIC: GEOLOGY, PETROLOGY, AND GEOCHRONOLOGY OF COVER ROCKS IN THE EASTERN BLUE RIDGE, CENTRAL VIRGINIA
- 24-7 10:20 AM Foster-Baril, Zachary*; Hinshaw, Emily; Stockli, Daniel F.; Bailey, Christopher M.; Setera, Jacob B.: TIMING AND GEOCHEMICAL EVOLUTION OF TRIASSIC AND JURASSIC MAGMATISM DURING THE BREAK-UP OF PANGAEA ALONG THE EASTERN NORTH AMERICAN MARGIN
- 24-8 10:40 AM Brown, Allison*; Dragovic, Besim; Codillo, Emmanuel; Rojas Kolomiets, Ekaterina; Bizimis, Michael: EVALUATING REDOX EVOLUTION AT THE SUBDUCTION INTERFACE FROM THE MO PERSPECTIVE: A CASE STUDY FROM THE LIGURIAN ALPS

SESSION NO. 25

T23. Soil, Water, and Biogeochemical Interactions (GSA Soils and Soil Processes Division; GSA Hydrogeology Division; GSA Geobiology and Microbiology Division)

8:00 AM, Hyatt Regency Reston, Lake Fairfax

Zsuzsanna Balogh-Brunstad, Justin Richardson and Yinka Oyewumi, Presiding

- 8:00 AM Introductory Remarks
- 25-1 8:05 AM E, Beibei*; Zhang, Shuang; Wen, Tao: DEVELOPING MACHINE LEARNING MODELS TO ASSESS ANTHROPOGENIC IMPACTS ON U.S. FRESHWATER SALINIZATION SYNDROME
- 25-2 8:25 AM Lastner, Alexander*; Prestegaard, Karen; Volz, Samantha: INFLUENCE OF HEADWATER STREAM MORPHOLOGY ON STREAM TEMPERATURE REGIMES
- 25-3 8:45 AM Sweet, Ethan*; Engel, Annette Summers; Paterson, Audrey; Schwartz, Benjamin; Hutchins, Benjamin; Cottrell, Ashley; Menichino, Garrett: COUPLED BIOGEOCHEMICAL CYCLING AND HYDROGEOLOGIC PROCESSES IN THE HYPORHEIC ZONE OF THE SAN SABA RIVER, TEXAS
- 25-4 9:05 AM Manzella, Antonio*; Lowry, Chris: LEVERAGING LOW-COST MICRO-CONTROLLERS TO QUANTIFY GROUNDWATER FLUX
- 25-5 9:25 AM Kirker, Ashleigh N.*; Toran, Laura; Cushman, Elizabeth M.: CAN WE QUANTIFY REDUCTIONS IN SEDIMENT AND NUTRIENTS DUE TO STORMWATER CONTROL MEASURES? A PRE- AND POST- INSTALLATION STUDY ON AN URBAN HILLSLOPE
- 9:45 AM Break
- 25-6 10:00 AM Balogh-Brunstad, Zsuzsanna*: FUNGAL-MINERAL INTERACTIONS - BIOTITE WEATHERING
- 25-7 10:20 AM Halfman, John*: NUTRIENT AND SEDIMENT LOADING IN THE OWASCO WATERSHED, NEW YORK
- 10:40 AM Concluding Remarks

MORNING POSTER TECHNICAL SESSIONS

SESSION NO. 26

T41. Barrier Island and Backbarrier Sediment Dynamics (Posters) (GSA Marine and Coastal Geoscience Division; GSA Geophysics and Geodynamics Division)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

| Booth # | |
|---------|--|
| 26-1 | 1 Lepire, Jonathan M.; Oakley, Bryan*: EVOLUTION OF A DYNAMIC BACKBARRIER COASTAL LAGOON: NAPATREE POINT, RHODE ISLAND |
| 26-2 | 2 Soulagnet, Cameron P.; Oakley, Bryan*: PERSISTENCE OF SORTED BEDFORM MIGRATION ON THE NAPATREE POINT, RHODE ISLAND SHOREFACE BETWEEN 2020 AND 2021 |
| 26-3 | 3 Pearson, Stuart; Mallinson, David*; Mulligan, Ryan: BATHYMETRY-DERIVED STRATIGRAPHIC MODELING OF BOGUE INLET, NC |
| 26-4 | 4 Brown, Cody*; Mallinson, David; Pearson, Stuart; Mulligan, Ryan; Culver, Stephen: TESTING A STRATIGRAPHIC MODEL OF BOGUE INLET, NC, USING GEOPHYSICAL, HYDRODYNAMIC, AND SEDIMENTOLOGICAL ANALYSES |
| 26-5 | 5 Garnand, Alexandra*; Oakley, Adrienne; Cornell, Sean; Bochicchio, Christopher: AN ASSESSMENT OF BARRIER ISLAND SHORELINE CHANGE AND GRAIN SIZE VARIATIONS 2011-2022 PRE- AND POST- BEACH NOURISHMENTS: WALLOPS ISLAND, EASTERN SHORE, VIRGINIA |

SESSION NO. 27

T10. Trace Elements in the Environment (Posters) (GSA Hydrogeology Division)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

| Booth # | |
|---------|---|
| 27-1 | 6 Lanier, Jack; Clark, Elyse*; Odhiambo, Ben K.: ASSESSMENT OF DAM SEDIMENT FOR METAL CONTAMINATION IN A HISTORICALLY INDUSTRIALIZED NEW ENGLAND CITY |
| 27-2 | 7 Pie, Hannah; Carmody, Rebecca W.*; Caraballo, Adrian Manjarres: A TALE OF TWO STREAMS: CHLORIDE, CONDUCTIVITY, AND TRACE METALS IN STREAMS ON THE HCC CAMPUS |
| 27-3 | 8 Lynch, Bridget*; Mclain, Myla; Brabander, Daniel J.; Hayhow, Claire: GEOCHEMICAL FINGERPRINTS AND FUGATIVE CONTAMINANTS OF RESIDENTIAL AND NON-RESIDENTIAL COMPOST MATRICES IN SUBURBAN BOSTON, MA TO SUPPORT LOCAL AGRICULTURE |
| 27-4 | 9 Gautam, Saranya*; Ouimet, William: TRACE METAL VARIABILITY WITHIN THE CONNECTICUT COASTAL ZONE |
| 27-5 | 10 Schreiber, Madeline*; Hammond, Nicholas; Ming, Cissy; Wood, Cecelia; Krueger, Kathryn; Munger, Zackary; Carey, Cayelan C.: BIOGEOCHEMICAL DRIVERS OF MANGANESE CYCLING IN FRESHWATER RESERVOIRS |

SESSION NO. 28

T12. Undergraduate Research Poster Session II (Posters) (Council on Undergraduate Research Geosciences Division; GSA Energy Geology Division)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

| Booth # | |
|---------|--|
| 28-1 | 11 Kuyil, Leo*; Trop, Jeffrey; Gillis, Robert; O'Sullivan, Paul: U-PB DETRITAL ZIRCON GEOCHRONOLOGY OF |

| | |
|-------|--|
| 28-2 | 12 Stiefel, Jared; O'block, Brock*; Ravulaparthi, Lakshmi Srikari; Baldauf, Paul; Burkhart, Patrick: CHARACTERIZATION OF AEOLIAN SEDIMENTS AT SEVERAL LOCALITIES IN THE WHITE RIVER BADLANDS |
| 28-3 | 13 Morrison, Lauren E.*; Pfeifer, Lily S.; Trop, Jeffrey; Chamberlin, Ellen: PROXIMAL-TO-DISTAL GRANULOMETRY IN A MODERN GLACIAL SYSTEM (ALASKA): PERSPECTIVES INTO THE GENERATION AND FORMATION OF CONTINENTAL LOESS DEPOSITS |
| 28-4 | 14 Cantor, Jacob*; Oberlies, Jessica; Zeher, Melody; DeGoyler-Howell, Catherine; Grothe, Pamela R.: EVALUATING CORAL SR/CA USING ICP-AES AS A COST-EFFECTIVE GEOCHEMICAL ANALYSIS FOR PALEOTEMPERATURE RECONSTRUCTIONS |
| 28-5 | 15 Doney, Gray*; Buchholz, Simon; Gallion, Connor; Greenwald, Zachary; Hislop, David; Molkau, Rebecca; Craddock, Robert; Nelson, Wendy R.: COMPOSITIONAL POPULATIONS RECORDED IN AEOLIAN BASALTIC SAND DUNES: USING BASALTIC DUNES IN HAWAII TO UNDERSTAND AEOLIAN PROCESSES ON MARS |
| 28-6 | 16 Woicak, William*; Williams, Kevin: CHANGES IN WIND DIRECTION AS RECORDED BY AEOLIAN LANDFORMS NEAR GILL CRATER, MARS |
| 28-7 | 17 Cobb, Aysia*; Ivany, Linda; Hensen, Corey; Allmon, Warren: LIFE HISTORY AND PALEOENVIRONMENT OF THE ICONIC MIDDLE EOCENE OYSTER CUBITOSTREA FROM STABLE ISOTOPE ANALYSIS |
| 28-8 | 18 Hegwood, Kaitlyn*; Smith, Kathlyn M.; Bebej, Ryan M.: FLEXIBILITY IN THE VERTEBRAL COLUMN OF THE ANCIENT WHALE GEORGIACETUS VOGTLENSIS |
| 28-9 | 19 Pimenta, Michael*; Reichgelt, Tammo; Feng, Ran: THE PALEOCLIMATIC RANGE OF SOUTHERN HEMISPHERE RELICT CONIFER GENERA |
| 28-10 | 20 McDowell, Madelaine S.; Key, Marcus*; Dixon-Anderson, Ian S.; Smith, Abigail M.: GROWTH-CHECK-BASED GROWTH RATES AS CLIMATE PROXIES IN ERECT CHEILOSTOME BRYOZOANS FROM THE SOUTHERN OCEAN |
| 28-11 | 21 Schneider, Patrick M.*; Jeremenko, Abram; Lenz, Laurel M.; Leuba, Zoe M.; Casey, Michelle M.: FURTHER STABLE ISOTOPIC EVIDENCE FOR OMNIVORY WITHIN THE NATICIDAE |
| 28-12 | 22 Skillman, Brian*; Voegele, Kristyn; Bonnan, Matthew: TRACKING EPIDERMAL MARKERS IN X-RAY RECONSTRUCTION OF MOVING MORPHOLOGY OF WALKING CHICKENS: PHASE 1 |
| 28-13 | 23 Zeher, Melody*; DeGoyler-Howell, Catherine; Cantor, Jacob; Oberlies, Jessica; Grothe, Pamela R.: ASSESSING THE DIAGENETIC SUSCEPTIBILITY OF THE LARGE SKELETAL ARCHITECTURE CORAL SPECIES HYDNOPOHORA MICROCONOS – IMPLICATIONS FOR TROPICAL PALEOCLIMATE RECONSTRUCTIONS |
| 28-14 | 24 Rosenheim, Emma*; Rustic, Gerald; Van Pelt, Kathryn: INVESTIGATING THERMOCLINE CONTROL OF ENSO ACTIVITY AND TROPICAL VARIABILITY IN THE EASTERN EQUATORIAL PACIFIC USING FORAMINIFERA GEOCHEMISTRY |
| 28-15 | 25 Van Pelt, Kathryn*; Rustic, Gerald; Rosenheim, Emma: EXPLORING THERMOCLINE INFLUENCE ON ENSO BY RECONSTRUCTING SUBSURFACE CONDITIONS IN THE EEP OVER THE PAST 2500 YEARS USING TRACE ELEMENT ANALYSIS |
| 28-16 | 26 Jeremenko, Abram*; Lenz, Laurel M.; Leuba, Zoe M.; Schneider, Patrick; Casey, Michelle M.: INVESTIGATION OF TROPHIC POSITION IN THE SOUTHERN OYSTER |

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SATURDAY

POSTERS

| | | | | | |
|-------|----|---|-------|----|--|
| | | DRILL, STRAMONITA HAEMASTOMA, USING STABLE ISOTOPE ANALYSIS | | | UNDERSTANDING THE ROLE OF CARBON AND OXYGEN CYCLING IN POND DEVELOPMENT IN A SOUTHERN NEW JERSEY SALT MARSH |
| 28-17 | 27 | Hatch, Staunton*; Evans, Sarah; Godsey, Sarah E.; Fern, Emma S.; Harris, Rachel H.; Yokeley, Brandon; Chew, Clara; Crosby, Benjamin: CONTROL OF VEGETATION MICROCLIMATES ON SHALLOW GROUND TEMPERATURES ABOVE CONTINUOUS PERMAFROST | 28-32 | 42 | Marinelli, Julianna; Mooney, Parker; Thompson, Lillian; Snyder, Noah*; Supino, John; Tedesco, Lenore P.: IMPACTS OF BENEFICIAL USE OF SEDIMENT PLACEMENTS ON WATER BIOGEOCHEMISTRY IN A BACK-BARRIER NEW JERSEY SALT MARSH |
| 28-18 | 28 | Aho, Tzevi; Blake, Avery; Clark, Jillian; Machanic, Riley S.; Norton, Lila; Rogers, Caroline; Schnitzer, Adam; Wilson, Oliver; Frappier, Amy*: DEPOSITIONAL CHARACTERISTICS OF PRO-GLACIAL LAKE WARRENSBURG: EVIDENCE OF VARVE SEDIMENT DEFORMATION | 28-33 | 43 | Charlebois-Berg, Juliana; Corrado, Kasey; Harby, Olivia; Snyder, Noah*; Supino, John; Tedesco, Lenore P.; Landis, Joshua: ESTIMATES OF ACCRETION RATES AND ORGANIC CONTENT OF SALT MARSH ISLANDS IN SOUTHERN NEW JERSEY |
| 28-19 | 29 | Holland, Aimee N.; Nally, Johanna R.; Powers, Sara J.; Rubin, Claire N.; Sun, May; Frappier, Amy*: UNEARTHING DENTON'S VLY: THE RISE AND FALL OF SARATOGA'S FORGOTTEN LAKE | 28-34 | 44 | Giess, Matthew*; FitzGerald, Duncan M.; Hughes, Zoe; Staro, Alice: THE CONTRIBUTION OF REWORKING EXTENSIVE OFFSHORE GLACIOFLUVIAL DEPOSITS IN THE GEOMORPHOLOGICAL DEVELOPMENT OF THE WESTERN BUZZARD'S BAY COAST |
| 28-20 | 30 | Perlman, Eliana*; Curtin, Tara M.; Finkelstein, David B.; Neydon, Kali: PALEOENVIRONMENTAL RECONSTRUCTION OF MENDON PONDS PARK, NY THROUGH HIGH RESOLUTION X-RAY FLUORESCENCE AND LOSS-ON-IGNITION ANALYSES | 28-35 | 45 | Mongon, Zackary*: SOIL SAMPLE ANALYSIS FROM BARNEGAT BAY MARSH IN NEW JERSEY AS AN EARLY UNDERGRADUATE RESEARCH PROJECT |
| 28-21 | 31 | Mcdonald, Tessa*; Principato, Sarah M.; Kleinberg, Danielle C.; Licciardi, Joseph; Benediktsson, Ívar Örn; Aradóttir, Nína; Brynjólfsson, Skafti: APPLICATION OF THE SCHMIDT HAMMER RELATIVE AGE DATING TECHNIQUE IN ICELAND | 28-36 | 46 | Contruccii, Joshua*; Ellis, Charlotte; Lynch, Adean; Childers, Daniel P.: SOIL AND TOPOGRAPHICAL STUDY OF LOCAL CREEK AT DELAWARE COUNTY COMMUNITY COLLEGE'S MARPLE CAMPUS, UNDERGRADUATE RESEARCH PROJECT |
| 28-22 | 32 | Deininger, Cora*; Sullivan, Tyler; Rassias, Samantha; Wright, Stephen F.: MAPPING SURFICIAL GEOLOGY AND INTERPRETING THE GLACIAL HISTORY OF THE CROSSETT BROOK AREA IN NORTH-CENTRAL VERMONT | 28-37 | 47 | Catalano, Cortez*; Williams, Niles; Guertin, Laura: TRACKING THE MENTIONS OF HISTORIC AND MODERN OCEANOGRAPHIC RESEARCH VESSELS IN INTRODUCTORY-LEVEL OCEANOGRAPHY PRINT AND ONLINE (OER) TEXTBOOKS |
| 28-23 | 33 | Webb, Patrick*; Rasmussen, Monica; Eppes, Martha; Reynolds, Valerie; Keanini, Russell; Mushkin, Amit: RELATIONSHIPS AMONG MINERALOGY, GRAIN SIZE, MICROCRACKING, AND EXPOSURE AGE OF GRANITE AND CARBONATE ROCKS IN EASTERN CALIFORNIA, USA | 28-38 | 48 | Phan, Elena*; Marsellos, Antonios: HOW BIG DATA WORLD IS AFFECTING GEOSCIENCE EDUCATION: A STUDY IN HIGH-RANKED US-COLLEGES |
| 28-24 | 34 | McGowan, Molly*; Johnson, Brad: DEBRIS FLOW DEPOSITS IN THE BLACK MOUNTAIN RANGE: EVIDENCE FOR PRE-EUROPEAN INHABITATION OF THE AREA | 28-39 | 49 | Morichi, Isabel*; Vinson, David; Chapman, LeeAnna: RECENT GROUNDWATER LEVELS AT THE LANGTREE PENINSULA RESEARCH STATION (NC PIEDMONT): GROUNDWATER NETWORKS CAN RECORD ENVIRONMENTAL CHANGE |
| 28-25 | 35 | Rivera, Allison*; Ouimet, William: THE EFFECT OF HILLSLOPE GRADIENT ON THE LEGACY OF RELICT CHARCOAL HEARTHES IN CONNECTICUT, USA | 28-40 | 50 | Soltes, Vera*; Schweickart, Eric; Ciruzzi, Dominick: SOIL MOISTURE IMPACTS ON GROUND-PENETRATING RADAR INTERPRETATIONS OF BURIED GRAVE SHAFTS |
| 28-26 | 36 | Brzykcy, Grace; Krzystek, Colin; Maciejewski, Dylan; McKinnie, Chelsie; Nye, Angela; Woicak, William*; Williams, Kevin: USING GROUND PENETRATING RADAR TO SEARCH FOR EVIDENCE OF A BURIED LAKE FREIGHTER AT TIFFT NATURE PRESERVE, BUFFALO, NY | 28-41 | 51 | Riggs, Danni*; Ciruzzi, Dominick: CHARACTERIZING HYDROLOGICAL AND GEOMORPHOLOGICAL CHANGES IN URBAN STREAMS THROUGH ENVIRONMENTAL SIGNALS |
| 28-27 | 37 | Glaser, Vanessa*; Gorrington, Matthew; Pope, Gregory; Siegel, Peter; Beier, Zachary; James-Williamson, Sherene; Mitchell, Simon: PETROGRAPHIC ANALYSIS OF POTTERY FROM THE WHITE MARL ARCHAEOLOGICAL SITE, ST. CATHERINE PARISH, JAMAICA, WEST INDIES | 28-42 | 52 | Mullen, Jennie-Jin*; Ciruzzi, Dominick: THE IMPACT OF A RETENTION POND ON SMALL STREAM GROUNDWATER-SURFACE WATER INTERACTIONS IN THE VIRGINIA COASTAL PLAIN |
| 28-28 | 38 | Faggart, Eryn*; Harris, M.; Sancho, Gorka: 3D CHARACTERIZATION OF REEF-TOP FEATURES IN THE MESOPHOTIC ZONE OF THE NORTHERN GULF OF MEXICO | 28-43 | 53 | Lund, Chloe*; Ciruzzi, Dominick: HIGHLIGHTING GROUNDWATER USE BY TREES IN A FORESTED WATERSHED IN THE VIRGINIA COASTAL PLAIN |
| 28-29 | 39 | Bertram, Conlan*; Mclachlan, Robin: WIND VELOCITY INFLUENCE ON ENHANCED TIDAL FLOODING ON LITTLE CUMBERLAND ISLAND, GEORGIA | 28-44 | 54 | Hanania, Jason*; Lowry, Chris: ANALYZING FLOW DIRECTION AS A CALIBRATION TARGET IN GROUNDWATER FLOW MODELS |
| 28-30 | 40 | Hadisurjo, Diandra; McGee, Michael; Poulin, Olivia; Snyder, Noah*; Supino, John; Tedesco, Lenore P.: ANALYSIS OF GEOMORPHIC CHANGES IN A SOUTHERN NEW JERSEY SALT MARSH DUE TO NATURAL AND ANTHROPOGENIC PROCESSES | 28-45 | 55 | Horvath, MaryBridget*; Swenson, Emma; Geiger, Megan; Halfman, John: CHLORIDE HYDROGEOCHEMISTRY OF THE FINGER LAKES, NY |
| 28-31 | 41 | Foote, Jonathan; Kelly, Maureen; Orfanos, Katerina; Snyder, Noah*; Supino, John; Tedesco, Lenore P.: | 28-46 | 56 | Szczurek, Dylan*; Zoeller, Daniel; Livingston, Jack; Stapleton, Michael: EVALUATION OF THE EFFECTIVENESS OF PASSIVE TREATMENT SYSTEMS FOR ACID MINE DRAINAGE IN THE SLIPPERY ROCK CREEK WATERSHED, WESTERN PENNSYLVANIA |
| | | | 28-47 | 57 | Davis, Jasmine*; Ruffing, Ellie; Harris, Daniel: EVALUATING THE EFFICIENCY OF THE MARCHAND ABANDONED MINE TREATMENT FACILITY IN LOWBER, PA |

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| 28-48 | 58 | Klein, Jenna*; Nesheim, Samuel; Wen, Tao: EVALUATING IMPACTS OF CEMETERIES ON SURFACE WATER QUALITY IN THE FINGER LAKES WATERSHED |
| 28-49 | 59 | Tannert Schmidt, Emilie*; Kirker, Ashleigh N.; Toran, Laura: DUST VARIATION ALONG AN URBAN GRADIENT IN PHILADELPHIA |
| 28-50 | 60 | Brassard, Kalli*; Clark, Elyse: IMPACTS OF ROAD SALT APPLICATIONS AND URBANIZATION ON WATER QUALITY AND AQUATIC MACROINVERTEBRATES OF THE NORTH NASHUA RIVER, MASSACHUSETTS |
| 28-51 | 61 | Kleinberg, Danielle C.*; Mcdonald, Tessa; Principato, Sarah: AN INVESTIGATION OF WATER QUALITY IN ROCK CREEK, ADAMS COUNTY, PA: IMPACT OF TREATED WASTEWATER, AGRICULTURE, URBANIZATION, AND RIPARIAN BUFFERS |
| 28-52 | 62 | Borowski, Walter*; Borowski, Walter S.: NUTRIENT AND FECAL MICROBE CONTAMINATION IN THE OTTER CREEK WATERSHED, MADISON COUNTY, KENTUCKY |
| 28-53 | 63 | O'Hara, Garrett*; Blake, Bryce; Peters, Chelsea; Sincavage, Ryan: BASELINE IMAGERY FOR WETLAND AND MEADOW DEVELOPMENT AT A FORMER LANDFILL SITE |
| 28-54 | 64 | Doherty, Jillian*; Rocha, Jensen; Humston, Robert; Johnson, Elizabeth; Lukens, William E.; Criscuoli, Meagan; Woodland, Ryan J.; Murphy, Bob: IDENTIFICATION OF MICROPLASTICS EXTRACTED FROM THE STOMACHS OF LARGEMOUTH BASS FROM THE MID-ATLANTIC REGION USING TRANSMISSION FTIR MICROSCOPY |
| 28-55 | 65 | Whyte, Frances*; Nagel-Myers, Judith; Oldacre, Amanda: MICROPLASTICS IN FRESHWATER MUSSELS FROM NORTHERN NEW YORK AND THE ADIRONDACK PARK |
| 28-56 | 66 | Bryce, Kyle; Karnig, Mackenzie; Snodgrass, Colton; Linvill, Chelsea; Kimball, Mindy; Moorehouse, Missy*: TRACING THE FATE OF MICROPLASTIC POLYMERS IN A FRESHWATER SYSTEM |
| 28-57 | 67 | Guiney, Kristen C.; Sweet, Kiley A.; Kimball, Mindy; Linvill, Chelsea; Moorehouse, Missy*: SPATIAL DISTRIBUTION OF MICROPLASTIC POLYMERS IN THE WATER COLUMN OF A FRESHWATER DRINKING SUPPLY |
| 28-58 | 68 | Mitchell, Grant*; Gurka, Roi; Hitt, G. Wesley; Hanebuth, Till; Nafi, Asif Shahriar: MICROFLUIDIC MICROPLASTIC SEPARATION: USING FLUID-CARRYING MICROCHIPS TO FILTER AND SORT MICROPLASTIC PARTICLES |

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 29

S7. From the Margins to the Deep: A Tribute to the Science and Art of A. Conrad Neumann (GSA Marine and Coastal Geoscience Division)

1:30 PM, Hyatt Regency Reston, Regency Ballroom A

Blair Tormey, Albert C. Hine and Paul J. Hearty, Presiding

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| | 1:30 PM | Introductory Remarks |
| 29-1 | 1:35 PM | Hine, Albert*: THE HOLOCENE HIGH ENERGY INTERVAL—A CLASSIC “NEUMANNISM” |
| 29-2 | 1:55 PM | Wilber, Jude*: LARGE SCALE EXPORT OF SHALLOW WATER CARBONATE TO DEEP WATER SETTINGS: CONRAD NEUMANN AND THE DEVELOPMENT OF SATELLITE SEDIMENTOLOGY |
| 29-3 | 2:15 PM | Sikes, Elisabeth*: EXPLORING BIOEROSION THROUGH CONRAD NEUMANN'S VIEWFINDER IN THE 1980'S |
| 29-4 | 2:35 PM | Rasmussen, Kenneth*: TRAVELS WITH CONRAD: ONE DOCTORAL STUDENT'S PERSPECTIVE, 1983-89 |

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| 29-5 | 2:55 PM | Boss, Steve*: NEUMANN ON NORTHERN GREAT BAHAMA BANK, 1989-1994: ACCOMMODATION AND HURRICANES AND WHITINGS, OH MY! |
| | 3:15 PM | Break |
| 29-6 | 3:30 PM | Jarrett, Bret*: ON A PIECE OF LIMESTONE: A TRIBUTE TO CONRAD'S DEDICATED TEACHING SERVICE |
| 29-7 | 3:50 PM | Tormey, Blair*; Hearty, Paul J.; Donovan, Bailey G.: THE EARTH HATH BUBBLES, AS THE WATER HAS, AND THESE ARE OF THEM: THE STORMY ORIGINS OF SUPRATIDAL FENESTRAE IN THE BAHAMAS DURING THE LAST INTERGLACIAL |
| 29-8 | 4:10 PM | Glumac, Bosiljka*; Curran, H. Allen: GENERATION AND TRANSPORT OF CARBONATE BOULDERS BY STORM WAVES ALONG ROCKY COASTLINES OF SAN SALVADOR ISLAND, BAHAMAS: CELEBRATING THE LEGACY OF A. CONRAD NEUMANN |
| 29-9 | 4:30 PM | Slowey, Niall*: ON MAKING AN IMPACT: CONRAD NEUMANN INSPIRING SCIENCE AND OTHER PEOPLE |
| 29-10 | 4:50 PM | Wanless, Harold*: CREATING AN UNDERSTANDING OF SEA-LEVEL DYNAMICS: A. CONRAD NEUMANN'S LEGACY |
| | 5:10 PM | Concluding Remarks |

SESSION NO. 30

T11. Geomorphic Evolution of River Corridors in the Eastern United States from the Pleistocene to the Anthropocene

1:30 PM, Hyatt Regency Reston, Lake Fairfax

Max Huffman, Samantha Dow, Bradley Johnson, Mark Carter, Kristin Chilton and Charles Shobe, Presiding

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| | 1:30 PM | Introductory Remarks |
| 30-1 | 1:35 PM | Heitmuller, Franklin*; Costello, Jansen D.; Kuehn, Kevin A.; Hudson, Paul F.: SUSPENDED-SEDIMENT AND WATER-QUALITY PATTERNS OVER A DEEPLY INUNDATED FLOODPLAIN ALONG THE LOWER MISSISSIPPI RIVER DURING THE 2019 FLOOD |
| 30-2 | 1:55 PM | Fallon, Andrew*; Ouimet, William: ANALYZING SEDIMENTATION AND CHANNEL CHANGES SINCE THE REEMERGENCE OF BEAVERS IN UPLAND CONNECTICUT RIVER CORRIDORS |
| 30-3 | 2:15 PM | Pizzuto, James*; Huffman, Max; Symes, Emily: PRE- AND POST-SETTLEMENT DEPOSITIONAL PROCESSES AND ENVIRONMENTS OF THE 3RD-5TH ORDER WHITE CLAY CREEK WATERSHED, PIEDMONT PROVINCE, PENNSYLVANIA AND DELAWARE, USA |
| 30-4 | 2:35 PM | Grote, Todd*: SURFICIAL GEOLOGY, GEOMORPHOLOGY AND PALEOCLIMATE IMPLICATIONS OF COLLUVIAL DIAMICTONS AND FEATURES ALONG THE SOUTH MOUNTAIN-GREAT VALLEY MARGIN, MARYLAND |
| 30-5 | 2:55 PM | Johnson, Bradley*; Stanley, Olivia L.; Ornes, Stine: THE TIMING AND SEDIMENTOLOGY OF TERRACES FORMED ALONG BLUE RIDGE ESCARPMENT RIVERS |
| | 3:15 PM | Break |
| 30-6 | 3:30 PM | Stanford, Scott*: COLLUVIUM AND PLEISTOCENE HILLSLOPE EROSION IN THE NEW JERSEY HIGHLANDS |
| 30-7 | 3:50 PM | Carl, Brian*; Gontz, Allen; Borracci, Veronica; Penfield, Lisa; Pantoja flores, Gladys; Franzi, David: PARABOLIC DUNES IN THE ST. LAWRENCE LOWLANDS, NORTHERN NEW YORK: EVIDENCE FOR POST-GLACIAL ANTI-CYCLONAL WINDS |
| 30-8 | 4:10 PM | Langille, Jackie*; Palmer, Megan; Green, Chloe; Jurgevich, Jeremy: MIOCENE FRACTURES AND LANDSCAPE RESPONSE IN THE SPRUCE PINE 7.5-MINUTE QUADRANGLE, WESTERN NORTH CAROLINA |

- 30-9 4:30 PM Odom, William*; Merschat, Arthur; Carter, Mark W.: PLEISTOCENE FAULTING AND SEDIMENTATION IN THE VICINITY OF THE 2020 SPARTA, NORTH CAROLINA EARTHQUAKE REVEALED BY COSMOGENIC ²⁶AL/¹⁰BE BURIAL DATING
- 30-10 4:50 PM Heller, Matthew*; Maynard, Joel P.; Witt, Anne C.; Kelly, Wendy S.; Finnerty, Patrick C.: EVIDENCE FOR ENHANCED SINKHOLE DEVELOPMENT AND CHEMICAL WEATHERING IN AREAS COVERED BY UNCONSOLIDATED DEPOSITS IN THE VALLEY AND RIDGE GEOLOGIC PROVINCE OF VIRGINIA

SESSION NO. 31

T43. Geoscience Careers for New Geoscience Graduates (GSA Energy Geology Division)

1:30 PM, Hyatt Regency Reston, Lake Audubon

Michael Lawless and Ronald Wallace, Presiding

- 1:30 PM Introductory Remarks
- 31-1 1:35 PM Jens, John*: A CAREER AS A MILITARY GEOLOGIST
- 31-2 1:55 PM Martin, YoLani*: MAPPING THE EVERCHANGING TOPOGRAPHY OF YOUR CAREER
- 31-3 2:15 PM Lawless, Michael*: PREPARING OUR WORKFORCE: THINKING DIFFERENTLY ABOUT GEOSCIENCE CAREERS
- 31-4 2:35 PM Keane, Christopher*: LEARNING AND SKILL DEVELOPMENT FOR THE LONG-HAUL GEOSCIENCE CAREER
- 31-5 2:55 PM Cleinmark, Megan*: FROM THE ROCKY MOUNTAINS TO THE BLUEGRASS: MY CAREER IN GEOTECHNICAL ENGINEERING AND ENVIRONMENTAL CONSULTING
- 3:15 PM Break
- 31-6 3:30 PM Willette, Donna*: THE LANDSCAPE IS CHANGING - CAREERS IN GEOSCIENCES TODAY
- 31-7 3:50 PM Arthur, Jonathan*: EARLY CAREER GEOSCIENCE PUBLIC SERVICE OPPORTUNITIES IN FLORIDA
- 31-8 4:10 PM Myers, Brandy*: A CHANGING AMERICAN WORKFORCE: HOW GEOSCIENTISTS PREPARE TO NAVIGATE A CAREER THROUGH THE GREAT RESIGNATION AND COVID-19 PANDEMIC
- 31-9 4:30 PM Wallace, Ronald*: GEOLOGY EMPLOYMENT OPPORTUNITIES WITH STATE ENVIRONMENTAL PROTECTION PROGRAMS
- 4:50 PM Concluding Remarks

SESSION NO. 32

T4. Taconic Orogeny in the North, Central, and Southern Appalachians: Tectonics of the Early Paleozoic Margin of Laurentia

1:30 PM, Hyatt Regency Reston, Regency Ballroom B

Clinton Barineau, James Tull, Steven Whitmeyer and Paul Karabinos, Presiding

- 1:30 PM Introductory Remarks
- 32-1 1:35 PM Tremblay, Alain*; Perrot, Morgann; Davies, Joshua H.F.L.: GEOCHRONOLOGY OF THE SOUTHERN QUÉBEC DUNNAGE ZONE – NEW U-PB ZIRCON DATA, SYNTHESIS AND IMPLICATIONS FOR THE PALEOGEOGRAPHY AND TECTONIC SETTING OF THE TACONIAN OROGENY
- 32-2 1:55 PM Boutier, A.; Vitale Brovarone, A.; Martinez, I.; Van Baalen, Mark*: BELVIDERE VERMONT REVISITED: ANOMALOUS GRAPHITE AND ABIOTIC METHANE IN A SERPENTINITE
- 32-3 2:15 PM Karabinos, Paul*; Jenkins-Sorensen, Javier; Crowley, James L.: CONSTRAINTS ON THE ARRIVAL OF THE MORETOWN TERRANE AND THE TACONIC OROGENY IN THE NEW ENGLAND APPALACHIANS: DETRITAL ZIRCONS FROM THE CRAM HILL FORMATION, VERMONT

- 32-4 2:35 PM Perrot, Morgann G.*; Waldron, John; Luo, Yan; Davies, Joshua; Pearson, Graham D.: USING DETRITAL ZIRCON LASER ABLATION SPLIT-STREAM U-PB-HF DATA TO UNTANGLE LAURENTIAN AND GONDWANAN SOURCES IN SEDIMENTS OF THE CONNECTICUT VALLEY - GASPE BELT
- 32-5 2:55 PM Castro, Adrian*; Tailby, Nicholas D.; Morin, Katherine D.; Jaret, Steven J.: PHASE EQUILIBRIA CONSTRAINTS ON TACONIAN METAMORPHISM IN THE MANHATTAN AND HARTLAND SCHISTS, NEW YORK CITY: CONSTRAINING THE NATURE OF CAMERON'S LINE
- 3:15 PM Break
- 32-6 3:30 PM Bailey, Christopher M.*: TECTONICS OF THE CHOPAWAMSI TERRANE AND THE ARVONIA SUCCESSOR BASINS IN VIRGINIA
- 32-7 3:50 PM Williams, Sheri*; Farris, David W.: TECTONIC EVOLUTION OF THE BREVARD FAULT ZONE ADJACENT TO THE GRANDFATHER MOUNTAIN WINDOW, NC
- 32-8 4:10 PM Tull, James*; Barineau, Clinton: WHAT IS THE TECTONIC RELATIONSHIP OF THE MIDDLE ORDOVICIAN BLOUNTIAN FORELAND BASIN TO THE TACONIC OROGENY IN THE SOUTHERN APPALACHIANS?
- 32-9 4:30 PM Barineau, Clinton*; Tull, James: RECONCILING COLLISIONAL AND ACCRETIONARY OROGENIC MODELS FOR THE TACONIC OROGENY IN THE SOUTHERNMOST APPALACHIANS

AFTERNOON POSTER TECHNICAL SESSIONS

SESSION NO. 33

S5. Environmental Radionuclides: Geochemical Behavior, Tracer Applications, and Potential Health Consequences (Posters)

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

- Booth #**
- 33-1 1 Dorsey, Allison C.*; Kaste, James M.; Lockwood, Rowan; Ramsey, Kelvin W.; Cahoon, Kayla: STRATIGRAPHIC DISTRIBUTION AND SOURCE OF RADON IN THE YORKTOWN FORMATION (VIRGINIA)
- 33-2 2 Dobbins, Kira*; Fields, Clara; Macedo, Stephanie; Monyak, Paige; Schmidt, Amanda; Balco, Greg: SOURCE OF SEDIMENT AND RATE OF ACCUMULATION IN A COASTAL LAGOON DREDGED IN 1963; MARTHA'S VINEYARD, MA
- 33-3 3 Kennedy-Iange, Eleanor*; Dix, Monica; Schmidt, Amanda: SHORT-TERM AND LOCAL VARIATION OF SEDIMENT SOURCING IN PLUM CREEK, OBERLIN, OHIO
- 33-4 4 Gundersen, Eli*; Bailey, Scott W.; Spinola, Diogo; Ketterer, Michael; Portes, Raquel: THE SUITABILITY OF ²³⁹+²⁴⁰PU ISOTOPES AS SOIL EROSION TRACERS IN THE NORTHERN HARDWOOD FORESTS
- 33-5 5 Duff, Teaghan*; Deyrup, Caroline; Pitera, Anneka; Johnson, Aveyrey; Schmidt, Amanda; Mathie, Devan; Williamson, Tanja; Hood, J.; Karwan, Diana: SEDIMENT RECENTRY IN THE WESTERN LAKE ERIE BASIN
- 33-6 6 Wang, Zhen*; Cowan, Ellen A.; Seramur, Keith C.; Brachfeld, Stefanie A.; Vengosh, Avner: RADIONUCLIDES FOR TRACING DISTRIBUTION AND HISTORY OF COAL ASH CONTAMINATION IN LAKE SEDIMENTS
- 33-7 7 Roth, Danica L.*; Gialamas, Stephen; Burton, Samantha: POST-FIRE STEEPLAND EROSION AND BIOTURBATIVE

SOIL MIXING MEASURED THROUGH SHORT-LIVED RADIONUCLIDES

- 33-8 8 Jensen, Craig*; Genereux, David P.; Knappe, Detlef R.U.; Solomon, D. Kip; Gilmore, Troy E.: **PREDICTING FUTURE PFAS CONCENTRATIONS IN GROUNDWATER DISCHARGING TO STREAMS NEAR THE FAYETTEVILLE WORKS FACILITY IN NORTH CAROLINA**

SESSION NO. 34

T32. Conventional and Unconventional Critical Mineral Resources in the Eastern United States (Posters) (GSA Geophysics and Geodynamics Division; GSA Environmental and Engineering Geology Division; GSA Sedimentary Geology Division; GSA Soils and Soil Processes Division; GSA Structural Geology and Tectonics Division)

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

Booth #

- 34-1 9 Ayuso, Nora*; Ayuso, Robert A.: **CONVENTIONAL RARE EARTH ELEMENT DEPOSITS OF THE EASTERN UNITED STATES: RESOURCE POTENTIAL IN A GLOBAL CONTEXT**
- 34-2 10 Zach, Terri*; Lederer, Graham; Bliss, James D.: **CRITICAL MINERAL ASSESSMENT OF GRAPHITE—QUANTIFYING GLOBAL GRADE AND TONNAGE DATA AND IMPLICATIONS FOR UNITED STATES DOMESTIC SUPPLY**
- 34-3 11 O’Neil, Finn*; Jarvis, Isabelle; Hunt, Emma; Kelly, Nigel; Horvath, Peter; Aronoff, Ruth; Ranson, William: **AFC OF LCT, NYF & REE: UNTANGLING THE GEOLOGIC PROCESSES BEHIND THE ALPHABET SOUP OF PEGMATITE CLASSIFICATIONS**
- 34-4 12 Jarvis, Isabelle*; O’Neil, Finn; Hunt, Emma; Aronoff, Ruth; Ranson, William; Kelly, Nigel; Horvath, Peter: **CRITICAL MINERAL POTENTIAL OF PEGMATITES: HOW CLASSIFYING THEIR ZONATION CAN INFORM EXPLORATION**
- 34-5 13 Watson, Ethan*; Hunt, Emma; Horvath, Peter; Kelly, Nigel; Aronoff, Ruth; Ashlock, Steven: **FORMING THE WORLDS LARGEST KYANITE MINE: EFFECTS OF PROTOLITH AND FLUIDS**

SESSION NO. 35

T20. Early Career Voices of Appalachian Tectonics (Posters) (GSA Geochronology Division; GSA Structural Geology and Tectonics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division)

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

Booth #

- 35-1 14 Krzystek, Colin*; Solar, Gary S.; Tomascak, Paul: **MYLONITES IN COASTAL MAINE: MICROSTRUCTURAL ANALYSIS OF GARNET PORPHYROBLAST-MATRIX RELATIONS**
- 35-2 15 Mills, James*; Barineau, Clinton: **CONSTRAINTS ON THE AGE AND KINEMATICS OF THE BREVARD FAULT ZONE: PLUTONIC ELEMENTS OF THE JACKSONS GAP GROUP, ALABAMA (USA)**
- 35-3 16 Bernier, Brigid*; Mueller, Megan; Kortyna, Cullen; Fosdick, Julie: **APATITE (U-TH-SM)/HE THERMOCHRONOLOGY AND THERMAL HISTORY MODELING OF THE CATSKILL-POCONO SILICICLASTIC WEDGE, ACADIAN BASIN (CENTRAL PENNSYLVANIA)**

SESSION NO. 36

T3. Geologic Maps, Geophysical Maps, 3-D Geological Models, Digital Mapping Techniques, Map Derivatives, and Digital Map Preparation (Posters) (GSA Energy Geology Division; GSA Geophysics and Geodynamics Division)

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

Booth #

- 36-1 17 Fehrs, Ellen*; Bierly, Aaron: **STAY ON YOUR SIDE OF THE LINE: SUGGESTIONS FOR MAPPING SURFICIAL CONTACTS WITH ELEVATION-DERIVED HYDROGRAPHY**
- 36-2 18 Burrel, Laura*; Vernon, Rowan; Ford, Jonathan R.; Haslam, Richard; Randles, Tom; Burke, Helen; Woods, Mark A.; Lee, Jonathan R; Whitbread, Katie: **AN INTEGRATED METHODOLOGY FOR THE 3D CHARACTERISATION OF BEDROCK GEOLOGY IN AREAS OF LIMITED OUTCROP – CASE STUDY: THE YORKSHIRE WOLDS CHALK AQUIFER, UK**
- 36-3 19 Hickman, John*; Pearson, Anna: **INTEGRATING 3D STRUCTURAL GEOLOGY DATASETS ACROSS REGIONS WITH VARIABLE ELEVATION DATUMS**
- 36-4 20 Oest, Christopher*; Bierly, Aaron D.: **TRANSITION FROM TRADITIONAL TO DIGITAL MAPPING TECHNIQUES: GEOLOGIC MAPPING IN A PORTION OF THE NEWARK BASIN, BUCKS COUNTY, PENNSYLVANIA**
- 36-5 21 Grimley, David*; Curry, Brandon; Mandra, Katie M.; Phillips, Andrew; Stumpf, Andrew; Dendy-Metz, Sarah N.; Lund, Deette M.; Hamilton, McKenzie S.: **A NEW STATEWIDE QUATERNARY MAP OF ILLINOIS: CURRENT PROGRESS AND NEW FINDINGS**
- 36-6 22 Lupo, Mary*; Davis, Benjamin L.; McMahan, Ericka: **GEOLOGIC MAPPING OF NORTHEAST FLORIDA: PORTIONS OF THE FERNANDINA BEACH AND LAKE CITY 100K QUADRANGLES**
- 36-7 23 Trippi, Michael*: **NEW GEOLOGIC CROSS SECTION FROM GREENE COUNTY, WEST-CENTRAL ALABAMA, TO BIBB COUNTY, CENTRAL ALABAMA, SHOWING THE REGIONAL STRUCTURAL AND STRATIGRAPHIC FRAMEWORK OF THE VALLEY AND RIDGE PROVINCE IN THE SOUTHERN APPALACHIAN BASIN**
- 36-8 24 Kath, Randy*; Crawford, Thomas: **GEOLOGIC MAP OF THE INDIAN MOUNTAIN, BORDEN SPRINGS, OAK LEVEL, CEDARTOWN WEST, BENEDICT, TALLAPOOSA NORTH, FELTON, AND BUCHANON 7.5-MINUTE QUADRANGLES, ALABAMA-GEORGIA**
- 36-9 25 Bolding, Robert W.*; Kath, Randy L.; Chowns, Timothy M.: **GEOLOGIC MAP OF THE PLAINVILLE AND SHANNON 7.5 MINUTE QUADRANGLES, FLOYD AND GORDON COUNTIES, NORTHWEST GEORGIA**
- 36-10 26 Crawford, Thomas; Kath, Randy*: **PALMETTO GRANITE-BREVARD ZONE-KATY CREEK FAULT RELATIONSHIPS AS ILLUSTRATED ON THE PALMETTO, CAMPBELLTON, RICO, AND WINSTON, 7.5-MINUTE QUADRANGLES: GEORGIA PIEDMONT/BLUE RIDGE**
- 36-11 27 Morrow, Robby*; Wilson, Crystal G.; Payeur, Mason L.: **GEOLOGIC MAP OF THE SOUTHERN 1/2 OF RED HILL AND EDGEFIELD 7.5-MINUTE QUADRANGLES, EDGEFIELD COUNTY, SOUTH CAROLINA**
- 36-12 28 Wilson, Crystal G.; Morrow, Robby*; Payeur, Mason L.: **GEOCHEMISTRY OF CAROLINA TERRANE METAVOLCANICS AND ASSOCIATED INTRUSIVE ROCKS OF THE RED HILL AND EDGEFIELD 7.5-MINUTE QUADRANGLES, EDGEFIELD COUNTY, SOUTH CAROLINA**
- 36-13 29 Merschat, Arthur*; Carter, Mark W.; Odom, William; McAleer, Ryan: **GEOLOGIC MAP OF THE SPARTA EAST, SPARTA WEST, AND PARTS OF THE GLADE VALLEY**

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| | | AND WHITEHEAD 75-MINUTE QUADRANGLES, NORTH CAROLINA AND VIRGINIA, AND THE EPICENTRAL AREA OF THE AUGUST 2020 MW 5.1 EARTHQUAKE NEAR SPARTA, NC | | | BIOSTRATIGRAPHIC, AND PETROGRAPHIC ANALYSIS OF MIDDLE AND UPPER ORDOVICIAN STRATA IN THE SOUTHERN CHAMPLAIN VALLEY, NEW YORK, AND A PRELIMINARY 1:24,000 SCALE GEOLOGIC MAP OF THE PORT HENRY QUADRANGLE |
| 36-14 | 30 | Michael, Emily K.*; Rice, Aaron K.; Bradley, Philip J.: COMPILED STRUCTURAL DATA FOR CHATHAM COUNTY, NORTH CAROLINA - UTILIZING GIS TO UNRAVEL STRUCTURAL GEOLOGY PROBLEMS | 37-9 | 43 | Walsh, Gregory*; Orndorff, Randall C.; McAleer, Ryan J.: ESTABLISHMENT OF A MODERN 1:24,000-SCALE BEDROCK GEOLOGIC MAP FRAMEWORK FOR THE ADIRONDACK HIGHLANDS AND CHAMPLAIN VALLEY, NEW YORK AND VERMONT |
| 36-15 | 31 | Carter, Mark*; Deasy, Ryan; Merschat, Arthur; Blake, David; Shah, Anjana; Weinmann, Benjamin R.; Walsh, Greg J.: GEOTRAVERSE ALONG THE MEHERRIN RIVER IN SOUTHEASTERN VIRGINIA: AN UPDATE OF USGS GEOLOGIC MAPPING ON THE WESTERN HALF OF THE EMPORIA 30X60-MINUTE QUADRANGLE, VIRGINIA AND NORTH CAROLINA | 37-10 | 44 | Suarez, Kaitlyn*; Walsh, Gregory; Williams, Michael L.; Jercinovic, Michael J.; Tjapkes, Daniel; Hillenbrand, Ian: ALTERATION MAPPING USING GEOPHYSICAL AND GEOCHEMICAL INSTRUMENTATION: IMPLICATIONS FOR IOA AND REE EXPLORATION |
| 36-16 | 32 | McClellan, Elizabeth*; Hess, Patrick: NEOPROTEROZOIC TO PALEOZOIC TECTONICS IN THE VIRGINIA BLUE RIDGE: COMPLEX CONTACTS IN AN INVERTED EXTENSIONAL TO COMPRESSIONAL SEQUENCE | 37-11 | 45 | Burton, William*; Devlin, William; McAleer, Ryan; Holm-Denoma, Chris; Wintsch, Robert P.: PRELIMINARY BEDROCK GEOLOGIC MAP AND RELATED STUDIES OF THE ROXBURY AND WOODBURY 7.5-MINUTE QUADRANGLES, WESTERN CONNECTICUT UPLANDS |
| 36-17 | 33 | Evans, Nick H.*; Spears, David B.; Finnerty, Patrick C.; Lang, Katherine E.: GOOCHLAND TERRANE UNVEILED: USING AIRBORNE GEOPHYSICS TO REFINE GEOLOGIC MAPPING IN CENTRAL VIRGINIA | 37-12 | 46 | Kennedy, Rebekah*; Resor, Phillip; Wintsch, Robert P.: A MYLONITIC TERRANE SUTURE AND STITCHING PLUTONS IN THE BRANFORD QUADRANGLE, CONNECTICUT |
| 36-18 | 34 | Hyatt, James*: DINOSAURS TO COASTLINES TO CLASS: TRANSITIONING SFM POINT CLOUD RESEARCH TO AN UNDERGRADUATE GEOSCIENCE CLASS | 37-13 | 47 | Leonard, Jonathan P.*; Ouimet, William B.; Dow, Samantha; Suh, Ji won: EVALUATING USER INTERPRETATION ASSOCIATED WITH MANUAL DIGITIZATION OF STONE WALLS AND RELICT CHARCOAL HEARTHES USING AIRBORNE LIDAR |

SESSION NO. 37

T19. Mapping in the Geosciences: Processes and Products (Posters)

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

| Booth # | | | | | |
|---------|----|---|-------|----|--|
| 37-1 | 35 | Deasy, Ryan*; Horton, J.; Lupo, Mary; Glock, Shannon; Daniels, David: PRELIMINARY GEOLOGIC MAP OF PRE-MIDDLE JURASSIC BASEMENT ROCKS BENEATH THE COASTAL PLAIN IN FLORIDA | 37-16 | 50 | White, Chris E.; Barr, Sandra*; Raeside, Robert P.: A NEW EDITION OF THE ATLANTIC GEOSCIENCE SOCIETY'S GEOLOGICAL JOURNEY MAP OF NOVA SCOTIA, CANADA |
| 37-2 | 36 | Benton, Joshua R.*; Carter, Mark W.; Cattanach, Bart; Merschat, Arthur; Trantham, Brennan: LIDAR USED TO DELINEATE MAP-SCALE FOLDS IN AMPHIBOLITE-FACIES EASTERN BLUE RIDGE ROCKS, WESTERN NORTH CAROLINA | 37-17 | 51 | Palaseanu, Monica*; Pietraszek, Alyssa; Danielson, Jeff: ACROSS THE COUNTRY FROM WEST TO EAST: VISUAL NARRATIVES FOR COASTAL MAPPING TECHNIQUES |
| 37-3 | 37 | Tudek, John*; Perkins, J. Wayne; Spurgeon, Derek L.: CHANGES IN FIELD MAPPING ADVANCES IN THE LAST FIVE YEARS FROM THE PERSPECTIVE OF THE MAPPER | 37-18 | 52 | DeWitt, Jessica*: TERRAIN CHANGE TIME MACHINE: STRUCTURE FROM MOTION OF ARCHIVAL AERIAL IMAGERY FOR FINE-RESOLUTION AND ACCURATE HISTORICAL DIGITAL ELEVATION MODEL GENERATION |
| 37-4 | 38 | Saunders, Charles*: GEOLOGIC, HYDROLOGIC AND PEDOLOGIC FACTORS IN DUE DILIGENCE FOR VIRGINIA RESIDENTIAL PROPERTY DISCLOSURE ACT, PROPOSED STORMWATER MANUAL REVISIONS AND LOCAL ZONING | 37-19 | 53 | Brandon, Shavonte; Boston, Kathleen*: ASSESSMENT OF COBALT MINING ACTIVITY IN THE DEMOCRATIC REPUBLIC OF THE CONGO AND ZAMBIA |
| 37-5 | 39 | Crider, Ernest*; Self-Trail, Jean; Parker, Mercer; Gardner, Kristina; Beach, Todd; Bruce, T. Scott; Staley, Andrew; Quinn, Heather: ISOPACH CONTOUR MAP OF THE UPPER PALEOCENE AQUIA FORMATION AND STRUCTURE CONTOUR MAP OF THE PALEOCENE-EOCENE BOUNDARY IN THE SALISBURY EMBAYMENT OF MARYLAND AND VIRGINIA | | | |
| 37-6 | 40 | Carter, Mark*; Shah, Anjana; Blake, David; Merschat, Arthur; Deasy, Ryan; Spears, David B.: NEW TERRANE MAP FROM DETAILED MAPPING AND AIRBORNE GEOPHYSICS OF PARTS OF THE CENTRAL AND EASTERN PIEDMONT, VIRGINIA, USA | | | |
| 37-7 | 41 | Malinconico, Lawrence L.*; Sunderlin, David: USING DIGITAL APPLICATIONS FOR MAPPING AND INTERPRETATION OF GEOLOGIC FIELD DATA | | | |
| 37-8 | 42 | Parker, Mercer*; Orndorff, Randall; Valley, Peter; Walsh, Gregory: A LITHOSTRATIGRAPHIC, | | | |

SESSION NO. 38

T23. Soil, Water, and Biogeochemical Interactions (Posters) (GSA Soils and Soil Processes Division; GSA Hydrogeology Division; GSA Geobiology and Microbiology Division)

1:30 PM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 3 to 5 PM

| Booth # | | | | | |
|---------|----|--|--|--|--|
| 38-1 | 54 | Vang, Mai*; Trettin, Carl C.; Allan, Craig: IMPACT OF FORESTRY PRACTICES ON METHANE AND CARBON DIOXIDE EMISSIONS ALONG A FOREST TO WETLAND GRADIENT | | | |
| 38-2 | 55 | Mendez Monzon, Leslie; Rose, Gabrielle*; Cessna, Iris; Dricker, Alice; Hayhow, Claire; Brabander, Daniel J.: OLIVINE AMENDED URBAN COMPOST: USING MUSTARDS TO TRACE MINERAL DISSOLUTION AND POTENTIAL FOR CARBON SEQUESTRATION | | | |
| 38-3 | 56 | Ike, Holton*; Balogh-Brunstad, Zsuzsanna: ORGANIC CARBON CONTENT OF SOIL AT A NO-TILL FARM IN THE FINGER LAKES REGION, NEW YORK | | | |

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| 38-4 | 57 Hill, Kristi*; Cunningham, Champagne: OCCURRENCE AND DISTRIBUTION OF CYANOTOXINS IN SIGNIFICANT, UNDER-INVESTIGATED WATER BODIES IN MIDDLE TENNESSEE | 9:45 AM | Break |
| 38-5 | 58 Stauss, Sebastian*; Balogh-Brunstad, Zsuzsanna: ASSESSMENT OF WATER QUALITY IN THE WHIPPANY RIVER NEAR MORRISTOWN, NEW JERSEY | 39-6 | 10:00 AM Converse, David*; Bothner, Wallace; Jahrling, Christian; Koch, Philip; Dorais, Michael; Summa, Lori L.; Awwiller, David; Keeley, Joshua: UPDATED SILURO-DEVONIAN GEOLOGY IN THE INDIAN STREAM REPUBLIC (1832 – 1835) |
| 38-6 | 59 Appelle, Samantha*; Hale, Jason; Evans, Mark A.; Oyewumi, Yinka: GEOCHEMICAL ASSESSMENT OF SOILS AROUND COBALT LEGACY MINE SHAFT IN EAST HAMPTON CT | 39-7 | 10:20 AM Madill, Evan*; Terry, Dennis O.; Ver Straeten, Charles: PALEOCLIMATE DURING DEPOSITION OF THE LATE DEVONIAN GREATER TWILIGHT PARK CONGLOMERATE, SOUTHEASTERN NEW YORK |
| 38-7 | 60 Oyewumi, Oluyinka*; Magalhaes, Kaliann; Lammers, Hunter: ASSESSING STREAM SEDIMENTS AND SOIL CONTAMINATION BY TRACE ELEMENTS WITHIN AN HISTORICAL AGRICULTURAL WATERSHED OF ROCKY HILL, CONNECTICUT | 39-8 | 10:40 AM Terry, Dennis O.*; Ver Straeten, Charles: DIFFERENTIATING MARINE AND TERRESTRIAL DEPOSITS IN TRANSITIONAL DEPOSITIONAL ENVIRONMENTS OF THE CATSKILL DELTA COMPLEX: A QUICK AND DIRTY GUIDE |
| 38-8 | 61 Margerum, Alana*; Portes, Raquel; Spinola, Diogo; D'Amore, David V.; Zhang, Yakun: PLANT SUCCESSION AND SOIL CHEMICAL WEATHERING ON POST-GLACIAL LANDSCAPES, SE ALASKA | 39-9 | 11:00 AM Ver Straeten, Charles*; Doctor, Daniel: CORRELATING DEVONIAN TERRESTRIAL STRATA IN THE APPALACHIAN BASIN: CHALLENGES AND ISSUES |
| 38-9 | 62 Teitelbaum, Lia*; Carmody, Ryan; McRee, Erin; Treis, Falon; Balogh-Brunstad, Zsuzsanna: A GEOCHEMICAL ANALYSIS OF CHARLOTTE CREEK WATERSHED, NEW YORK | 39-10 | 11:20 AM Pitts, Alan*; Doctor, Daniel: APPROACHING A UNIFIED BASIN-SCALE LITHOSTRATIGRAPHIC FRAMEWORK FOR THE MIDDLE TO UPPER DEVONIAN CLASTIC UNITS OF THE CENTRAL APPALACHIAN VALLEY AND RIDGE PROVINCE |
| 38-10 | 63 Conrad, Philip*; Marinos, Richard: IMPACTS OF URBAN REGREENING ON SOIL DENITRIFICATION | | |

SUNDAY, 19 MARCH 2023

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 39

S2. Deciphering the Devonian World, from Biotic to Environmental Crises across the Globe (GSA Energy Geology Division)

8:00 AM, Hyatt Regency Reston, Regency Ballroom A

Sarah Carmichael, Cole Edwards, Diana Boyer and Daniel Doctor, Presiding

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| | 8:00 AM | Introductory Remarks |
| 39-1 | 8:05 AM | Glasspool, Ian*: EVIDENCE OF FIRE IN THE TROUT VALLEY FORMATION OF MAINE AND IT'S IMPLICATIONS FOR THE MIDDLE DEVONIAN CHARCOAL GAP |
| 39-2 | 8:25 AM | Hooker, William*: DIFFERENTIATING THE PARASYMPHYSEAL TEETH OF TWO SPECIES OF EIFELIAN †ONYCHODUS (OSTEICHTHYES, SARCOPTERYGII) FROM THE ONONDAGA-UNION SPRINGS CONTACT OF CENTRAL NEW YORK |
| 39-3 | 8:45 AM | Brisson, Sarah K*; Pier, Jaleigh Q.; Bush, Andrew: QUANTITATIVE COMPARISON OF PALEOECOLOGICAL GRADIENTS OF BRACHIOPODS ACROSS A LATE DEVONIAN EXTINCTION EVENT |
| 39-4 | 9:05 AM | Smart, Matthew*; Filippelli, Gabriel M.; Gilhooly, William; Ozaki, Kazumi; Reinhard, Chris; Marshall, John; Whiteside, Jessica H.: LINKING LAND PLANTS TO DEVONIAN MARINE ANOXIC EVENTS: INTEGRATING NUTRIENT RECORDS AND BIOGEOCHEMICAL MODELING |
| 39-5 | 9:25 AM | Gilleaudeau, Geoffrey*; Wei, Wei; Ramirez, Mariano; Song, Yi; Lyons, Timothy; Bates, Steve; Anbar, Ariel D.; Algeo, Thomas J.: SPATIOTEMPORAL WATERMASS EVOLUTION IN THE LATE DEVONIAN APPALACHIAN SEAWAY: EXPLORING THE LINK BETWEEN SEDIMENTATION, REDOX, AND SALINITY |

SESSION NO. 40

T18. Alleghanian Overprinting of Pre-Alleghanian Accreted Terranes

8:00 AM, Hyatt Regency Reston, Regency Ballroom B

Ryan McAleer, Ryan Deasy, Rebecca Stokes, Ryan Thigpen and Magdalena Curry, Presiding

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| | 8:00 AM | Introductory Remarks |
| 40-1 | 8:05 AM | Moecher, David*; Massey, Matthew: THE PALMER ZONE OF TRANSPRESSION, SOUTH-CENTRAL NEW ENGLAND: EXTREME NEO-ACADIAN TO ALLEGHANIAN DEFORMATION AND METAMORPHISM OF TACONIAN-ACADIAN INFRASTRUCTURE IN RESPONSE TO DEXTRAL OBLIQUE CONVERGENCE WITH AVALONIA |
| 40-2 | 8:25 AM | Wintsch, Robert*; Wathen, Bryan; McAleer, Ryan; Walters, Jesse; Matthews, Jessica A.; Growdon, Martha: ALLEGHANIAN OVERPRINTING OF ACADIAN METAPELITES BY DISSOLUTION-PRECIPITATION CREEP IN THE RETROGRADE EAST DERBY SHEAR ZONE |
| 40-3 | 8:45 AM | McAleer, Ryan*; Horton, J.; Carter, Mark W.; Holm-Denoma, Chris; Kunk, Michael J.; Deasy, Ryan; Vazquez, Jorge A.: NEW GEOCHRONOLOGY FROM THE EASTERNMOST PIEDMONT AND COASTAL-PLAIN BASEMENT IN VIRGINIA AND MARYLAND |
| 40-4 | 9:05 AM | Yasar, I. Dogancan*; Miller, Brent V.; Hames, Willis E.: POLYMETAMORPHIC EVOLUTION OF THE WESTERN BLUE RIDGE TERRANE THROUGH ACADIAN AND ALLEGHANIAN OROGENIES |
| 40-5 | 9:25 AM | Powell, Nicholas E.*; Thigpen, Ryan; Moecher, David P.; Stowell, Harold H.; Spencer, Brandon; Merschat, Arthur; Kylander-Clark, Andrew R.C.: DID THE BREVARD FAULT ZONE CONTROL NEOACADIAN CHANNEL AND ESCAPE FLOW IN THE SOUTHERN APPALACHIAN INNER PIEDMONT? EVIDENCE FROM MONAZITE U-PB GEOCHRONOLOGY AND REE GEOCHEMISTRY |
| | 9:45 AM | Break |
| 40-6 | 10:00 AM | Deasy, Ryan*; Holm-Denoma, Chris; McAleer, Ryan J.; Horton, J.; Pianowski, Laura: NEW GEO- AND THERMOCHRONOLOGICAL CONSTRAINTS ON THE ARCHITECTURE AND EVOLUTION OF THE SUWANNEE TERRANE, FLORIDA, USA |
| 40-7 | 10:20 AM | Thigpen, Ryan*; Merschat, Arthur; Hatcher, Robert; Moecher, David; Powell, Nicholas E.; Spencer, Brandon; Stowell, Harold; Bollen, Elizabeth: RECONSTRUCTING |

AM

SUNDAY

- THE PALEOZOIC STRUCTURAL, METAMORPHIC, AND EXHUMATIONAL HISTORY OF THE SOUTHERN APPALACHIAN BLUE RIDGE AND INNER PIEDMONT
- 40-8 10:40 AM Webb, Laura*; Karabinos, Paul M.: POLYPHASE DEFORMATION RECORDED BY THRUSTS ALONG THE WESTERN EDGE OF THE BERKSHIRE MASSIF, MASSACHUSETTS
- 40-9 11:00 AM Pollock, Steve*; Wang, Chunzeng; Whittaker, Amber H.: ERUPTIVE STYLE AND AGE OF THE SPIDER LAKE FORMATION, NORTHERN MAINE

SESSION NO. 41

T42. Paleoenvironment and Paleobiology of Late Cretaceous Sediments Near Coon Creek, Tennessee

8:00 AM, Hyatt Regency Reston, Lake Audubon

Michael Gibson and Tom Byl, Presiding

- 41-1 8:00 AM Puckett, T.*: STRATIGRAPHIC FRAMEWORK OF THE MARINE UPPER CRETACEOUS DEPOSITS OF THE EASTERN FLANK OF THE MISSISSIPPI EMBAYMENT
- 41-2 8:20 AM Baghai-Riding, Nina*: A PALYNOLOGICAL ANALYSIS OF A SAMPLE FROM THE COON CREEK MEMBER, RIPLEY FORMATION, UNION COUNTY, MISSISSIPPI
- 41-3 8:40 AM Gibson, Michael*: VALVE GROWTH TERATOLOGY IN AN ANOMIA ARGENTARIA SKELETOZOAN ASSOCIATED SQUATTERING IN A CRASSATELLA VADOSA FROM THE COON CREEK LAGERSTÄTTE (LATE CRETACEOUS) OF WESTERN TENNESSEE
- 41-4 9:00 AM Byl, Tom*; Cunningham, Champagne; Gibson, Michael A.; Bradley, Michael; Self-Trail, Jean; Gardner, Kristina; Geiger, Stephen; Jabanoski, Kristen; Oster, Jessica; Kelley, Neil: EVIDENCE THAT ALGAL TOXINS PLAYED A ROLE IN THE DEATH OF MOSASAURS FOUND IN THE UPPER CRETACEOUS COON CREEK FORMATION, TENNESSEE
- 41-5 9:20 AM Hudson, Natalie*; Gibson, Michael: GEOSCIENCE EDUCATION PROGRAMING, INTERNSHIPS, AND STEM AT THE UNIVERSITY OF TENNESSEE AT MARTIN COON CREEK SCIENCE CENTER LAGERSTÄTTE (CRETACEOUS), WESTERN TENNESSEE

SESSION NO. 42

T8. Small-Scale Geologic Mapping in the Northeastern U.S.: Addressing the USGS National Cooperative Geologic Mapping Program's Goals for a Seamless, National 2D/3D Geologic Framework Model of the United States (GSA Energy Geology Division)

9:55 AM, Hyatt Regency Reston, Lake Audubon

Donald Sweetkind, Joseph Colgan, David R. Soller and Jenna Shelton, Presiding

- 42-1 9:55 AM Stone, Byron*; Stone, Janet; DiGiacomo-Cohen, Mary; Mabee, Stephen: GLACIAL GEOFRAMEWORK AND GEOCHRONOLOGY: LESSONS FROM THE EASTERN U.S. APPLICABLE FROM MAINE TO MONTANA
- 42-2 10:15 AM Guiseppe, Alfred*; Ebersole, Craig: MODELING BEDROCK ELEVATION OF PENNSYLVANIA USING AN ADAPTIVE GIS METHODOLOGY
- 42-3 10:35 AM Doctor, Daniel*; Pitts, Alan; Gray, Alexander; Jackson, Rachel; Odom, William; Stamm, Robert: ACHIEVING A COMMON STRATIGRAPHIC FRAMEWORK FOR SEAMLESS REGIONAL GEOLOGIC MAPPING IN THE NORTH-CENTRAL APPALACHIAN VALLEY AND RIDGE PROVINCE OF VIRGINIA, WEST VIRGINIA, MARYLAND, AND PENNSYLVANIA
- 42-4 10:55 AM Filippelli, Hailey*; Guiseppe, Alfred; Hand, Kristen: A MODERNIZED STRATIGRAPHIC FRAMEWORK: REVISING AND RECONCILING STRATIGRAPHY ACROSS PENNSYLVANIA
- 42-5 11:15 AM Boyles, Julia*; Springston, George; Wright, Stephen; DeJong, Benjamin: SEAMLESS GEOLOGIC

- COMPILATION MAPS AT MULTIPLE SCALES IN VERMONT: APPLIED USE AND THE QUANDARY OF MINIMUM MAPPING UNIT SIZE
- 42-6 11:35 AM Davis, Sean*; Etensohn, Frank; Andrews, William: USING 3-DIMENSIONAL MAPPING TO DETERMINE THE POSSIBILITY OF STRUCTURAL CONTROL ON DEVELOPMENT OF THE UPPER ORDOVICIAN LEXINGTON LIMESTONE, CENTRAL KENTUCKY, U.S.A

SESSION NO. 43

T30. The 200th Anniversary of the First State Geological Survey—The North Carolina Geological Survey

8:00 AM, Hyatt Regency Reston, Lake Fairfax

Kenneth Taylor, Philip J. Bradley, Kathleen Farrell, James S. Chapman, Bart Cattanach, Heather Hanna, Norman Gay and Amy Pitts, Presiding

- 8:00 AM Introductory Remarks
- 43-1 8:05 AM Taylor, Kenneth*: THE 200TH ANNIVERSARY OF THE ESTABLISHMENT OF THE NORTH CAROLINA GEOLOGICAL SURVEY – 1823 TO 2023
- 43-2 8:25 AM Korte, David*; Sas, Robert; Bozdog, G. Nicholas; Jurgevich, Jeremy; Eastwick, Ryan: OVERVIEW OF THE NORTH CAROLINA GEOLOGICAL SURVEY'S LANDSLIDE HAZARDS PROGRAM
- 43-3 8:45 AM Bradley, Philip*: 200 YEARS OF GEOLOGIC MAPPING IN CHATHAM COUNTY, NORTH CAROLINA – LOCATION OF ONE OF THE FIRST DISTINCT GEOLOGIC ELEMENTS IDENTIFIED IN NC
- 43-4 9:05 AM Hanna, Heather D.*; Chapman, James S.: GEOCHEMISTRY AT THE NORTH CAROLINA GEOLOGICAL SURVEY: FROM CRITICAL MINERALS TO SOLVING MURDERS
- 43-5 9:25 AM Cattanach, Bart*; Bozdog, G. Nicholas; Isard, Sierra J.; Benton, Joshua R.: 200TH ANNIVERSARY OF THE NORTH CAROLINA GEOLOGICAL SURVEY: GEOLOGICAL MAPPING AND DATASETS OF WESTERN NORTH CAROLINA
- 9:45 AM Break
- 43-6 10:00 AM Farrell, Kathleen*; Haven, Katelyn R.; Peters, Jonathan R.: THE STATUS OF SURFICIAL GEOLOGIC MAPPING AND STRATIGRAPHY ON THE COASTAL PLAIN OF NORTH CAROLINA
- 43-7 10:20 AM Rice, Aaron K.; Blake, David*; Nolan, Jack; Finnerty, Patrick C.; Peach, Brandon Tyler; Morrow, Robby; LaMaskin, Todd; Carter, Mark: COMPILATION OF LITHOEMIC AND STRUCTURAL DATA FROM THE EARLY DEVONIAN EASTERN RALEIGH TERRANE: A TRIBUTE TO THE RESEARCH OF AARON K. RICE AND THE NORTH CAROLINA GEOLOGICAL SURVEY

MORNING POSTER TECHNICAL SESSIONS

SESSION NO. 44

D10. Geomorphology, Quaternary Geology, and Soils (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

- Booth #**
- 44-1 1 Franzi, David*; Carl, Brian; Pepperstone, Hadar; Gordon, Charles: NEW INSIGHTS INTO THE INTERRELATIONSHIPS BETWEEN LATE PLEISTOCENE–EARLY HOLOCENE PROGLACIAL LAKE AND MARINE WATER BODIES IN THE ST. LAWRENCE AND CHAMPLAIN VALLEYS IN NEW YORK, VERMONT, AND ADJACENT CANADA

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| 44-2 | 2 | Dickson, Hannah*; Stern, Libby; Webb, Jodi; Meiklejohn, Kelly; Hietpas, Jack: ASSESSMENT OF METHODOLOGIES FOR THE ANALYSIS OF SURFACE SOILS IN FORENSIC SOIL COMPARISONS | 45-9 | 19 | Foster, Alaina*; Calderon, Anna; Hayhow, Claire; Monecke, Katrin; Brabander, Daniel J.; Hubeny, Brad; McCarthy, Francine: THE PRE-EUROPEAN SEDIMENTARY RECORD OF SLUICE POND, MASSACHUSETTS: A DETAILED ARCHIVE OF LONG-TERM TRENDS AND INSTANTANEOUS SEDIMENTATION EVENTS |
| 44-3 | 3 | Harris, John*; Prestegard, Karen; Volz, Samantha: COMBINED GEOMORPHIC AND LAND-USE CONTROLS ON TRIBUTARY DISCHARGE IN AN URBAN LANDSCAPE | 45-10 | 20 | Brown, Teresa*: DECIPHERING THE KARST HYDROGEOLOGY OF CASTLEWOOD, VA: A WORK IN PROGRESS |
| 44-4 | 4 | Cunillera-Cotte, Kiara; Pérez Paulino, Jonathan; Hughes, Stephen*: HYDRO-METEOROLOGICAL THRESHOLDS FOR SHALLOW LANDSLIDE INITIATION IN PUERTO RICO | 45-11 | 21 | Hu, Junhao*; Russoniello, Christopher J.; Vesper, Dorothy J.; Skousen, Jeffrey; Spirnak, Rachel P.; Fillhart, Jason; Hurley, Brian: CHARACTERIZATION OF LIMESTONE LEACH BED EFFICACY OVER SEASONS AND STORMS |
| 44-5 | 5 | Wijesinghe, Dhanuska*; Stickles, Austin; Withana Gamage, Prabhathi W.; Eaton, L. Scott: IMPACT OF SOIL PHYSICAL AND CHEMICAL PROPERTIES ON THE VARIABILITY SATURATED HYDRAULIC CONDUCTIVITY (KSAT) AT SMALL SCALE | 45-12 | 22 | Valentino, David*; Valentino, Joshua: SOLUTION ENHANCED FRACTURE KARST IN THE TRENTON GROUP CARBONATES, JEFFERSON COUNTY, NEW YORK |
| 44-6 | 6 | Luciano, Katherine*; Sundin, Gary; Gaillard, Meg; Smith, Karen; Griffin, Melissa; Harris, M.; Cook, Evan D.: PHYSICAL AND METEOROLOGICAL PARAMETERS IMPACTING RECENT TRANSGRESSION AT POCKOY ISLAND, SC | 45-13 | 23 | Moye, Jacob*; O'Hara, Garrett: 3-D MODELING OF CAVE AND KARST FEATURES USING PHOTOGRAMMETRY METHODS |
| 44-7 | 7 | Spicer, Emma C.*; Dahlquist, Maxwell: A MULTI-TEMPORAL LANDSLIDE INVENTORY FOR WETAR ISLAND, INDONESIA | 45-14 | 24 | Piphus, Desire*; Carver, Elisabeth; Famiglietti, Julia: TWO CONTRASTING FALL LINE WATERSHEDS IN NW DELAWARE AND SE PENNSYLVANIA |
| 44-8 | 8 | Johnson, Ty*; Finkenbinder, Matthew; Wintersteen, Erika: SURFICIAL GEOLOGIC MAPPING OF PIKE COUNTY, PENNSYLVANIA | 45-15 | 25 | Nicholas, Rebekah*; Vesper, Dorothy; Downey, Autumn; Padilla, Ingrid Y.: RELATIONSHIPS BETWEEN METAL CHEMISTRY, CARBON CONTENT, AND PARTICLE SIZE IN CLASTIC CAVE SEDIMENTS |
| 44-9 | 9 | Szulczewski, Melanie*; Cook, Katherine; Jones, Faith; Velardi, Anna: FACTORS AFFECTING TOTAL AND BIOAVAILABLE CONCENTRATIONS OF TRACE METALS IN SURFACE SOILS IN THE KINGSTON, JAMAICA, REGION | 45-16 | 26 | Hanebuth, Till J.J.*; Meyers, Ezekiel W.: CHRONIC SILTING WITHIN A HUMAN-CREATED OXBOW ALONG A HISTORIC HARBOR FRONT (SAMPIT RIVER, GEORGETOWN, SC) |
| 44-10 | 10 | Bernhardt, Christopher*; Carriker, Diana; Webb, Jodi; Stern, Libby; Saginor, Ian: FINGERPRINT POWDER AS A SOURCE OF CONTAMINATION IN FORENSIC PALYNOLOGY | 45-17 | 27 | Boyce, Christina*; Turner, Nicholas; Shen, Zhixiong; Mendes, Isabel; Hanebuth, Till J.J.: ULTRA-HIGH RESOLUTION ANALYSIS OF INTER-ANNUAL NATURAL AND ANTHROPOGENIC VARIABILITY USING FLUVIOGENIC FLOOD LAYERS OVER THE PAST 600 YEARS DOCUMENTED BY A PRODELTAIC DEPOCENTER IN THE GULF OF CADIZ, SPAIN |
| | | | 45-18 | 28 | Russoniello, Christopher*; Aman Cromwell, Lindsey; Guimond, Julia: LAKE-GROUNDWATER-CHANNEL CONNECTIVITY AND DISCHARGE IN ARCTIC DELTAS |

SESSION NO. 45

D11. Hydrogeology, Karst, Limnogeology, and Marine Geoscience (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A-D

Authors will be present from 10 AM to 12 PM

| Booth # | |
|---------|---|
| 45-1 | 11 Stackhouse, Bethany*; Wingard, G. Lynn; Daniels, Andre M.: ANALYSIS OF HURRICANE SEDIMENT DEPOSITS ON JIM FOOT KEY IN FLORIDA BAY, EVERGLADES NATIONAL PARK, USA |
| 45-2 | 12 Ebel, Brian*; Murphy, Sheila: BUILDING CAPACITY TO ASSESS AND PREDICT POST-WILDFIRE WATER AVAILABILITY AT THE U.S. GEOLOGICAL SURVEY |
| 45-3 | 13 Williams, Lucy*; Feber, Gabrielle; Allen-King, Richelle M.: THE EFFECT OF GROUNDWATER DISCHARGE ON MEROMIXIS AND GEOCHEMISTRY IN UPPER SUBALPINE O'BRIEN LAKE, BANFF NATIONAL PARK, CANADA |
| 45-4 | 14 Oakley, Bryan*; King, John W.; Caccioppoli, Brian; Gibson, Carol; Moen, Alexandra: BENTHIC GEOLOGIC HABITAT CHARACTERIZATION AND MAPPING OF FOUR SUBSECTIONS OF ACADIA NATIONAL PARK |
| 45-5 | 15 Bayraktar, Banu*; Lowry, Chris; McHale, Michael R.: EVALUATING GREEN INFRASTRUCTURE DESIGN TO MITIGATE URBAN RUNOFF IN BUFFALO, NY |
| 45-6 | 16 Nesheim, Samuel*; Klein, Jenna; Zhi, Wei; Wen, Tao: EXPLORING THE IMPACTS OF CEMETERIES ON URBAN SURFACE WATER QUALITY IN SYRACUSE, NEW YORK |
| 45-7 | 17 Wright, Eric*; Shen, Zhixiong; Harris, M.: NEW OSL AGES FOR THE WESTERN END OF WAITES ISLAND, SC |
| 45-8 | 18 Behr, Rose-Anna*: AUTOMATED SINKHOLE MAPPING IN MIFFLIN COUNTY, PENNSYLVANIA: A TEST CASE FOR AN UPDATED, STATEWIDE KARST HAZARD-POTENTIAL MAP |

SESSION NO. 46

D12. Geochronology, Sediments, and Stratigraphy (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A-D

Authors will be present from 10 AM to 12 PM

| Booth # | |
|---------|---|
| 46-1 | 29 Pinon, Héloïse*; Davies, Joshua H.F.L.; Tremblay, Alain; Perrot, Morgann: CHEMICAL CHARACTERIZATION OF ZIRCON AND APATITE AS A STRATIGRAPHIC CORRELATION TOOL: EXAMPLE FROM THE ORDOVICIAN BENTONITES OF THE ST LAWRENCE PLATFORM IN THE MONTREAL AREA, QUEBEC |
| 46-2 | 30 St-Denis, Miguel*; De Souza, Stéphane; Davies, Joshua H.F.L.; Perrot, Morgann G.: DETRITAL MINERAL PROVENANCE AND AGE OF THE OAK HILL GROUP IN THE SOUTHERN QUEBEC APPALACHIANS; PALEOGEOGRAPHIC IMPLICATIONS FOR THE LAURENTIAN MARGIN FROM NEOPROTEROZOIC DETRITAL ZIRCONS |
| 46-3 | 31 Vollhardt, Heather*; Fedorchuk, Nicholas; Morales, Ivianna; Cordie, David; Regan, Eric: GEOCHEMICAL AND SEDIMENTOLOGICAL INVESTIGATION OF POSSIBLE DEVONIAN-MISSISSIPPIAN GLACIATION IN THE APPALACHIAN BASIN, PENNSYLVANIA |
| 46-4 | 32 Drzewiecki, Peter*; LeTourneau, Peter; Olsen, Paul E.; McDonald, Nicholas G.: INFLUENCE OF EARLY JURASSIC POST-EXTINCTION MICROBIAL |

AM

SUNDAY

POSTERS

- 46-5 33 Finnerty, Patrick C.*; Lang, Katherine E.; Spears, David B.; Barbeau, David L.: DETAILED GEOLOGIC MAPPING, WHOLE ROCK GEOCHEMISTRY, AND U-PB ZIRCON GEOCHRONOLOGY IN THE HYLAS HIGH-STRAIN ZONE, VIRGINIA EASTERN PIEDMONT
- 46-6 34 Koran, Isabel*; Maeder, James; McKanna, Alyssa; Guevara, Victor; Schoene, Blair; Mueller-Harder, Cameron; Suarez, Kaitlyn A.; Hanchar, John: IRON OXIDE-APATITE GENESIS IN THE NEW JERSEY HIGHLANDS: A GEOCHRONOLOGICAL AND PETROLOGICAL APPROACH
- 46-7 35 Bierly, Aaron*; Oest, Christopher; Zippi, Pierre: PALYNOLOGY FROM A FOSSIL PLANT-BEARING INTERVAL IN THE STOCKTON FORMATION, TYLER STATE PARK, BUCKS COUNTY, PENNSYLVANIA
- 46-8 36 Bierly, Aaron*; Zippi, Pierre; Hutsky, Andrew: THE POWER OF PALYNOLOGY: DETERMINATION OF STRATA MISSING AT THE MISSISSIPPIAN-PENNSYLVANIAN UNCONFORMITY AND CONSTRAINING THE AGE OF THE DEVONIAN CATSKILL CLASTIC WEDGE IN SOUTHERN MCKEAN AND WESTERN CAMERON COUNTY, PENNSYLVANIA
- 46-9 37 Hansen, Lucy; Lang, Asha; Glumac, Bosiljka*; Newton, Robert; Caris, Jon; Hartwell, Gary: TRANSPORT OF GRAVEL BY THE MILL RIVER ON SMITH COLLEGE CAMPUS IN NORTHAMPTON, MASSACHUSETTS: INSIGHTS FROM RFID (RADIO FREQUENCY IDENTIFICATION) OF TAGGED PEBBLES
- 46-10 38 Davis, Zachary*; Hames, Willis E.: ARGON DIFFUSION IN POTASSIUM FELDSPARS FROM LOW SULFIDATION EPITHERMAL SYSTEMS ALONG THE MIOCENE YELLOWSTONE LIP: UNDERSTANDING VARIATIONS IN ⁴⁰AR/³⁹AR AGES
- 46-11 39 Fisher, Sabrina*; Barineau, Clinton; Holm-Denoma, Chris; Smith, Valarie: TECTONIC SIGNIFICANCE OF THE WESTERN BLUE RIDGE MARBLE HILL HORNBLENDE SCHIST, SOUTHERN APPALACHIANS (USA)

SESSION NO. 47

D9. Energy Geology and Environmental Geoscience (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

- | Booth # | |
|---------|--|
| 47-1 | 40 Hayes, Sarah*; Piatak, Nadine; McAleer, Ryan: BEHAVIOR OF TELLURIUM IN SURFICIAL MINE TAILINGS |
| 47-2 | 41 Lowry, Samuel; Sellers, Britton; Miller, Jerry*; Orbock Miller, Suzanne M.; O'Brien, Christine; Love, Jason; Meiri, Noa: THE IMPORTANCE OF PLASTIC DEBRIS AS A SOURCE OF MICROPLASTICS IN RICHLAND CREEK, NORTH CAROLINA |
| 47-3 | 42 Sunderlin, David*; Najjar, Olivia; Wijetunga, Liana S.: COMPARING MICROPLASTIC ACCUMULATION IN BEACH SANDS FROM LACUSTRINE AND COASTAL MARINE SYSTEMS: LAKE WINNIPESAUKEE, NH AND SANDY HOOK, NJ |
| 47-4 | 43 Adeyemi, Oluwaseun*; Schroeder, Paul: MINERALOGY OF PER-AND POLYFLUOROALKYL SUBSTANCES (PFAS) CONTAMINATED SOILS FROM AGRICULTURAL FIELDS IN SOCIETY HILL, SOUTH CAROLINA |
| 47-5 | 44 Gontz, Allen*; Connolly, Caeli; Yupanqui, Edwards Alzamora; Kelley, Alice; Sandweiss, Daniel; Huaman, Richard Espino; Leclerc, Elizabeth; Bergmann, Christine; Stanish, Charles; Pantoja flores, Gladys: APPLICATIONS OF ELECTRICAL RESISTIVITY AT THE POZUELO ARCHAEOLOGY SITE, CHINCHA VALLEY, PERU |

- 47-6 45 Meng, Jingyao*; Lassetter, William L.; Sinemus, Lydia; Swanger, William: STRATIGRAPHIC CORRELATIONS IN SOUTHWESTERN VIRGINIA

SESSION NO. 48

S2. Deciphering the Devonian World, from Biotic to Environmental Crises across the Globe (Posters) (GSA Energy Geology Division)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

- | Booth # | |
|---------|---|
| 48-1 | 46 Hazzard, Lilith; Carmichael, Sarah*; Dombrowski, Allison; Munkhjargal, Ariuntogos; Waters, Johnny; Königshof, Peter; Gonchigdorj, Sersmaa: FLUID ALTERATION OF THE FAMENNIAN HUSHOOT SHIVEETIIN GOL SECTION (BARUUNHUURAI TERRANE, MONGOLIA) PRESERVED IN TITANIA MINERALS: HOW DOES THIS AFFECT GEOCHEMICAL FINGERPRINTING OF SHALLOW WATERS? |
| 48-2 | 47 Bush, Andrew*; Goldstein, Donald H.: FUNNEL-SHAPED TRACE FOSSILS FROM THE UPPER DEVONIAN OF NORTH-CENTRAL PENNSYLVANIA: PRESERVATION AND TRACEMAKER BEHAVIOR |
| 48-3 | 48 Foronda, Jacqueline*; Carmichael, Sarah; Cywinski, Cara; Königshof, Peter; Munkhjargal, Ariuntogos; Gonchigdorj, Sersmaa; Gantumur, Dalajjams; Waters, Johnny; Waters, John W.; Cronier, Catherine; Karlsson, Magnus: MAPPING THE MIDDLE TO LATE DEVONIAN IN THE SHINEJINST REGION OF THE SOUTHERN GOBI DESERT, MONGOLIA |
| 48-4 | 49 Cywinski, Cara*; Carmichael, Sarah; Königshof, Peter; Ta Hoa, Phuong: GEOCHEMISTRY OF ULTRAPURE CARBONATES ACROSS THE FRASNIAN/FAMENNIAN BOUNDARY INTERVAL IN SOUTHEAST ASIA (XOM NHA FORMATION, CENTRAL VIETNAM) |

SESSION NO. 49

S1. Sea-Level History from the U.S. East Coast—Insights for Projecting Future Change (Posters) (GSA Marine and Coastal Geoscience Division)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

- | Booth # | |
|---------|---|
| 49-1 | 50 Barnett, Laura L.*; Donnelly, Jeffrey P.; Starr, Mitchell; Nissen, Grace: EARLY TO MID-HOLOCENE SEA-LEVEL RISE IN SOUTHEASTERN NEW ENGLAND |
| 49-2 | 51 Seidenstein, Julia*; Rodysill, Jessica; Cronin, Thomas; Donnelly, Jeffrey P.; Toomey, Michael: STORM AND SEA LEVEL RECORDS IN BASIN BAYOU, FLORIDA BASED ON FORAMINIFERAL ASSEMBLAGES FROM AN 8 KYR RECORD |
| 49-3 | 52 Toomey, Michael*; Cronin, Thomas; Donnelly, Jeffrey P.; Rodysill, Jessica; Willard, D.: SEA-LEVEL, STORMS AND LAND LOSS IN CHESAPEAKE BAY DURING THE LAST MILLENNIUM |
| 49-4 | 53 Fink, Madison*; Hanebuth, Till: HISTORIC RELATIVE SEA-LEVEL RISE IN SOUTH CAROLINA: HOW TO GET A GRIP ON LOCAL SUBSIDENCE AND THE IMPLICATIONS FOR FUTURE FLOOD RISK |

SESSION NO. 50

T11. Geomorphic Evolution of River Corridors in the Eastern United States from the Pleistocene to the Anthropocene (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

- | Booth # | |
|---------|--|
| 50-1 | 54 Dow, Samantha*; Ouimet, William: WATERSHED RESPONSE TO 18-20TH CENTURY AGRICULTURAL |

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| | | PRACTICES IN UPLAND RIVER CORRIDORS IN SOUTHERN NEW ENGLAND |
| 50-2 | 55 | Birardi, Gabriela S.*; Pazzaglia, Frank: MODELING CLIMATE CHANGE WITH LANDLAB: WATERSHED RESPONSE TO INCREASING RAINFALL AND STORM FREQUENCY |
| 50-3 | 56 | Pantoja flores, Gladys*; Gontz, Allen; Carl, Brian; Borracci, Veronica: GPR FACIES INTERPRETATION: REVEALING THE HIDDEN DUNES-RIVER COMPLEX OF UPSTATE NEW YORK |
| 50-4 | 57 | Lapham, Laura*; Gautam, Saranya; Senderoff, Preston; Biddle, Julian; Drift, Alexander; Dow, Samantha; Ouimet, William B.: LIDAR DEM BASED MAPPING AND SEDIMENT CORING HIGHLIGHT NEW DETAILS ON PALEO PERIGLACIAL PROCESSES IN CENTRAL CONNECTICUT |
| 50-5 | 58 | Borracci, Veronica*; Carl, Brian; Gontz, Allen; Pantoja flores, Gladys; Penfield, Lisa: GLACIAL FEATURES AND EOLIAN DUNES IN THE ST. LAWRENCE LOWLANDS |
| 50-6 | 59 | Edgington, Anthony*; Ajayi, John; Onuoha, Oluomachi; Parthasarthy, Rachel; Pimenta, Michael; Dow, Samantha; Ouimet, William B.: INVESTIGATING A POSSIBLE NEW, LATE PLEISTOCENE PERIGLACIAL LANDFORM IN CENTRAL CONNECTICUT |
| 50-7 | 60 | Rubin, Paul*: BLUESTONE WILD FOREST: A GLACIAL LANDSCAPE IN MINIATURE (MID-HUDSON VALLEY, NEW YORK STATE) |
| 50-8 | 61 | Rivera, Allison*; Hine, Kiely; Raghavan, Sharanyan; Anderson, Thomas S.; Faulkner, Elliot; Kulp, Henry; Sacco, Charles; Dow, Samantha; Ouimet, William: EXAMINING 17,000 YEARS OF SEDIMENTATION AND ORGANIC ACCUMULATION IN A SMALL UPLAND STREAM CORRIDOR IN NORTHEASTERN CONNECTICUT |
| 50-9 | 62 | Hine, Kiely*; Ouimet, William: HISTORICAL ANALYSIS OF MILL DAMS ALONG RIVERS IN NORTHEASTERN CONNECTICUT |
| 50-10 | 63 | Field, Lydia*; Sihpol, Tatiana A.; McNamara, Cole; Allegra, Alexander; Durham, Lucas; Parsley, James; Nguyen, Khoi; Ouimet, William B.; Dow, Samantha: ANALYSIS OF ANTHROPOGENIC HEAVY METALS IN HISTORIC MILL DAM SEDIMENTS: A CASE STUDY FROM MILL BROOK, COVENTRY, CONNECTICUT (USA) |
| 50-11 | 64 | Mcsweeney, Robert*; Luffman, Ingrid; Nandi, Arpita: AEOLIAN INFLUENCES ON GULLY EROSION IN CLAY-RICH SOILS IN A HUMID SUBTROPICAL CLIMATE OF SOUTHEASTERN USA |
| 50-12 | 65 | Vaughan, Nora*; Eppes, Martha Cary; Ferguson, Terry; Nelson, Michelle; Richter, Daniel D.; Fall, Patricia; Wells, Alec: HOLOCENE EVOLUTION OF LOW-ORDER WATERSHED HILLSLOPES AND SOILS IN THE SE PIEDMONT, NC USA |
| 50-13 | 66 | Magner, Jack*: THE IMPACT OF THE LOW-INTENSITY LOST COVE FIRE ON SOIL MOVEMENT AND A HORIZON PROPERTIES, BLUE RIDGE MOUNTAINS, NC |

SESSION NO. 51

T42. Paleoenvironment and Paleobiology of Late Cretaceous Sediments Near Coon Creek, Tennessee (Posters)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

| | | Booth # |
|------|----|---|
| 51-1 | 67 | Gardner, Kristina*; Self-Trail, Jean; O’Keefe, Jen; Mason, P.H.; Gibson, Michael A.: MICROPALAEONTOLOGICAL BIOSTRATIGRAPHY AND ENVIRONMENTAL ANALYSIS OF THE COON CREEK FORMATION TYPE LOCALITY SECTION NEAR ENVILLE, TENNESSEE |
| 51-2 | 68 | Kirkpatrick, Donald*: NEW/ADDITIONAL LATE CRETACEOUS SOUTH CAROLINA BACULITES SPECIMENS |

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|------|----|--|
| 51-3 | 69 | McCarty, Maeve*; Asselta, Jarred; Stinchcomb, Gary E.; Lukens, William; O’Keefe, Jennifer: PRELIMINARY EXAMINATION OF PALYNOLOGY ACROSS THE K-PG BOUNDARY IN THE JACKSON PURCHASE REGION OF KENTUCKY |
|------|----|--|

SESSION NO. 52

T8. Small-Scale Geologic Mapping in the Northeastern U.S.: Addressing the USGS National Cooperative Geologic Mapping Program’s Goals for a Seamless, National 2D/3D Geologic Framework Model of the United States (Posters) (GSA Energy Geology Division)

8:00 AM, Hyatt Regency Reston, Grand Ballroom A–D

Authors will be present from 10 AM to 12 PM

| | | Booth # |
|------|----|---|
| 52-1 | 70 | Mabee, Stephen B.*; Duncan, Christopher C.; Clement, William P.; Stone, Byron: UPDATE ON MASSACHUSETTS’ CONTRIBUTION TO THE GOALS FOR A SEAMLESS, NATIONAL 2D/3D GEOLOGIC FRAMEWORK MODEL FOR THE UNITED STATES: TOP OF ROCK |
| 52-2 | 71 | Mersch, Arthur*; Weinmann, Benjamin R.; Crider, Ernest: USGI COMPILATIONS IN THE BLUE RIDGE AND INNER PIEDMONT, NORTH CAROLINA–SOUTH CAROLINA–TENNESSEE–VIRGINIA: TOWARD A SEAMLESS GEOLOGIC MAP OF THE SOUTHERN APPALACHIANS |

AFTERNOON ORAL TECHNICAL SESSIONS

SESSION NO. 53

D3. Structural Geology, Tectonics, Petrology, and Planetary Geology

1:30 PM, Hyatt Regency Reston, Lake Fairfax

Christopher Bailey, Presiding

| | | |
|------|---------|--|
| 53-1 | 1:30 PM | Deans, Jeremy*; Black, Timothy C.; Williams, Andrew: THE POLYPHASE DEFORMATION HISTORY OF THE EMPLACEMENT OF THE DADEVILLE COMPLEX: GROWTH OF THE LAURENTIAN MARGIN DURING THE ACADIAN OROGENY, SOUTHERN APPALACHIAN MOUNTAINS ALABAMA |
| 53-2 | 1:50 PM | McMahan, Ericka*; Tull, James: ALLATOONA FAULT: CHARACTERISTICS AND EXTENT OF THE YOUNGEST THRUST IN THE APPALACHIAN BLUE RIDGE KINEMATIC SEQUENCE |
| 53-3 | 2:10 PM | Bobyarchick, Andy*: COLUMNAR STRUCTURES AND THE INFLUENCE OF MULTIPLE PLANAR DISCONTINUITIES IN METAMORPHOSED RHYOLITE IN THE CENTRAL PIEDMONT OF NORTH CAROLINA |
| 53-4 | 2:30 PM | Solar, Gary*; Tomascak, Paul B.; Solar, Anna J.; Wisor, Sherman W.; Crist, Cody: THE TRANSITION OF METATEXITE TO DIATEXITE MIGMATITE RECORDED AT MT. WASHINGTON, NEW HAMPSHIRE |
| 53-5 | 2:50 PM | Mazza, Sarah E.*; Render, Jan; Wimpenny, Josh: SOLVING THE MYSTERY OF BERMUDA: USING ZN ISOTOPES TO TRACE THE SOURCE OF DEEP CARBON |
| | 3:10 PM | Break |
| 53-6 | 3:25 PM | Nishimoto, Michelle*; Surpless, Benjamin; Monecke, Katrin: INVESTIGATING NORMAL FAULT DAMAGE ZONE DEVELOPMENT USING VIRTUAL OUTCROP MODELS: A CASE STUDY OF THE SEVIER NORMAL FAULT, SOUTHERN UTAH |
| 53-7 | 3:45 PM | Hatcher, Robert*: FAULT ROCKS: A FOURTH CLASS OF ROCKS |

53-8 4:05 PM Cone, Kim*; Palin, Richard M.: THE LUNAR MAGMA OCEAN CONCEPT AND THE SOLIDIFICATION OF THE EARTH'S MOON: A PRIMER

SESSION NO. 54

D4. Energy Resource Development and Potential Environmental Effects (GSA Energy Geology Division)

1:30 PM, Hyatt Regency Reston, Lake Audubon

Isabelle M. Cozzarelli, Madalyn S. Blondes, Denise Akob, Matthew Varonka, Joao Gallotti and Marc Buursink, Presiding

- 1:30 PM Introductory Remarks
- 54-1 1:35 PM Buursink, Marc*; Anderson, Steven T.; Brennan, Sean T.; Burns, Erick R.; Freeman, Philip A.; Gallotti, Joao S.; Lohr, Celeste D.; Merrill, Matthew D.; Morrissey, Eric A.; Plampin, Michelle R.; Varela, Brian A.; Warwick, Peter D.: PRIORITY CONSIDERATIONS FOR ASSESSMENT OF GEOLOGIC ENERGY STORAGE
- 54-2 1:55 PM Gallotti, Joao S.*; Buursink, Marc: POTENTIAL FACTORS INFLUENCING THE FEASIBILITY OF UNDERGROUND HYDROGEN STORAGE IN THE ILLINOIS BASIN
- 54-3 2:15 PM Hackley, Paul*; Kus, Jolanta: RE-EVALUATION OF TASMANITES FLUORESCENCE SPECTROSCOPY AS A THERMAL PROXY IN THE DEVONIAN OHIO SHALE, HURON MEMBER, NORTHERN APPALACHIAN BASIN, USA
- 54-4 2:35 PM Epstein, Samuel*: ULTRA-DEEP RESERVOIR DIAGENETIC OVERVIEW - IMPLICATIONS FOR FUTURE EXPLORATION
- 54-5 2:55 PM Akob, Denise*; Engle, Mark; Kent, Douglas B.; Gregston, Terry; Cozzarelli, Isabelle; Kashani, Mitra; Jubb, Aaron; Marvin-DiPasquale, Mark; Varonka, Matthew; Harris, Cassandra R.; Mumford, Adam C.: EVALUATING THE IMPACT OF OIL AND GAS WASTEWATER DUMPS IN THE PERMIAN BASIN ON SOIL BIOGEOCHEMISTRY
- 3:15 PM Break
- 54-6 3:30 PM Pankratz, Katharina*; Warner, Nathaniel: RADIOACTIVITY FROM OIL AND GAS PRODUCED WATER DISPOSAL ACCUMULATED IN FRESHWATER MUSSELS, EURYNIA DILATATA
- 54-7 3:50 PM Siegel, Helen G.*; Nason, Sara L.; Deziel, Nicole C.; Sayers, James E.: FACTORS INFLUENCING PFAS OCCURRENCE IN DOMESTIC WELLS WITHIN AN UNCONVENTIONAL OIL AND GAS PRODUCING REGION OF NORTHERN WEST VIRGINIA

SESSION NO. 55

S1. Sea-Level History from the U.S. East Coast—Insights for Projecting Future Change (GSA Marine and Coastal Geoscience Division)

1:30 PM, Hyatt Regency Reston, Regency Ballroom B

Robert Poirier, Michael Toomey and Thomas Cronin, Presiding

- 1:30 PM Introductory Remarks
- 55-1 1:35 PM Sutton, Seth*; Kelly, Daniel; Robinson, Marci M.; Dowsett, Harry J.; Williams, John; Herbert, Timothy D.: BENTHIC FORAMINIFER EVIDENCE FOR OCEAN DEOXYGENATION AND INCREASED ORGANIC CARBON BURIAL DURING THE MIDDLE MIOCENE CLIMATIC OPTIMUM IN THE SALISBURY EMBAYMENT OF THE U.S. ATLANTIC COASTAL PLAIN
- 55-2 1:55 PM Lamothe, Michel*; Wehmiller, John; Blum, Michael: LUMINESCENCE CHRONOLOGY OF PLEISTOCENE SEA LEVEL INDICATORS ALONG THE US ATLANTIC COAST
- 55-3 2:15 PM Wehmiller, John*; Mallinson, David; Farrell, Kathleen; Culver, Stephen: THE STATUS OF CALIBRATION OF MID-ATLANTIC COASTAL PLAIN (ACP) AMINOSTRATIGRAPHY: IMPLICATIONS OF NEW RESULTS FROM NORTHEASTERN NORTH CAROLINA (NC), USA
- 55-4 2:35 PM Poirier, Robert*; Cronin, Thomas; Ghaleb, Bassam; Portell, Roger W.; Doar, William R.; Hillaire-Marcel,

Claude; Oches, Rick; Katz, Miriam: URANIUM SERIES DATING OF QUATERNARY CORALS FROM THE SOUTHEASTERN U.S. ATLANTIC COASTAL PLAIN YIELDS INSIGHT FOR RECONSTRUCTING RELATIVE SEA LEVEL OVER THE LAST FULL GLACIAL CYCLE

55-5 2:55 PM Wingard, G. Lynn*; Jones, Miriam C.; Stackhouse, Bethany; Daniels, Andre M.: RESILIENCY OF SOUTH FLORIDA'S MANGROVE COAST: LINKING OBSERVATIONS AND SEDIMENT RECORDS

SESSION NO. 56

T35. Breaking Barriers and Challenging Traditions in Geoscience Education (National Association of Geoscience Teachers (NAGT); GSA Geoscience Education Division; GSA Energy Geology Division)

1:30 PM, Hyatt Regency Reston, Regency Ballroom A

Stephanie Shepherd, Melissa Hage, Mary Abercrombie and Susan Meabh Kelly, Presiding

- 56-1 1:30 PM Forcino, Frank L.*; Duncan, Sara: IMPORTANCE OF PROVIDING STEM OUTREACH TO TRADITIONALLY UNDERSERVED INDIGENOUS STUDENTS
- 56-2 1:50 PM Sumy, Danielle*; Houlton, Heather; Smith, Joyce; McConnell, David: AN ONLINE "CAREERS MODULE" TO RECRUIT UNDERGRADUATE STUDENTS INTO THE GEOSCIENCE WORKFORCE WITH UNIVERSAL DESIGN FOR LEARNING APPROACHES
- 56-3 2:10 PM Mittwede, Steven*: EARTH SCIENCE ASSESSMENT THROUGH DIAGRAMMING
- 56-4 2:30 PM Childers, Daniel*: ENGAGING COMMUNITY COLLEGE GEOLOGY STUDENTS IN AND OUT OF THE CLASSROOM WITH PROBLEM SOLVING LABORATORIES AND OPPORTUNITIES FOR EARLY UNDERGRADUATE RESEARCH WITH MINIMAL EQUIPMENT AND BUDGET
- 56-5 2:50 PM Kelley, Patricia H.*; Kelley, Katherine L.: INTRODUCING GEOSCIENCE EDUCATION TO KINDERGARTEN THROUGH SECOND GRADE STUDENTS VIA A PALEONTOLOGY ENRICHMENT COURSE
- 56-6 3:10 PM Gomby, Gary*: TEACHING THE ANTHROPOCENE: A NEW PARADIGM FOR GEOSCIENCE EDUCATION

SESSION NO. 57

T16. Geoscience for National Security and Law Enforcement

3:30 PM, Hyatt Regency Reston, Regency Ballroom B

Christopher Bernhardt, Peter Chirico, Thomas Hale and J. Alex Speer, Presiding

- 57-1 3:30 PM Saginor, Ian*: FORENSIC SOIL EXAMINATIONS IN CRIMINAL INVESTIGATIONS
- 57-2 3:50 PM Tiedge, Teresa*; Meiklejohn, Kelly: NEW TOOL IN THE BELT - ENVIRONMENTAL DNA FOR THE ANALYSIS OF SOIL AND DUST
- 57-3 4:10 PM Stern, Libby*; Webb, Jodi; Saginor, Ian: DEVELOPMENT OF A STANDARDS FOR FORENSIC GEOLOGY UNDER NIST-ADMINISTERED ORGANIZATION OF SCIENTIFIC AREA COMMITTEES (OSAC) FOR FORENSIC SCIENCE TASK GROUP ON GEOLOGICAL MATERIALS
- 57-4 4:30 PM Webb, Jodi*; Donnelly, Laurance J.; Vitoria de Moraes, Ricardo Cordeiro; da Silva Salvador, Fabio Augusto: INTERNATIONAL UNION OF GEOLOGICAL SCIENCES INITIATIVE ON FORENSIC GEOLOGY: 11 YEARS OF PROGRESS AND COUNTING!
- 57-5 4:50 PM Alessi, Marissa*: ARTISANAL MINING RIVER DREDGE DETECTION USING SAR IN GUYANA
- 57-6 5:10 PM Sunder, Sindhuja*; Chirico, Peter: REMOTE SENSING FOR KIMBERLEY PROCESS MONITORING OF ROUGH DIAMOND EXPORTS FROM THE CENTRAL AFRICAN REPUBLIC

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