Joint Southeastern & Northeastern Section Meeting Program

Vol. 55, No. 2

17–19 March
Reston, Virginia, USA

www.geosociety.org/se-mtg
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

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

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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
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 Worldwide 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 $\sim 1 \times 10^5$ km$^3$ 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 Culpepper 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 to exit 58 onto Presidents Street and the Hyatt Regency is on your left (main entrance to hotel and parking garage).
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 Frederick, 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 is 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.

<table>
<thead>
<tr>
<th>Registration Category</th>
<th>Full Mtg.</th>
<th>One Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Member</td>
<td>$295</td>
<td>$200</td>
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<tr>
<td>Professional Member 70+</td>
<td>$160</td>
<td>$130</td>
</tr>
<tr>
<td>Professional Nonmember</td>
<td>$320</td>
<td>$230</td>
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<tr>
<td>Early Career Professional</td>
<td>$200</td>
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<td>Student Member</td>
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<td>$95</td>
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<tr>
<td>Student Nonmember</td>
<td>$150</td>
<td>$125</td>
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<tr>
<td>K–12 Professional</td>
<td>$110</td>
<td>$95</td>
</tr>
<tr>
<td>Guest or Spouse</td>
<td>$85</td>
<td>$65</td>
</tr>
<tr>
<td>Field Trip/Short Course Only</td>
<td>$40</td>
<td>n/a</td>
</tr>
</tbody>
</table>

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
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 advance, 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
D5. Paleontology and Paleoecology (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
T2. 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
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. Alleghenian Overprinting of Pre-Alleghenian 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)
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

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, cbmail@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 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.

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 paleoenvironmental reconstructions. Detailed examples of regional and global correlations and paleoenvironmental 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.


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.


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 attractions 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 Washing 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

<table>
<thead>
<tr>
<th>EVENT</th>
<th>TIME</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td><strong>WEDNESDAY, 15 MARCH</strong></td>
<td></td>
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<tr>
<td>FT1. Geology and the Civil War at the North Anna River Fall Zone, Virginia (Field Trip)</td>
<td>11–11:30 a.m.</td>
<td>Hyatt Regency Reston Hotel Lobby</td>
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<tr>
<td><strong>THURSDAY, 16 MARCH</strong></td>
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<tr>
<td>SC2. Stormwater Management in Karst Terrain—A Regional Perspective (Short Course)</td>
<td>9 a.m.–1 p.m.</td>
<td>Lake Anne</td>
</tr>
<tr>
<td>SC3. Integrating ESRI Mobile, Online, and Desktop GIS for Real-Time Collaborative Field Data Acquisition (Short Course)</td>
<td>9 a.m.–4:30 p.m.</td>
<td>USGS National Center (12201 Sunrise Valley Drive, Reston, Virginia)</td>
</tr>
<tr>
<td>SC4. Luminescence (OSL) Dating Short Course: Essential Guide for Sampling and Dark Secrets Behind the Technique (Short Course)</td>
<td>9 a.m.–4:30 p.m.</td>
<td>Lake Fairfax</td>
</tr>
<tr>
<td>SC1. Applied Micropaleontology for Non-Paleontologists: How to Interpret and Use Fossil Data (Short Course)</td>
<td>9 a.m.–5 p.m.</td>
<td>USGS National Center (12201 Sunrise Valley Drive, Reston, Virginia)</td>
</tr>
<tr>
<td>Exhibitor Set up</td>
<td>noon–5 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>Registration Open</td>
<td>4–8 p.m.</td>
<td>Conservatory</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>4–8:30 p.m.</td>
<td>Town Center A&amp;B</td>
</tr>
<tr>
<td>Exhibits Open</td>
<td>5–8 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>Welcoming Reception</td>
<td>6–8 p.m.</td>
<td>Grand Ballroom A–D</td>
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<tr>
<td><strong>FRIDAY, 17 MARCH</strong></td>
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<tr>
<td>Session Chair Orientation</td>
<td>7–7:15 a.m.</td>
<td>Reston C</td>
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<tr>
<td>Registration Open</td>
<td>7 a.m.–5 p.m.</td>
<td>Conservatory</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>7 a.m.–6 p.m.</td>
<td>Town Center A&amp;B</td>
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<tr>
<td>Exhibits Open</td>
<td>8 a.m.–5 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td><strong>Morning Oral Technical Sessions</strong></td>
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<tr>
<td>T34. Geological, Seismological, and Paleoseismological Research into Eastern North American Earthquakes</td>
<td>8–10 a.m.</td>
<td>Lake Audubon</td>
</tr>
<tr>
<td>D1. Sedimentary Geology, Paleontology, Geoarchaeology, and Landscapes</td>
<td>8 a.m.–noon</td>
<td>Lake Thoreau</td>
</tr>
<tr>
<td>T1. Resilience and Resource Strategies for the Coastal and Nearshore Zone in a Changing World</td>
<td>8 a.m.–noon</td>
<td>Regency Ballroom B</td>
</tr>
<tr>
<td>S5. Environmental Radionuclides: Geochemical Behavior, Tracer Applications, and Potential Health Consequences</td>
<td>8 a.m.–noon</td>
<td>Regency Ballroom A</td>
</tr>
<tr>
<td>T9. Landslide Investigations in the Eastern United States</td>
<td>8 a.m.–noon</td>
<td>Lake Fairfax</td>
</tr>
<tr>
<td>T24. Undergraduate and Graduate Geoscience Student Showcase Lightning Talks</td>
<td>10:15 a.m.–noon</td>
<td>Lake Audubon</td>
</tr>
<tr>
<td><strong>Morning Poster Sessions: authors will be present 10 AM–noon</strong></td>
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<tr>
<td>D5. Paleontology and Paleoclimatology (Posters)</td>
<td>8 a.m.–noon</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>D6. Geoscience Education and Public Policy (Posters)</td>
<td>8 a.m.–noon</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>D7. Geochemistry, Mineralogy, Petrology, and Volcanology (Posters)</td>
<td>8 a.m.–noon</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>D8. Structural Geology and Tectonics (Posters)</td>
<td>8 a.m.–noon</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing</td>
<td>9–10 a.m.</td>
<td>Grand Ballroom G</td>
</tr>
<tr>
<td>Geoscience Career Program Workshop Part 2: Geoscience Career Exploration</td>
<td>10–11 a.m.</td>
<td>Grand Ballroom G</td>
</tr>
<tr>
<td>Undergraduate and Graduate Geoscience Student Lightning- Round Showcase</td>
<td>10:15 am–noon</td>
<td>Lake Audubon</td>
</tr>
<tr>
<td>GSA Southeastern Section Management Board Meeting</td>
<td>noon–1:30 p.m.</td>
<td>The Living Room</td>
</tr>
<tr>
<td>Roy J. Shlemon Mentors Program in Applied Geoscience</td>
<td>noon–1:30 p.m.</td>
<td>Grand Ballroom EF</td>
</tr>
<tr>
<td>USGS Mentoring Café</td>
<td>1:30–4 p.m.</td>
<td>Grand Ballroom G</td>
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<tr>
<td><strong>Afternoon Oral Technical Sessions</strong></td>
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<tr>
<td>T7. Integrated Ichnostratigraphy: Trace Fossils at Unconformities</td>
<td>1:30–3:10 p.m.</td>
<td>Regency Ballroom B</td>
</tr>
<tr>
<td>D2. Economic, Energy, and Environmental Geology</td>
<td>1:30–5:30 p.m.</td>
<td>Lake Thoreau</td>
</tr>
<tr>
<td>S6. The Grenville Orogen in Eastern North America</td>
<td>1:30–5:30 p.m.</td>
<td>Regency Ballroom A</td>
</tr>
<tr>
<td>T10. Trace Elements in the Environment</td>
<td>1:30–5:30 p.m.</td>
<td>Lake Fairfax</td>
</tr>
<tr>
<td>T41. Barrier Island and Backbarrier Sediment Dynamics</td>
<td>1:30–5:30 p.m.</td>
<td>Lake Audubon</td>
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<tr>
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<tr>
<td>T15. Using the Sedimentary Record to Investigate Appalachian and Ouachita Tectonics</td>
<td>3:25–5:30 p.m.</td>
<td>Regency Ballroom B</td>
</tr>
<tr>
<td><strong>Afternoon Poster Sessions: authors will be present 3–5 PM</strong></td>
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<tr>
<td>T1. Resilience and Resource Strategies for the Coastal and Nearshore Zone in a Changing World (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
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<tr>
<td>T9. Landslide Investigations in the Eastern United States (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>T12. Undergraduate Research Poster Session I (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>T24. Undergraduate and Graduate Geoscience Student Showcase (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>T29. Mapping Surficial Deposits in the Appalachians: Field Methods, Digital Techniques, and Classification Strategies (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
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<tr>
<td>Geology Club Meetup</td>
<td>2–3 p.m.</td>
<td>Grand Ballroom G</td>
</tr>
<tr>
<td>Remembering Dr. Bill Thomas (T15)</td>
<td>3:25–5:30 p.m.</td>
<td>Regency Ballroom B</td>
</tr>
<tr>
<td>Mentoring Roundtables</td>
<td>4–5:30 p.m.</td>
<td>Grand Ballroom G</td>
</tr>
<tr>
<td>Town Hall: What’s Happening at GSA</td>
<td>5:30–6:30 p.m.</td>
<td>Regency Ballroom A</td>
</tr>
<tr>
<td>LGBTQ Geoscientists Social Hour</td>
<td>6:30–8 p.m.</td>
<td>Lake Anne</td>
</tr>
<tr>
<td>SEPM Meeting and Reception</td>
<td>6:30–8 p.m.</td>
<td>Lake Thoreau</td>
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<tr>
<td><strong>SATURDAY, 18 MARCH</strong></td>
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<tr>
<td>Session Chair Orientation</td>
<td>7–7:15 a.m.</td>
<td>Reston C</td>
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<tr>
<td>Registration Open</td>
<td>7 a.m.–5 p.m.</td>
<td>Conservatory</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>7 a.m.–6 p.m.</td>
<td>Town Center A&amp;B</td>
</tr>
<tr>
<td>Exhibits Open</td>
<td>8 a.m.–5 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td><strong>Morning Oral Technical Sessions</strong></td>
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<tr>
<td>S4. Enhancing Diversity in the Geosciences</td>
<td>8 a.m.–noon</td>
<td>Regency Ballroom A</td>
</tr>
<tr>
<td>T20. Early Career Voices of Appalachian Tectonics</td>
<td>8 a.m.–noon</td>
<td>Regency Ballroom B</td>
</tr>
<tr>
<td>T23. Soil, Water, and Biogeochemical Interactions</td>
<td>8 a.m.–noon</td>
<td>Lake Fairfax</td>
</tr>
<tr>
<td>T32. Conventional and Unconventional Critical Mineral Resources in the Eastern United States</td>
<td>8 a.m.–noon</td>
<td>Lake Audubon</td>
</tr>
<tr>
<td><strong>Morning Poster Sessions: authors will be present 10 AM–noon</strong></td>
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<tr>
<td>T10. Trace Elements in the Environment (Posters)</td>
<td>8 a.m.–noon</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>T12. Undergraduate Research Poster Session II (Posters)</td>
<td>8 a.m.–noon</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>T41. Barrier Island and Backbarrier Sediment Dynamics (Posters)</td>
<td>8 a.m.–noon</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs</td>
<td>9–10 a.m.</td>
<td>Grand Ballroom G</td>
</tr>
<tr>
<td>GSA Northeastern Section Management Board Meeting</td>
<td>noon–1:30 p.m.</td>
<td>The Living Room</td>
</tr>
<tr>
<td>John Mann Mentors Program in Applied Hydrogeology</td>
<td>noon–1:30 p.m.</td>
<td>Grand Ballroom EF</td>
</tr>
<tr>
<td>USGS Mentoring Café</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom G</td>
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<tr>
<td><strong>Afternoon Oral Technical Sessions</strong></td>
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<tr>
<td>T4. Taconic Orogeny in the North, Central, and Southern Appalachians: Tectonics of the Early Paleozoic Margin of Laurentia</td>
<td>1:30–5:30 p.m.</td>
<td>Regency Ballroom B</td>
</tr>
<tr>
<td>T11. Geomorphic Evolution of River Corridors in the Eastern United States from the Pleistocene to the Anthropocene</td>
<td>1:30–5:30 p.m.</td>
<td>Lake Fairfax</td>
</tr>
<tr>
<td>S7. From the Margins to the Deep: A Tribute to the Science and Art of A. Conrad Neumann</td>
<td>1:30–5:30 p.m.</td>
<td>Regency Ballroom A</td>
</tr>
<tr>
<td>T43. Geoscience Careers for New Geoscience Graduates</td>
<td>1:30–5:30 p.m.</td>
<td>Lake Audubon</td>
</tr>
<tr>
<td><strong>Afternoon Poster Sessions: authors will be present 3–5 PM</strong></td>
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<tr>
<td>T19. Mapping in the Geosciences: Processes and Products (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>T20. Early Career Voices of Appalachian Tectonics (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>T23. Soil, Water, and Biogeochemical Interactions (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
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<tr>
<td>T32. Conventional and Unconventional Critical Mineral Resources in the Eastern United States (Posters)</td>
<td>1:30–5:30 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
<tr>
<td>Mentoring Panel</td>
<td>4:30–5:30 p.m.</td>
<td>Grand Ballroom G</td>
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<tr>
<td><strong>2023 SE-NE GSA Plenary Speaker: Dr. David Kring, <em>Drilling into the Chicxulub Impact Crater and a World-wide Calamity 66 Million Years Ago</em></strong></td>
<td>6–7 p.m.</td>
<td>Regency Ballroom A&amp;B</td>
</tr>
<tr>
<td>Map and Art Blast</td>
<td>7–9 p.m.</td>
<td>Grand Ballroom A–D</td>
</tr>
</tbody>
</table>

**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 |

**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 |
| 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 |
Memorial Pages

A. Conrad Neumann—One for the Ages


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) geochromobiochemistry 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 eustacy 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 Argentinian 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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 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.*; Silbeck, Bennett B.; Sues, Hans-Dieter: THE DINOSAUR THAT CAME IN FROM THE COLD: THE OLDEST DEFINITIVE ORNITHISCIAN DINOSAURS AND ORIGIN OF THEIR ABRUPT APPEARANCE

SESSION NO. 2
8:00 AM, Hyatt Regency Reston, Regency Ballroom A
James Kaste and Joshua Landis, Presiding

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; Kol, Ronald; El-Hasan, Tayel; Haneklaus, Silvia; Bahadir, Mufit; 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; Pincney, James; Wilson, Alicia; Benitez-Nelson, Claudia: PREDICTION AND VERIFICATION OF A STRONG PULSE OF SUBMARINE GROUNDWATER DISCHARGE ONTO THE SOUTH CAROLINA, USA, CONTINENTAL

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.; Ebet, 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


3-6 9:40 AM Howard, Scott; Morrow, Robby*: Crotwell, H. Philip; Frost, Daniel; Jaume, Steven; Kellogg, James; White,}

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

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 Rossiel, 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, Sky; Marshall, Aaron; Wareham, Jonathan: A LOCAL-SCALE APPROACH TO PREDICTING FUTURE TIDAL FLOODING DUE TO SEA-LEVEL RISE: LITTLE CUMBERLAND ISLAND, GA
Friday, 17 March 2023

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 Introduction

10:20 AM Lightning talk: ANTHROPOGENIC FLOATING DEBRIS ACCUMULATION IN ESTUARINE SYSTEMS, G. Dellingier, 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


10:32 AM Lightning talk: SEISMIC REFLECTION IMAGERY AIDS LATE QUATERNARY EARTHQUAKE HISTORY RECONSTRUCTIONS AT LAKE CRESCENT, WASHINGTON, USA, G. Colp, E. L. Leithold, K. W. Wegmann, D. S. Brothers, and R. Burr


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


10:47 AM Lightning talk: QUANTIFYING CLIMATE-DRIVEN SALTMARSH PLATFORM DEGRADATION THROUGH THE FORMATION OF POTHOLEs IN THE GREAT MARSH, S. Tiggès, 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. Cuzzzone


10:56 AM Lightning talk: PYROGENIC ORGANIC MATTER IN SEDIMENTS FROM LAKE BOSUMTWI AS A PROXY FOR HOLOCENE CLIMATE IN NORTHERN AFRICA, M. Zigah


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 THERMOCRONOMORY FROM THE COACHELLA FANGLOMERMATE: PRELIMINARY CONSTRAINTS ON MIocene BASIN INVERSION AND EXHUMATION ALONG THE SOUTHERN SAN ANDREAS FAULT SYSTEM, CALIFORNIA (USA), T. A. Shoppel, J. Fosdick, J. Giblin, and K. Bluinsuk

11:08 AM Lightning talk: BEDROCK GEOLOGY MAP AND STRUCTURAL ANALYSES OF THE COW HEAD PENINSULA IN NEWFOUNDLAND, CANADA, A. Robillard, B. Karimi, D. Sensoring, and M. Finkenbinder


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 PLOICENe TJORNES BEDS OF ICELAND, B. Weinzapfe1, B. Duati, and L. Ivany


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
Monday, 13 March 2023

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 PALEOGEOGRAPHY OF THE PRESENT-DAY WESTERN HEMISPHERE

7-2
2. Rogers, Garrett*; Simpson, Edward; Wizevich, Michael: SEDIMENTOLOGY AND TAPHONOMY OF

Friday, 17 March 2023

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 #

7-3

7-4
4. Malaekl mothagam, Mahdi*: Young, Seth; Noble, Paula; Owens, Jeremy: CONSTRAINING PALEOREDOX CONDITIONS DURING THE MIDDLE SILURIAN MULDE/LUNDGREN EVENT, CAPE PHILLIPS FORMATION, ARCTIC CANADA

7-5
5. McDowell, Ronald*: Hunt, Paula J.; Burns, Mary Sue; Avari, Katharine L.; Britton, James Q.: PTERIDICHNITES BISERIATUS ABUNDANCE ZONE – 25 YEARS ON

7-6
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?

7-7
7. Jennings, Corrielle*: Stafford, Emily S.; Forcino, Frank L.: PALEOECOLOGY OF THE PENNSYLVANIAN KEECHIE CREEK SHALE OF MINERAL WELLS, TEXAS

7-8
8. Wooten, Trace McLean*: Stafford, Emily S.; Forcino, Frank L.: PALEOECOLOGY AND FAUNAL ANALYSIS OF THE PENNSYLVANIAN KEECHIE CREEK SHALE AT RAMSEY RANCH, TEXAS

7-9
9. Sipe, Rachel L.*; Bragg, Dillon; Dorey, Carley; Evans, Matthew; Fall, 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

7-10
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

7-11
11. Silverstein, Anna*: Mannucci, Agnese; Weirens, Sierra; Farrell, Audrey; Lang, Asha; Giu mac, Bosiljka; Curran, H. Allen; Griffing, David: IDENTIFICATION AND SPECIES ABUNDANCE OF ENC Rusting FORAMINITERA WITHIN PLEISTOCENE (MIS 5E AND 7) CORAL REEFS IN THE BAHAMAS

7-12

7-13
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 ARCHOSAURIMORPHS

7-14
14. Sumrall, Colin*: Smith, Nicholas; Holterhoff, Peter; Thuy, Ben: BIODIVERSITY AND TAXONOMIC TURNOVER OF LATE PENNSYLVANIAN – EARLY PERMIAN OPHIUIDS OF TEXAS, OKLAHOMA AND KANSAS, USA

7-15
15. Silbeck, Bennett*: Olsen, Paul E.: DECIPHERING THEROPOD-DOMINATED COMMUNITIES IN LATE TRiASSIC ICHNOFOSSIL ASSEMBLAGES (NEWARK BASIN, NJ)

7-16
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

7-17
17. Bast, Shawn; Davis, Kathryn; Evans, Matthew; Sipe, Rachel L.; Waters-Torney, Cheryl; Schoepfer, Shane*: THE EDIACARAN-CAMBRIAN TRANSITION IN THE CAROLINA TERRANE

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**Friday, 17 March 2023**

**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 SURVEYS

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

**8-4**

30 Gonzalez, Stephanie*; 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 GEO SCIENCE 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 PETRO-DYONIC AND GEOCHEMICAL EVIDENCE FOR SILURO-DVONIC 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, Lindsi*; Sengupta, Kanwa; Stewart, Emily; Mookherjee, Mainak; Basu, Abhishek: CONTACT METAMORPHISM AND DECARBONATION DURING EMBLACEMENT OF THE CENTRAL ATLANTIC MAGMATIC PROVINCE, FLORIDA

9-7 41 Miller, Jesse*; Munoz, Sebastian; Ramos, Evan J.; Custodio, Manuel Justin; Ibarra, Daniel E.; Lauter, Joseph*; Severs, Matthew J.: TEMPERATURE DEPENDENT DISSOLUTION EXPERIMENTS OF BASALT, DACITE AND PUMICE FROM THE LITTLE DESCHUTES RIVER VALLEY, OREGON


9-9 43 Harper, Abigail*; Fleck, Billa; Depalma, Raymond; Revels, Isabella; Chadwick, John: EVIDENCE FOR...
Friday, 17 March 2023

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 ANORHOSITE EMPLACEMENT, MARCY MASSIF, ADIRONDACKS, NY

3:15 PM Break

12-6 3:30 PM Miller, Brent V.; Barr, Sandra*; White, Chris E.: STENIAN-TONIAN ANORHOSITE AND RELATED ROCKS IN MARITIME CANADA: U-Pb, TRACE-ELEMENT AND HF ISOPTIC EVIDENCE FOR PROVENANCE

12-7 3:50 PM Tebbens, Hannah*; Bailey, C.M.; Foster-Barril, 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 GREVNILLIAN EVOLUTION OF SOUTHEASTERN LAURENIA 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)

1:30PM, Hyatt Regency Reston, Lake Audubon

Zoe Hughes, Lucila J. Houltujin 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*; Melachlan, Robin: DETERMINING THE IMPACT OF SEDIMENT PROPERTIES ON RATES OF GEOMORPHIC CHANGE: LITTLE CUMBERLAND ISLAND, GA

13-3 2:10 PM Alexander, Clark*; Venherrn, 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: "IRRREGULAR 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 Ettensohn, 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 ICHNOOSTRATIGRAPHIC RECORD OF A BRIEF EVENT IN THE PENNSYLVANIAN OF NORTHERN 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.; Saffner, 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 HYPOPLIMNETIC OXYGENATION

15-5 2:55 PM Vengosh, Avner*; Wang, Zhen; Williams, Gordon; Hill, Robert; Dwyer, Gary S.; Duckworth, Owen; Gattiboni, Luke; Schnug, Ewald; Sun, Yajie; Boi, Ronald; El-Hasan, Tayel; Haneklaus, Silvia; Bahadir, Mujit; 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.; Gattiboni, 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 SUPERCRIUD 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
POSTERS

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

15 3:25 PM Introductory Remarks

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


16-3 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

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*: Mcsweneey, 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

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


19-3 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.: PALEONENVIRONMENTAL 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 PEDEDD FORMATION, HARRY 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
Friday, 17 March 2023

20-2  16  Lara, Melanie*: DETERMINING THE DOMINANT SOURCE(S) OF FRESHWATER TO A COASTAL ESTUARY: BISCAYNE BAY, FLORIDA

20-3  17  Maisch, Harry*; Ellis, Marie C.; Bakker, Pierce J.; Ayala, Giulia F.; Pecora, Domenic R.; Merrill, Cateleigh G.; Judson, Breona K.; Becker, Martin A.: ANALYSIS OF SUBMERGED FOSSILIZERES LAG DEPOSITS FROM VENICE, SARASOTA COUNTY, FL, USA

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 CALAOOSHATCHEE AND FORT THOMPSON FORMATIONS, LEE AND HENDRY COUNTIES, SOUTHWEST FLORIDA, INSIGHTS INTO THE MINERALOGY AND ORIGIN OF THESE CARBONATES

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

20-6  20  Jellic, 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

20-7  21  Finks, Lindsey*; Gannon, John: EXPLORING CRITICAL ZONE CONTROLS ON RUNOFF GENERATION IN 92 WATERSHEDS ACROSS THE SOUTHERN APPALACHIAN MOUNTAIN REGION

20-8  22  Topness, Rebecca G.*; Thomas, Adriane R.; Patterson, Molly O.; Wegter, Bruce: ISOTOPE PALEOECOLOGY OF THE MIocene PLANKTIC FORAMINIferA GLOBOQUADRINA DEHISCENS AS INFERRED FROM INTERNATIONAL OCEAN DISCOVERY PROGRAM SITE U1510, SOUTHWEST PACIFIC

20-9  23  Marshall, Julian; Nippani, Siddharth*; Ryan, Maris; Bowby, Thomas; Chalk, Francis; Pietras, Jeffrey T.; Schmitkons, Jonathan: FAYETTEVILLE GREEN LAKE DENSITY DATA REVEALS LOCAL IMPLICATIONS OF CLIMATE CHANGE

20-10  24  Tiggès, Sophia*: FitzGerald, Duncan; Hughes, Zoe; Novak, Alyssa: QUANTIFYING CLIMATE-DRIVEN SALTMARSH PLATFORM DEGRADATION THROUGH THE FORMATION OF POTHOLES IN THE GREAT MARSH, MA

20-11  25  Barker, Kelsey*; Barth, Aaron; Cuzzzone, Joshua: FILLING IN THE GAPS FOR LAURENTIDATE DEGLACIAL THINNING IN THE ADIRONDACK MOUNTAINS, NEW YORK, USA

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

20-13  27  Zipag, Michael*: PYROGENIC ORGANIC MATTER IN SEDIMENTS FROM LAKE BOSUMTWI AS A PROXY FOR HOLOCENE CLIMATE IN NORTHERN AFRICA

20-14  28  Miranda, Ariana*; Terry, Dennis O.: PALEOSOLS OF FLORESSANT FOSSIL BEDS NATIONAL MONUMENT, CENTRAL COLORADO


20-16  30  Siophol, Tatiana A.*; Fosdick, Julie; Giblin, Jacqueline; Bilinski, Kimberly: APATITE (U-TH)/HE THERMOCHRONOLOGY FROM THE COACHELLA FANGLOMERATE: PRELIMINARY CONSTRAINTS ON MICOCNE BASIN INVERSION AND EXHUMATION

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

20-18  32  Sensenig, Dawson*; Finkenbinder, Matthew; Robillard, Andrew; Karimi, Bobak: GEOCHEMICAL ANALYSIS OF THE SHALLOW BAY FORMATION AT THE COW HEAD PENINSULA IN NEWFOUNDLAND, CANADA

20-19  33  Peluso, Jessica*: Cardace, Dawn: LOW TEMPERATURE, OXIDATIVE ALTERATION OF BASALT: SPECIAL IMPLICATIONS FOR BIOCORROSION

20-20  34  Weinzapfel, Benjamin*; Duati, Bella; Ivany, Linda: LIFESPANS OF ARCTICA ISLANDICA FROM THE PILOCENE TOJRNES BEDS OF ICELAND

20-21  35  Corsello, Alexander*: Lam, Adrian 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

20-22  36  Heo, Charlotte*; Lam, Adrian 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 KURSHIO CURRENT EXTENSION DURING THE MPWP

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

20-24  38  Voss, Zachary Martin*; Silvermail, Adam Emerson; Janowski, Nicholas T.; Licata, Sydney R.; Ellis, Zachary Connor; North, Thomas Andrea; Schmitkons, Jonathan; Lam, Adrian R.: MULTI-PROY RECONSTRUCTION OF THE MID LATITUDES, TASMAN SEA, IODP SITE U1510, DURING THE MIocene CLIMATE OPTIMUM AND MID-MIOCENE CLIMATE TRANSITION

20-25  39  Schwarz-Eise, Sophie*: McCarthy, Colin; Cvetanovic, Jovana; Patino, Alfredo; Usmani, Aleasha; 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

20-26  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 OLGOTROPHIC SOUTH ATLANTIC GYRE, IODP EXPEDITIONS 390/393

20-27  41  Barbelet, Thea C.*; Royce, Bethany; Heo, Charlotte; Patterson, Molly O.: CT SCAN ANALYSIS OF PLEISTOCENE DEGLACIATION RECORDED IN ANTARCTIC SEDIMENT AT IODP SITE U1524

20-28  42  Creutz, Michael*: Finkenbinder, Matthew; Carr, Elizabeth; Schmitkons, Jonathan; Lam, Adrian R.: CT SCAN ANALYSIS OF PLEISTOCENE DEGLACIATION RECORDED IN ANTARCTIC SEDIMENT AT IODP SITE U1524

20-29  43  Weinzapfel, Benjamin*; Duati, Bella; Ivany, Linda: LIFESPANS OF ARCTICA ISLANDICA FROM THE PILOCENE TOJRNES BEDS OF ICELAND

20-30  44  Wallace, Morgan B.*; Schaffer, Camille; Vesper, Dorothy J.; Stewart, Brian; Capo, Rosemary: EXPERIMENTAL EVIDENCE FOR GENERATION OF NET ALKALINE
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 #

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 ANORGENIC GRANITOIDS IN IRISH CREEK, VIRGINIA

21-3 50 Ralph, Victoria*; McClellan, Elizabeth: COMPARISON OF DIABASE DIVES 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 MAGIC COMPLEX, CECIL COUNTY, MARYLAND

21-5 52 Patil, Kiran*; Lasinsky, Cameron; Mathur, Ryan; Simon, Adam; Khoshnoodi, Khaleigh: FE ISOTOPE COMPOSITIONS OF MAGNETITE FROM THE BAFO 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.; Bank, Tenley J.; Driggs, Lauren: INITIAL CHARACTERIZATION OF SILICIC NUNATAKS FROM PÔRDARHYRÑA (THÔRDARHYRÑA), ICELAND

21-9 56 Holsinger, Ashley*; Malosky, Kristen N.; Johnson, Elizabeth; Lukens, William E.: EVALUATING THE COMPOSITION 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

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.*; Pfeffer, 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-Traill, Jean: CRETACEOUS AND Plioene MICROFOSSILS FROM GREENS MILL RUN, NORTH CAROLINA, USA

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

8:00 AM Introductory Remarks

22-1 8:05 AM Billigun, Solomon*: INTERDISCIPLINARY UNDERGRADUATE RESEARCH EXPERIENCES AND FLEXIBLE MAJORS TO INCREASE DIVERSITY IN GEO SCIENCES

22-2 8:25 AM Levine, Jamie S.F.*; Liutkus-Pierce, Cynthia; Armstrong, William; Carmichael, Sarah; Evans, Sarah G.; Marshall, Scott; Riegel, Hannah B.; Waterlof, 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 GEO SCIENCES AROUND AN LSAMP CORE

22-7 10:20 AM Weislogel, Amy*: Hessl, Amy; Russoniello, Christopher: BUILDING AN INCLUSIVE APPALACHIAN GEO SCIENCE LEARNING ECOSYSTEM (AGLE) AND SOLUTIONS-ORIENTED CURRICULUM

22-8 10:40 AM Bennett, Isabella B.*; Bierman, Paul R.; Soto-Villanueva, Krizza; 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
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 Menschat, Presiding

23-1 8:00 AM Introductory Remarks

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 ID 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 Petrochronology 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

24-1 8:00 AM Introductory Remarks

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 O’Keefe, 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 PANGEA 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 Yinika Oyewumi, Presiding

25-1 8:00 AM Introductory Remarks

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 HYPOBHEIC 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 Back barrier Sediment Dynamics (Posters) (GS A 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) (GS A 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 FUGITIVE 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, Celayan 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

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28-1 11 Kuyl, Leo*; Trop, Jeffrey; Gillis, Robert; O’Sullivan, Paul: U-PB DETRITAL ZIRCON GEOCHRONOLOGY OF
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<td>Hatch, Staunton*; Evans, Sarah; Godsey, Sarah E.; Fern, Emma S.; Harris, Rachel H.; Yokley, Brandon; Chew, Clara; Crosby, Benjamin: CONTROL OF VEGETATION MICROCLIMATES ON SHALLOW GROUND TEMPERATURES ABOVE CONTINUOUS PERMAFROST</td>
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<td>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</td>
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<td>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</td>
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<td>Deininger, Cora*; Sullivan, Tyler; Rassias, Samantha; Wright, Stephen F.: MAPPING SURFICIAL GEOLOGY AND INTERPRETING THE GLACIAL HISTORY OF THE CROSSBETT BROOK AREA IN NORTH-CENTRAL VERMONT</td>
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<td>Brzykcy, Grace; Krzyzstek, Colin; Maciejewski, Dylan; McKinnie, Chelsie; Nye, Angela; Wolcak, William*; Williams, Kevin: USING GROUND PENETRATING RADAR TO SEARCH FOR EVIDENCE OF A BURIED LAKE FREIGHTER AT TIFT NATIVE PRESERVE, BUFFALO, NY</td>
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<td>Faggart, Eryn*; Harris, M.; Sancho, Gorka: 3D CHARACTERIZATION OF REEF-TOP FEATURES IN THE MESOPHOTIC ZONE OF THE NORTHERN GULF OF MEXICO</td>
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<td>Hadisurjo, Dinda; 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</td>
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<td>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</td>
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<td>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</td>
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<td>Contrucci, 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</td>
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<td>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</td>
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<td>Soltes, Vera*: Schweickart, Eric; Ciruzzi, Dominick: SOIL MOISTURE IMPACTS ON GROUND-PENETRATING RADAR INTERPRETATIONS OF BURIED GRAVE SHAFTS</td>
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<td>Mullen, Jennie-Jin*; Ciruzzi, Dominick: THE IMPACT OF A RETENTION POND ON SMALL STREAM GROUNDWATER-SURFACE WATER INTERACTIONS IN THE VIRGINIA COASTAL PLAIN</td>
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<td>Hanania, Jason*; Lowry, Chris: ANALYZING FLOW DIRECTION AS A CALIBRATION TARGET IN GROUNDWATER FLOW MODELS</td>
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<td>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</td>
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* Denotes undergraduate presenter.
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

**S7.1. Doctoral Student’s Perspective, 1983-89**

**CONRAD NEUMANN’S VIEWFINDER IN THE 1980’S**

**CONRAD NEUMANN AND THE DEVELOPMENT OF WATER CARBONATE TO DEEP WATER SETTINGS:**

**SATELLITE SEDIMENTOLOGY**

**ORAL TECHNICAL SESSIONS**

**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

**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

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


3:15 PM Break

29-6 3:30 PM Jarrett, Bret*: ON A PIECE OF LIMESTONE: A TRIBUTE TO CONRAD’S DEDICATED TEACHING SERVICE


29-9 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. 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

### SESSION NO. 31

**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 GEO SCIENCES TODAY

**31-7 3:50 PM** Arthur, Jonathan*: EARLY CAREER GEO SCIENCE PUBLIC SERVICE OPPORTUNITIES IN FLORIDA

**31-8 4:10 PM** Myers, Brandy*: A CHANGING AMERICAN WORKFORCE: HOW GEO SCIENTISTS 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

### SESSION NO. 32

**1:30 PM Introductory Remarks**


**32-2 1:55 PM** Boutlier, A.; Vitale Bроварове, 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

**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 UNrAVEL TECTONIC HISTORY OF THE EARLY PALEozoic APPALACHIANS AND CONDwANAN SOURCES IN SEDIMENTS OF THE CONNECTICUT VALLEY - GASPE BELT

**3:15 PM Break**

**32-5 3:50 PM** Castro, Adrian*: Taliby, Nicholas D.; Morin, Katherine D.; Jaret, Steven J.: PHASE EQUILIBRIA CONSTRAINTS ON TACONIC METAMORPHISM IN THE MANHATTAN AND HARTLAND SCHISTS, NEW YORK CITY: CONSTRAINING THE NATURE OF CAMERON’S LINE

**3:15 PM Break**

**32-6 4:30 PM** Bailey, Christopher M.*: TECTONIC EVOLUTION OF THE CHOPAWAMSIC TERRANE AND THE ARVONIA SUCCESSOR BASINS IN VIRGINIA

**3:28 PM** Williams, Sheri*: Farris, David W.: TECTONIC HISTORY OF THE BREEDV FAULT ZONE ADJACENT TO THE GRANDFATHER MOUNTAIN WINDOW, NC

**3:28 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?

**4:30 PM** Barineau, Clinton*: Tull, James: RECONCILING COLLISIONAL AND ACCRETIONARY OROGENIC MODELS FOR THE TACONIC OROGENY IN THE SOUTHERNMOST APPALACHIANS

SESSION NO. 33

**SS. 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; Moshayek, 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-lange, 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, Teagan*: Deryup, Caroline; Pitera, Anneka; Johnson, Averey; Schmidt, Amanda; Mathie, Devan; Williamson, Tanja; Hood, J.; Karwan, Diana: SEDIMENT RECEYCY 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 STEEPLELAND EROSION AND BIOTURBATIVE NETWORK DYNAMICS IN THE PALEOAPPALACHIANS.
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 PROTOolith AND FLUIDS

SESSION NO. 35
T20. Early Career Voices of Appalachian Tectonics (Posters) (GSA Geochronology Division; GSA Structural Geology 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


35-3 16 Bernier, Bridget*; Mueller, Megan; Kortyna, Cullen; Fosdick, Julie: APATITE (U-TH-SM)/HE THERMOCHEMISTRY AND THERMAL HISTORY MODELING OF THE CATSKILL-POCONO SILICICLASTIC WEDGE, ACADIAN BASIN (CENTRAL PENNSYLVANIA)

SESSION NO. 36
T3. Geologic Maps, Geophysical Maps, 3-D Geologic 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 Burrell, 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 Grimsley, David*; Curry, Brandon; Medanda, 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 Lupu, Mary*; Davis, Benjamin L.; McMeahan, Ericka: GEOLeGIC MAPPING OF NORTHEAST FLORIDA: PORTIONS OF THE FERNANDINA BEACH AND LAKE CITY 100K QUADRANGLES

36-7 23 Trippi, Michael*: NEW GEOLeGIC 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: GEOLeGIC 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.: GEOLeGIC 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.; Peayre, Mason L.: GEOLeGIC MAP OF THE SOUTHERN 1/2 OF RED HILL AND EDGEFIELD 7.5-MINUTE QUADRANGLES: GEORGIA PIEDMONT/BLUE RIDGE

36-12 28 Wilson, Crystal G.; Morrow, Robby*; Peayre, 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; McAlere, Ryan: GEOLeGIC MAP OF THE SPARTA EAST, SPARTA WEST, AND PARTS OF THE GLADE VALLEY
AND WHITEHEAD 75-MINUTE QUADRANGLES, NORTH CAROLINA AND VIRGINIA, AND THE EPICENTRAL AREA OF THE AUGUST 2020 MW 5.1 EARTHQUAKE NEAR SPARTA, NC

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

36-15  
31 Carter, Mark*; Desay, Ryan; Merschat, Arthur; Blake, David; Shah, Anjana; Weinnmann, 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

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

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

36-18  
34 Hyatt, James*: DINOSAURs TO COASTLINES TO CLAss: TRANSITIONING SFM POINT CLOUD RESEARCH TO AN UNDERGRADUATE GEOSCIENCE CLASS

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

37-2  
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

37-3  
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

37-4  
38 Saunders, Charles*: GEOLoGIC, HYDROLOGic AND PEDOLOGic FACTORS IN DUE DILIGENCE FOR VIRGINIA RESIDENTIAL PROPERTY DISCLOSURE ACT, PROPOSED STORMWATER MANUAL REVISIONs AND LOCAL ZONING

37-5  
39 Crider, Ernest*; Self-Trail, Jean; Parker, Mercer; Gardner, Kristina; Beach, Todd; Bruce, T. Scott; Staley, Andrew; Quinn, Heather: ISOCHAP CONTOUR MAP OF THE UPPER PALEOCENE AQUA 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, 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

37-9  
43 Walsh, Gregory*; Orndorff, Randall C.; McAleeer, 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

37-10  
44 Suarez, Kaitlyn*; Walsh, Gregory; Williams, Michael L.; Jercimovic, Michael J.; Tjapkes, Daniel; Hillenbrand, Ian: ALTERATION MAPPING USING GEOPHYSICAL AND GEOCHEMICAL INSTRUMENTATION: IMPLICATIONS FOR IOA AND RREE EXPLORATION

37-11  
45 Burton, William*; Devlin, William; McAleeer, 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

37-12  
46 Kennedy, Rebekah*; Resor, Phillip; Wintsch, Robert P.: A MYLONITIC TERRANE SUTURE AND STITCHING PLUTONS IN THE BRANFORD QUADRANGLE, CONNECTICUT

37-13  
47 Leonard, Jonathan P.*; Oumet, William B.; Dow, Samantha; Suh, Ji Won: EVALUATING USER INTERPRETATION ASSOCIATED WITH MANUAL DIGITIZATION OF STONE WALLS AND RELICT CHARCOAL HEARTHS USING AIRBORNE LIDAR

37-14  
48 DiGiacomo-Cohen, Mary*: A PRELIMINARY SURFICIAL MATERIALS MAP OF RHODE ISLAND

37-15  
49 Kim, Jonathan*: Romanowicz, Edwin: HYDROGEOLOGY OF A WELL COMPLETED THROUGH A MAJOR THRUST FAULT IN FRANKLIN, VERMONT

37-16  
50 White, Chris E.; Barr, Sandra*; Raeside, Robert P.: A NEW EDITION OF THE ATLANTIC GEO/scIENCE SOCIETY’S GEOLOGICAL JOURNEY MAP OF NOVA SCOTIA, CANADA

37-17  
51 Palaseanu, Monica*; Pietraszek, Alyssa; Danielson, Jeff: ACROSS THE COUNTRY FROM WEST TO EAST: VISUAL NARRATIVES FOR COASTAL MAPPING TECHNIQUES

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

37-19  
53 Brandon, Shavonte; Boston, Kathleen*: ASSESSMENT OF COBALT MINING ACTIVITY IN THE DEMOCRATIC REPUBLIC OF THE CONGO AND ZAMBIA

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 FOREST 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
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

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 PARASYMPHYLSAL TEETH OF TWO SPECIES OF EIFEJALIA (ONYCHOUS (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 PALEEOECOLOGICAL GRADIENTS OF BRACHIOPODS ACROSS A LATE DEVONIAN EXTINCTION EVENT

39-4 9:05 AM Smart, Matthew*; Filipelli, 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 Gillelaudeau, Geoffrey*; Wei, Wei; Remirez, 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

9:45 AM Break

39-6 10:00 AM Converse, David*: Bothner, Wallace; Jahrling, Christian; Koch, Philip; Doraio, Michael; Summa, Lori L.; Aarwiler, David; Keeley, Joshua: UPDATED SILURO-DEVONIAN GEOLOGY IN THE INDIAN STREAM REPUBLIC (1832 – 1835)

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

39-8 10:40 AM Terry, Dennis O.*; Ver Straeten, Charles: DIFFERENTIATING MARINE AND TERRRESTRIAL DEPOSITS IN TRANSITIONAL DEPOSITIONAL ENVIRONMENTS OF THE CATSKILL DELTA COMPLEX: A QUICK AND DIRTY GUIDE

39-9 11:00 AM Ver Straeten, Charles*: Doctor, Daniel: CORRELATING DEVONIAN TERRESTRIAL STRATA IN THE APPALACHIAN BASIN: CHALLENGES AND ISSUES

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

SESSION NO. 40

T18. Alleghanian Overprinting of Pre-Alleghanian Accreted Terranes

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

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

8:00 AM Introductory Remarks

40-1 8:05 AM McAllee, Ryan*: Horton, J.; Carter, Mark W.; Holme-Denoma, Chris; Kunk, Michael J.; Deasy, Ryan; Vazquez, Jorge A.: NEW GEOCHRONOLOGY FROM THE EASTERNMOST PIEDMONT AND COASTAL-PLAIN BASEMENT IN VIRGINIA AND MARYLAND

40-2 8:25 AM Wintsch, Robert*: Wathen, Ryan; McAllee, 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 McAllee, Ryan*; Horton, J.; Carter, Mark W.; Holme-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; McAllee, Ryan P.; Stowell, Harold H.; Spencer, Brandon; Merschat, Arthur; Kylander-Clark, Andrew R.C.: DID THE BREVARD MEGAANTITHETIC FAULT ZONE CONTROL NEOACADIAN CHANNEL AND ESCAPE FLOW IN THE SOUTHERN APPALACHIAN INNER PIEDMONT? EVIDENCE FROM MONAZITE U-Pb GEOCHEMISTRY AND REE GEOCHEMISTRY

40-6 9:45 AM Break

40-7 10:00 AM Deasy, Ryan*; Holme-Denoma, Chris; McAllee, Ryan J.; Horton, J.; Pianowski, Laura: NEW GEO- AND THERMOCHRONOLOGICAL CONSTRAINTS ON THE ARCHITECTURE AND EVOLUTION OF THE SOUTWANEE TERRANE, FLORIDA, USA

40-7 10:20 AM Thigpen, Ryan*: Merschat, Arthur; Hatcher, Robert; McAllee, David; Powell, Nicholas E.; Spencer, Brandon; Stowell, Harold; Bollen, Elizabeth: RECONSTRUCTING
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 VADOISA 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 PROGRAMMING, INTERNSHIPS, AND STEM AT THE UNIVERSITY OF TENNESSEE AT MARTIN COON CREEK SCIENCE CENTER LAGERSTÄtte (CRETACEOUS), WESTERN TENNESSEE

SESSION NO. 42


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**: Sprout, George; Wright, Stephen; DeJong, Benjamin: SEAMLESS GEOLOGIC

SESSION NO. 43


8:00 AM, Hyatt Regency Reston, Lake Fairfax

Kenneth Taylor, Philip J. Bradley, Kathleen Farrar, 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 LITHODIC 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

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 Franzl, 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
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 Neshim, 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**

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**

45-10 20 Brown, Teresa*: **DECIPHERING THE KARST HYDROGEOLOGY OF CASTLEWOOD, VA: A WORK IN PROGRESS**

45-11 21 Hu, Junhao*; Russioniello, Christopher J.; Vesper, Dorothy J.; Skousen, Jeffrey; Spinnak, Rachel P.; Fillhart, Jason; Hurley, Brian: **CHARACTERIZATION OF LIMESTONE LEACH BED EFFICACY OVER SEASONS AND STORMS**

45-12 22 Valentino, David*; Valentino, Joshua: **SOLUTION ENHANCED FRACTURE KARST IN THE TRENTON GROUP CARBONATES, JEFFERSON COUNTY, NEW YORK**

45-13 23 Moye, Jacob*; O’Hara, Garrett: **3-D MODELING OF CAVE AND KARST FEATURES USING PHOTOGRAMMETRY METHODS**

45-14 24 Phiphus, Desire*: Carver, Elisabeth; Famiglietti, Julia: **TWO CONTRASTING FALL LINE WATERSHEDS IN NW DELAWARE AND SE PENNSYLVANIA**

45-15 25 Nicholas, Rebekah*; Vesper, Dorothy; Downey, Autum; Padilla, Ingrid Y.: **RELATIONSHIPS BETWEEN METAL CHEMISTRY, CARBON CONTENT, AND PARTICLE SIZE IN CLASTIC CAVE SEDIMENTS**

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)**

45-17 27 Boyce, Christina*; Turner, Nicholas; Shen, Zhixiong; Mendes, Isabell; 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 Russioniello, Christopher*; Aman Cromwell, Lindsey; Guimond, Julia: **LAKE-GROUNDWATER-CHANNEL CONNECTIVITY AND DISCHARGE IN ARCTIC DELTAS**

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, Stéphanie; 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 DRETITAL ZIRCONS**

46-3 31 Vollhardt, Heather*; Fedorouch, Nicholas; Morales, Ivanna; 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
COMMUNITIES ON THE PRESERVATION OF DINOSAUR TRACKS: HARTFORD BASIN, CONNECTICUT

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


46-9 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 FELSparS FROM LOW SULFIDATION EPITHERMAL SYSTEMS ALONG THE ROCHESTER YELLOWSTONE LIP: UNDERSTANDING VARIATIONS IN "AR/AR 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 LACUSTRIAN AND COASTAL MARINE SYSTEMS: LAKE WINNEPESAUKEE, NH AND SANDY HOOK, NJ

47-4 43 Adeyemi, Oluwaseun*; Schroeder, Paul: MINERALOGY OF PER-AND POLYFLUORALKYL SUBSTANCES (PFAS) CONTAMINATED SOILS FROM AGRICULTURAL FIELDS IN SOCIETY HILL, SOUTH CAROLINA

47-5 44 Gontz, Allen*; Connolly, Gael; Yupanqui, Edwards Alzamora; Kelley, Alice; Sandweiss, Daniel; Huanan, 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 SOUTHERN 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, Ariunotos; Waters, Johnny; Königshof, Peter; Gonchigdorj, Sermaa: FLUID ALTERATION OF THE FAMENNIAN HUSSiOT SHiVEETIIN GOL SECTION (BARUUNHUURATERRANE, MONGOLIA) PRESERVED IN TITANIA MINERALS: HOW DOES THIS AFFECT GEOCHEMICAL FINGERPRINTING OF SHALLOW WATERS?

48-2 47 Bush, Andrew*; Goldstein, Donald H.: FUNCTIONAL SHAPE OF FOSSILS FROM THE UPPER DEVONIAN OF NORTH-CENTRAL PENNSYLVANIA: PRESERVATION AND TRACER BEHAVIOR

48-3 48 Foronda, Jacquelin*; Carmichael, Sarah; Cywinski, Cara; Königshof, Peter; Munkhjargal, Ariunotos; Gonchigdorj, Sermaa; Gantumur, Dalaijamts; 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 FRASIAN/FAMENNIAN BOUNDARY INTERVAL IN SOUTHEAST ASIA (XOM NHA FORMATION, CENTRAL VIETNAM)

SESSION NO. 49

ST. 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

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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

ST. 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
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.: MICROPALEONTOLOGICAL 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

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
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  Merschat, 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

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 TRANSITION OF THE CENTRAL PIEDMONT OF NORTH CAROLINA AND THE INFLUENCE OF MULTIPLE PLANAR KINEMATIC SEQUENCE THRUST IN THE APPALACHIAN BLUE RIDGE

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 RHYLITE 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 DIATEXTITE 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 ISOTOPE TO TRACE THE SOURCE OF DEEP CARBON

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

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<td>1:35 PM Buirsink, 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.; Plamipin, Michelle R.; Varela, Brian A.; Warwick, Peter D.: PRIORITY CONSIDERATIONS FOR ASSESSMENT OF GEOLOGIC ENERGY STORAGE</td>
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<td>54-2</td>
<td>1:55 PM Gallotti, Joao S.*; Buirsink, Marc: POTENTIAL FACTORS INFLUENCING THE FEASIBILITY OF UNDERGROUND HYDROGEN STORAGE IN THE ILLINOIS BASIN</td>
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<td>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</td>
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<td>2:35 PM Epstein, Samuel*: ULTRA-DEEP RESERVOIR DIAGENETIC OVERVIEW - IMPLICATIONS FOR FUTURE EXPLORATION</td>
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<td>2:55 PM Akob, Denise*: Engle, Mark; Kent, Douglas B.; Gregston, Terry; Cozzarelli, Isabel; 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</td>
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<td>3:30 PM</td>
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<td>3:30 PM Pankratz, Katharina*; Warner, Nathaniel: RADIOACTIVITY FROM OIL AND GAS PRODUCED WATER DISPOSAL ACCUMULATED IN FRESHWATER MUSSELS, EURYNIA DILATATA</td>
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<td>3:50 PM Siegel, H. G.*; Nason, Sara L.; Deziel, Nicole C.; Saires, James E.: FACTORS INFLUENCING PFA OCCURRENCE IN DOMESTIC WELLS WITHIN AN UNCONVENTIONAL OIL AND GAS PRODUCING REGION OF NORTHERN WEST VIRGINIA</td>
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SESSION NO. 55
S1. Sea-Level History from the U.S. East Coast—Insights for Projecting Future Change (GSA Marine and Coastal Geology Division)

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<td>1:30 PM</td>
<td>55-1</td>
<td>1:35 PM Sutton, Seth*; Kelly, Daniel; Robinson, Marc 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</td>
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<td>1:55 PM Lamotke, Michel*; Wehmiller, John; Blum, Michael: LUMINESCENCE CHRONOLOGY OF PLEISTOCENE SEA LEVEL INDICATORS ALONG THE US ATLANTIC COAST</td>
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<td>2:15 PM</td>
<td>55-3</td>
<td>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</td>
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<td>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</td>
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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)

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<td>1:30 PM Forcino, Frank L.*; Duncan, Sara: IMPORTANCE OF PROVIDING STEM OUTREACH TO TRADITIONALLY UNDERSERVED INDIGENOUS STUDENTS</td>
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<td>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</td>
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<td>2:10 PM Mittwede, Steven*: EARTH SCIENCE ASSESSMENT THROUGH DIAGRAMMING</td>
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<td>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</td>
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<td>2:50 PM Kelley, Patricia H.*; Kelley, Katherine L.: INTRODUCING GEOSCIENCE EDUCATION TO KINDERGARTEN THROUGH SECOND GRADE STUDENTS VIA A PALEONTOLOGY ENRICHMENT COURSE</td>
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<td>3:10 PM Goosby, Gary*: TEACHING THE ANTHROPOCENE: A NEW PARADIGM FOR GEOSCIENCE EDUCATION</td>
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SESSION NO. 57
T16. Geoscience for National Security and Law Enforcement

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<td>3:30 PM Saginor, Ian*: FORENSIC SOIL EXAMINATIONS IN CRIMINAL INVESTIGATIONS</td>
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<td>3:50 PM Tiedge, Teresa*; Meiklejohn, John: NEW TOOL IN THE BELT - ENVIRONMENTAL DNA FOR THE ANALYSIS OF SOIL AND DUST</td>
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<td>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</td>
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<td>4:30 PM Webb, Jodi*; Donnelly, Larance 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!</td>
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<td>4:50 PM Alessi, Marissa*: ARTISANAL MINING RIVER DREDGE DETECTION USING SAR IN GUAYANA /</td>
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<td>5:10 PM Sunder, Sindhuja*: Chirico, Peter: REMOTE SENSING FOR KIMBERLEY PROCESS MONITORING OF ROUGH DIAMOND EXPORTS FROM THE CENTRAL AFRICAN REPUBLIC</td>
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*Denotes Presenter
GSA Connects 2023, held on 15–18 October in Pittsburgh, Pennsylvania, USA, will bring together the geological community to enable you to share your scientific research, network with leaders in the field, and keep your skills relevant in a rapidly changing world.

https://community.geosociety.org/gsa2023