

2024 Southeastern Section Meeting Program

Vol. 56, No. 2



Blue Ridge Mountains. Photo credit: Ashley Lynn.

Asheville, North Carolina | 15–16 April

www.geosociety.org/se-mtg

Sponsors (as of press time)

We are grateful to several societies, companies, and agencies that made substantial contributions to underwrite the cost of the 2024 meeting. 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 sponsorships received by time of press in March 2024.

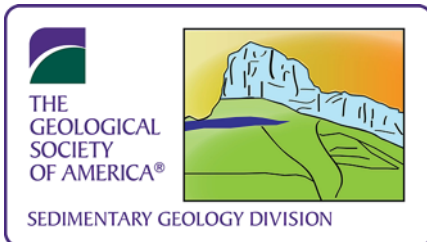
Cold Mountain Sponsors



Grandfather Mountain Sponsors



Mount Pisgah Sponsors



Special thanks to Explore Asheville



**FINAL PROGRAM
FOR
*ABSTRACTS WITH PROGRAMS***

**73rd Annual Meeting
SOUTHEASTERN SECTION, GEOLOGICAL SOCIETY OF AMERICA
15-16 April 2024
Renaissance Asheville Downtown Hotel, Asheville, North Carolina**



Geology from the Mountains to the Sea

Southeastern Section GSA Officers for 2023–2024

Chair Bill Hames
Chair-elect Rebecca Freeman
Vice-Chair Blair Tormey
Secretary-Treasurer Katie Luciano

Committee for the 2024 Meeting

General Chair Blair Tormey
Technical Program Cheryl Waters-Tormey, Shane Schoepfer
Exhibits Ashley S. Lynn, Scott Harris
Field Trips Mark Carter, Arthur Merschat
Short Course & Workshops Ken Taylor
Student Volunteers Frank Forcino
Sponsorship Bill Hames, Beth McClellan

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 ask questions or report concerns—openly or anonymously—to our third-party hotline provider via:
 - Internet: geosociety.ethicspoint.com
 - Phone: +1-844-237-8688
 - Mobile: geosociety.navexone.com
- Or, direct any questions or concerns to ethics@geosociety.org or any GSA staff member or RISE Liaison.

REACH NEW HEIGHTS

With Your GSA Membership

LEARN

- Expand your career by attending professional meetings
- Amplify science by publishing in our top-rated scientific journals
- Explore with our field trips and short courses while earning CEUs

GROW

- Discover internships, research grants, and scholarships
- Build your network to improve your future
- Connect with an international community doing cutting-edge science

LEAD

- Express yourself—We advocate on your behalf to affect change
- Support and promote diversity, equity, and inclusion
- Make your résumé stand out with GSA membership

GIVE

- Guide and motivate others to inspire the future
- Gain recognition as an active leader
- Find your place where everyone is welcome and respected

*JOIN or RENEW your MEMBERSHIP
in person at the GSA Membership &
Publications Booth and SAVE 20%!*



Mario Arango/Er+ via Getty Images.

General Information



Welcome

The local committee and officers of the Southeastern Section enthusiastically welcome you to the 2024 Meeting of the Southeastern Section of the Geological Society of America in Asheville, North Carolina. The meeting is proudly hosted by representatives of the Program for the Study of Developed Shorelines and Department of Geosciences and Natural Resources at Western Carolina University, the U.S. Geological Survey, the North Carolina Geological Survey, the Department of Geology and Environmental Geosciences at the College of Charleston, the Department of Geosciences at Auburn University, and the Geology Department at Radford University.

We ask that you help us make this meeting a Respectful, Inclusive Scientific Event (RISE) with an open and constructive exchange of ideas and information. Please be mindful to conduct yourself in a safe and healthy manner, and respect different comfort levels within group interactions.

Location

Asheville is located in the heart of the southern Blue Ridge Mountains, at the confluence of the Swannanoa and French Broad rivers. The city skyline is dominated by the peaks of Pisgah Ridge, the Swannanoa Mountains, Craggy Mountains, and Black Mountains, which include Mt. Mitchell, the highest point on the East Coast (6,684 ft.). The Blue Ridge Parkway winds past Asheville through these famous mountains, offering some of the finest views in the southeast. America's most visited park, the Great Smoky Mountains National Park, is just an hour's drive west.

Geologically, Asheville is situated in the Eastern Blue Ridge geologic province, 11 miles northwest of the Brevard fault, which marks the boundary between the Blue Ridge and the Inner Piedmont province. The rocks of the Ashe Metamorphic Suite are exposed in the impressive Beaucatcher Mountain road cut on I-240 a mile east of the Renaissance Hotel. These Cambrian to Neoproterozoic rocks were metamorphosed (sillimanite grade at Beaucatcher Mountain) and thrust over the Grenville gneisses of the Western Blue Ridge, a relationship that is exposed around the Grandfather Mountain window northeast of Asheville. The Eastern Blue Ridge has a long history of mining, particularly in the Spruce Pine Mining District, renowned for gemstones, mica, and feldspar and ultra-high purity quartz. The Asheville Basin is bisected by the east-west trending Swannanoa Lineament, which can be traced from east of Hickory, NC to the Tennessee border. This lineament and others throughout the Blue Ridge may be associated with some of the recent earthquakes in the region. In addition to earthquakes, the steep mountainous terrain around Asheville is prone to landslide hazards, from highway rockslides and rock falls to devastating and often deadly debris flows.

Some of the earliest evidence of settlement in the region is preserved in the 1000-year-old mounds of the Mississippian

culture. Upon arrival of Spanish explorers in the 1500s, present-day Asheville lay within the boundaries of the Cherokee (ᏍᏏᏉᏃ ᏌᏌᏉᏃᏉᏃ, *Tsalagi* *Detsadanilvgi*). With the increasing influx of settlers, the Cherokee were continually pushed west, and Buncombe County was established with the newly incorporated town of Asheville as county seat in 1797. During the 1830s the forced removal of the Cherokee from the region culminated in the Trail of Tears, during which thousands died. Those that escaped removal eventually formed the Eastern Band of Cherokee Indians and reside today on the ancestral lands of the Qualla Boundary, headquartered in the town of Cherokee.

Asheville saw limited engagements during the Civil War, including the "Battle of Asheville" in 1865 on the present-day site of the University of North Carolina at Asheville. The post-war Reconstruction-era brought the first rail lines to Asheville, though not without a horrific price. Viewed as cheap expendable labor, hundreds of incarcerated African American laborers died and were buried in unmarked graves along the tracks during the construction of the nine miles of rail and tunnels that traverse the Blue Ridge Escarpment from Old Fort to Swannanoa, immediately east of Asheville. Efforts to locate and monument these burial sites are ongoing.

With the opening of Asheville via rail, George Vanderbilt II soon arrived, establishing the nation's first school of forestry, and building the world-famous Biltmore estate, currently America's largest privately-owned home. Mining, timber, and tourism all contributed to Asheville's explosive growth in the early 1900s, evidence of which is preserved in the abundance of Art Deco architecture still seen throughout the city.

With a population of over 94,000, Asheville remains a popular destination for recreation and the arts. The Renaissance Hotel is located in the heart of it all, within walking distance from the restaurants, breweries, and shops of downtown, including Pack Square, the Grove Arcade, and the South Slope, and attractions like the Thomas Wolfe Memorial, the Asheville Art Museum, and the Asheville Museum of Science. In addition, the Blue Ridge Parkway, Asheville Arboretum, Folk Art Center, River Arts District, historic Grove Park Inn, and Biltmore Estate are all only a short drive from the hotel. Be sure to get out and explore all that Asheville has to offer!

Climate

With four beautiful seasons reflected by the Blue Ridge mountains, Asheville's climate is pleasant year-round. Elevated at 2,165 feet, Asheville blossoms in the spring, with mild weather and scattered rain showers. A welcome change from the colder winter months, temperatures can vary between the mid-50s and the upper 70s. At higher elevations conditions can be drastically different, with temperatures 10-20 degrees cooler than the valley. Please be prepared for all possibilities, especially if participating in any field trips.

Transportation and Directions

The Asheville Regional Airport (AVL) is served by Allegiant, American, Delta, JetBlue, Sun Country, and United, with direct flights to/from Atlanta (ATL), Austin (AUS), Boston (BOS), Baltimore (BWI), Charlotte (CLT), Chicago (ORD), Dallas (DFW), Denver (DEN), Ft. Lauderdale (FTL), Houston (IAH), Key West (EYW), LaGuardia (LGA), Las Vegas (LAS), Minneapolis/St. Paul (MSP), Newark (EWR), Orlando (SFB), Philadelphia (PHL), Phoenix (PHX), Punta Gorda (PGD), Sarasota (SRQ), St. Pete-Clearwater (PIE), Washington, D.C. (DCA), and West Palm Beach (PBI). The hotel does not provide shuttle service to the airport. Car rental is available through several major companies at the airport near baggage claim. Alternate ground transportation, ride-share, and taxis can also be arranged for about \$30 one-way by using ride-share apps or calling Asheville Airport Guest Services at (828) 209-3660. The Renaissance Asheville Hotel is approximately 16 miles north of the airport.

From Asheville Regional Airport or South of Asheville

Take I-26 North to I-240 East. Stay on I-240 East through west Asheville, watching carefully for abrupt lane changes. Take Exit 5A for US-25 Merrimon Avenue. Turn left on to Broadway Street (Merrimon Ave). Take the first left onto Woodfin Street. The Renaissance Asheville Hotel will be two blocks ahead on the right.

From the North

Take I-26 South to I-240 East. Follow I-240 East Expressway, watching carefully for abrupt lane changes. Take Exit 5A for US-25 Merrimon Avenue. Turn left onto Broadway Street (Merrimon Ave). Take the first left onto Woodfin Street. The Renaissance Asheville Hotel will be two blocks ahead on the right.

From the West

Take I-40 East to Exit 46B and left exit onto I-240 East. Stay on I-240 East through west Asheville, watching carefully for abrupt lane changes. Take Exit 5A for US-25 Merrimon Avenue. Turn left onto Broadway Street (Merrimon Ave). Take the first left onto Woodfin Street. The Renaissance Asheville Hotel will be two blocks ahead on the right.

From the East

Take I-40 West to Exit 53B for I-240 West toward Asheville. Stay on I-240 West. Take Exit 5A for US-25 Merrimon Avenue. Turn left on to Merrimon Avenue (Broadway St). Take the first left onto Woodfin Street. The Renaissance Asheville Hotel will be two blocks ahead on the right.

Accommodations

We strongly encourage meeting participants to reserve rooms at the Renaissance Asheville Downtown Hotel, 31 Woodfin Street, Asheville, North Carolina, 28801, USA, located in downtown Asheville, in the heart of the Blue Ridge and Great Smoky Mountains. The hotel offers many amenities including a restaurant, bar, Wi-Fi, fitness center, and an indoor junior Olympic pool, open year-round. The hotel can be reached at 828-252-8211. Please be sure

to identify yourself as an attendee of the Southeastern Section Meeting of the Geological Society of America. The Renaissance Asheville Downtown hotel is an exceptional facility, and we strongly urge all meeting attendees to reserve rooms at the hotel.

Parking

Parking is available at the hotel, 31 Woodfin Street, Asheville, North Carolina, and in several Downtown Asheville parking garages located within a few blocks of the meeting venue, including the county-managed College Street Parking Deck, which is open 24/7. There are metered spaces on the streets, but they are intended for short-term parking. Use the City of Asheville app or their website, <https://www.ashevillenc.gov/service/find-real-time-parking-in-parking-garages/> to see real-time parking information in the downtown garages.

Restaurants within Walking Distance

- Writer's Bistro, Renaissance Asheville Hotel
- R Lounge, Renaissance Asheville Hotel
- Mela Indian Restaurant, 828-255-8880
- Mellow Mushroom Pizza Bakers, 828-236-9800
- Rosetta's Kitchen, 828-232-0738
- Bouchon French Bistro, 828-350-1140
- The Over Easy Breakfast Café, 828-236-3533
- The Lobster Trap, 828-350-0505
- Strada Italiano, 828-348-8448
- Zambra Spanish Wine Tapas & Cuisine, 828-232-1060
- Table, 828-254-8980
- Limone's, 828-252-2327
- Tupelo Honey Café, 828-255-4863
- The Green Sage, 828-252-4450
- Barley's Taproom and Pizzeria, 828-255-0504
- Curate, 828-239-2946
- Chai Pani, 828-254-4003
- Jack of the Wood Irish Pub, 828-252-5445
- Salsa's, 828-252-9805
- Early Girl Eatery, 828-259-9292
- Wasabi Japanese Restaurant & Sushi Bar, 828-225-2551

Registration

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

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

	Full	1-Day
Professional Member	\$275	\$175
Professional Member 70+ & 30-year member	\$175	\$125
Professional Nonmember	\$300	\$200
Early Career Professional	\$200	\$125

Student Member	\$100	\$85
Student Nonmember	\$130	\$105
K-12 professional	\$55	\$50
Guest/Spouse	\$55	n/a
Field Trip/Short Course only	\$40	n/a

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

Registration Schedule

On-site registration and badge pick-up is located in the Lobby outside the Grand Ballroom on the ground floor of the hotel and is available on the following schedule:

- Sunday, 14 April: 4–8 p.m.
- Monday, 15 April: 7 a.m.–5 p.m.
- Tuesday, 16 April: 7 a.m.–noon.

Cancellations, Changes, and Refunds

Requests for additions, changes, and cancellations must be made to GSA Headquarters, in writing, by 18 March. 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 Program and Abstracts

A web-based program is available for this meeting. This program 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 program. Please view the program at <https://gsa.confex.com/gsa/2024SE/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 1.6 CEUs for the meeting technical program, with additional CEUs available from field trips and short courses. After the meeting, there will be a link on the section meeting website for you to generate your CEU certificate.

Special Events and Activities

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

Sunday, 14 April

Welcoming Reception and Map and Art Blast. 5:30–8:30 p.m. Join us in the Grand Ballroom to visit with friends and colleagues, and officially kick-off the Southeastern Section Meeting. Live music will be provided by Queen Bee and the Honeylovers, an award-winning swing jazz band based in Asheville. The Map and Art Blast builds on the tradition of hanging draft maps, ongoing investigations, and recently published maps in the poster hall. We also seek artistic creations. Art lifts science! Please share your recent efforts for discussion. Exhibits will be open, and hors d'oeuvres and one complimentary drink are included with each meeting registration. A cash bar is also available.

Monday, 15 April

Session Chair Orientation. 7–7:15 a.m., Swannanoa Room, 2nd floor. 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. 9–10 a.m., Alexander Room, 2nd floor. See "Opportunities for Students" for description.

Geoscience Career Program Workshop Part 2: Geoscience Career Exploration. 10–11 a.m., Alexander Room, 2nd floor. See "Opportunities for Students" for description.

Roy J. Shlemon Mentors Program in Applied Geoscience. Noon–1:30 p.m., Alexander Room, 2nd floor. See "Opportunities for Students" for description.

GSA Southeastern Section Management Board Meeting. Noon–1:30 p.m., Writer's Bistro, ground floor.

Geology Club Meetup. 2–3 p.m., Alexander Room, 2nd floor. See "Opportunities for Students" for description.

GSA Southeastern Section Keynote Address: Jennifer B. Bauer. 6–7 p.m., Windsor Ballroom A&B. Join us and the GSA Quaternary Geology and Geomorphology Division for the Keynote Address by Jennifer Bauer, Principal Geologist and Co-owner of Appalachian Landside Consultants: Applied Geoscience Through the Landslide Lens - Finding the 'Why' Behind the Work.

LGBTQ Geoscientists Social Hour. 7–8:30 p.m., Paparazzi Room, 12th floor. Stop by for conversation and informal networking. Students welcome.

Joint Eastern Section SEPM and GSA Sedimentary Geology Division Reception and Keynote Address. 7–8:30 p.m., Top of the Plaza, 12th floor. Join the Eastern Section of SEPM for their annual reception and Keynote Address. This year's speaker is Dr. Kathleen Farrell, Senior Geologist with the North Carolina Geological Survey: Integrating Sequence Stratigraphy, Geomorphology (LiDAR), and 3D Subsurface Mapping to Define the Pliocene and Quaternary Section for the Updip Sector of the Atlantic Coastal Plain.

Tuesday, 16 April

Session Chair Orientation. 7–7:15 a.m., Swannanoa Room, 2nd floor. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day's sessions.

GSA Campus Representative Breakfast. 7–8 a.m., Alexander Room, 2nd floor. This complimentary breakfast is in appreciation of GSA Campus Reps: Thank You. If you are a campus representative or are interested in becoming one, please plan to attend this celebratory event.

Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs. 9–10 a.m., Alexander Room, 2nd floor. See "Opportunities for Students" for description.

John Mann Mentors Program in Applied Hydrogeology. Noon–1:30 p.m., Alexander Room, 2nd floor. See "Opportunities for Students" for description.

NAGT Southeastern Section Business Meeting. Noon–1:30 p.m., Writer's Bistro, ground floor.

University Department Chairs Luncheon. Noon–1:30 p.m., Oakland Heights Room, 12th floor.

NC State University Minerals Research Laboratory (MRL) Open House. 1–4:30 p.m. The MRL is a global leader in the field of mineral processing. Regular shuttles to the MRL will be provided from the Asheville Renaissance Hotel or enjoy a leisurely 1-mile walk through downtown. FREE. For more, visit <https://mrl.ies.ncsu.edu/>.

Opportunities for Students

Roy J. Shlemon Mentors Program in Applied Geoscience. Mon., 15 April, noon–1:30 p.m., Alexander Room, 2nd floor. 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 a first come, first served basis.

John Mann Mentors Program in Applied Hydrogeology. Tue. 16 April, noon–1:30 p.m., Alexander Room, 2nd floor. 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 a first come, first served basis.

Geology Club Meetup. Mon., 15 April, 2–3 p.m., Alexander Room, 2nd floor. 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 their support of these workshops!

Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing. Mon., 15 April,

9–10 a.m., Alexander, 2nd floor. 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. Mon., 15 April, 10–11 a.m., Alexander, 2nd floor. 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. Tue. 16 April, 9–10 a.m., Alexander, 2nd floor. 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 the lobby outside the Grand Ballroom.

Exhibits

Exhibits are located in the Grand Ballroom on the ground floor of the hotel. Hours of Exhibits are:

- Set up: Sunday, 14 April, 12–5:30 p.m.
- Open: Sunday, 14 April, 5:30–8:30 p.m.
- Open: Monday, 15 April, 8 a.m.–5:30 p.m.
- Open: Tuesday, 16 April, 8 a.m.–5:30 p.m.
- Tear Down: Tuesday, 16 April, 5:30–8 p.m.

As of late March, Exhibitors include:

2025 Southeast Section GSA Meeting
Duncan-Parnell
East Carolina University
Geological Society of America Membership and Publications
Geological Society of America Foundation
Geological Society of America Scientific Divisions
Geological Society of America Mineralogy, Geochemistry, Petrology, and Volcanology (MGPV) Division
Georgia State University
Martin Microscope Company
Minerals in Context
Mineralogical Society of America
Program for the Study of Developed Shorelines, Western Carolina University
Roadside Geology of Alabama
Sharon Lyon, Author
Society of Economic Geologists
StraboSpot Data System
University of Kentucky
University of North Carolina Charlotte
University of Southern Mississippi
Association for Women Geoscientists

Technical Program

The technical program consists of Symposia, Theme, and Discipline oral and poster sessions. The technical program begins at 8 a.m., Monday, 15 April and concludes by 5:30 p.m. on Tuesday, 16 April. All technical sessions (oral and poster) will be in the Renaissance Asheville Hotel, in rooms on the 1st, 2nd, and 12th floors. Check your program schedule for details.

Oral Sessions

Most oral sessions have 20 minutes per presentation (17 minutes, presentation; 3 minutes, question and discussion). The two exceptions are the undergraduate research talks (session T23) and student lightning talks (T24). Refer to the session descriptions and emailed presenter instructions for details on time limits in those sessions. Presentations must be prepared using PowerPoint or PDF formats, using a 16:9 screen ratio. One laptop with Windows 7 (no Macs available) with PowerPoint, one LCD projector, and one screen is provided for all oral sessions. In addition, each room is equipped with a lectern, microphone, wireless computer mouse and slide advancer, and a speaker timer.

Speaker Ready Room

All oral session presenters must visit the Speaker Ready Room in the Eagle Room on the 2nd floor 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:

- Sunday, 14 April, 4–7 p.m.
- Monday, 15 April, 7:30 a.m.–5 p.m.
- Tuesday, 16 April, 7:30 a.m.–2 p.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.

If you aren't able to make it to the Speaker Ready Room by the times listed above for your presentation time, please stop by at your earliest convenience when the SRR is open, and the staff there will assist you to get your talk uploaded in the correct location.

Poster Sessions

Most poster Sessions are located in the Grand Ballroom, and a small number of posters are located in the Top of the Plaza. 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.

Lightning Talks

If your acceptance notice said that your abstract is in a Lightning Talk session, that means that you have a poster presentation as well as a lightning talk. For the poster presentation, prepare your poster as you normally would, using the guidelines for poster presenters detailed above.

Your lightning talk takes place in an eight-minute time slot, which includes five minutes for the talk and three minutes for Q&A or transitioning to the next talk.

You may have one slide to project in the session room during your lightning talk, this can be a PDF of your poster, or any other slide of your choosing. Please upload your slide (in PowerPoint or PDF format) in the Speaker Ready Room using the guidelines under "Speaker Ready Room" above.

Session Chair Orientations

Each Session Chair is requested to attend a 15-minute "Session Chairs Orientation" held in Swannanoa, 2nd floor, 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.

Technical Sessions

Symposia:

S1. Spanning an Orogen—From the Scandinavian Caledonides of Norway to the Southernmost Appalachians of Alabama: In Honor of the Career of James F. Tull.

S2. Interstate collaboration in the Southeast US—State Geological Surveys Working Towards Stratigraphic and Lithologic Equivalencies to Address Mapping Discrepancies More Effectively.

Theme Sessions:

T1. Cores and Rocks from the Southeast Atlantic Continental Margin to Facilitate Interstate Correlation of Along-Strike Units: A Hands-On Poster Session to Support Symposium 2. (Posters)

T2. Geochemical Proxies for Marine and Continental Paleoenvironments.

T3. Magma, Heat, Fluids, and Critical Resources Across Tectonic Settings, Lithospheric Realms, Volcanic Systems, and Geologic Timescales.

T4. Piedmont Geology in the Southern Appalachian Orogen: New Insights from Geologic Mapping, Geochemical, and Geochronological Studies.

T6. Ductile to Brittle Deformation in the Southern Appalachians: Grenville to Present.
 T7. Sedimentology, Geochronology and Tectonics in the Southeastern United States and Beyond. (Posters)
 T8. Geoscience Investigations of the Caribbean: Fundamental Science, Socioeconomic and Environmental Issues.
 T9. In the Field or in the Lab: Revealing Hidden Signals from Minerals.
 T10. Water Quality Issues in the Eastern U.S.
 T11. Wetlands, Springs, and Streams: Hydrologic Studies at the Groundwater-Surface Water Interface.
 T15. Current Technological Trends in Landslide Assessment and Susceptibility Studies: Innovative Digital Techniques, Collection Methods, and Modeling.
 T16. Progress Towards Geologic CO₂ Storage in the Eastern United States.
 T17. Paleoclimatology, Paleoecology, and Conservation Paleobiology: Old Tools and New Tricks for Unraveling the Past and Informing the Future.
 T18. Vertebrate Paleontology Research in North America.
 T20. Past, Present, and Future Sea-level and Landscape Change on the U.S. Coast and Continental Shelf.
 T21. Applied Geophysical Survey Methods and Mapping in the Southeast.
 T22. Undergraduate Research Poster Session.
 T23. Undergrad Research Oral Session.
 T24. Undergraduate and Graduate Posters with Lightning Talk.
 T25. Geologic Maps, Geophysical Maps, 3-D Geological Models, Digital Mapping Techniques, Map Derivatives, and Digital Map Preparation.

Discipline Sessions:

D1. Carbonate Sedimentology (Posters)
 D2. Economic and Engineering Geology (Posters)
 D3. Environmental Geoscience (Posters)
 D4. Geomorphology and Quaternary Geology (Posters)
 D5. Geoscience Education
 D5. Geoscience Education (Posters)
 D6. Igneous and Metamorphic Petrology (Posters)
 D7. Marine and Coastal Geoscience (Posters)
 D8. Paleontology (Posters)
 D9. Soils and Soil Processes (Posters)
 D10. Stratigraphy (Posters)
 D11. Structural Geology (Posters)
 D12. Geoarchaeology (Posters)

FIELD TRIPS

All trips leave from the lobby of the Renaissance Asheville Downtown Hotel. Please check below for specific field trip departure and return times.

FT1. Down the Escarpment and Across the Zone: A Transect from the Eastern Blue Ridge to the Western Piedmont; A Billion Years of Geology. Sat., 13 Apr. US\$80. Depart 13 April at 8 a.m., return 13 April by 6 p.m. Bart Cattanach, North Carolina Geological Survey, bart.cattanach@deq.nc.gov; Ashley S. Lynn, ashley.lynn@deq.nc.gov; Brennan Trantham, brennan.trantham@deq.nc.gov.

Description: Visit new and classic stops highlighting western North Carolina geology and geohazards. Descend southwards from the eastern Blue Ridge, across the Brevard Zone, into the Piedmont physiographic province. Scenic overview stops illustrate broad structural features and outcrops showcase recent North Carolina Geological Survey mapping.

FT2. Big Slow-movers, Debris Slides and Flows, and Mega-boulders of the Blue Ridge Escarpment, Western North Carolina. Sun., 14 Apr. US\$80. Depart 14 April at 8 a.m., return 14 April at 5 p.m. Jesse Hill, Appalachian Landslide Consultants, Jesse.Hill.Geology@gmail.com; Rick Wooten, North Carolina Geological Survey (retired) Richard.M.Wooten@gmail.com; David Korte, North Carolina Geological Survey, david.korte@deq.nc.gov; Jennifer Bauer, Appalachian Landslide Consultants, jennifer@appalachianlandslide.com; Philip Prince, Appalachian Landslide Consultants, philip@appalachianlandslide.com; Jody Kuhne, Appalachian Landslide Consultants, jody@appalachianlandslide.com; Cheryl Waters-Tormey, Western Carolina University, cherylwt@email.wcu.edu; Lewis Owen, North Carolina State University, laowen2@ncsu.edu; Daria Khashchevskaya, North Carolina State University, dkhashc@ncsu.edu; Karl Wegmann, North Carolina State University, karl_wegmann@ncsu.edu.

Description: This trip highlights the Blue Ridge Escarpment, a sinuous, south-to-north, topographic step traversing the southern Appalachians and separating the high Blue Ridge Mountains from the rolling hills of the Piedmont. This oversteepened zone of poly-deformed, metamorphic terrain exhibits a regional sample of landslides, from large debris flows and slides to rockslides-falls.

FT3. Gray Fossil Site and Museum. Wed., 17 Apr. US\$50. Depart 17 April at 8:30 a.m., return 17 April at 4:30 p.m. Josh Samuels, East Tennessee State University, samuelsjx@etsu.edu; Blaine Schubert, East Tennessee State University, schubert@etsu.edu; Steven Wallace, wallaces@etsu.edu; Mick Whitelaw, East Tennessee State University, whitelaw@etsu.edu; Shawn Haugrud, East Tennessee State University, haugrud@etsu.edu; Matthew Inabinett, East Tennessee State University; David Moscato, East Tennessee State University, moscato@etsu.edu.

Description: The Gray Fossil Site is one of only a few pre-Pleistocene Cenozoic fossil sites in eastern North America (outside of Florida), and the only one in the Appalachians. Participants will tour the museum and fossil site, which will include seeing exhibits, ongoing excavations, the prep lab, and collections. Leaders will highlight the diverse fauna and flora preserved at the site, which includes over 100 animal species and 100 plant species. Leaders will also discuss karst landscapes and sinkhole formation, as well as the unique forest ecosystem represented by the fossils preserved at the site.

FT4. Ophiolites of Buck Creek/Chunky Gal Mountain Area. Sun., 14 Apr. US\$80. Depart 14 April at 8 a.m., return 14 April at 5 p.m. Steven Maliner-Colvin, smalcol@gmail.com

Description: This one-day trip will visit the Buck Creek mafic-ultramafic complex and Chunky Gal Mountain area in Clay County, southwest of Franklin, North Carolina. The trip will involve a short hike and will focus on the mineralogy, petrology, and field geology of the complex, and the corundum-bearing amphibolites that surround the dunites.

FT5. Mesoproterozoic to Paleozoic Tectonics, Pleistocene Landforms, and Holocene Seismicity in the Blue Ridge: Results from Integrated Studies into the 9 August, 2020, Mw 5.1 Earthquake Area near Sparta, North Carolina. Tues.–Thurs., 16–18 Apr. US\$270. Depart 16 April at 5:30 p.m., return 18 April at 5:30 p.m. Arthur Merschat, U.S. Geological Survey, amerschat@usgs.gov; Mark Carter, U.S. Geological Survey, mcarter@usgs.gov; Ashley S. Lynn, North Carolina Geological Survey, ashley.lynn@deq.nc.gov; Kevin G. Stewart, University of North Carolina–Chapel Hill, kgstewar@email.unc.edu; Paula Figueiredo, North Carolina State University, paula_figueiredo@ncsu.edu; William E. Odom, U.S. Geological Survey, wodom@usgs.gov; Ryan McAleer, U.S. Geological Survey, rmcaleer@usgs.gov; Jorge Vazquez, U.S. Geological Survey, jvazquez@usgs.gov; Nick Powell, U.S. Geological Survey, npowell@usgs.gov; Chris Holm-Denoma, U.S. Geological Survey, cholm-denoma@usgs.gov.

Description: This field trip will examine the co-seismic surface rupture from the 9 August 2020 Mw 5.1 earthquake, near Sparta, North Carolina, and the results of integrated bedrock and surficial geologic mapping, paleoseismic, geomorphologic, and geochronologic studies to understand the tectonic and neotectonic history of the Blue Ridge.

SHORT COURSES

Short courses are located at the Renaissance Asheville Downtown Hotel. Please see below for specific location and time of short course.

SC1. Classrooms, Careers, & Communities: Maximizing Your TA Experience. Sun., 14 April, 1 p.m.–5 p.m., Swannanoa, 2nd floor. US\$50 for professionals; US\$25 for students. Christy Visaggi, Georgia State University, cvisaggi@gsu.edu; Katherine Ryker, University of South Carolina, kryker@seoe.sc.edu.

Description: This short course will introduce students to evidence-based teaching practices for geoscience labs. Participants will identify strategies to enhance instruction, explore extensive resources via Teach the Earth, and connect with other TAs. We will also discuss education-focused career paths, communities in geoscience education, and ways to get recognition for teaching.

SC2. Fluorescent Dye Tracing: Putting Principles into Practice. Sun., 14 April, 1 p.m.–5 p.m., Victoria, 2nd floor.

US\$50 for professionals; US\$25 for students. Lee Anne Bledsoe, Western Kentucky University, lee.bledsoe@wku.edu; Chris Groves, Western Kentucky University, chris.groves@wku.edu.

Description: Fluorescent dye tracing is used to study groundwater movement in a variety of applications and settings, including but not limited to karst. This methodology is often the first step in obtaining information to support water resource management, contaminant source tracking, and remediation. This short course will walk participants through the process of planning and conducting a fluorescent dye tracer test.

GUEST ACTIVITIES

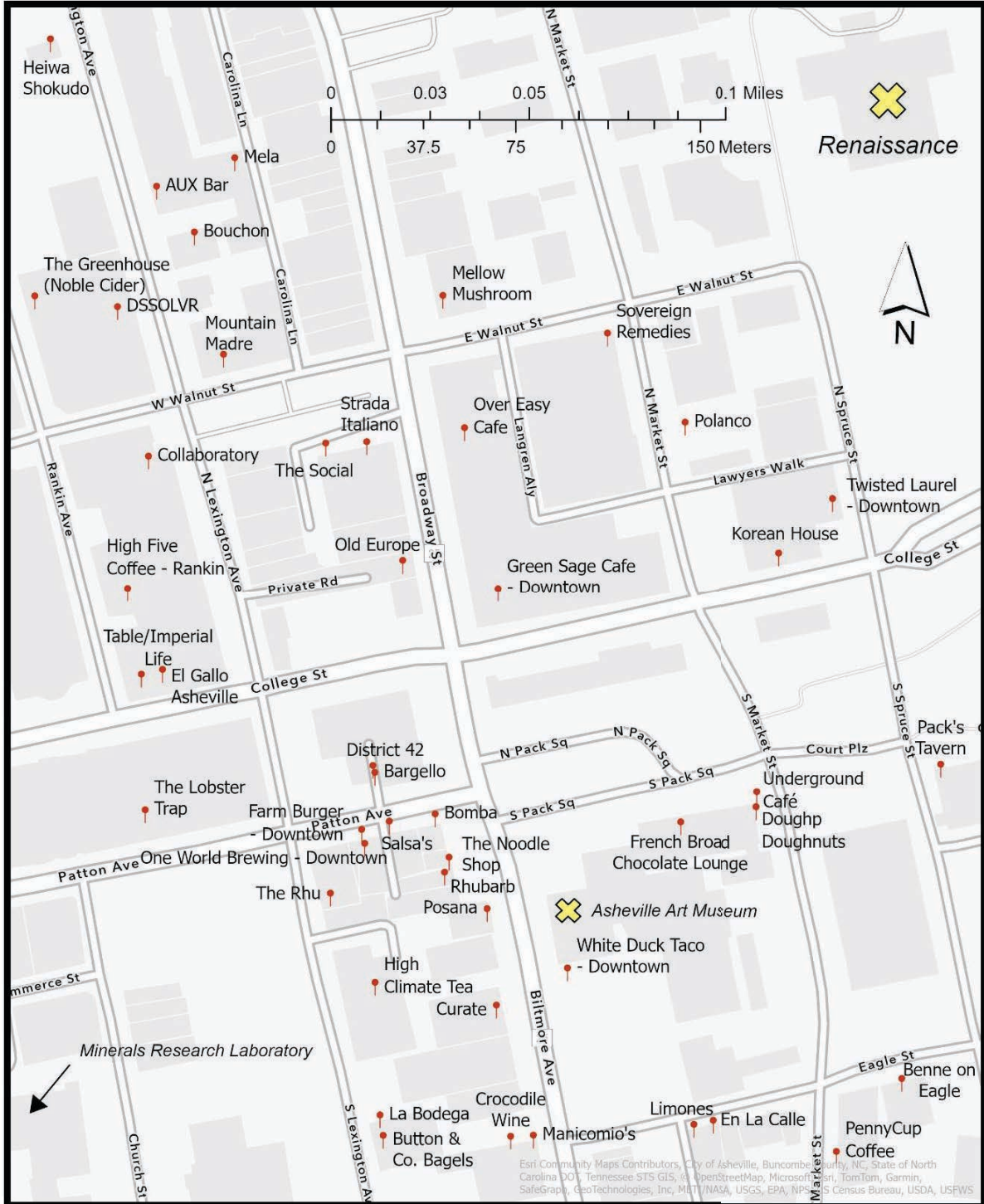
Walking Tour: Thomas Wolfe Memorial and Asheville Art Museum. Saturday, 13 April, 10 a.m. Meet in Renaissance Asheville Lobby. Two destinations that can be visited together or separately: 1) Thomas Wolfe House (\$5/adult for scheduled half-hour guided tour), not handicap accessible; 2) Asheville Art Museum (\$13 senior, \$15 adult) with optional (pay as you go) lunch at rooftop Perspective Café.

Tour: Folk Arts Center on Blue Ridge Parkway, North Carolina Arboretum, and Grovewood Village. Sunday, 14 April, 10 a.m. Meet in Renaissance Asheville Lobby. Three destinations dependent on interest and accessibility needs. Van transportation will be provided. 1) Folk Arts Center on Blue Ridge Parkway (Free admission), handicap accessible; 2) North Carolina Arboretum with lunch at Bent Creek Bistro (pay as you go), handicap accessible; 3) Arts and Crafts-era Grovewood Village: Biltmore Industries Museum, Artisan shops, Antique Car Museum (free, with requested donation at antiques car museum), not handicap accessible.

Asheville Museum of Science. 43 Patton Avenue. Sunday, 14 April, 1–5 p.m., Monday 15 April, 10 a.m.–5 p.m., closed Tuesday. Admission: \$10, children 2 and under FREE. Discover geology in the Colburn Hall of Minerals, where the Burnham S. Colburn's Collection lives on. Manipulate topography in real time with the Terra Box exhibit; dig for fossils and say hello to the *Teratophoneus curriei* dinosaur skeleton. Watch the waters of the French Broad River table change paths. Hands-on activities and demonstrations done daily in the STEM Lab!

Asheville Historic Trolley Tour. Daily, 10:15 a.m.–4:45 p.m. Enjoy a 90-minute “hop on and off” trolley tour of historic Asheville. Tours leave the Renaissance Asheville Hotel every hour at 35 minutes past. Check for discounted tickets online at <https://graylineasheville.com>.

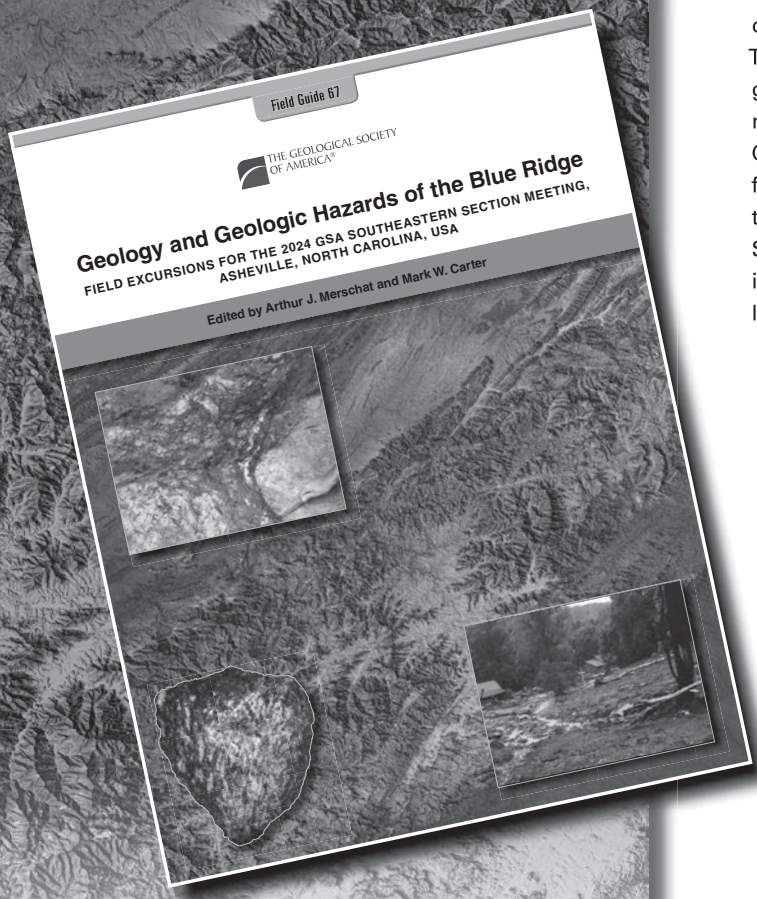
Downtown Asheville



Floorplan of Renaissance Asheville Hotel meeting space.



Reach the next step on your geoscience journey
with GSA Publications



Field Guide 67
THE GEOLOGICAL SOCIETY OF AMERICA®
Geology and Geologic Hazards of the Blue Ridge
FIELD EXCURSIONS FOR THE 2024 GSA SOUTHEASTERN SECTION MEETING,
ASHEVILLE, NORTH CAROLINA, USA
Edited by Arthur J. Merschat and Mark W. Carter

THE GEOLOGICAL SOCIETY OF AMERICA®

Geology and Geologic Hazards of the Blue Ridge

FIELD EXCURSIONS FOR THE 2024 GSA SOUTHEASTERN SECTION MEETING, ASHEVILLE, NORTH CAROLINA, USA

Edited by
Arthur J. Merschat and Mark M. Carter

The three field guides in this volume explore facets of the geology of western North Carolina, USA. The trip to Buck Creek and Chunky Gal Mountain examines high-temperature mafic and ultramafic rocks interpreted to be part of a dismembered ophiolite thrust onto Laurentian crust during the Taconic orogeny. The second trip traverses rugged terrain along the Blue Ridge Escarpment from near the South Carolina state line to Hickory Nut Gorge just southeast of Asheville to examine rock-falls, rockslides, debris flows, and debris slides triggered by extreme rainfall events. The trip to Sparta, North Carolina, highlights the results of interdisciplinary studies among collaborators following the 2020 M_w 5.1 earthquake.

FLD067, 106 p., ISBN 9780813700670
IN PRESS



store.geosociety.org

toll-free +1.800.472.1988 | +1.303.357.1000, option 3
gsaservice@geosociety.org

SCHEDULE OF EVENTS

EVENT	TIME	LOCATION
SATURDAY, 13 APRIL		
Field Trip 401. Down the Escarpment and Across the Zone: A Transect from the Eastern Blue Ridge to the Western Piedmont; A Billion Years of Geology (Field Trip)	8:00 am-6:00 pm	
SUNDAY, 14 APRIL		
Field Trip 404. Ophiolites of Buck Creek/Chunky Gal Mountain Area (Field Trip)	8:00 am-5:00 pm	
Field Trip 402. Big Slow-movers, Debris Slides and Flows, and Mega-boulders of the Blue Ridge Escarpment, Western North Carolina (Field Trip)	8:00 am-5:00 pm	
Exhibitor Set-up	Noon-5:30 pm	Grand Ballroom
Short Course 501. Classrooms, Careers, & Communities: Maximizing Your TA Experience (Short Course)	1:00-5:00 pm	Swannanoa
Short Course 502. Fluorescent Dye Tracing: Putting Principles into Practice (Short Course)	1:00-5:00 pm	Victoria
Registration Open	4:00-8:00 pm	Ballroom Foyer, Lobby Level
Speaker Ready Room	4:00-7:00 pm	Eagle Room
Exhibits Hall Open	5:30-8:30 pm	Grand Ballroom
Map and Art Blast	5:30-8:30 pm	Grand Ballroom
Welcoming Reception	5:30-8:30 pm	Grand Ballroom
MONDAY, 15 APRIL		
Registration Open	7:00 am- 5:00 pm	Ballroom Foyer, Lobby Level
Session Chair Orientation	7:00-7:15 am	Swannanoa
Speaker Ready Room	7:30 am- 5:00 pm	Eagle Room
Exhibit Hall Open	8:00 am-5:30 pm	Grand Ballroom
Geoscience Career Program Workshop Part 1: Career Planning and Informational Interviewing	9:00-10:00 am	Alexander
Geoscience Career Program Workshop Part 2: Geoscience Career Exploration	10:00-11:00 am	Alexander
Morning Oral Technical Sessions		
S1. Spanning an Orogen—From the Scandinavian Caledonides of Norway to the Southernmost Appalachians of Alabama I: In Honor of the Career of James F. Tull	8:00 am-noon	Top of the Plaza
T3. Magma, Heat, Fluids, and Critical Resources Across Tectonic Settings, Lithospheric Realms, Volcanic Systems, and Geologic Timescales I	8:00 am-noon	Windsor Ballroom Salon A
T10. Water Quality Issues in the Eastern U.S. I	8:00 am-noon	Windsor Ballroom Salon B
T17. Paleoclimatology, Paleoecology, and Conservation Paleobiology: Old Tools and New Tricks for Unraveling the Past and Informing the Future	8:00 am-noon	Swannanoa
T24. Undergraduate and Graduate (Lightning Talks)	8:00 am-noon	Victoria
Morning Poster Sessions (authors will be present from 10:30 am-noon)		
D3. Environmental Geoscience (Posters)	8:00 am-noon	Grand Ballroom
D4. Geomorphology and Quaternary Geology (Posters)	8:00 am-noon	Grand Ballroom
D5. Geoscience Education (Posters)	8:00 am-noon	Grand Ballroom
D7. Marine and Coastal Geoscience (Posters)	8:00 am-noon	Grand Ballroom
T2. Geochemical Proxies for Marine and Continental Paleoenvironments (Posters)	8:00 am-noon	Grand Ballroom
T7. Sedimentology, Geochronology, and Tectonics in the Southeastern United States and Beyond (Posters)	8:00 am-noon	Grand Ballroom
T8. Geoscience Investigations of the Caribbean: Fundamental Science, Socioeconomic and Environmental Issues (Posters)	8:00 am-noon	Grand Ballroom
T21. Applied Geophysical Survey Methods and Mapping in the Southeast (Posters)	8:00 am-noon	Grand Ballroom

SCHEDULE OF EVENTS

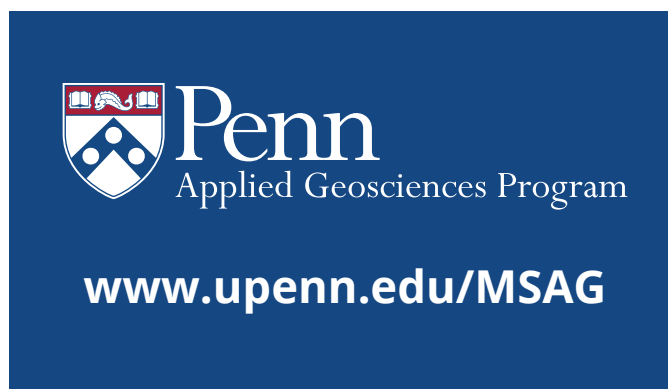
EVENT	TIME	LOCATION
T25. Geologic Maps, Geophysical Maps, 3-D Geological Models, Digital Mapping Techniques, Map Derivatives, and Digital Map Preparation (Posters)	8:00 am-noon	Grand Ballroom
GSA Southeastern Section Management Board Meeting	12:00-1:30 pm	Writer's Bistro
Roy J. Shlemon Mentors Program and Lunch in Applied Geoscience (GSA student members have priority; first-come/first-served)	12:00-1:30 pm	Alexander
Geology Club Meetup	2:00-3:00 pm	Alexander
Afternoon Oral Technical Sessions		
T23. Undergraduate Research Oral Session	1:30-2:50 pm	Victoria
S1. Spanning an Orogen—From the Scandinavian Caledonides of Norway to the Southernmost Appalachians of Alabama II: In Honor of the Career of James F. Tull	1:30-3:30 pm	Top of the Plaza
T3. Magma, Heat, Fluids, and Critical Resources Across Tectonic Settings, Lithospheric Realms, Volcanic Systems, and Geologic Timescales II	1:30-3:30 pm	Windsor Ballroom Salon A
T10. Water Quality Issues in the Eastern U.S. II	1:30-3:30 pm	Windsor Ballroom Salon B
T8. Geoscience Investigations of the Caribbean: Fundamental Science, Socioeconomic and Environmental Issues	1:30-3:35 pm	Swannanoa
D5. Geoscience Education	3:50-5:30 pm	Swannanoa
T2. Geochemical Proxies for Marine and Continental Paleoenvironments	3:50-5:30 pm	Windsor Ballroom Salon A
T21. Applied Geophysical Survey Methods and Mapping in the Southeast	3:50-5:30 pm	Windsor Ballroom Salon B
Afternoon Poster Sessions (authors will be present from 4-5:30 pm*)		
D1. Carbonate Sedimentology (Posters)	1:30-5:30 pm	Grand Ballroom
D12. Geoarchaeology (Posters)	1:30-5:30 pm	Grand Ballroom
D2. Economic and Engineering Geology (Posters)	1:30-5:30 pm	Grand Ballroom
D6. Igneous and Metamorphic Petrology (Posters)	1:30-5:30 pm	Grand Ballroom
D8. Paleontology (Posters)	1:30-5:30 pm	Grand Ballroom
D9. Soils and Soil Processes (Posters)	1:30-5:30 pm	Grand Ballroom
T4. Piedmont Geology in the Southern Appalachian Orogen: New Insights from Geologic Mapping, Geochemical, and Geochronological Studies (Posters)	1:30-5:30 pm	Grand Ballroom
T17. Paleoclimatology, Paleoecology, and Conservation Paleobiology: Old Tools and New Tricks for Unraveling the Past and Informing the Future (Posters)	1:30-5:30 pm	Grand Ballroom
T24. Undergraduate and Graduate Posters with Lightning Talks (Posters)	1:30-5:30 pm	Grand Ballroom
<i>*except lightning talks – see online program</i>		
GSA Southeastern Section Keynote Address: Jennifer B. Bauer, <i>Applied Geoscience Through the Landslide Lens - Finding the 'Why' Behind the Work</i>		
LGBTQ Geoscientists Social Hour	7:00-8:30 pm	Paparazzi
Joint Eastern Section SEPM and GSA Sedimentary Geology Division Reception and Keynote Address: Dr. Kathleen Farrell, <i>Integrating Sequence Stratigraphy, Geomorphology (LiDAR), and 3D Subsurface Mapping to Define the Pliocene and Quaternary Section for the Updip Sector of the Atlantic Coastal Plain (Ticketed Event)</i>	7:00-8:30 pm	Top of the Plaza
TUESDAY, 16 APRIL		
Registration Open	7:00 am-noon	Ballroom Foyer, Lobby Level
Session Chair Orientation	7:00-7:15 am	Swannanoa
GSA Campus Representative Breakfast	7:00-8:00 am	Alexander
Speaker Ready Room	7:30 am- 2:00 pm	Eagle Room
Exhibit Hall Open	8:00 am-5:30 pm	Grand Ballroom

SCHEDULE OF EVENTS

EVENT	TIME	LOCATION
Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs	9:00-10:00 am	Alexander
Morning Oral Technical Sessions		
T6. Ductile to Brittle Deformation in the Southern Appalachians: Grenville to Present	8:00-10:00 am	Windsor Ballroom Salon A
S2. Interstate Collaboration in the Southeast US—State Geological Surveys Working Towards Stratigraphic and Lithologic Equivalencies to Address Mapping Discrepancies More Effectively I	8:00 am-noon	Top of the Plaza
T9. In the Field or in the Lab: Revealing Hidden Signals from Minerals	8:00 am-noon	Swannanoa
T11. Wetlands, Springs, and Streams: Hydrologic Studies at the Groundwater-Surface Water Interface	8:00 am-noon	Windsor Ballroom Salon B
T16. Progress Towards Geologic CO ₂ Storage in the Eastern United States	8:00 am-noon	Victoria
T4. Piedmont Geology in the Southern Appalachian Orogen: New Insights from Geologic Mapping, Geochemical, and Geochronological Studies	10:20 am-noon	Windsor Ballroom Salon A
Morning Poster Sessions (authors will be present from 10:30 am-noon)		
T3. Magma, Heat, Fluids, and Critical Resources Across Tectonic Settings, Lithospheric Realms, Volcanic Systems, and Geologic Timescales (Posters)	8:00 am-noon	Grand Ballroom
T15. Current Technological Trends in Landslide Assessment and Susceptibility Studies: Innovative Digital Techniques, Collection Methods, and Modeling (Posters)	8:00 am-noon	Grand Ballroom
T18. Vertebrate Paleontology Research in North America (Posters)	8:00 am-noon	Grand Ballroom
T22. Undergraduate Research Poster Session I (Posters)	8:00 am-noon	Grand Ballroom
NAGT Southeastern Section Business Meeting	12:00-1:30 pm	Writer's Bistro
University Department Chairs Luncheon	12:00-1:30 pm	Oakland Heights
John Mann Mentors Program and Lunch in Applied Hydrogeology (GSA Student members have priority; first-come/first-served)	12:00-1:30 pm	Alexander
NC State University Minerals Research Laboratory (MRL) Open House	1:00-4:30 pm	Renaissance Asheville (Shuttles Provided)
Afternoon Oral Technical Sessions		
S2. Interstate Collaboration in the Southeast US—State Geological Surveys Working Towards Stratigraphic and Lithologic Equivalencies to Address Mapping Discrepancies More Effectively II	1:30-2:30 pm	Top of the Plaza
T15. Current Technological Trends in Landslide Assessment and Susceptibility Studies: Innovative Digital Techniques, Collection Methods, and Modeling	1:30-5:30 pm	Windsor Ballroom Salon A
T18. Vertebrate Paleontology Research in North America	1:30-5:30 pm	Windsor Ballroom Salon B
T20. Past, Present, and Future Sea-level and Landscape Change on the U.S. Coast and Continental Shelf	1:30-5:30 pm	Swannanoa
Afternoon Poster Sessions (authors will be present from 4-5:30 pm)		
D10. Stratigraphy (Posters)	1:30-5:30 pm	Grand Ballroom
D11. Structural Geology (Posters)	1:30-5:30 pm	Grand Ballroom
T9. In the Field or in the Lab: Revealing Hidden Signals from Minerals (Posters)	1:30-5:30 pm	Grand Ballroom
T10. Water Quality Issues in the Eastern U.S. (Posters)	1:30-5:30 pm	Grand Ballroom
T16. Progress Towards Geologic CO ₂ Storage in the Eastern United States (Posters)	1:30-5:30 pm	Grand Ballroom
T22. Undergraduate Research Poster Session II (Posters)	1:30-5:30 pm	Grand Ballroom
T1. Cores and Rocks from the Southeast Atlantic Continental Margin to Facilitate Interstate Correlation of Along-Strike Units: A Hands-On Poster Session to Support Symposium 2 (Posters)	2:30-5:30 pm	Top of the Plaza

SCHEDULE OF EVENTS

EVENT	TIME	LOCATION
S2. Interstate Collaboration in the Southeast US—State Geological Surveys Working Towards Stratigraphic and Lithologic Equivalencies to Address Mapping Discrepancies More Effectively (Posters)	2:30-5:30 pm	Top of the Plaza
Field Trip 405. Paleozoic Tectonics, Pleistocene Landforms, and Holocene Seismicity in the Blue Ridge: Results from Integrated Studies into the 9 August, 2020, Mw 5.1 Earthquake Area near Sparta, North Carolina (Field Trip)	4:30 pm, Tuesday, 16 April -5:30 pm, Thursday, 18 April	
Exhibits Tear Down	5:30-8:00 pm	Grand Ballroom
WEDNESDAY, 17 APRIL		
Field Trip 403. Gray Fossil Site and Museum (Field Trip)	8:30 am-4:30 pm	



Technical Sessions



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

NOTICE

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



NOTE INDEX SYSTEM

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

* denotes speaker

MONDAY, 15 APRIL 2024

ORAL TECHNICAL SESSIONS

SESSION NO. 1

S1. Spanning an Orogen—From the Scandinavian Caledonides of Norway to the Southernmost Appalachians of Alabama I: In Honor of the Career of James F. Tull

8:00 AM, Renaissance Asheville, Top of the Plaza

Clinton Barineau, Chris Holm-Denoma and Mary Lupo, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 1-1 8:05 AM Robinson, Delores M.*; Cato, Craig L.: **INSIGHTS INTO THE ALLEGHANIAN THRUST BELT IN CENTRAL ALABAMA FROM A BALANCED CROSS SECTION IN THE BESSEMER TRANSVERSE ZONE**
- 1-2 8:25 AM Cook, Brian*; Byerly, Ben: **AN ANOMALOUS SILURO-DEVONIAN SUCCESSION IN THE SUBSURFACE OF WEST-CENTRAL ALABAMA, SOUTHERN APPALACHIANS**
- 1-3 8:45 AM Jackson, William*; Robinson, Delores; Cook, Brian: **EXPLORING THE STRUCTURAL AND STRATIGRAPHIC ARCHITECTURE OF THE PELL CITY THRUST SHEET WITHIN THE ANNISTON TRANSVERSE ZONE OF THE SOUTHERN APPALACHIANS**
- 1-4 9:05 AM Hames, W.*; Steltenpohl, M.; Andresen, A.: **COMPARISONS OF THE PALEOZOIC OROGENIC HISTORY FOR THE NORTHCENTRAL NORWEGIAN CALEDONIDES TO THE SOUTHERN APPALACHIANS**
- 1-5 9:25 AM Hatcher, Robert*: **LEARNING FROM 50+ YEARS OF DETAILED GEOLOGIC MAPPING IN THE SOUTHERN APPALACHIAN BLUE RIDGE AND PIEDMONT**
- 1-6 9:45 AM Merschat, Arthur*; Southworth, Scott; Tollo, Richard P.; Aleinikoff, John N.; Holm-Denoma, Chris; Mundil, Roland: **IN THE LAND OF UNCONFORMITIES: TIME AND SPACE RELATIONS OF COMPLEX 763-740 MA VOLCANOGENIC-GLACIOGENIC ROCKS IN THE GREATER MOUNT ROGERS TRISTATE AREA OF VA, NC, AND TN**

10:05 AM **BREAK**

- 1-7 10:25 AM Stowell, Harold*; Bollen, Elizabeth; Meeks, Owen; Thigpen, Ryan: **GARNET GROWTH IN THE SOUTHERNMOST APPALACHIANS**
- 1-8 10:45 AM Lupo, Mary*; Tull, James F.: **MIDDLE PALEOZOIC SUCCESSOR BASIN SEQUENCES IN THE SOUTHERN APPALACHIAN WESTERN BLUE RIDGE/TALLADEGA BELT: CELEBRATING DECADES OF WORK AND IMPLICATIONS FOR TECTONIC EVOLUTION**
- 1-9 11:05 AM Holm-Denoma, Chris*; Barineau, Clinton; Tull, James F.; Smith, Valarie; Pianowski, Laura: **SQUEEZING BLOOD (OR ZIRCONS) FROM A STONE: A SILURIAN U-PB ZIRCON AGE FOR MAFIC METAVOLCANIC ROCKS CONSTRAINS TIMING OF SUPRASUBDUCTION ZONE TECTONICS, SUCCESSOR BASIN FORMATION, AND METAMORPHISM IN THE SOUTHERN APPALACHIAN BLUE RIDGE**
- 1-10 11:25 AM Hathaway, Don; Klatt, Ernest; Campbell, David; Forrest, Joseph*: **ENIGMATIC FOSSIL OCCURRENCES IN THE MURPHY MARBLE, SWAIN COUNTY, NC: A STORY OF CONTRADICTION AND CONFUSION**
- 11:45 AM **DISCUSSION**

SESSION NO. 2

T3. Magma, Heat, Fluids, and Critical Resources Across Tectonic Settings, Lithospheric Realms, Volcanic Systems, and Geologic Timescales I (GSA Geochronology Division; GSA Geophysics and Geodynamics Division; GSA Energy Geology Division)

8:00 AM, Renaissance Asheville, Windsor Ballroom Salon A

Mattia Pistone, Paulo Hidalgo, Blake Wallrich, Laura Bilenker and Ryan Currier, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 2-1 8:05 AM Dabbs, Forrest*; Hidalgo, Paulo; Alvarado, Guillermo E.; Campos-Durán, Daniela; Ryan, Peter: **TRACE ELEMENT GEOCHEMISTRY AND GEOCHRONOLOGY OF IRAZÚ VOLCANO, COSTA RICA**

- 2-2 8:25 AM Nimblett, Jada*; Maldonado, Maria; Watkins, Latasia; Araya, Maria Cristina; Hidalgo, Paulo; Bakkar Hindeleh, Henriette; Pachecho Alvarado, Javier: **INSAR ANALYSIS OF THE RINCÓN DE LA VIEJA VOLCANO: EXPLORING THE RELATIONSHIP BETWEEN GROUND DISPLACEMENT AND ERUPTIVE ACTIVITY**
- 2-3 8:45 AM Dean, Justin*; Stamps, D. Sarah; Kwagalakwe, Asenath; Njinju, Emmanuel: **DEVELOPING A PYTHON-BASED WORKFLOW FOR ANALYZING ASPECT MODELS OF DEEP MELT GENERATION**
- 2-4 9:05 AM Hidalgo, Paulo*; Crye, Kiersten; Alvarado, Guillermo E.; Hames, Willis; Ryan, Peter: **DECIPHERING THE HISTORY OF TENORIO VOLCANO, COSTA RICA: A COMPREHENSIVE GEOCHEMICAL AND GEOCHRONOLOGICAL STUDY OF A DORMANT VOLCANO**
- 2-5 9:25 AM Davies, Gareth*: **SUGGESTED CORRELATION OF POSSIBLE HYDROTHERMAL ORIGIN OF KARST IN EARLY MISSISSIPPIAN ROCKS**
- 2-6 9:45 AM Curry, Adam*; Wise, Michael A.; Harmon, Russell S.: **TRACE ELEMENT MINERAL CHEMISTRY OF LI-RICH PEGMATITES IN THE CAROLINA TIN-SPODUMENE BELT, NORTH CAROLINA**
- 10:05 AM **BREAK**
- 2-7 10:25 AM Harmon, Russell S.; Curry, Adam*; Wise, Michael A.: **ANALYSIS OF MUSCOVITE FROM THE SPRUCE PINE PEGMATITE DISTRICT BY LASER-INDUCED BREAKDOWN SPECTROSCOPY (LIBS)**
- 2-8 10:45 AM Vance, Robert*; Eshbaugh, Max: **SPARTA GRANITE VARIATION AMONG THREE QUARRIES IN SOUTHEAST GEORGIA**
- 2-9 11:05 AM Eshbaugh, Max*; Vance, Robert: **MINERALOGICAL AND GEOCHEMICAL EVALUATION OF RARE-EARTH ELEMENT POTENTIAL IN THE SPARTA GRANITE COMPLEX**
- 2-10 11:25 AM Hirosky, Breanna*; Dragovic, Besim: **THE LEGEND OF GREER HOLLOW: TACONIC HIGH PRESSURE METASOMATISM IN SOUTHERN APPALACHIA**

SESSION NO. 3

T10. Water Quality Issues in the Eastern U.S. I (GSA Hydrogeology Division; GSA Geobiology and Geomicrobiology Division; GSA Limnogeology Division)

8:00 AM, Renaissance Asheville, Windsor Ballroom Salon B

Madeline Schreiber, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 3-1 8:05 AM Ownby-Connolly, Briar*; Harris, M. Scott; Chambers, Randy; Connolly, Matthew Huth: **ANALYZING FLAWS IN TR-55: STORMWATER MANAGEMENT IMPLICATIONS FOR THE CHESAPEAKE BAY WATERSHED**
- 3-2 8:25 AM White, Cole*; Manning-Berg, Ashley; DeVries, Stephanie: **COMPARISON OF MICROPLASTIC ABUNDANCE IN ENVIRONMENTAL SAMPLES DEPENDING ON SAMPLE COLLECTION AND PREPARATION TECHNIQUES**
- 3-3 8:45 AM Peterson, Holly*; Ionesco, Nathalie: **NEW ENHANCED EVAPORATION TECHNOLOGY AS A POTENTIAL REMEDIATION STRATEGY FOR ACID ROCK DRAINAGE**
- 3-4 9:05 AM Valencia, Miguel*; Sukop, Michael: **LEVERAGING THE USGS URBAN MIAMI-DADE GROUNDWATER MODEL: FROM PARTICLE TRACKING SIMULATION TO ATTENUATION AND DEGRADATION OF SEPTIC RETURN EFFLUENTS IN SOUTHEASTERN FLORIDA**
- 3-5 9:25 AM Campbell, Amanda*; Lautz, Laura: **PREDICTING HIGH BASELINE METHANE CONCENTRATIONS IN GROUNDWATER USING DATA-DRIVEN MODELS**
- 3-6 9:45 AM Neal, Andy*; Parsons, Brooke; Culbreth, Nicholas; Wallace, Michael: **PUBLIC DATA VISUALIZATION PORTAL**

FOR STATEWIDE PFAS MONITORING OF AMBIENT GROUNDWATER IN NORTH CAROLINA

10:05 AM **BREAK**

- 3-7 10:25 AM DeVries, Stephanie*: **20 YEARS OF CHLORIDE REPORTING THROUGH A STATE-REGULATED PERMIT PROGRAM: WHAT WE'VE LEARNED ABOUT THE PAST AND FUTURE OF SALT-WATER ENCROACHMENT IN NORTH CAROLINA'S COASTAL PLAIN AQUIFER**
- 3-8 10:45 AM Gilfillan, Abby*; Brame, Scott: **ANALYSIS OF WATER QUALITY DEGRADATION IN STREAMS THAT ORIGINATE IN BLUE RIDGE VS. PIEDMONT WATERSHEDS**
- 3-9 11:05 AM Morgan, Jacob*; Wilhelm, Frank: **THE HISTORICAL INFLUENCE OF PAPER MILL DISCHARGE ON THE SURFACE WATER QUALITY AND STREAM ECOLOGY OF THE PIGEON RIVER, NORTH CAROLINA**
- 3-10 11:25 AM Vinson, David*; Pettit, Destini N.; Clinton, Sandra M.: **NUTRIENT TRENDS AND ORGANIC PROCESSING IN A PIEDMONT URBAN FOREST STREAM: RESULTS OF A MULTI-YEAR EXAMINATION OF WHOLE-WATERSHED RESTORATION (REEDY CREEK, CHARLOTTE, NC)**

SESSION NO. 4

T17. Paleoclimatology, Paleocology, and Conservation Paleobiology: Old Tools and New Tricks for Unraveling the Past and Informing the Future (GSA Geobiology and Geomicrobiology Division; GSA Geochronology Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Continental Scientific Drilling Division; GSA Geoinformatics and Data Science Division)

8:00 AM, Renaissance Asheville, Swannanoa

Garrett Braniecki, Molly Bost and Hunter Hughes, Presiding

8:00 AM **INTRODUCTORY REMARKS**

- 4-1 8:05 AM Bregy, Joshua*; Maxwell, Justin; Robeson, Scott; Harley, Grant; Trouet, Valerie: **VARIATIONS IN THE WESTERN FLANK OF THE NORTH ATLANTIC SUBTROPICAL HIGH SINCE 1140 CE: EXTREMES, HYDROCLIMATE PATTERNS, AND VOLCANIC FORCING**
- 4-2 8:25 AM Grimley, David A.*; Conroy, Jessica L.: **LAST GLACIAL MAXIMUM SUMMER TEMPERATURE GRADIENT IN THE CENTRAL USA FROM TERRESTRIAL GASTROPOD ASSEMBLAGES IN PEORIA SILT (LOESS)**
- 4-3 8:45 AM Braniecki, Garrett*; Surge, Donna; Hyland, Ethan; Goodwin, David: **COMPARING SEASONAL SEA SURFACE TEMPERATURES FROM OXYGEN ISOTOPE RATIOS AND CLUMPED ISOTOPES RECORDED IN *MERCENARIA* SPP. SHELLS DURING THE PLIO-PLEISTOCENE**
- 4-4 9:05 AM Tanner, Benjamin*; Michalski, Brianna; Evans, Jason: **INVESTIGATION OF SEDIMENT CORES FROM FLORIDA WATERWAYS FOR THE PRESENCE OF *PISTIA STRATIOTES* L. SEEDS**
- 4-5 9:25 AM Hensley, Andrew*; Crowley, Brooke E.; Viñola-López, Lazaro W.; Cooke, Siobhán B.: **WHERE DID YOU COME FROM? WHERE DID YOU GO? NEW RADIOCARBON DATES FOR RECENTLY-EXTINCT HISPANIOLAN RODENTS CLARIFY TIMING OF SPECIES LOSS AND SUGGEST EXTINCTION TRIGGERS ON THE TIBURON PENINSULA**
- 4-6 9:45 AM Leslie, Stephen*; Goldman, Daniel: **CONODONT BEDDING PLANE ASSEMBLAGES OF *AMORPHOGNATHUS TVAERENSIS* FROM THE PHI KAPPA FORMATION (ORDOVICIAN) IN THE TRAIL CREEK REGION OF CENTRAL IDAHO**
- 10:05 AM **BREAK**
- 4-7 10:25 AM Sumrall, Colin*; Stigall, Alysia L.; Thuy, Ben: **UNEXPECTED OPHIUROID DIVERSITY IN THE UPPER ORDOVICIAN CINCINNATIAN SERIES OF OHIO AND KENTUCKY**
- 4-8 10:45 AM Littleton, Aidan L.*; Smith, Nicholas; Thuy, Ben; Holterhoff, Peter; Sumrall, Colin: **A DIVERSE OPHIUROID FAUNA**

FROM THE UPPER PENNSYLVANIAN COLONY CREEK SHALE, TX

- 4-9 11:05 AM Torres, Luis*; Jang, Hyungjoo; Liyanagedara, Pamod; Sexton, Brennen; Portell, Roger W.; Kowalewski, Michał: **ABUNDANT AND DIVERSE ECHINOID POPULATIONS IN THE NORTHERN GULF OF MEXICO, FLORIDA: PALEOECOLOGICAL AND TAPHONOMIC IMPLICATIONS**
- 4-10 11:25 AM Liyanagedara, Pamod*; Kowalewski, Michał; Tyler, Carrie: **ESTIMATING ECOLOGICAL HEALTH INDICES (AMBI AND M-AMBI) FROM THE MARINE SUBFOSSIL RECORD: A CASE EXAMPLE FROM COASTAL NORTH CAROLINA, USA**

SESSION NO. 5

T24. Undergraduate and Graduate Posters (Lightning Talks) (Council on Undergraduate Research Geosciences Division; GSA Geochronology Division; GSA Geoscience Education Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Energy Geology Division; GSA Geoinformatics and Data Science Division)

8:00 AM, Renaissance Asheville, Victoria

8:00 AM **INTRODUCTORY REMARKS**

- 31-1 1:30 PM Dale, Bridget*; Kinczyk, Mallory; Wegmann, Karl: **EVALUATION OF IMPACT CRATER MORPHOLOGIES AND RELAXATION ON ENCELADUS**
- 31-2 1:30 PM Davis, Ethan*; Moecher, David: **MICROSTRUCTURAL, MINERALOGICAL, AND CHEMICAL CHARACTERIZATION OF THE HANDYS BEND AND FLAX CREEK METEORITES, KENTUCKY**
- 31-3 1:30 PM Stinson, Andrew D.*; Leslie, Stephen; Goldman, Daniel: **AMORPHOGNATHUS TVAERENSIS FROM THE UPPER SANDBIAN WOMBLE SHALE, BLACK KNOB RIDGE, OKLAHOMA USA**
- 31-4 1:30 PM Acres, Olivia D.*; Blore, Michael K.; Wilshire, Carley S.; Visaggi, Christy C.; Tweet, Justin S.; Santucci, Vincent L.: **PROMOTING PALEONTOLOGY IN SOUTHEASTERN PARKS: A GEORGIA STATE UNIVERSITY AND NATIONAL PARK SERVICE PARTNERSHIP**
- 31-5 1:30 PM Ingle, Nathaniel*; Hamelin, Clementine; Whitney, Donna: **EXAMINING RELATIONSHIPS BETWEEN O-ISOTOPES, TRACE ELEMENTS, AND CATHODOLUMINESCENCE IN ROCKS WITH COEXISTING AL₂SiO₅ POLYMORPHS**
- 31-6 1:30 PM O'Keeffe, Brendon*; Barineau, Clinton; Barron, Arturo; Hagadorn, James: **LOOKING FOR GRAINS IN ALL THE WRONG PLACES: IMPROVING ZIRCON SEPARATION TECHNIQUES IN BASALTS AND THEIR METAMORPHIC EQUIVALENTS**
- 31-7 1:30 PM Jeffreys, Jordan*; Tully, Lancen S.; Barbeau, David: **SEDIMENT PROVENANCE USING LASER-ABLATION U-PB DETRITAL-ZIRCON GEOCHRONOLOGY OF GLACIAL AND INTERGLACIAL DEPOSITS OF THE CUTLER GROUP, MOAB, UTAH, USA**
- 31-8 1:30 PM Davis, Kathryn*; Larsen, Lacie; Bast, Shawn; DePoy, Melissa; Howlett, Thomas; Kelley, Sam; Lee, Katie; Murphy, Damian; Sellers, Britton; Welch, Ryan; Waters-Tormey, Cheryl: **ARE MAJOR TOPOGRAPHIC FEATURES IN THE CHIMNEY ROCK, NC, AREA STRUCTURALLY CONTROLLED?**
- 31-9 1:30 PM Hewitt, Nathan*; Bhatt, Dhruvkumar S.; Savarese, Michael: **USE OF LIDAR TECHNOLOGY TO ASSESS THE RESILIENCE CAPACITY OF FOREDUNES TO STORM SURGE**
- 31-10 1:30 PM Cole, Sydney*; Savarese, Michael; Gross, Andrew M.; Buynevich, Ilya: **EVALUATING THE INFLUENCE OF STORMS ON THE GEOHISTORICAL DEVELOPMENT OF MARCO ISLAND, A BARRIER ISLAND IN SOUTHWEST**

FLORIDA, USING LIDAR AND GROUND-PENETRATING RADAR TECHNOLOGIES

- 9:25 AM **BREAK**
- 31-11 1:30 PM Ohrberg, Makayla*: **HEAVY METALS IN AMERICAN ROBINS: IMPACTS AND IMPLICATIONS**
- 31-12 1:30 PM Small, Elizabeth*; Conner, Shannon; Lazar, Kelly Best: **EXPLORATION OF SEM AND RAMAN ANALYTICAL TECHNIQUES TO DETERMINE MICROPLASTIC INCORPORATION IN FORAMINIFERA**
- 31-13 1:30 PM Russo, Carly J.*; Edwards, Ashley M.; Shirah, Elle; Visaggi, Christy C.; McClure, Caroline H.; Moraes, Flavia D.S.; Sparrow, Katy J.: **SPOTLIGHTS AND STORIES: IMPROVING REPRESENTATION AND ENGAGEMENT IN INTRODUCTORY GEOSCIENCE COURSES THROUGH INCLUSIVE AND CULTURALLY RESPONSIVE APPROACHES**
- 31-14 1:30 PM Wilshire, Carley S.*; Visaggi, Christy C.: **MORE FOR MOMS: EXPANDING VISIBILITY OF RESOURCES AND STORIES RELATED TO MOTHERHOOD IN THE GEOSCIENCES**
- 31-15 1:30 PM Holsinger, Ashley*; Whitmeyer, Shelley; García, Ángel: **ASSESSING EROSION RATES OF WESTMORELAND COUNTY CLIFFS BY INTEGRATING HISTORICAL DATA WITH DRONE-CAPTURED LIDAR, PHOTOGRAMMETRY, AND ARCGIS ANALYSIS**
- 31-16 1:30 PM Fradella, Seth*; Heitmuller, Franklin; Black, Timothy C.; Holt, David: **OVERBANK SEDIMENT DEPOSITION VARIATION THROUGH HISTORICAL TIMEFRAMES IN HEAVILY MODIFIED FLOODPLAINS OF THE LOWER MISSISSIPPI RIVER – A SEDIMENTOLOGICAL AND GEOPHYSICAL APPROACH**
- 31-17 1:30 PM Larsen, Lacie*: **GEOCHEMICAL AND PETROGRAPHIC ANALYSES OF MICA MINE ADJACENT WETLANDS LOCATED IN THE BLUE RIDGE BELT, WESTERN NORTH CAROLINA**
- 31-18 1:30 PM Marsh, Christopher*; Kibria, Md: **APPLICATION OF A 3D LITHOLOGIC MODEL AND THE DRASTIC APPROACH FOR AQUIFER CHARACTERIZATION IN NORTHEASTERN KENTUCKY**
- 31-19 1:30 PM Parcels, Ruby*; Pistone, Mattia: **DID CHIMBORAZO VOLCANO CAUSE THE LATE ANTIQUE LITTLE ICE AGE OR OTHER CLIMATE CHANGES AT A REGIONAL TO GLOBAL SCALE?**
- 10:57 AM **CONCLUDING REMARKS**

POSTER TECHNICAL SESSIONS

SESSION NO. 6

D3. Environmental Geoscience (Posters)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM
Booth #

- 6-1 1 Zimmerer, Madalyn*; Hoover, Alivia; Stoltzfus, Abbey; Wudke, Hannah; Lytle, Marion; Shaulis, Barry J.; McLeod, Claire; Krekeler, Mark: **CHARACTERIZATION OF SELECTED BLUSH, BRONZER AND FOUNDATION COSMETIC PRODUCTS IN THE CONTEXT OF CONSUMER HEALTH & SAFETY AND FORENSICS**
- 6-2 2 Belak, Ethan*; Wudke, Hannah; Lytle, Marion; Shaulis, Barry J.; McLeod, Claire; Krekeler, Mark: **INITIAL MINERALOGICAL AND GEOCHEMICAL EVALUATION OF TALC CRAYONS FROM CHINA**
- 6-3 3 Sanders, April*; Gillis, Morgan; Stittle, Landon; Curtis, Juliana; Gokey, Kailee; Krekeler, Mark: **LEAD ANALYSIS OF A VACANT PROPERTY IN HAMILTON, OHIO OF PAINT, SOIL, DUST, AND**

AM

MONDAY

POSTERS

ROAD SEDIMENT PRESENT TO DETERMINE SIMILARITIES IN THE SOURCE LEAD

- 6-4 4 Vest, Jordan*; Janssen, Natalie; Ventura-Valentin, Wilnelly; Velazquez Santana, Liannie; Zimmerer, Madalyn; Allen, Audrey; Wudke, Hannah; Gillis, Morgan; Krekeler, Ethan; Krekeler, Mark: **A REVIEW OF RECENT ONGOING POLLUTION INVESTIGATIONS IN PUERTO RICO: METAL POLLUTION IN ROAD SEDIMENT, PLASTIC POLLUTION, AND OTHER COMPLEX ISSUES**

SESSION NO. 7

D4. Geomorphology and Quaternary Geology (Posters)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

Booth #

- 7-1 5 Vaughan, Nora*; Ferguson, Terry; Eppes, Martha Cary; Richter, Daniel D.: **REVISITING HILLSLOPE SEDIMENT: HOLOCENE AND LATE PLEISTOCENE LANDSCAPE DYNAMICS IN THE PIEDMONT UPLANDS OF SE NA**
- 7-2 6 Suther, Bradley E.*; Leigh, David S.; Bateman McDonald, Jacob M.: **LITHOFACIES CHARACTERISTICS OF LATE QUATERNARY ALLOFORMATIONS OF THE LOWER OCONEE RIVER VALLEY, UVALDA QUADRANGLE, GEORGIA, USA**

SESSION NO. 8

D5. Geoscience Education (Posters)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

Booth #

- 8-1 7 Stapleton, Colleen*; Bernstein, Arla G.: **INTRODUCING ECOCULTURAL PERSPECTIVES IN A GENERAL EDUCATION EARTH SYSTEMS COURSE**
- 8-2 8 Pscholka, Christian*; McLachlan, Dr. Robin: **DYNAMIC EARTH: UNRAVELING THE GEOLOGIC TAPESTRY - A CURRICULUM PROJECT ON PLATE TECTONICS AND LAND MASS EVOLUTION**
- 8-3 9 Oldroyd-Johnson, Tess*; Teabo, Eric; Chen, Peggy; Tobes, Justine; Ding, Linwood; Mohan, Advay; Dhulipala, Aparna; Mullen, Avery; Cicero, Taylor; Nowell, Derrick; Dickerson, Dan: **"SUMMER VENTURES IN SCIENCE AND MATHEMATICS" AS A MODEL OF COLLABORATIVE PARTNERSHIPS PROVIDING HIGH SCHOOL STUDENTS OPPORTUNITIES TO CONDUCT AUTHENTIC GEOSCIENCE RESEARCH**
- 8-4 10 Moran, KT*: **CC BOOT CAMP: SUSTAINABILITY AND CAMARADERIE IN THE FRENCH RIVIERA**

SESSION NO. 9

D7. Marine and Coastal Geoscience (Posters)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

Booth #

- 9-1 11 King, Jessica*; Mallinson, David; Culver, Stephen; Leorri, Eduardo; DeWitt, Regina; Willard, Debra: **LATE PLEISTOCENE PALEOENVIRONMENTAL CHANGES IN THE LOWER NEUSE RIVER BASIN, NORTH CAROLINA AND IMPLICATIONS FOR COASTAL EVOLUTION**
- 9-2 12 Brown, Cody*; Mallinson, David; Culver, Stephen; Sirianni, Hannah; Pearson, Stuart; Mulligan, Ryan: **GEOPHYSICAL VERIFICATION OF A NOVEL STRATIGRAPHIC MODEL, BOGUE INLET, NC, USA: COUPLED WITH HYDRODYNAMIC, SEDIMENTOLOGICAL, AND MICROFOSSIL DATA**
- 9-3 13 Ray, Clara*; Kelly, Jacque L.; Hladik, Christine M.: **HEAVY METAL CONCENTRATIONS IN SALT MARSH SOIL AND PLANTS: CASE STUDY NEAR ST. SIMONS ISLAND, GA, USA**
- 9-4 14 Talaber, Juliet*; Kelly, Jacque L.; Vance, R. Kelly: **INVESTIGATING THE RELATIONSHIP BETWEEN INHERITED GEOLOGIC**

FRAMEWORK AND SALTWATER INTRUSION ON ST. CATHERINES ISLAND, GEORGIA

- 9-5 15 Spencer, Quentin*; Huber, Davis M.; Kenney, Benjamin J.; Walker, Sally E.: **THE EFFECTS OF CLIMATE CHANGE ON THE GEOMORPHOLOGY OF THREE GEORGIA BARRIER ISLANDS FROM 1988–2021: SAPELO, BLACKBEARD, AND CABRETTA**
- 9-6 16 McLachlan, Robin*; Bertram, Conlan: **VULNERABILITY AND RESILIENCE: ASSESSING TIDAL FLOODING AND SEA-LEVEL RISE IMPACTS ON LITTLE CUMBERLAND ISLAND, GEORGIA**
- 9-7 17 Tobes, Justine*; Johnson, Tess; Teabo, Eric: **MANY COASTAL AREAS ARE AT RISK OF EROSION DUE TO RISING SEA LEVELS AND HIGH WAVE VELOCITIES**

SESSION NO. 10

T2. Geochemical Proxies for Marine and Continental Paleoenvironments (Posters) (GSA Geobiology and Geomicrobiology Division; GSA Geochronology Division; GSA Limnogeology Division; GSA Sedimentary Geology Division)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

Booth #

- 10-1 18 Carland, Ricky*; Carmichael, Sarah; Boyer, Diana: **HUNTING FOR THE HANGENBERG CRISIS: GEOCHEMICAL EVIDENCE OF THE HANGENBERG EVENT FOUND IN NON-BLACK SHALE LITHOLOGY FROM WESTERN UTAH**
- 10-2 19 Larsen, Lacie; Lee, Katie; Kelley, Sam*; Bast, Shawn; Stefanik, Morgan; Schoepfer, Shane: **NEW EVIDENCE FROM THE CAMBRIAN EXPLOSION IN THE CAROLINA TERRANE**

SESSION NO. 11

T7. Sedimentology, Geochronology, and Tectonics in the Southeastern United States and Beyond (Posters) (GSA Geochronology Division; GSA Sedimentary Geology Division; GSA Energy Geology Division)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

Booth #

- 11-1 20 Kroeger, Emma*; Kerr, Phil; Fidler, Mary; Pullen, Alexander; Barbeau, David L.; Leier, Andrew: **EVIDENCE OF LONG-LIVED EOLIAN SYSTEMS IN CENTRAL SOUTH AMERICA: OBSERVATIONS FROM THE CHACO PLAINS AND THE SIERRA ACONQUIJA**
- 11-2 21 Hickman, John*; Greb, Stephen; Sparks, Thomas; Harris, David C.: **REVISIONS AND CLARIFICATION OF BASAL CAMBRIAN SANDSTONE STRATIGRAPHY IN KENTUCKY**
- 11-3 22 Quanrud, Will*; Leier, Andrew; Pullen, Alexander; Barbeau, David L.: **EVOLVING PROVENANCE SIGNATURES IN PLIOCENE-PLEISTOCENE LOESS DEPOSITS ALONG THE ATLANTIC MARGIN OF ARGENTINA**
- 11-4 23 Means, Savannah*; Kroeger, Emma; Fidler, Mary; Pullen, Alexander: **CHARACTERIZING THE AEOLIAN SEDIMENTS OF THE SELVA QUARRY, ARGENTINA USING DETRITAL ZIRCON U-PB GEOCHRONOLOGY**
- 11-5 24 Martina, Joseph*; Leier, Andrew; Pullen, Alexander; Barbeau, David; Kight, Abby; Zollinger, Logan: **PRELIMINARY DETRITAL ZIRCON PROVENANCE DATA FROM CENOZOIC STRATA IN THE BEAUFORT-MACKENZIE BASIN, ARCTIC CANADA**
- 11-6 25 Mason, Cody; Waddell, Georgia*; Lang, Karl; House, P. Kyle: **DETRITAL ZIRCON U-PB PROVENANCE OF QUARTZITE COBBLES FROM THE EARLY PLIOCENE BULLHEAD ALLUVIUM: IMPLICATIONS FOR SEDIMENT SOURCES OF THE EARLY COLORADO RIVER**
- 11-7 26 Tully, Lancen S.*; Barbeau, David L.: **UPPER CRETACEOUS TO PLIOCENE CHANGES IN SEDIMENT PROVENANCE, A DETRITAL-ZIRCON GEOCHRONOLOGICAL ANALYSIS OF UPPER COASTAL PLAIN SEDIMENTS FROM SOUTH CAROLINA**

SESSION NO. 12

T8. Geoscience Investigations of the Caribbean: Fundamental Science, Socioeconomic and Environmental Issues (Posters) (GSA Geobiology and Geomicrobiology Division; GSA Geophysics and Geodynamics Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

Booth #	
12-1	27 Shah, Anjana*; Gustafson, Chloe; Thompson, Jessica; Briggs, Richard; Wilson, Frederic; Pratt, Thomas; ten Brink, Uri: NEW HIGH-RESOLUTION AIRBORNE MAGNETIC AND RADIOMETRIC DATA OVER PUERTO RICO, VIEQUES, CULEBRA, AND THE SURROUNDING SHELVE
12-2	28 Ankeney, Grace*; Lytle, Marion; Shaulis, Barry J.; McLeod, Claire; Velazquez Santana, Liannie; Ventura-Valentin, Wilnelly; Krekeler, Mark: INITIAL TRACE ELEMENT AND POLLUTION ANALYSIS OF ROAD SEDIMENT ASSOCIATED WITH THE AES POWER PLANT, GUAYAMA, PUERTO RICO

SESSION NO. 13

T21. Applied Geophysical Survey Methods and Mapping in the Southeast (Posters) (GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics and Data Science Division)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

Booth #	
13-1	30 Luciano, Katherine*; Doar, William R.: USING A LONG-TERM SURFACE ELEVATION TABLE (SET) NETWORK TO INVESTIGATE LANDSCAPE-SCALE UPLIFT AND SUBSIDENCE THROUGH HEIGHTMOD, RTK, AND GNSS
13-2	31 Robinson, Chase*; Duff, Patrick: USING GROUND PENETRATING RADAR TO CHARACTERIZE THE STRATIGRAPHIC FRAMEWORK OF THE LOWER COASTAL PLAIN IN NORTHEAST SOUTH CAROLINA
13-3	32 Kinnamon, Cait*; Terrell, Tucker; McCarthy, Caitlin; Cowan, Ellen A.; Seramur, Keith C.; Marshall, Scott T.: GEOPHYSICAL PROSPECTION: FINDING FORT DEFIANCE AT THE HISTORIC SITE IN LENOIR, NORTH CAROLINA

SESSION NO. 14

T25. Geologic Maps, Geophysical Maps, 3-D Geological Models, Digital Mapping Techniques, Map Derivatives, and Digital Map Preparation (Posters) (GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics and Data Science Division)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

Booth #	
14-1	33 Wilson, Frederic*; Labay, Keith A.: A DIGITAL GEOLOGIC MAP OF THE GREATER ANTILLES AND VIRGIN ISLANDS – A TOOL FOR ANALYSIS
14-3	35 Hirtz, Jaime A.M.*; Colgan, Joseph P.; Johnstone, Samuel A.; Platt, Bryant; Barrette, Nolan; Roe, Warren P.; Sweetkind, Donald: PRELIMINARY PRECAMBRIAN GEOLOGIC MAP OF THE CENTRAL UNITED STATES
14-4	36 Trippi, Michael*: THREE NEW GEOLOGIC CROSS-SECTIONS IN THE APPALACHIAN PLATEAU AND VALLEY AND RIDGE PROVINCES OF THE SOUTHERN APPALACHIAN BASIN, WEST-CENTRAL TO NORTHEASTERN ALABAMA
14-5	37 Kath, Randy*; Bolding, Robert W.: STRUCTURAL AND STRATIGRAPHIC CHARACTERISTICS OF THE COOSA SHEAR ZONE AS EXPOSED IN THE ROME SOUTH (GA), LIVINGSTON (GA), AND INDIAN MOUNTAIN (GA-AL) QUADRANGLES FROM ROME, GEORGIA, TO NORTH OF ROCK RUN, ALABAMA

14-6	38 Prior, Ashley Draven*; Morrow, Robert: USING AIRBORNE GEOPHYSICS TO ASSIST MAPPING IN THE EASTERN PIEDMONT: GEOLOGIC MAP OF WHITE OAK CREEK 7.5-MINUTE QUADRANGLE, FAIRFIELD AND KERSHAW COUNTIES, SOUTH CAROLINA
14-7	39 Cattanach, Bart*; Lynn, Ashley S.; Trantham, Brennan; Waters-Tormey, Cheryl; Langille, Jackie; Adams, Mark; Benton, Joshua: NEW 1:24,000-SCALE GEOLOGIC MAP COMPILATIONS OF THE BURNSVILLE, MICAVILLE, AND SPRUCE PINE 7.5-MINUTE QUADRANGLES, YANCEY, MITCHELL, AVERY, AND MCDOWELL COUNTIES, NORTH CAROLINA
14-8	40 Ishan, Rezaul Bari*; Luffman, Ingrid: HOT SPOT IDENTIFICATION OF LAND USE AND LAND COVER (LULC) CHANGE IN TRI-CITIES, TENNESSEE
14-9	41 Martin, Steven*; Morris, Emily: JOINT MAPPING AND DATABASE AT THE KENTUCKY GEOLOGICAL SURVEY
14-10	42 Robinson, Devan*; Andrews, William; Hickman, John B.: DEVELOPING A 3D GEOFRAMEWORK MODEL FOR KY USING BEST AVAILABLE DATA AND PRACTICES
14-11	43 Gray, Alexander*; Doctor, Daniel: ADDRESSING STRUCTURAL AND STRATIGRAPHIC ISSUES WITHIN THE ROANOKE RECESS FOR SEAMLESS BEDROCK GEOLOGIC MAPPING IN THE LEWISBURG 30 X 60 MINUTE QUADRANGLE
14-12	44 Kelly, Wendy*; Meng, Jingyao; Steinbauer, Jonathan; Hawkins, David W.: EARTH MAPPING RESOURCES INITIATIVE: MINE WASTE INVENTORY FOR CRITICAL MINERAL POTENTIAL IN VIRGINIA
14-13	45 Behr, Rose-Anna*: LIDAR-DERIVED KARST FEATURE INVENTORY OF HUNTINGTON COUNTY, PENNSYLVANIA: CHALLENGES TO REMOTE IDENTIFICATION OF CLOSED DEPRESSIONS IN THE VALLEY AND RIDGE PROVINCE
14-14	46 Newman, Julie*; Walker, J Douglas; Tikoff, Basil; Nelson, Ellen; Williams, Randy; Phillips, Noah; Lusk, Alexander D.; Roberts, Nicolas: DIGITAL DATA COLLECTION AND DATABASE FOR FIELD AND THIN-SECTION DATA USING THE STRABOSPOT SYSTEM
14-15	47 Stokowski, Steven*: PREDICTIVE PERFORMANCE CLASSIFICATION OF ROCK UNITS FOR CONSTRUCTION AGGREGATE

**ORAL
TECHNICAL SESSIONS**

SESSION NO. 15

S1. Spanning an Orogen—From the Scandinavian Caledonides of Norway to the Southernmost Appalachians of Alabama II: In Honor of the Career of James F. Tull

1:30 PM, Renaissance Asheville, Top of the Plaza

Clinton Barineau, Chris Holm-Denoma and Mary Lupo, Presiding

15-1	1:30 PM	Yasar, I. Dogancan*; Miller, Brent V.; Hames, Bill: THE MARBLE HILL HORNBLENDE SCHIST AMPHIBOLITE: THE KEY TO THE PALEOZOIC EVOLUTION OF THE WESTERN BLUE RIDGE
15-2	1:50 PM	Barineau, Clinton*: A SYNTHESIS OF GEOLOGICAL RESEARCH FROM THE TALLADEGA BELT AND EASTERN BLUE RIDGE OF ALABAMA AND GEORGIA (USA): A TRIBUTE TO THE CAREER OF JAMES F. TULL
15-3	2:10 PM	Farris, David*; Williams, Sheri: THE NATURE OF LONG-LIVED APPALACHIAN CRUSTAL BOUNDARIES: GEOLOGIC AND GEOPHYSICAL CONSTRAINTS ON THE BREVARD ZONE IN NORTH CAROLINA
15-4	2:30 PM	Do, Ivy*; Barineau, Clinton: STRUCTURE AND STRATIGRAPHY OF THE BREVARD ZONE IN ALABAMA (USA): CONSTRAINTS ON KINEMATICS AND DISPLACEMENT

- 15-5 2:50 PM Johnson, Nailah*; Bailey, C.M.; Kortan, Matthew; Sasina, Amanda M.; Ruiz-Arriaga, Daniel; Juarez-Zuniga, Sandra; Foster-Baril, Zachary; Stockli, Daniel F.: **AGE AND ORIGIN OF THE OAKVILLE VOLCANIC SUITE, NORTHERN SMITH RIVER ALLOCHTHON, VIRGINIA PIEDMONT**
- 15-6 3:10 PM Davis, Benjamin L.*: **THE DADEVILLE COMPLEX, ASSOCIATED FAULT KINEMATICS, AND IMPLICATIONS FOR TECTONIC EVOLUTION OF THE SOUTHERN APPALACHIAN INNER PIEDMONT**

SESSION NO. 16

T23. Undergraduate Research Oral Session (GSA Geochronology Division; GSA Geoscience Education Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Energy Geology Division; GSA Geoinformatics and Data Science Division)

1:30 PM, Renaissance Asheville, Victoria

Ashley Lynn and Cheryl Waters-Tormey, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 16-1 1:35 PM Okpaku, Brooke; Morgan, Justin*; Byrne, Colin L.; Childers, Daniel P.: **UNDERGRADUATE RESEARCH PROJECT AT DELAWARE COUNTY COMMUNITY COLLEGE: EXPLORING ASTEROID IMPACT EJECTA DISPERSAL**
- 16-2 1:45 PM Thompson, Caroline*; Johnson, Bradley; Ashcraft, Scott: **SOIL MORPHOLOGY ON STEEP UPLAND SLOPES IN THE BLUE RIDGE: DID NATIVE AMERICANS QUARRY HERE?**
- 16-3 1:55 PM Herold, Joslyn I.*; Lukens, William E.; Rossie, James B.; Cote, Susanne; Peppe, Daniel; Deino, Alan L.: **PALEOSOL ANALYSIS OF A MIDDLE MIOCENE PRIMATE FOSSIL SITE IN WEST TURKANA, KENYA**
- 16-4 2:05 PM Upton, Olivia*; Haiar, Brooke: **EVALUATING THE STATE OF 3D PRINTERS IN ORDER TO CREATE A 3D PRINTING LAB FOR GEOSCIENCE EDUCATION AND CREATION OF A MULTIPURPOSE GUIDE TO PRINTING**
- 16-5 2:15 PM Dobbs, Elizabeth*: **PRELIMINARY STUDY OF NATURALLY OCCURRING ASBESTOSES EXPOSURE AND ITS ADVERSE HEALTH EFFECTS IN NORTH GEORGIA USING GEOSPATIAL TECHNOLOGY**
- 16-6 2:25 PM Krantz, Russell*; Langille, Jackie; Sas, Robert; Jurgeevich, Jeremy: **THE ROLE OF BEDROCK STRUCTURES IN LARGE SCALE WEDGE FAILURE IN ANDY COVE, PISGAH NATIONAL FOREST, NC**
- 16-7 2:35 PM Driscoll, Eran*; Bailey, Christopher M.: **CENOZOIC TECTONIC INVERSION IN THE BANDAR JISSAH AREA, OMAN**
- 2:45 PM **CONCLUDING REMARKS**

SESSION NO. 17

T3. Magma, Heat, Fluids, and Critical Resources Across Tectonic Settings, Lithospheric Realms, Volcanic Systems, and Geologic Timescales II (GSA Geochronology Division; GSA Geophysics and Geodynamics Division; GSA Energy Geology Division)

1:30 PM, Renaissance Asheville, Windsor Ballroom Salon A

Mattia Pistone, Paulo Hidalgo, Blake Wallrich, Laura Bilenker and Ryan Currier, Presiding

- 17-1 1:30 PM Hoffmann, Trevor*; Deans, Jeremy; Martin, Andrew: **INVESTIGATION OF SULFIDE AND AMPHIBOLE MELTING PROCESSES IN GABBRO, ATLANTIS BANK, SOUTHWEST INDIAN RIDGE**
- 17-2 1:50 PM Byrd, Kyle*; Deans, Jeremy; Tontini, Fabio Caratori: **THERMAL MODELING OF COOLING TIME OF SUBMARINE DACITE LAPILLI TUFFS: BROTHERS VOLCANO, KERMADEC ARC**
- 17-3 2:10 PM Fowler, Gary*: **CHANGES IN THE COMPOSITION OF MIOCENE MAGMATISM FROM EASTERN TO WESTERN PANAMA**

- 17-4 2:30 PM Oldroyd-Johnson, Tess*; Horsman, Eric: **CONSTRAINTS ON SUBVOLCANIC MAGMA PLUMBING SYSTEM EVOLUTION FROM CRYSTAL SIZE DISTRIBUTION ANALYSIS OF IGNEOUS GROUNDMASS, HENRY MOUNTAINS, UTAH**
- 17-5 2:50 PM Currier, Ryan*; Hidalgo, Paulo; Bitner, Lucian; Nimblett, Jada; Ruhukya, Jessica: **EMPLACEMENT OF A COOL, MAGMATIC SLURRY: TUNNEL DIKE, CHIEF JOSEPH DIKE SWARM**
- 17-6 3:10 PM Pistone, Mattia*; Toy, Virginia Gail; Formo, Eric; Robyr, Martin: **CAN PSEUDOTACHYLITES FORM VIA FRACTURE-INDUCED DECOMPRESSION MELTING UNDER HYDROUS CONDITIONS?**

SESSION NO. 18

T8. Geoscience Investigations of the Caribbean: Fundamental Science, Socioeconomic and Environmental Issues (GSA Geobiology and Geomicrobiology Division; GSA Geophysics and Geodynamics Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division)

1:30 PM, Renaissance Asheville, Swannanoa

Liannie Velazquez Santana and Mark Krekeler, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 18-1 1:35 PM Wilson, Frederic*: **NEW GEOLOGIC MAP OF THE GREATER ANTILLES AND VIRGIN ISLANDS**
- 18-2 1:55 PM Sandstrom, Michael R.*; Poirier, Robert K.; Dumitru, Oana A.; Goldstein, Steven L.; Dyer, Blake C.; Cashman, Miranda; Precht, William F.; Raymo, Maureen E.: **THE LONG-TERM UPLIFT HISTORY OF BARBADOS: IMPLICATIONS FOR COASTAL COMMUNITIES AND SEA LEVEL RECONSTRUCTIONS**
- 18-3 2:15 PM Allen, Audrey*; Zimmerer, Madalyn; Lytle, Marion; Velazquez Santana, Liannie; Ventura-Valentin, Wilnelly; Vest, Jordan; Krekeler, Ethan; Shaulis, Barry J.; McLeod, Claire; Krekeler, Mark: **UPDATES ON ENVIRONMENTAL GEOTECHNOLOGY DEVELOPMENT THROUGH THE CHARACTERIZATION OF SANDS FROM PLAYA LAS GOLONDRINAS IN ISABELA, PUERTO RICO**
- 18-4 2:35 PM Hubbard, Bernard*; Lederer, Graham; Gray, Floyd; Wilson, Frederic; Orris, Greta J.; Cocker, Mark D.: **FIELD, LABORATORY, AND REMOTE SENSING SPECTRAL ANALYSIS OF MINERAL DEPOSITS RELATED TO DEEP WEATHERING IN THE GREATER ANTILLES AND VIRGIN ISLANDS**
- 18-5 2:55 PM Wudke, Hannah*; Lytle, Marion; Velazquez Santana, Liannie; Ventura-Valentin, Wilnelly; Krekeler, Ethan; Vest, Jordan; McLeod, Claire; Krekeler, Mark: **ONGOING SCANNING ELECTRON MICROSCOPY AND BULK CHEMICAL INVESTIGATIONS OF ROAD SEDIMENT ASSOCIATED WITH A PETROCHEMICAL PLANT IN PENUELAS, PUERTO RICO**
- 18-6 3:15 PM Neydon, Kali*; García, Ángel; Acosta-Colon, Angel; Sekhon, Natasha; Ibarra, Daniel; Galdes Vega, Monica: **CHARACTERIZING PALEOCLIMATIC DATA USING PUERTO RICAN STALAGMITES AS ARCHIVES**

SESSION NO. 19

T10. Water Quality Issues in the Eastern U.S. II (GSA Hydrogeology Division; GSA Geobiology and Geomicrobiology Division; GSA Limnogeology Division)

1:30 PM, Renaissance Asheville, Windsor Ballroom Salon B

Madeline Schreiber, Presiding

- 19-1 1:30 PM Kibria, Md*: **ANTHROPOGENIC INFLUENCE ON SURFACE WATER CHEMISTRY IN THE BIG SANDY AND LICKING RIVER WATERSHED, KENTUCKY**
- 19-2 1:50 PM Smith, Tyler*; Cain, Connor J.; Ashwood, Loka; Lee, Ming-Kuo; McNeal, Karen S.: **RADON CONTAMINATION IN FRACTURED GROUNDWATER AQUIFERS OF THE TALLADEGA METAMORPHIC BELT**

- 19-3 2:10 PM Benton, Joshua*; Doctor, Daniel H.: **SEASONAL INFLUENCE OF PRECIPITATION, SOIL MOISTURE, AND CAVE AIR CO₂ ON THE STABLE OXYGEN AND CARBON ISOTOPIC COMPOSITION OF DRIP WATER IN GRAND CAVERNS, VIRGINIA**
- 19-4 2:30 PM Eke, Chima*; Ophori, Duke U.: **AN ASSESSMENT OF GROUNDWATER CONTAMINATION FROM ABANDONED MINES AND LANDFILL IN RINGWOOD, NEW JERSEY**
- 2:50 PM **CONCLUDING REMARKS**

SESSION NO. 20

D5. Geoscience Education

3:50 PM, Renaissance Asheville, Swannanoa

Steven Mittweide and Katayoun Mobasher, Presiding

- 20-1 3:50 PM Mittweide, Steven*: **STORYTELLING OUR WAY TO A PREFERRED FUTURE**
- 20-2 4:10 PM Thomasian, Sara*: **MAKING FIELD WORK ACCESSIBLE FOR NON-TRADITIONAL STUDENTS AND EDUCATORS**
- 20-3 4:30 PM Mather, Louise*; Cox, Mara; Helme, Kimberly; Bentley, Callan: **INCLUSION AS A FORMULA FOR SUCCESS IN AN UNDERGRADUATE GEOLOGY CLUB**
- 20-4 4:50 PM Mobasher, Katayoun*; Rajkumar, Adrianna; Washell, Cristina; Hoffmann, Sharon: **ENGAGING HIGH SCHOOL STUDENTS IN GEOSCIENCE RESEARCH AS A KEY COMPONENT TO STEM RECRUITMENT**
- 20-5 5:10 PM Hatcher, Robert*: **GLEANING SCIENCE FROM A "GRANITE" KITCHEN COUNTERTOP**

SESSION NO. 21

T2. Geochemical Proxies for Marine and Continental Paleoenvironments (GSA Geobiology and Geomicrobiology Division; GSA Geochronology Division; GSA Limnogeology Division; GSA Sedimentary Geology Division)

3:50 PM, Renaissance Asheville, Windsor Ballroom Salon A

Shane Schoepfer, Thomas Tobin, Xikai Wang and Tian Gan, Presiding

- 21-1 3:50 PM Schoepfer, Shane*: **THE POTENTIAL OF THE CAROLINA TERRANE AS A PALEOCEANOGRAPHIC RECORD OF THE IAPETUS OCEAN**
- 21-2 4:10 PM Comans, Chelsea; Tobin, Thomas*; Totten, Rebecca: **INDICATIONS OF ENDOTHERMY IN SOME LATE CRETACEOUS SHARKS (PTYCHODUS, CRETOXYRHINA) FROM THE GULF COASTAL PLAIN OF ALABAMA**
- 21-3 4:30 PM McKenzie, Emily*; Wing, Scott; Them, Theodore R.; Bloch, Jonathan I.: **CALIBRATION AND APPLICATION OF THE MERCURY GEOCHEMICAL PROXY IN LONGNOSE GAR SCALES: RESOLVING THE DRIVER OF THE PALEOCENE-EOCENE THERMAL MAXIMUM**
- 21-4 4:50 PM Lukens, William*; Fox, David L.: **A QUANTITATIVE FRAMEWORK FOR RECONSTRUCTING C₄ PLANT FRACTIONS IN ANCIENT BIOMES AND MAMMAL DIETS USING STABLE CARBON ISOTOPES**
- 21-5 5:10 PM Agharabi, Ayman*; Karrat, Lhoucine; Gourari, Lahcen; Har, Nicolae; Eitensohn, Frank: **PALEOCLIMATIC IMPLICATIONS OF MID- TO UPPER HOLOCENE CALCAREOUS TUFA DEPOSITS FROM THE BOURKAÏZ ALLUVIAL FAN, NORTHERN MOROCCO**

SESSION NO. 22

T21. Applied Geophysical Survey Methods and Mapping in the Southeast (GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics and Data Science Division)

3:50 PM, Renaissance Asheville, Windsor Ballroom Salon B

Paul S. Martin and Blair Tormey, Presiding

- 3:50 PM **INTRODUCTORY REMARKS**

- 22-1 3:55 PM Savarese, Michael*; Bhatt, Dhruvkumar S.; Hewitt, Nathan S.; Gross, Andrew M.; Cole, Sydney; Ruiz, Angie; Buynevich, Ilya V.: **APPLICATION OF REMOTE SENSING AND GROUND-PENETRATING RADAR TECHNOLOGIES TO ASSESS DAMAGE CAUSED BY HURRICANE IAN IN SOUTHWEST FLORIDA**
- 22-2 4:15 PM Cizler, Evan*; Levine, Norman: **MAPPING SOUTH CAROLINAS HISTORIC RICE FIELDS: LEARNING FROM THE PAST TO PREPARE FOR THE FUTURE**
- 22-3 4:35 PM Seramur, Keith C.*; Cowan, Ellen A.; Marshall, Scott T.: **EVALUATION OF NEAR-SURFACE GEOPHYSICAL METHODS TO MAP HISTORIC SITES IN THE SOUTHEASTERN UNITED STATES**
- 22-4 4:55 PM Tormey, Blair*; Martin, Paul S.: **PRESERVING HISTORIC AFRICAN AMERICAN GRAVESITES IN WESTERN NORTH CAROLINA USING GROUND-PENETRATING RADAR AND ARCHAEOLOGICAL HUMAN REMAINS DETECTION DOGS**
- 5:15 PM **CONCLUDING REMARKS**

POSTER TECHNICAL SESSIONS

SESSION NO. 23

D1. Carbonate Sedimentology (Posters)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 23-1 1 Christian, Jadon*; Oehlert, Amanda M.; Purkis, Sam; Grosell, Martin; Dempsey, Alexandra: **ASSESSING THE PRESERVATION POTENTIAL OF ICHTHYOCARBONATE IN SEDIMENTS FROM THE FIJI AND CHAGOS ARCHIPELAGOS**
- 23-2 2 Mickelson, Maxwell*; Eitensohn, Frank: **RE-EXAMINATION OF A MIDDLE MISSISSIPPIAN CARBONATE MUD-MOUND COMPLEX IN SOUTH-CENTRAL KENTUCKY**

SESSION NO. 24

D2. Economic and Engineering Geology (Posters)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 24-1 3 Fowler, Gary*; Davis, Benjamin L.: **CRITICAL MINERAL COMMODITIES IN PHOSPHATE MINING WASTE**
- 24-2 4 Rosera, Joshua*; Pianowski, Laura; Holm-Denoma, Chris; Cronkite-Ratcliff, Collin; Ewart, Lucas; Phelps, Geoff; Poletti, Jacob; Wintzer, Niki; DeAngelo, Jacob; Crocker, Kelsey; Wiens, Ashton M.; Mordensky, Stanley; Sanders, Margaret; Murchek, Jacob; Coyan, Joshua; Case, George; Lederer, Graham: **LITHIUM PEGMATITE MINERAL RESOURCE ASSESSMENT IN THE EASTERN UNITED STATES: PROJECT OVERVIEW AND PRELIMINARY GRADE AND TONNAGE MODEL**
- 24-3 5 Jaman, Md Hasnat*; Uddin, Ashraf: **LIQUEFACTION PROBABILITY FROM MAGNITUDE 7+ EARTHQUAKE IN DHAKA MEGACITY, BANGLADESH**

SESSION NO. 25

D6. Igneous and Metamorphic Petrology (Posters)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 25-1 6 Meeks, Owen*; Stowell, Harold H.; Allison, David T.; Bollen, Elizabeth: **METAMORPHISM AND GRAPHITE MINERALIZATION IN THE ALABAMA GRAPHITE BELT**

- 25-2 7 Hajec, Hannah*; Stewart, Emily: **RELATIONSHIP BETWEEN MANGANESE AND METAMORPHIC-DRIVEN WATER CYCLING IN SUBDUCTION ZONES**
- 25-3 8 Rogers, Liam*; Reynolds, Valerie; Rizzolo, Jack; Cavalline, Tara: **COEFFICIENT OF THERMAL EXPANSION (CTE) AND MODAL MINERALOGY OF NORTH CAROLINA AGGREGATE USED FOR INFRASTRUCTURE APPLICATIONS**

SESSION NO. 26

D8. Paleontology (Posters)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

- | | Booth # | |
|------|---------|---|
| 26-1 | 9 | Sanders, Sabrina J.*; Thuy, Ben; Smith, Nicholas; Holterhoff, Peter; Sumrall, Colin: FIRST LOOK AT LOWER PERMIAN OPHIUROID DIVERSITY USING DISARTICULATED OSSICLES |
| 26-2 | 10 | Cook, Carly*; Forcino, Frank L.; Stafford, Emily S.: IS THERE PREDATORY DRILLHOLE SITE STEREOTYPY IN THE MIOCENE ST. MARY'S FORMATION? |
| 26-3 | 11 | Burns, Grace*; Parsons-Hubbard, Karla; Walker, Sally E.: PRESERVATION VERSUS CHEMICAL AND BIOLOGICAL DISSOLUTION OF CARBONATE AT THE EAST FLOWER GARDEN BRINE SEEP, GULF OF MEXICO |

SESSION NO. 27

D9. Soils and Soil Processes (Posters)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

- | | Booth # | |
|------|---------|---|
| 27-1 | 12 | Bratton, Kaitlynn*; Wijesinghe, Dhanuska; Lukens, William E.: TESTING THREE DIFFERENT ANALYTICAL METHODS FOR ESTIMATING ORGANIC CARBON CONTENTS (SOC) OF SOILS |
| 27-2 | 13 | Black, Timothy C.*; Fradella, Seth; Heitmuller, Franklin; Deans, Jeremy: ELEMENTAL ANALYSIS OF FLOODPLAIN SEDIMENTS FROM THE LOWER MISSISSIPPI RIVER AT SHIPLAND WMA AND ST. CATHERINE CREEK NWR |
| 27-3 | 14 | Williamson, Nolan*; Wijesinghe, Dhanuska: SUSTAINABLE AGRICULTURE PRACTICES TO ENHANCE SOIL AGGREGATE STABILITY |

SESSION NO. 28

D12. Geoarchaeology (Posters)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

- | | Booth # | |
|------|---------|--|
| 28-1 | 15 | Shefelton, Kinsey*; LaPorta, Philip; Brewer-LaPorta, Margaret; Ashcraft, Scott; Minchak, Scott A.; Bailey, Christopher M.: GEOLOGY OF AN ANCIENT NATIVE AMERICAN BEDROCK QUARRY, WESTERN NORTH CAROLINA BLUE RIDGE |
| 28-2 | 16 | LaPorta, Philip*; Brewer-LaPorta, Margaret; Minchak, Scott A.; Shefelton, Kinsey; Ashcraft, Scott: GEOLOGIC CONTROLS OF UPLAND PREHISTORIC BEDROCK QUARRIES IN THE ASHE METAMORPHIC SUITE; SENIARD CREEK BURN, PISGAH NATIONAL FOREST |

SESSION NO. 29

T4. Piedmont Geology in the Southern Appalachian Orogen: New Insights from Geologic Mapping, Geochemical, and Geochronological Studies (Posters) (GSA Geochronology Division; GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

- | | Booth # | |
|------|---------|---|
| 29-1 | 17 | Nelson, Michelle*; Hawkins, David W.; Carter, Mark W.; Deasy, Ryan; Shah, Anjana; Smith, Michael; Grammatikopoulos, Tassos: GEOCHEMICAL CHARACTERIZATION OF EASTERN PIEDMONT ROCKS AND ATLANTIC COASTAL PLAIN SEDIMENTS ALONG THE FALL ZONE IN SOUTHEASTERN VIRGINIA |
| 29-2 | 18 | Futrell, Justin*; Fishel, Emma R.; Blake, David; Carter, Mark W.; LaMaskin, Todd: DETAILED GEOLOGIC MAPPING AND A STRUCTURAL-KINEMATIC ANALYSIS ACROSS THE EASTERN RALEIGH, SPRING HOPE, AND TRIPLET TERRANE BOUNDARIES IN THE VIRGINIA EASTERN PIEDMONT |
| 29-3 | 19 | Deasy, Ryan*; Carter, Mark; Merschat, Arthur; Powell, Nicholas; Horton, J.: GEOLOGIC MAPPING TRANSECT ALONG THE ROANOKE RIVER IN NORTHEASTERN NORTH CAROLINA: INSIGHTS INTO THE ROANOKE RAPIDS TERRANE |
| 29-4 | 20 | Blake, David E.*; Futrell, Justin L.; LaMaskin, Todd A.; Fishel, Emma R.; Tully, Lancen; Barbeau, David L.: DETRITAL ZIRCON AGES FOR METAVOLCANICLASTIC SEDIMENTARY ROCKS OF THE SPRING HOPE TERRANE, NORTH CAROLINA EASTERN PIEDMONT |
| 29-5 | 21 | Fishel, Emma*; Futrell, Justin L.; Blake, David E.; LaMaskin, Todd A.: NEW WHOLE ROCK MAJOR- AND TRACE-ELEMENT GEOCHEMISTRY AND SM-ND ISOTOPIC COMPOSITIONS FROM THE "GREATER RALEIGH TERRANE": REVISITING THE WARREN TERRANE |
| 29-6 | 22 | Burgess, Jerry*; Blake, David; Viète, Daniel: NEW APPROACHES TO DISCERN THE TIMING OF THE METAMORPHIC HISTORY OF THE HORSE CREEK SCHIST, NORTH CAROLINA EASTERN PIEDMONT |
| 29-7 | 23 | Thompson, Garrett J.; Bradley, Philip J.*; Pelt, Katherine E.: PRELIMINARY COMPILED BEDROCK GEOLOGIC MAP OF THE CHAPEL HILL 100K, NORTH CAROLINA |
| 29-8 | 24 | Gunn, Trevor S.*; Curry, Magdalena Ellis: GEOLOGIC MAP OF THE SOUTHWEST PORTION OF THE HYCO SHEAR ZONE |

SESSION NO. 30

T17. Paleoclimatology, Paleoecology, and Conservation Paleobiology: Old Tools and New Tricks for Unraveling the Past and Informing the Future (Posters) (GSA Geobiology and Geomicrobiology Division; GSA Geochronology Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Continental Scientific Drilling Division; GSA Geoinformatics and Data Science Division)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

- | | Booth # | |
|------|---------|--|
| 30-1 | 25 | Sexton, Brennen*; Casebolt, Sahale; Kowalewski, Michal: BREAKING BIVALVES: VALVE DURABILITY AND ITS EFFECT ON THE QUALITY OF THE FOSSIL RECORD |
| 30-2 | 26 | Medlin, Alexander*; Surge, Donna: MORPHOMETRICS OF FOSSIL <i>MERCENARIA</i> SHELLS FROM THE MID PIAZENIAN WARM INTERVAL AND THE SUBSEQUENT EARLY PLEISTOCENE COOLING, MID ATLANTIC COASTAL PLAIN |
| 30-3 | 27 | Kresse, Evelyn K.*; Orndorff, Tiffany N.; Biondi, Xanadu; Cole, Rachel M.R.; Khurana, Sage A.; Lockwood, Rowan: THE EFFECTS OF THE MID-PLIOCENE WARM PERIOD ON MOLLUSK DIVERSITY RECORDED IN THE YORKTOWN FORMATION (SOUTHEASTERN VIRGINIA) |
| 30-4 | 28 | Hamilton, McKenzie S.*; Grimley, David A.: TERRESTRIAL GASTROPOD ASSEMBLAGES FROM LAST GLACIAL LOESS IN SOUTHWESTERN ILLINOIS (KELLER FARM SECTION), IMPLICATIONS TO PALEOCLIMATE AND PALEOECOLOGY |

SESSION NO. 31

T24. Undergraduate and Graduate Posters with Lightning Talks (Posters) (Council on Undergraduate Research Geosciences Division; GSA Geochronology Division; GSA Geoscience Education Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Energy Geology Division; GSA Geoinformatics and Data Science Division)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

- | | Booth # | |
|-------|---------|--|
| 31-1 | 29 | Dale, Bridget*; Kinczyk, Mallory; Wegmann, Karl: EVALUATION OF IMPACT CRATER MORPHOLOGIES AND RELAXATION ON ENCELADUS |
| 31-2 | 30 | Davis, Ethan*; Moecher, David: MICROSTRUCTURAL, MINERALOGICAL, AND CHEMICAL CHARACTERIZATION OF THE HANDYS BEND AND FLAX CREEK METEORITES, KENTUCKY |
| 31-3 | 31 | Stinson, Andrew D.*; Leslie, Stephen; Goldman, Daniel: AMORPHOGNATHUS TVAERENSIS FROM THE UPPER SANDBIAN WOMBLE SHALE, BLACK KNOB RIDGE, OKLAHOMA USA |
| 31-4 | 32 | Acres, Olivia D.*; Blore, Michael K.; Wilshire, Carley S.; Visaggi, Christy C.; Tweet, Justin S.; Santucci, Vincent L.: PROMOTING PALEONTOLOGY IN SOUTHEASTERN PARKS: A GEORGIA STATE UNIVERSITY AND NATIONAL PARK SERVICE PARTNERSHIP |
| 31-5 | 33 | Ingle, Nathaniel*; Hamelin, Clementine; Whitney, Donna: EXAMINING RELATIONSHIPS BETWEEN O-ISOTOPES, TRACE ELEMENTS, AND CATHODOLUMINESCENCE IN ROCKS WITH COEXISTING AL₂SiO₅ POLYMORPHS |
| 31-6 | 34 | O'Keeffe, Brendon*; Barineau, Clinton; Barron, Arturo; Hagadorn, James: LOOKING FOR GRAINS IN ALL THE WRONG PLACES: IMPROVING ZIRCON SEPARATION TECHNIQUES IN BASALTS AND THEIR METAMORPHIC EQUIVALENTS |
| 31-7 | 35 | Jeffreys, Jordan*; Tully, Lancen S.; Barbeau, David: SEDIMENT PROVENANCE USING LASER-ABLATION U-PB DETRITAL-ZIRCON GEOCHRONOLOGY OF GLACIAL AND INTERGLACIAL DEPOSITS OF THE CUTLER GROUP, MOAB, UTAH, USA |
| 31-8 | 36 | Davis, Kathryn*; Larsen, Lacie; Bast, Shawn; DePoy, Melissa; Howlett, Thomas; Kelley, Sam; Lee, Katie; Murphy, Damian; Sellers, Britton; Welch, Ryan; Waters-Tormey, Cheryl: ARE MAJOR TOPOGRAPHIC FEATURES IN THE CHIMNEY ROCK, NC, AREA STRUCTURALLY CONTROLLED? |
| 31-9 | 37 | Hewitt, Nathan*; Bhatt, Dhruvkumar S.; Savarese, Michael: USE OF LIDAR TECHNOLOGY TO ASSESS THE RESILIENCE CAPACITY OF FOREDUNES TO STORM SURGE |
| 31-10 | 38 | Cole, Sydney*; Savarese, Michael; Gross, Andrew M.; Buynevich, Ilya: EVALUATING THE INFLUENCE OF STORMS ON THE GEOHISTORICAL DEVELOPMENT OF MARCO ISLAND, A BARRIER ISLAND IN SOUTHWEST FLORIDA, USING LIDAR AND GROUND-PENETRATING RADAR TECHNOLOGIES |
| 31-11 | 39 | Ohrberg, Makayla*: HEAVY METALS IN AMERICAN ROBINS: IMPACTS AND IMPLICATIONS |
| 31-12 | 40 | Small, Elizabeth*; Conner, Shannon; Lazar, Kelly Best: EXPLORATION OF SEM AND RAMAN ANALYTICAL TECHNIQUES TO DETERMINE MICROPLASTIC INCORPORATION IN FORAMINIFERA |
| 31-13 | 41 | Russo, Carly J.*; Edwards, Ashley M.; Shirah, Elle; Visaggi, Christy C.; McClure, Caroline H.; Moraes, Flavia D.S.; Sparrow, Katy J.: SPOTLIGHTS AND STORIES: IMPROVING REPRESENTATION AND ENGAGEMENT IN INTRODUCTORY GEOSCIENCE COURSES THROUGH INCLUSIVE AND CULTURALLY RESPONSIVE APPROACHES |

- | | | |
|-------|----|---|
| 31-14 | 42 | Wilshire, Carley S.*; Visaggi, Christy C.: MORE FOR MOMS: EXPANDING VISIBILITY OF RESOURCES AND STORIES RELATED TO MOTHERHOOD IN THE GEOSCIENCES |
| 31-15 | 43 | Holsinger, Ashley*; Whitmeyer, Shelley; Garcia, Ángel: ASSESSING EROSION RATES OF WESTMORELAND COUNTY CLIFFS BY INTEGRATING HISTORICAL DATA WITH DRONE-CAPTURED LIDAR, PHOTOGRAMMETRY, AND ARCGIS ANALYSIS |
| 31-16 | 44 | Fradella, Seth*; Heitmuller, Franklin; Black, Timothy C.; Holt, David: OVERBANK SEDIMENT DEPOSITION VARIATION THROUGH HISTORICAL TIMEFRAMES IN HEAVILY MODIFIED FLOODPLAINS OF THE LOWER MISSISSIPPI RIVER – A SEDIMENTOLOGICAL AND GEOPHYSICAL APPROACH |
| 31-17 | 45 | Larsen, Lacie*: GEOCHEMICAL AND PETROGRAPHIC ANALYSES OF MICA MINE ADJACENT WETLANDS LOCATED IN THE BLUE RIDGE BELT, WESTERN NORTH CAROLINA |
| 31-18 | 46 | Marsh, Christopher*; Kibria, Md: APPLICATION OF A 3D LITHOLOGIC MODEL AND THE DRASTIC APPROACH FOR AQUIFER CHARACTERIZATION IN NORTHEASTERN KENTUCKY |
| 31-19 | 47 | Parcells, Ruby*; Pistone, Mattia: DID CHIMBORAZO VOLCANO CAUSE THE LATE ANTIQUE LITTLE ICE AGE OR OTHER CLIMATE CHANGES AT A REGIONAL TO GLOBAL SCALE? |

TUESDAY, 16 APRIL 2024

ORAL TECHNICAL SESSIONS

SESSION NO. 32

S2. Interstate Collaboration in the Southeast US—State Geological Surveys Working Towards Stratigraphic and Lithologic Equivalencies to Address Mapping Discrepancies More Effectively I (GSA Geophysics and Geodynamics Division; GSA Limnogeology Division; GSA Sedimentary Geology Division)

8:00 AM, Renaissance Asheville, Top of the Plaza

Scott Howard, Kathleen M. Farrell and Philip J. Bradley, Presiding

- | | | |
|------|----------|---|
| 32-1 | 8:00 AM | Soller, David*; Stamm, Nancy R.: FACILITATING STUDIES OF REGIONAL STRATIGRAPHIC CORRELATIONS |
| 32-2 | 8:20 AM | Guthrie, Gregory M.*; Dockery, David T.; Hensen, Corey; Harrison, Valerie; Hanson, Doug; Ausbrooks, Scott; Tew, Berry; Moscardelli, Lorena; Byerly, Ben; Bowman, Andrew: THE WEST GULF COAST STRATIGRAPHIC RECONCILIATION PROJECT: MAKING SENSE OF INTERSTATE NOMENCLATURE DIFFERENCES |
| 32-3 | 8:40 AM | Bryan, Jonathan*; Ebersole, Sandy; Byerly, Ben; Hindman, Andrew: STRATIGRAPHY ACROSS THE ELLICOTT LINE—RECONCILING GEOLOGIC MAPS OF SOUTHERN ALABAMA AND THE FLORIDA PANHANDLE |
| 32-4 | 9:00 AM | Williams, Christopher*; Bryan, Jonathan R.: COASTAL LITHOSTRATIGRAPHY AND GEOMORPHOLOGY OF THE FLORIDA PANHANDLE |
| 32-5 | 9:20 AM | Boxleiter, Anthony*; Elliott, W. Crawford: A NEW LOOK AT THE LATE CRETACEOUS-EOCENE STRATIGRAPHY OF THE CENTRAL GEORGIA, UPPER COASTAL PLAIN |
| 32-6 | 9:40 AM | Farrell, Kathleen M.*; Occhi, Marcie E.; Carter, Mark W.; Nelson, Michelle: PRELIMINARY EVALUATION OF ALONG-STRIKE CORRELATIONS OF PLIOCENE AND EARLY PLEISTOCENE STRATIGRAPHIC UNITS, FALL ZONE PLACER REGION FOR NORTH CAROLINA AND VIRGINIA |
| | 10:00 AM | BREAK |

AM

TUESDAY

- 32-7 10:20 AM Doctor, Daniel H.*; Weary, David; Orndorff, Randall C.; Gray, Alexander; Parker, Mercer: **NEW GEOLOGIC MAPPING IN MONROE COUNTY, WEST VIRGINIA: ORDOVICIAN TO MISSISSIPPIAN STRATIGRAPHY AND THE STRUCTURAL FRONT TRANSITION FROM THE SOUTHERN TO CENTRAL APPALACHIANS**
- 32-8 10:40 AM Merschhat, Arthur*; Carter, Mark W.; Holm-Denoma, Chris; McAleer, Ryan; Lynn, Ashley; Becker, Naomi; Williams, Michael; Suarez, Kaitlyn: **CORRELATION OF EASTERN BLUE RIDGE LITHOSTRATIGRAPHY ACROSS THE NORTH CAROLINA-VIRGINIA BORDER: ASHE METAMORPHIC SUITE AND LYNCHBURG GROUP**
- 32-9 11:00 AM Becker, Naomi*; Merschhat, Arthur; Carter, Mark W.; Meng, Jingyao: **GEOCHEMISTRY OF THE MAFIC AND ULTRAMAFIC UNITS IN THE EASTERN BLUE RIDGE OF VIRGINIA AND NORTH CAROLINA: COMPARISON OF THE ASHE AND ALLIGATOR BACK METAMORPHIC SUITES AND THE LYNCHBURG FORMATION**
- 32-10 11:20 AM Lynn, Ashley*; Merschhat, Arthur; Carter, Mark W.; Stewart, Kevin; Hull, Sarah: **UPDATED LITHOSTRATIGRAPHY OF THE ALLIGATOR BACK METAMORPHIC SUITE, FOCUSED ON MAPPING IN SPARTA, NORTH CAROLINA**

SESSION NO. 33

T6. Ductile to Brittle Deformation in the Southern Appalachians: Grenville to Present (GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division)

8:00 AM, Renaissance Asheville, Windsor Ballroom Salon A

Jackie Langille and Jamie Levine, Presiding

- 33-1 8:00 AM Hull, Sarah*; Stewart, Kevin: **LARGE-MAGNITUDE PALEOZOIC EXTENSION IN THE EASTERN BLUE RIDGE OF NORTHWESTERN NORTH CAROLINA**
- 33-2 8:20 AM Deans, Jeremy*; Williams, Andrew: **PHYLLONITES OF THE BREVARD ZONE, SOUTHERN APPALACHIANS, ALABAMA**
- 33-3 8:40 AM Blake, David E.*: **SUPRASTRUCTURAL-INFRASTRUCTURAL TERRANE JUXTAPOSITION AND THE EASTERN PIEDMONT FAULT SYSTEM IN THE NC-VA EASTERN PIEDMONT: DEVELOPMENT OF A DEXTRAL FREEWAY IN THE SOUTHERN APPALACHIAN HINTERLAND**
- 33-4 9:00 AM Love, Meredith*; Tully, Lancen S.; Barbeau, David L.: **AN ASSESSMENT OF THE TECTONIC HISTORY OF THE SOUTHERN APPALACHIANS BY INTEGRATING U-PB GEOCHRONOLOGY AND ELEMENTAL RATIOS OF ZIRCONS FROM THE BLUE RIDGE, PIEDMONT, AND COASTAL PLAIN**
- 33-5 9:20 AM Waters-Tormey, Cheryl*: **DUCTILE AND BRITTLE STRUCTURES IN THE CHIMNEY ROCK, NC, AREA AND IMPLICATIONS FOR SLOPE PROCESSES**
- 33-6 9:40 AM Langille, Jackie*; Palmer, Megan; Green, Chloe: **EVIDENCE FOR CENOZOIC TOPOGRAPHIC REJUVENATION ASSOCIATED WITH THE LAUREL CREEK LINEAMENT IN THE SPRUCE PINE 7.5-MINUTE QUADRANGLE, WESTERN NORTH CAROLINA, USA**

SESSION NO. 34

T9. In the Field or in the Lab: Revealing Hidden Signals from Minerals (GSA Geochronology Division; GSA Limnogeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics and Data Science Division; GSA Structural Geology and Tectonics Division)

8:00 AM, Renaissance Asheville, Swannanoa

Michelle Nelson, William Odom III and David W. Hawkins, Presiding

8:00 AM **INTRODUCTORY REMARKS**

- 34-1 8:05 AM Holm-Denoma, Chris*; Pianowski, Laura; Shah, Anjana; Pfaff, Katharina: **U-PB DETRITAL ZIRCON PROVENANCE AND MINERALOGY OF CRETACEOUS TO MODERN HEAVY MINERAL SANDS WITHIN ATLANTIC COASTAL PLAIN SEDIMENTS OF THE SOUTHEASTERN US**
- 34-2 8:25 AM Moecher, David*; Mittweide, Steven; Thigpen, Ryan; Samson, Scott: **DETRITAL MONAZITE GEOCHRONOLOGY AND REE GEOCHEMISTRY IN PIEDMONT PLACER HEAVY-MINERAL ASSEMBLAGES, NORTHWESTERN SOUTH CAROLINA: TESTING METHODS FOR DETERMINATION OF PROVENANCE OF REE AND TI CRITICAL MINERAL DEPOSITS**
- 34-3 8:45 AM Shah, Anjana*; Doar, William R.; Morrow, Robert; Wykel, Andrew: **HEAVY MINERAL SANDS IN THE SOUTH CAROLINA UPPER COASTAL PLAIN**
- 34-4 9:05 AM Grammatikopoulos, Tassos*: **MINERALOGICAL AND GEOCHEMICAL APPLICATIONS TO EVALUATE CRITICAL MINERALS CONTENT IN MARINE SEDIMENTS OFFSHORE OF VIRGINIA**
- 34-5 9:25 AM Odom, William*; Carter, Mark W.; Merschhat, Arthur: **COSMOGENIC ²⁶AL/¹⁰BE ISOCHRON BURIAL DATING REVEALS MIDDLE PLEISTOCENE SEDIMENTATION IN THE BLUE RIDGE OF NORTH CAROLINA AND VIRGINIA**
- 34-6 9:45 AM Nelson, Michelle*; Eppes, Martha Cary (Missy); Rittenour, Tammy: **QUARTZ LUMINESCENCE: DISTINGUISHING SEDIMENT AND SAPROLITE IN REGOLITH**
- 10:05 AM **BREAK**
- 34-7 10:25 AM Jones, Emily*; Garrison, Ervan; Schroeder, Paul; Williams, Kelsey A.: **BLUELIGHT FLUORESCENCE OF MARINE SEDIMENTS**
- 34-8 10:45 AM Fosu, Francis*; Al-Hassan, Sulemana; Opafunso, Zacheus Olaniyan: **IMPROVING RESOURCE MODELS WITH RECURSIVE PARTITIONING FOR DOMAIN DEFINITION: CASE STUDY OF MNCO₃ AT NSUTA, SOUTHWESTERN GHANA**

SESSION NO. 35

T11. Wetlands, Springs, and Streams: Hydrologic Studies at the Groundwater-Surface Water Interface (GSA Hydrogeology Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division)

8:00 AM, Renaissance Asheville, Windsor Ballroom Salon B

Jeffrey Wilcox, Christopher Norcross and Karl W. Wegmann, Presiding

- 35-1 8:00 AM Afriyie, Emmanuel*; Luffman, Ingrid: **EXPLORING SPATIOTEMPORAL TRENDS AND HOTSPOTS IN HEAVY PRECIPITATION IN TENNESSEE COUNTIES**
- 35-2 8:20 AM Leigh, David*; Meador, Jason; Webb, Paul; Price, Katie: **RIVERINE WETLAND EVOLUTION, PERSISTENCE, DESTRUCTION, AND RESTORATION IN THE UPPER LITTLE TENNESSEE RIVER BASIN, SOUTHERN BLUE RIDGE MOUNTAINS, NORTH CAROLINA**
- 35-3 8:40 AM Zimmerer, Madalyn*; Allen, Audrey; Velazquez Santana, Liannie; Ventura-Valentin, Wilnelly; Vest, Jordan; Krekeler, Ethan; Lytle, Marion; McLeod, Claire; Krekeler, Mark: **CHARACTERIZATION OF PUERTO RICAN CARBONATE SANDS FOR SUBSURFACE FLOW CONSTRUCTED WETLANDS (SFCW) CONSTRUCTION AND WATER FILTRATION**
- 35-4 9:00 AM Beebe, D. Alex*; Stanley, Matthew; Linzmeier, Benjamin J.: **AN AUTOMATED HYDRAULIC POTENTIOMETER FOR MEASURING GROUNDWATER-SURFACE WATER INTERACTIONS**
- 35-5 9:20 AM Wrobel, Dean*; Viso, Richard F.; Hannides, Angelos K.; Jarrett, Bret; Shen, Zhixiong: **CHARACTERIZING GROUNDWATER FLOW ACROSS THE BARRIER ISLAND - SALT MARSH INTERFACE**

- 35-6 9:40 AM Abioye, Riliwan*; Wilson, Alicia; Levine, Norman; Williamson, Duncan: **LOW-LYING COASTAL COMMUNITIES AS FUTURE WETLANDS**
- 10:00 AM **BREAK**
- 35-7 10:20 AM Gremillion, Shara*; Wallace, Davin; Heitmuller, Franklin: **QUANTIFYING MODERN OVERBANK DEPOSIT CHARACTERISTICS OF THE LOWER MISSISSIPPI RIVER AT SHIPLAND WMA, MISSISSIPPI, USA**
- 35-8 10:40 AM Chilton, Kristin*; Strom, Kyle; Shobe, Charles M.: **THE IMPACT OF DISCONTINUITY ORIENTATION ON FLUVIAL EROSION AND EVOLUTION: MODELING VALLEY AND RIDGE BEDROCK RIVERS INSIDE A FLUME**
- 35-9 11:00 AM Peters, Chelsea*: **PREFERENTIAL GROUNDWATER DISCHARGE IMPACTS ON STREAM BIODIVERSITY**
- 35-10 11:20 AM Bearden, Rebecca*; Guthrie, Gregory: **HYDROLOGY, HABITAT, AND HUMANS—CREATING RISK ASSESSMENTS FOR ALABAMA'S ENDANGERED URBAN FISH**
- 35-11 11:40 AM Guthrie, Greg*; Lee, Quinn; Bearden, Bennett L.: **GROUNDWATER MONITORING AND WATER MANAGEMENT – A SYMBIOTIC RELATIONSHIP**

SESSION NO. 36

T16. Progress Towards Geologic CO₂ Storage in the Eastern United States (GSA Geophysics and Geodynamics Division; GSA Continental Scientific Drilling Division; GSA Energy Geology Division)

8:00 AM, Renaissance Asheville, Victoria

Ryan Pollyea, Dave Riestenberg, Lars Koehn and Jeremy Leierzapf, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 36-1 8:05 AM Koehn, Lars*; Prince, Philip; Ripepi, Nino; McCrady, Patrick; Pollyea, Ryan M.: **ASSESSING THE FEASIBILITY OF CARBON STORAGE IN THE VIRGINIA VALLEY AND RIDGE: RESULTS FROM RECENT DRILLING IN SOUTHWEST VIRGINIA**
- 36-2 8:25 AM Zybala, Darlene*: **NEW REGIONAL MAPPING AND INSIGHTS INTO THE SEQUESTRATION POTENTIAL OF THE TENNESSEE BASAL SANDSTONE**
- 36-3 8:45 AM Hames, Willis*: **THE ROLE OF NOBLE GASES IN FUTURE STRATEGIES FOR MONITORING CARBON CAPTURE AND STORAGE (CCS) WITH EXAMPLES OF APPLICATIONS TO GEOLOGICAL RESERVOIRS IN THE DEEP SOUTH**
- 36-4 9:05 AM Jaume, Steven*; Howard, Scott; McLaughlin, Keith: **LONG-TERM RESERVOIR INDUCED SEISMICITY AT LAKE MONTICELLO, SOUTH CAROLINA**
- 36-5 9:25 AM Orivri, Uzezi*; Johnson, Liz; Koehn, Lars; Pollyea, Ryan M.; Chanda, Piyali: **GEOLOGIC CO₂ SEQUESTRATION IN CARBONATE RESERVOIRS - A REVIEW**
- 36-6 9:45 AM Kelsey, Miles*; Stewart, Emily: **MECHANISMS AND TEXTURES OF BASALT CARBONATION IN THE SUWANEE BASIN, FLORIDA**
- 10:05 AM **BREAK**
- 36-7 10:25 AM Meng, Jingyao*; Lang, Katherine; Rosendale, Melissa; Smith, Michael; Witt, Anne; Lassetter, William L.; Hawkins, David W.; Heller, Matthew J.: **GEOLOGICAL ASSESSMENT OF ULTRAMAFIC AND MAFIC ROCKS IN VIRGINIA: PROSPECTS FOR CRITICAL MINERAL EXTRACTION AND CARBON MINERALIZATION**
- 36-8 10:45 AM Pieniazek, Lori*: **QUANTIFICATION OF BRUCITE AND SERPENTINE IN PERIDOTITE ROCKS WITH UV/VIS/NIR SPECTROSCOPY AND CHEMOMETRIC MODELING**

SESSION NO. 37

T4. Piedmont Geology in the Southern Appalachian Orogen: New Insights from Geologic Mapping, Geochemical, and Geochronological Studies (GSA Geochronology Division; GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division)

10:20 AM, Renaissance Asheville, Windsor Ballroom Salon A

Mark Carter, David Blake, Robert Morrow IV and Andy Bobyarchick, Presiding

- 10:20 AM **INTRODUCTORY REMARKS**
- 37-1 10:25 AM Carter, Mark*; Holm-Denoma, Chris; McAleer, Ryan; Powell, Nicholas; Vazquez, Jorge; Deasy, Ryan T.; Merschat, Arthur; Blake, David; Futrell, Justin; Fishel, Emma R.: **AUGMENTING GEOLOGIC MAPPING AND TERRANE CHARACTERIZATION WITH NEW GEOCHRONOLOGY FROM THE EASTERN PIEDMONT IN SOUTHEASTERN VIRGINIA AND NORTHEASTERN NORTH CAROLINA**
- 37-2 10:45 AM Powell, Nicholas*; McAleer, Ryan J.; Deasy, Ryan T.; Futrell, Justin; Blake, David; Fishel, Emma R.; Becker, Naomi; Carter, Mark W.; Merschat, Arthur; Horton, J.: **GREENSCHIST-FACIES METAMORPHISM AND THE GENESIS OF AN ORTHOPHYLLITE – ROANOKE RAPIDS TERRANE, NORTH CAROLINA**
- 37-3 11:05 AM Bobyarchick, Andy*: **THE DUTCH JOHN ANTICLINE IN THE CAROLINA TERRANE, MONTGOMERY COUNTY, NORTH CAROLINA**
- 37-4 11:25 AM Morrow, Robert*; Howard, Scott; Kellogg, James; Savela, Brandon: **AN UPDATE ON THE EASTERN PIEDMONT FAULT SYSTEM IN SOUTH CAROLINA**
- 11:45 AM **DISCUSSION**

POSTER TECHNICAL SESSIONS

SESSION NO. 38

T3. Magma, Heat, Fluids, and Critical Resources Across Tectonic Settings, Lithospheric Realms, Volcanic Systems, and Geologic Timescales (Posters) (GSA Geochronology Division; GSA Geophysics and Geodynamics Division; GSA Energy Geology Division)

8:00 AM, Renaissance Asheville, Grand Ballroom

- | | Booth # | |
|------|---------|--|
| 38-1 | 1 | Pacheco, Aaron*; Araya, Maria Cristina; Hidalgo, Paulo; Coto Brenes, Catalina: MONITORING AND ASSESSING SURFACE DEFORMATION IN THE ALFREDO MAINIERI PROTTI GEOTHERMAL FIELD, GUANACASTE, COSTA RICA 2021-2022 |
| 38-2 | 2 | Rivera, Elyssa*; Bilenker, Laura; Hudgins, Tom; Swartz, Jackson: PRELIMINARY INSIGHTS FROM THE FE ISOTOPE COMPOSITION OF GARNETS IN THE TIBES IRON SKARN |
| 38-3 | 3 | Walker, Madison*; Allman, Lindsy; Stewart, Emily: METAMORPHIC CONTACT AUREOLES IN THE TRIASSIC HARTFORD BASIN: CARBON MOBILITY AND IMPLICATIONS FOR THE END-TRIASSIC MASS EXTINCTION |
| 38-4 | 4 | Barta, Isabelle*; Bilenker, Laura: THE MINERALOGY AND GEOCHEMISTRY OF A PEGMATITE POCKET WITHIN THE ELKAHATCHEE QUARTZ DIORITE, ALABAMA |
| 38-5 | 5 | VanDenburgh, Samantha*; Bilenker, Laura; Hudgins, Tom: PRELIMINARY INSIGHTS INTO IRON TRANSPORT AND DEPOSITION AT THE ISLAND QUEEN SKARN, PUERTO RICO |
| 38-6 | 6 | Cracas, Thomas*; McLeod, Claire; Sedaghat, Azadeh; Shaulis, Barry J.; Krekeler, Mark: PRELIMINARY PETROLOGICAL INSIGHTS INTO SHONKINITE MAGMATISM FROM THE ADEL HILLS VOLCANIC FIELD, MONTANA |
| 38-7 | 7 | Gonzalez Rivera, Adriel I.*; Ruiz Perea, Anishka M.; Hudgins, Tom; Bilenker, Laura: COMPARISON OF GARNET CHEMISTRY |

		AND MINERALIZATION AT THE KEystone AND TIBES IRON SKARNS, PUERTO RICO
38-8	8	Davis, Zachary*; Hames, Bill: AN ANALYTICAL ANALYSIS OF ALKALI FELDSPARS FROM LOW SULFIDATION EPITHERMAL SYSTEMS ALONG THE MIOCENE YELLOWSTONE LIP: UNDERSTANDING THE ROLES OF ARGON DIFFUSION AND CRYSTALLINE DEFECTS IN ⁴⁰AR/³⁹AR AGE VARIATIONS
38-9	9	Ruhukya, Jessica*; Currier, Ryan; Hidalgo, Paulo; Ackerson, Michael; Nimblett, Jada; Bitner, Lucian: CRYSTAL MUSH EMPLACEMENT AND RAPID COOLING IN THE TUNNEL DIKE OF THE CHIEF JOSEPH DIKE SWARM
38-10	10	Cantele, Grace*; Pistone, Mattia: BIO-VOLCANO: PRELIMINARY DATA FROM MT. ETNA EXPEDITION
38-11	11	Gregory, Connor*; Hunt, Emma; Horvath, Peter: DETERMINING THE PEAK METAMORPHIC CONDITIONS OF THE WILLIS MOUNTAIN KYANITE DEPOSIT: A GEOTHERMOBAROMETRIC APPROACH
38-12	12	Bitner, Lucian*; Currier, Ryan; Hidalgo, Paulo; Nimblett, Jada; Ruhukya, Jessica: GRAIN SIZE EVOLUTION DURING EMPLACEMENT OF PARTICLE-LADEN DIKES, CHIEF JOSEPH DIKE SWARM
38-13	13	Grant, Ashley; Dibble, Addy; Sullivan, Julia; Perfit, Michael; Clague, David A.; Chadwick, John*: GEOCHEMICAL MODELLING OF ANDESITE LAVAS ERUPTED ON THE AXIAL SEAMOUNT NORTH RIFT ZONE

SESSION NO. 39

T15. Current Technological Trends in Landslide Assessment and Susceptibility Studies: Innovative Digital Techniques, Collection Methods, and Modeling (Posters) (GSA Environmental and Engineering Geology Division; GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics and Data Science Division)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

	Booth #	
39-1	14	Adams, Trent*; Korte, David; Sas, Robert; Jurgeвич, Jeremy; Lipton, Jennifer: IDENTIFYING PRE-CURSOR SLIDE ACTIVITY FOR THE RATTLESNAKE HILLS LANDSLIDE IN WASHINGTON STATE
39-2	15	Sas, Robert*; Jurgeвич, Jeremy; Korte, David; Adams, Trent: PREPARING HIGH-QUALITY DEEP LEARNING TRAINING DATASETS FOR LANDSLIDE MAPPING IN WESTERN NORTH CAROLINA
39-3	16	Bozdog, George*: DEVELOPING A GIS TOOL FOR MODELING CHANNELIZED DEBRIS FLOW PATHWAYS
39-4	17	Rameden Tipton, Travis*; Aly, Mohamed: ASSESSING LANDSLIDE DYNAMICS: THE EFFICACY OF STREAMLINED LANDSLIDE IDENTIFICATION PROTOCOL (SLIP) AND DENSITY ANALYSIS IN GREER'S FERRY LAKE, ARKANSAS
39-5	18	Crawford, Matthew*; Koch, Hudson; Dortch, Jason M.: BUILDING ON LANDSLIDE SUSCEPTIBILITY MAPPING IN KENTUCKY: ASSESSING THE COMPLEXITY OF STATISTICS-BASED MODEL PERFORMANCE AND MAP QUALITY
39-6	19	Witt, Anne*; Kelly, Wendy S.: PRELIMINARY RESULTS OF RECENT LANDSLIDE SUSCEPTIBILITY MAPPING IN ALBEMARLE AND NELSON COUNTIES, VIRGINIA
39-7	20	Slaughter, Stephen; Hall, Sarah R.*; Riker, Jenny: INTRODUCING A USGS-SUPPORTED LANDSLIDE HAZARD RISK REDUCTION WORKING GROUP AND GRANTS PROGRAM TO AID STATES, TRIBES, TERRITORIES, AND LOCAL GOVERNMENTS

SESSION NO. 40

T18. Vertebrate Paleontology Research in North America (Posters)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

	Booth #	
40-1	21	Hudson, Natalie*; Gibson, Michael: AN ENCHODUS FISH JAW FROM THE COON CREEK FORMATION (CAMPANIAN) OF WEST TENNESSEE
40-2	22	Williams, Olivia*; Maden, Shay; Samuels, Joshua X.: MORPHOMETRIC COMPARISON OF TEETH AND BONES OF MODERN AND FOSSIL CERVIDS TO THE FIRST DEER FROM THE GRAY FOSSIL SITE OF TENNESSEE
40-3	23	Turala, Madelyn M.*; Schubert, Blaine; Gunnin, R. Davis; Samuels, Joshua X.: ESTIMATING BODY SIZE IN GRAY FOSSIL SITE ALLIGATORS
40-4	24	Bushell, Matthew*: PANTHERA ONCA REMAINS AND FELID TRACKS FROM LOOKOUT MOUNTAIN CAVE, TENNESSEE
40-5	25	Hoole, Brad*; Schubert, Blaine: DISTINGUISHING DIRE WOLVES FROM OTHER CANIDS BASED ON MORPHOLOGY

SESSION NO. 41

T22. Undergraduate Research Poster Session I (Posters) (Council on Undergraduate Research Geosciences Division; GSA Geochronology Division; GSA Geoscience Education Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Energy Geology Division; GSA Geoinformatics and Data Science Division)

8:00 AM, Renaissance Asheville, Grand Ballroom

Authors will be present from 10:30 AM to 12 PM

	Booth #	
41-1	26	Redka, Julia*: COMPOSITIONAL ANALYSIS OF MINERAL INCLUSIONS WITHIN ENHYDRO AGATES
41-2	27	Morgan, Justin*; Okpaku, Brooke; Byrne, Colin L.; Childers, Daniel P.: ASTEROID IMPACT SIMULATION DETERMINING HOW EJECTED MATERIAL IS DISPERSED
41-3	28	Seezen, Michael*; Vulava, Vijay: A DATA DRIVEN APPROACH TO STUDYING THE AMAZON RAINFOREST OF BRAZIL
41-4	29	Gibbons, Ryan*; Kirk, Ryan; Bitting, Kelsey: REPRESENTING LAND USE & VEGETATION CHANGE OVER TIME FOR SOIL CARBON ANALYSIS IN THE PIEDMONT REGION, NC
41-5	30	Creek, Amanda*; Chapman, LeeAnna: MOVEMENT OF MICROPLASTICS IN THE CATAWBA RIVER BASIN
41-6	31	Wilson, Press*; Andersen, Kira; Andersen, C. Brannon; Lewis, Gregory P.: ENVIRONMENTAL CONTROLS OF METHANE CONCENTRATIONS IN STREAMS IN THE SOUTH CAROLINA PIEDMONT
41-7	32	Haenel, Luke*; Vulava, Vijay: SORPTION AND DEGRADATION OF CIPROFLOXACIN IN NATURAL SOILS
41-8	33	Richie, Matthew G.; Borowski, Walter*: SOURCES AND EXTENT OF NUTRIENT AND FECAL MICROBE CONTAMINATION IN THE OTTER CREEK WATERSHED, MADISON COUNTY, KENTUCKY
41-9	34	Winer, Madeline*; Ciruzzi, Dominick: MONITORING SOIL MOISTURE DYNAMICS IN A SUSTAINABLE FIELD, CONVENTIONAL FARM, AND FOREST
41-10	35	Pavlovich, Milo*; Kaste, James M.; Richardson, Justin B.: MEASURING THE TOTAL LEAD SOIL BURDEN IN ORGANIC HORIZONS ALONG AN ELEVATIONAL PROFILE IN THE GREEN MOUNTAIN RANGE OF NORTHERN VERMONT
41-11	36	Painter, Olivine*; Zhu, Junfeng: ADVANCING SINKHOLE IDENTIFICATION AND MAPPING IN KENTUCKY USING LIDAR AND MACHINE LEARNING
41-12	37	High, Madison*; Haile, Estifanos: DRIP WATER CHEMISTRY OF DIAMOND CAVERNS IN PARK CITY, KENTUCKY
41-13	38	Scoggins, Lucca*; Carmichael, Sarah; Norvell, Bryce; Riley, Anna-Maria; Brauer, Suzanna: TRACKING HUMAN IMPACT IN APPALACHIAN CAVES: A MULTIDISCIPLINARY APPROACH
41-14	39	Black, Kerry*; Hunt, Emma; Cohen, Matthew C.: RESPONSIBLE PLATINUM MINING? A QUALITATIVE ANALYSIS OF

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTS FROM SOUTH AFRICAN MINES

- 41-15 40 Sotelo-Emerly, Julia*; Morales, Adriana; Liem, Sage; Nadler, Jess; Yolles, Vince; Page, F. Zeb: **PRESSURE-TEMPERATURE HISTORY OF THE BAKERSVILLE ECLOGITE: NEW CONSTRAINTS FROM NEW TECHNIQUES**
- 41-16 41 Larsen, Lacie*; Bowers, Leah; Cornell, Mei; Platt, Sophia; Barker, Gillian; Boonsue, Dulaney; Brundrett, Joseph; Duggar, Kayleigh; Hobson, Lane; Koury, Agnes; Murphy, Damian; Posadas, Aiden; Rehrig, Alexander; Shoffner, Kaley; Starnes, Brooke; Whitney, Blake; Fagan, Amy: **GEOCHEMICAL AND PETROLOGIC EXAMINATION OF CORUNDUM KNOB LITHOLOGIES**
- 41-17 42 Lafferty, Brooke*; Aguirre, Danielly; Bessant, Sharon; Pickett, MARRISA; Cribb, Warner: **A MINERALOGICAL AND GEOCHEMICAL STUDY OF THE COPPER BASIN ANTICLINORIUM**
- 41-18 43 Webster, Rachel*; Beats, Kamaren K.; Bercovici, Antoine D.; Sepúlveda, Julio; Lyson, Tyler R.; Them, Theodore R.: **RESOLVING THE DRIVER OF THE END-CRETACEOUS MASS EXTINCTION USING SEDIMENTARY MERCURY GEOCHEMISTRY: VOLCANISM VERSUS IMPACT**
- 41-19 44 Ramirez, Ruben*; Stamps, D. Sarah; Ntambila, Daud: **EXPLORING CLUSTERING ALGORITHMS FOR THE ANALYSIS OF HIGH-RATE POSITIONING DATA FROM GNSS SENSORS ON OL DOINYO LENGAI**
- 41-20 45 Swartz, Jackson*; Yasar, I. Dogancan; Sayit, Kaan; Billor, Mehmet Zeki; Zou, Haibo; Hames, Bill: **SAMPLE SUITABILITY ASSESSMENT AND PREPARATION FOR GEOCHRONOLOGICAL AND GEOCHEMICAL ANALYSIS**
- 41-21 46 Monjarez, Aliyah; Christian, Simon; Slinker, Audrey G.; Benson, Andrew; Hubbs, Amber; White, John C.: **MULTIPLE LIQUID LINES OF DESCENT FROM ALKALI BASALT TO PERALKALINE RHYOLITE: EXAMPLES FROM PANTELLERIA, ITALY**
- 41-22 47 Lapp, Abigail*: **MAGNETIC PROPERTIES OF THE REYKJANES RIDGE BASALTS FROM IODP EXPEDITION 395C**
- 41-23 48 Berrios, Paola*; Kenney, Caroline; Allen, Joseph; Shaw, Colin A.: **EXPLORING PRIMARY COOLING PHASES AND CHARACTERISTICS OF PSEUDOTACHYLITES FROM THE IKERTÔQ SHEAR ZONE THROUGH EXAMINATION OF MICROLITIC TEXTURES**
- 41-24 49 Anderson, Nicholas*: **IDENTIFYING TUFF MARKER BEDS USING U-PB GEOCHRONOLOGY AND PETROGRAPHY IN THE CENTRAL MCCULLOUGH RANGE, NEVADA**
- 41-25 50 Cummings, William*; Flinchum, Brady: **INVESTIGATING CRITICAL ZONE PROCESSES IN THE PIEDMONT WITH SEISMIC REFRACTION AND V_p/V_s RATIOS**

ORAL TECHNICAL SESSIONS

SESSION NO. 42

S2. Interstate Collaboration in the Southeast US—State Geological Surveys Working Towards Stratigraphic and Lithologic Equivalencies to Address Mapping Discrepancies More Effectively II (GSA Geophysics and Geodynamics Division; GSA Limnogeology Division; GSA Sedimentary Geology Division)

1:30 PM, Renaissance Asheville, Top of the Plaza

Scott Howard, Kathleen M. Farrell and Philip J. Bradley, Presiding

- 42-1 1:30 PM Morrow, Robert*: **A NEW COMPILATION OF THE CAROLINA TERRANE IN SOUTH CAROLINA**
- 42-2 1:50 PM Bradley, Philip*; Lang, Katherine E.; Mangum, Holly E.; Brown, C.H.; Michael, Emily K.: **COMPILATION MAPPING IN THE DANVILLE 100K GEOLOGIC MAP – THE NORTH CAROLINA PERSPECTIVE**

- 42-3 2:10 PM Howard, Scott*; Farrell, Kathleen M.; Bradley, Philip J.: **INTERSTATE COLLABORATION IN THE SOUTHEAST US – NEXT STEPS**

SESSION NO. 43

T15. Current Technological Trends in Landslide Assessment and Susceptibility Studies: Innovative Digital Techniques, Collection Methods, and Modeling (GSA Environmental and Engineering Geology Division; GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics and Data Science Division)

1:30 PM, Renaissance Asheville, Windsor Ballroom Salon A

Anne Witt, Presiding

- 43-1 1:30 PM Prince, Philip*: **USING HIGH-RESOLUTION LIDAR IMAGERY, AIR PHOTOS, AND HISTORICAL DOCUMENTS TO EXPLORE THE SLOPE FAILURE LEGACY OF SEVERAL EXTREME PRECIPITATION EVENTS IN APPALACHIA**
- 43-2 1:50 PM Gillon, Kenneth A.*: **USING RECENT, 3M LIDAR DATA FROM THE USGS NATIONAL MAP TO REMOTELY IDENTIFY LANDSLIDE FEATURES, REEVALUATE GEOLOGY, AND STUDY HISTORICAL GOLD MINING IN THE NE GA BLUE RIDGE MOUNTAINS**
- 43-3 2:10 PM Woodard, Jacob*; LaHusen, Sean Richard; Mirus, Benjamin; Barnhart, Katherine: **CONSTRAINING MEAN LANDSLIDE OCCURRENCE RATES FOR NON-TEMPORAL LANDSLIDE INVENTORIES USING HIGH-RESOLUTION ELEVATION DATA**
- 43-4 2:30 PM Brame, Scott*: **EVOLUTION OF A HEADWARD ERODING RIVER THAT IS EXTENDING THE PIEDMONT INTO THE BLUE RIDGE ESCARPMENT: MIDDLE SALUDA RIVER GORGE, JONES GAP STATE PARK**
- 43-5 2:50 PM Koch, Hudson*; Crawford, Matthew; Dortch, Jason M.; Swalom, Meredith: **PHYSICS-BASED, PROBABILISTIC, AND PRACTICAL: LANDSLIDE SUSCEPTIBILITY MODELING WITH PISA-M**
- 43-6 3:10 PM Palmer, Megan*; Nandi, Arpita; McSweeney, Robert: **LANDSLIDE SUSCEPTIBILITY AND TREE RING ECCENTRICITY ALONG CUMBERLAND PLATEAU, EAST TENNESSEE**
- 3:30 PM **BREAK**
- 43-7 3:50 PM McSweeney, Robert*; Nandi, Arpita; Palmer, Megan: **SLOPE MONITORING AND CHANGE DETECTION WITH TIME SERIES REMOTE SENSING DATA FOR AN ACTIVE SOIL LANDSLIDE ALONG I-40 IN EASTERN TENNESSEE**
- 43-8 4:10 PM Crampe, Emily*; Theriault, Bailey; Markley, Christopher: **LANDSLIDE MONITORING THROUGH LIDAR DIFFERENCING ALONG NATURAL GAS PIPELINES IN APPALACHIA**

SESSION NO. 44

T18. Vertebrate Paleontology Research in North America

1:30 PM, Renaissance Asheville, Windsor Ballroom Salon B

Blaine Schubert, Joshua Samuels and Steven Wallace, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 44-1 1:35 PM Heckert, Andrew*: **MASSIVE COLLECTIONS OF MICROVERTEBRATES—IS THERE EVER TOO MUCH OF A GOOD THING?**
- 44-2 1:55 PM Inman, Charley*; Haiar, Brooke; Pritchard, Adam: **ANALYZING SAUROPOD DINOSAUR SKIN IMPRESSIONS TO CREATE A UNIVERSAL LANGUAGE AND PHOTOGRAPHIC GUIDE FOR FURTHER DINOSAUR INTEGUMENT RESEARCH**
- 44-3 2:15 PM Schwimmer, David*: **A CRYPTIC EXTINCTION EVENT: DISAPPEARANCE OF MULTIPLE LARGE MARINE FISH SPECIES IN THE EARLY CAMPANIAN NORTH AMERICAN INTERIOR SEAS**

TUESDAY

PM

POSTER TECHNICAL SESSIONS

- 44-4 2:35 PM Dunn, Renee*; Wurtz, Alyssa; Heckert, Andrew: **HYDROGEN PEROXIDE GREATLY INCREASES BREAKDOWN OF FOSSILIFEROUS SEDIMENTS FROM UPPER CRETACEOUS MICROVERTEBRATE SITES IN THE WILLIAMS FORK FORMATION, NORTHWESTERN COLORADO**
- 44-5 2:55 PM Gale, Ashby*: **A CLOSE EXAMINATION OF EARLY OLIGOCENE (RUPELIAN) MARINE MICROFOSSILS FROM THE ASHLEY FORMATION OF SOUTH CAROLINA**
- 44-6 3:15 PM Smith, Kathryn*; Cronin, Kelly E.; Visaggi, Christy C.: **NEW PALEONTOLOGICAL RESOURCES REPORTED AT FORT PULASKI NATIONAL MONUMENT, CHATHAM COUNTY, GEORGIA, USA**
- 3:35 PM **BREAK**
- 44-7 3:55 PM Quinn, Alec*; Heckert, Andrew: **ANALYZING OTODUS MEGALODON JAWS AND TOOTH WHORL RECONSTRUCTIONS IN MUSEUMS, HYPOTHESIZING IMPROVEMENTS, AND INVESTIGATING WAYS OF CREATING RELATED EXHIBITS AND OUTREACH**
- 44-8 4:15 PM Samuels, Joshua X.*; Maden, Shay; Williams, Olivia; Schubert, Blaine: **EARLY PLIOCENE DEER (CERVIDAE) FROM THE GRAY FOSSIL SITE OF NORTHEAST TENNESSEE**
- 44-9 4:35 PM Hulbert, Richard C.*; Narducci, Rachel E.; Sinibaldi, Robert W.; Branin, Joseph R.: **STEINHATCHEE 2A, A NEW MIDDLE PLEISTOCENE (IRVINGTONIAN) LOCALITY FROM FLORIDA**
- 44-10 4:55 PM White, Connor*: **DESCRIPTIONS OF INTERGLACIAL MAMMUT (MAMMALIA, PROBOSCIDEA) FROM SNOWMASS, COLORADO**
- 5:15 PM **CONCLUDING REMARKS**

SESSION NO. 45

T20. Past, Present, and Future Sea-level and Landscape Change on the U.S. Coast and Continental Shelf (GSA Geophysics and Geodynamics Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)

1:30 PM, Renaissance Asheville, Swannanoa

Katherine Luciano, Blair Tormey and M. Scott Harris, Presiding

- 45-1 1:30 PM Watkins, Douglas*: **CAROLINA BAYS: BORN IN THE LEE OF PLEISTOCENE EOLIAN BARCHAN SAND DUNES - A NEW MODEL FROM SCOTLAND COUNTY, NC**
- 45-3 2:10 PM Warehime, Jonathan*; Mclachlan, Dr. Robin: **DETERMINING THE IMPACT OF SEDIMENT PROPERTIES ON RATES OF GEOMORPHIC CHANGE: LITTLE CUMBERLAND ISLAND, GA**
- 45-4 2:30 PM Whittecar, Rich*; Allen, Tom; Huot, Sebastien; Shoup, Bryce O.: **EVOLUTION OF SEDIMENTATION PATTERNS AND LOCAL RATE OF HOLOCENE SUBSIDENCE AT CAPE HENRY (VIRGINIA) REVEALED FROM LUMINESCENCE AGES OF BEACH RIDGES**
- 45-5 2:50 PM Williams, Karen*; Stamps, D. Sarah; Melini, Daniele; Spada, Giorgio: **AN ENSEMBLE MODELING APPROACH TO ESTIMATE VERTICAL DISPLACEMENTS AND SEA-LEVEL CHANGES IN EASTERN NORTH AMERICA DRIVEN BY GLACIAL ISOSTATIC ADJUSTMENT**
- 45-6 3:10 PM Connell, Hailey S.*; Levine, Norman: **DEVELOPMENT OF A COASTAL VULNERABILITY MODEL AND APPLICATION TOWARD FUTURE LAND USE PLANNING IN THE TOWN OF BLUFFTON, SC, USA**
- 45-7 3:30 PM Harris, M. Scott*; Luciano, Katherine; Doar, William R.; Wright, Eric; Mahan, Shannon A.: **COASTAL SUSTAINABILITY REFLECTED IN THE HOLOCENE EVOLUTION OF THE CENTRAL SOUTH CAROLINA COASTAL AREA**

SESSION NO. 46

D10. Stratigraphy (Posters)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 46-1 1 Harris, Morgan*; Cemen, Ibrahim: **DEPOSITIONAL ENVIRONMENTS OF THE PENNSYLVANIAN POTTSVILLE FORMATION IN THE WEST BLOCTON EAST QUADRANGLE, ALABAMA**

SESSION NO. 47

D11. Structural Geology (Posters)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 47-1 2 Cox, Mara*; Bentley, Callan: **A PROPOSED MODEL FOR THE ORIGIN OF BRECCIA IN ANTIETAM FORMATION, WESTERN BLUE RIDGE, VIRGINIA**
- 47-2 3 Davis, Ella*; Law, Richard D.: **DETERMINING TECTONIC TRANSPORT DIRECTIONS AND SHEAR SENSES IN THE SOUTHERN PART OF THE NORTHERN HIGHLANDS TERRAIN, SCOTLAND**
- 47-3 4 Kwagalakwe, Asenath*; Stamps, D. Sarah; Naliboff, John; Taylor, Michael H.; Rajaonarison, Tahiry; Mwongyera, Hillary; Evans, Rob L.; Atekwana, Estella; Katumwehe, Andrew; A. Atekwana, Eliot; Tugume, Fred; Kiberu, John Mary: **THE ROLE OF PRE-EXISTING STRUCTURES IN THE INITIATION OF THE NORTHERN WESTERN BRANCH OF THE EAST AFRICAN RIFT SYSTEM**

SESSION NO. 48

T9. In the Field or in the Lab: Revealing Hidden Signals from Minerals (Posters) (GSA Geochronology Division; GSA Limnogeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics and Data Science Division; GSA Structural Geology and Tectonics Division)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 48-1 5 Olaoye, Jelil*; Friedman, Sarah; Chiara, Anita Di; Satolli, Sara; Dwyer, Deepa; Lapp, Abigail; **IODP, Expedition 395/395C: VARIATIONS IN THE MAGNETIC MINERALOGY CHARACTERISTICS OF BASALTS IN THE NORTH ATLANTIC OCEAN RIDGE THROUGH IODP EXPEDITION 395/395C**
- 48-2 6 Morgan, Anna*; Morgan, Daniel: **EXPLORING AEROSOL SALT CONCENTRATIONS AS A DATING TECHNIQUE IN VERNIER VALLEY, ANTARCTICA**

SESSION NO. 49

T10. Water Quality Issues in the Eastern U.S. (Posters) (GSA Hydrogeology Division; GSA Geobiology and Geomicrobiology Division; GSA Limnogeology Division)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 49-1 7 MacDonald, James*; Kassis, Zoie R.; Missimer, Thomas M.; Girimurugan, Senthil Balaji; Chou, Ju; Rotz, Rachel R.; Kraics, Tess K.; Mattes, Kaleigh M.; Knight, Michael R.; Silva, Liliana M.; Aurelio, R. Peter: **GEOCHEMISTRY OF THREE CONTINUOUS CORES ALONG THE NORTHERN SHORE OF LAKE OKEECHOBEE: INSIGHTS INTO ARSENIC, MERCURY, AND**

- MOLYBDENUM CONCENTRATIONS WITHIN POTENTIAL AQUIFER STORAGE AND RECOVERY ZONES**
- 49-2 8 Bauer, Carly*; Wood, Cecelia; Schreiber, Madeline: **METAL CYCLING IN A DRINKING WATER RESERVOIR: INFLUENCE OF OXYGENATION, HYDROLOGIC INPUTS AND SEDIMENTATION**
- 49-3 9 O'Loughlin, Claire*; Vulava, Vijay: **CHARACTERIZING NUTRIENT DYNAMICS IN LAKE ENVIRONMENTS**
- 49-4 10 Hodge, Wayne*; Silliman, James Silliman: **EXAMINING THE VALIDITY OF THE AQUATIC/TERRIGENOUS RATIO AS A PRECURSOR TO HARMFUL ALGAL BLOOMS**
- 49-5 11 Doby, Elke*; Wijesinghe, Dhanuska; Withana Gamage, Prabhathi W.; Trudell, Daniel; Steger, Jacob; Bill, Holland: **INFLUENCE OF RIPARIAN BUFFER SYSTEMS ON THE REGULATION OF NUTRIENT AND BACTERIA CONCENTRATIONS: CASE STUDY IN SHENANDOAH VALLEY, VIRGINIA**
- 49-6 12 Gurley, Laura N.*; Hopkins, Kristina G.; Stillwell, Charles C.: **USING REPEAT LIDAR TO IDENTIFY STREAMBANK EROSION HOTSPOTS IN RALEIGH, NORTH CAROLINA**
- 49-7 13 Randall, Georgeanna; McGraw, Emma; Millner, Shane; Rehrig, Alexander; Barrett, Nathaniel; Miller, Jerry*: **IMPLICATIONS OF SITE SPECIFIC, SHORT-TERM SPATIAL AND TEMPORAL VARIATIONS IN MICROPLASTIC CONCENTRATIONS TO SAMPLE COLLECTION, RICHLAND CREEK, WESTERN NORTH CAROLINA**
- 49-8 14 Abimbola, Olatayo*; Luffman, Ingrid: **SPATIAL AUTOCORRELATION ANALYSIS FOR THE DISTRIBUTION OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN ALABAMA SURFACE WATERS**
- 49-9 15 Piphus, Desire*; Schreiber, Madeline: **DELINEATING MECHANISMS OF TRACE ELEMENT MOBILIZATION DURING MANAGED AQUIFER RECHARGE**
- 51-4 20 Vohs, Abigail*: **UTILIZING CURRENT GENERATION SATELLITES FOR MONITORING WATER QUALITY IN CARIBBEAN WATERS**
- 51-5 21 Parham, Joshua*; Samuels, Joshua X.: **GEOGRAPHIC VARIATION IN CARNIVORAN DENTITION IN RELATION TO ENVIRONMENT**
- 51-6 22 Cloutier, Sydney M.*; Heuer, Rachael M.; Hastings, Kathryn E.; Cordle, Jonathan; Marek, Bret; Walls, Sarah; Belkin, Jacob; Grosell, Martin; Oehlert, Amanda M.: **FEEDING-INDUCED VARIATIONS IN ICHTHYOCARBONATE PRODUCTION AND COMPOSITION BY THE GULF TOADFISH**
- 51-7 23 Hogg, Ethan*; Dyche, Jared B.; Blore, Michael K.; Visaggi, Christy C.; Portell, Roger W.: **EXAMINING PREDATION IN MOLLUSCAN ASSEMBLAGES OF THE PLIO-PLEISTOCENE NASHUA FORMATION AT BUCK HAMMOCK MATERIALS IN DEER PARK, FLORIDA**
- 51-8 24 Hopwood, Lucy*; Williams, Arlencia; Acree, Geonna; Andrews, Kenneth R.; Visaggi, Christy C.; Portell, Roger W.: **PALEOECOLOGY OF THE PLIO-PLEISTOCENE NASHUA FORMATION IN NORTHERN FLORIDA: MOLLUSCAN ASSEMBLAGES FROM THE UPPER 2A SAMPLE AT BUCK HAMMOCK MATERIALS**
- 51-9 25 Cormier, Eric*; Schatzberg, Sam; Cobb, Kaylee; Maguire, Parris E.; Visaggi, Christy C.; Portell, Roger W.: **PALEOECOLOGY OF MOLLUSCAN COMMUNITIES IN THE PLIO-PLEISTOCENE NASHUA FORMATION: PRELIMINARY RESULTS OF SAMPLE UPPER 3C FROM BUCK HAMMOCK MATERIALS IN DEER PARK, FLORIDA**
- 51-10 26 Maisch, Harry M.*; Ellis, Marie C.; Merrill, Caleigh G.; Pecora, Domenic R.; Hepworth, Elizabeth A.; Bapst, Conner W.; Becker, Martin A.: **MICROFOSSIL ANALYSIS OF SUBMERGED LAG DEPOSITS FROM VENICE, SARASOTA COUNTY, FL, USA**
- 51-11 27 Metz, Zoe*; McLachlan, Robin; Clark, Josh; Clark, Kelly: **MICROFOSSILS OF CLARK QUARRY**
- 51-12 28 Cabrera, Jeremyah*; Schmidt, Palmer; Oboh-Ikuenobe, Francisca; O'Keefe, Jen: **MIOCENE FUNGAL SPORES FROM THE AGBADA FORMATION, NIGER DELTA: PRELIMINARY INTERPRETATIONS**
- 51-13 29 Smallwood, Liberty*; VanderEspt, L. Olivia; Marsh, Christopher; Montenegro, Juan-Felipe; Ochoa, Diana; Pound, Matthew J.; O'Keefe, Jen: **MIOCENE FUNGI FROM THE AMAZONAS REGION OF PERU: PRELIMINARY PALEOCLIMATIC AND PALEOECOLOGICAL RECONSTRUCTIONS**
- 51-14 30 Lung, Ethan*; Patton, Keira; Gibson, Michael; Garrett, Jack; Ratliff, Joshua; Youngerman, Alan; Puckett, Mark; Brink, Alyson; Byl, Tom; Utsunomiya, Masayuki; Gardner, Kristina; Self-Trail, Jean; O'Keefe, Jen: **PRELIMINARY TERRESTRIAL PALYNOLOGICAL RE-INVESTIGATION OF THE TYPE COON CREEK LAGERSTÄTTE, TENNESSEE, USA**
- 51-15 31 Satterfield, Caelinn*; Haiar, Brooke: **STEPS IN THE LAB PREPARATION OF A SAUROPOD FOSSIL, SPECIMEN STV, UPPER JURASSIC MORRISON FORMATION, WYOMING**
- 51-16 32 Hooper, Geoffrey D.*; Acres, Olivia D.; Maguire, Parris E.; Visaggi, Christy C.; Tweet, Justin S.; Santucci, Vincent L.: **INVESTIGATING PALEONTOLOGICAL RESOURCES AT LITTLE RIVER CANYON NATIONAL PRESERVE AND RUSSELL CAVE NATIONAL MONUMENT IN ALABAMA**
- 51-17 33 Gray, Christopher A.*; Bauer, Shiloh; Eiseman, Hannah; Lohry, Teo; Visaggi, Christy C.; Tweet, Justin S.; Santucci, Vincent L.: **THE GEOLOGY AND PALEONTOLOGY OF THE LATE PALEOZOIC AT BIG SOUTH FORK NATIONAL RIVER AND RECREATION AREA (BISO) AND OBED WILD AND SCENIC RIVER (OBED) IN TENNESSEE AND KENTUCKY**
- 51-18 34 Shuster, Finn*; Andrews, Kenneth R.; D'Aurelio, Ryan; Visaggi, Christy C.; Tweet, Justin S.; Santucci, Vincent L.: **EVALUATING PALEONTOLOGICAL RESOURCES AT CHICKAMAUGA & CHATTANOOGA NATIONAL MILITARY PARK AND CUMBERLAND GAP NATIONAL HISTORICAL PARK**

SESSION NO. 50

T16. Progress Towards Geologic CO2 Storage in the Eastern United States (Posters) (GSA Geophysics and Geodynamics Division; GSA Continental Scientific Drilling Division; GSA Energy Geology Division)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 50-1 16 Greb, Stephen*; Lasemi, Yaghoob; Sparks, Thomas; Hickman, John; Douds, Ashley: **SUBSURFACE CROSS SECTIONS FOR CARBON STORAGE IN THE ILLINOIS BASIN**

SESSION NO. 51

T22. Undergraduate Research Poster Session II (Posters) (Council on Undergraduate Research Geosciences Division; GSA Geochronology Division; GSA Geoscience Education Division; GSA Limnogeology Division; GSA Marine and Coastal Geoscience Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Energy Geology Division; GSA Geoinformatics and Data Science Division)

1:30 PM, Renaissance Asheville, Grand Ballroom

Authors will be present from 4 to 5:30 PM

Booth #

- 51-1 17 Apollo, Oceana*; El'Shaer, Hiba; Culver, Stephen; Mallinson, David: **HURRICANE-DRIVEN SEDIMENT TRANSPORT ON BEAR ISLAND AND BEAR INLET, NORTH CAROLINA, BASED ON FORAMINIFERAL AND SEDIMENTOLOGIC EVIDENCE**
- 51-2 18 Tarajos, Sarah*; McLachlan, Robin: **MEASURING ACCRETION AND EROSION ON THE COASTLINE OF LITTLE ST. SIMONS ISLAND**
- 51-3 19 Harper, Chloe*; St John, Kristen: **LITHOFACIES AND ELEMENTAL STRATIGRAPHY OF A 1500-YEAR TIDAL MARSH CORE, BENEDICT MD**

- 51-19 35 Hawksley, Andrew*; White, John C.: **NATURAL HISTORY COLLECTIONS AT EASTERN KENTUCKY UNIVERSITY**
- 51-20 36 Terry, Miles*; Gregory, Caitlyn; Laiben, Oliver; Strait, Zach; O'Keefe, Jen: **GEOSCIENCE ARCHIVISM – SAVING MOREHEAD STATE'S COLLECTIONS ONE ROCK AT A TIME**
- 51-21 37 Wyatt, Abby*; Whitman, Lily; García, Ángel; Whitmeyer, Shelley: **CREATING A VIRTUAL FIELD TRIP OF THE OLDEST CONTINUALLY OPERATING SHOW CAVE IN THE USA**
- 51-22 38 Daley, Luke*; Johnson, Bradley: **UNDERSTANDING STREAMFLOW CHALLENGES AND FLOOD RISKS WITHIN INTERMITTENT RIVERS AND EPHEMERAL STREAMS IN CYPRUS**
- 51-23 39 Acosta-Jimenez, Isabella*; Johnson, Bradley; Toumazou, Michael; Kardulias, Nick; Counts, Derek B.; Kardulias, Drosos; Kingsbury, Grace; Daley, Luke: **USING NDMI TO EXAMINE WHY RETAINING WALLS EXIST IN CYPRUS**
- 51-24 40 Kingsbury, Grace*; Johnson, Bradley; Acosta-Jimenez, Isabella; Daley, Luke; Toumazou, Michael; Counts, Derek B.; Kardulias, Nick; Kardulias, Drosos; Vires, Becky: **SEDIMENTARY AND SOIL ANALYSIS AT A GREEK AND ROMAN SANCTUARY IN THE MALLOURA VALLEY, CYPRUS**
- 51-25 41 Forbes, Sophie*; Thompson, Victor D.; Garland, Carey J.: **USING SCLEROCRONOLOGY TO EXAMINE THE INDIGENOUS HARVEST PRACTICES OF EASTERN OYSTER ON OSSABAW ISLAND, GEORGIA, USA**
- 51-26 42 Tripp, Gerald R.*; Levine, Jamie; Casale, Gabriele; Merschat, Arthur: **EMPLACEMENT CONDITIONS OF THE BLUE RIDGE THRUST SHEET: COMPARISON OF QUARTZ MICROSTRUCTURAL DATA FROM THE CATFACE AND IRON MOUNTAIN FAULTS, NC-VA-TN**
- 51-27 43 Hampton, Caroline*; Barineau, Clinton: **THE EFFECTS OF GRAIN-SIZE DEPENDENT CLAST ORIENTATION AND ASPECT RATIO FOR STRAIN ANALYSIS IN DEFORMED SEDIMENTARY ROCKS: A CASE STUDY FROM THE TUSCALOOSA FORMATION OF GEORGIA (USA)**
- 51-28 44 Lamborn, Courtney*; McLeroy, Griffin; Hampton, Caroline; Barineau, Clinton; Houston, Anaja; Schley, Rhett: **GRAIN SIZE EFFECTS ON RF-PHI STRAIN ANALYSIS OF DEFORMED ROCKS: A CASE STUDY FROM THE ATTALA CHERT CONGLOMERATE, ALABAMA FORELAND, SOUTHERN APPALACHIANS (USA)**
- 51-29 45 Mauser, Kay*: **EFFECTS OF POORLY MAINTAINED CULVERTS ON METAL CONCENTRATIONS IN THE HEADWATERS OF THE TIOGA RIVER: A CASE STUDY IN PENNSYLVANIA**
- 51-30 46 Lennex-Stone, June E.; Marsh, Christopher; Kibria, Md*: **ANALYZING SPATIAL RELATIONSHIPS BETWEEN LONG TERM GROUNDWATER MONITORING DATA AND CLIMATIC DATA FOR COMPREHENSIVE UNDERSTANDINGS**
- 51-31 47 Schell, Thomas*: **PRELIMINARY WATER BUDGET ANALYSIS OF ROUNDSTONE CREEK WATERSHED, EASTERN KENTUCKY**
- 51-32 48 Kershner, Samantha*; Wilcox, Jeffrey: **AN ANALYSIS OF RAINFALL, FLOODING, AND IMPACTS ON FEDERALLY-LISTED SPECIES IN A SOUTHERN APPALACHIAN WETLAND**
- 51-33 49 Hazelgrove, Abigail*; Ciruzzi, Dominick: **INVESTIGATING THE EFFECTS OF HISTORIC REDLINING ON ECOHYDROLOGICAL PROCESSES IN RICHMOND, VIRGINIA**
- 51-34 50 Brown, Terri*; Brown, Terri; Hunter, Robert: **USING SPATIAL ANALYSIS TECHNIQUES TO PREDICT SEPTIC SYSTEM FAILURE IN THE DAN RIVER REGION**

SESSION NO. 52

S2. Interstate Collaboration in the Southeast US—State Geological Surveys Working Towards Stratigraphic and Lithologic Equivalencies to Address Mapping Discrepancies More Effectively (Posters) (GSA Geophysics and Geodynamics Division; GSA Limnogeology Division; GSA Sedimentary Geology Division)

2:30 PM, Renaissance Asheville, Top of the Plaza

Authors will be present from 4 to 5:30 PM

Booth #

- 52-1 51 Wehmiller, John; Howard, Scott*; Farrell, Kathleen M.; Luciano, Katherine; Doar, William R.; Harris, M. Scott: **AMINOSTRATIGRAPHIC MAPPING OF QUATERNARY COASTAL UNITS, CAROLINA COASTAL PLAIN**
- 52-2 52 Pelt, Katherine E.; Bradley, Philip J.*; Thompson, Garrett J.; Blake, David: **COMPILED GEOLOGIC MAP OF THE WESTERN PORTION OF THE HENDERSON 100K**

SESSION NO. 53

T1. Cores and Rocks from the Southeast Atlantic Continental Margin to Facilitate Interstate Correlation of Along-Strike Units: A Hands-On Poster Session to Support Symposium 2 (Posters) (GSA Geochronology Division; GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA Continental Scientific Drilling Division; GSA Energy Geology Division)

2:30 PM, Renaissance Asheville, Top of the Plaza

Authors will be present from 4 to 5:30 PM

Booth #

- 53-1 53 Lupo, Mary*: **CORRELATING GEOLOGIC UNITS AND A DISCUSSION OF CHALLENGING STRATIGRAPHIC RELATIONSHIPS IN NORTHEAST FLORIDA**
- 53-2 54 Doar, William*; Luciano, Katherine; Harris, M. Scott; Rittenour, Tammy: **USE OF GEOCHRONOLOGICAL TECHNIQUES TO CONSTRAIN GEOLOGICAL RECORDS FROM POCKOY ISLAND, S.C.: PHYSICAL SAMPLES AND DISCUSSION**
- 53-3 55 Wykel, Charles*; Doar, William R.; Pierce, Courtney Nicole: **THE MCBEAN FORMATION IN CALHOUN, LEXINGTON, AND ORANGEBURG COUNTIES SOUTH CAROLINA: HOW IS IT RELATED TO THE SANTEE LIMESTONE AND ORANGEBURG DISTRICT BEDS?**
- 53-4 56 Farrell, Kathleen M.; Rosero, Stalin A.*; Hamilton, McKenzie: **PLIOCENE AND EARLY PLEISTOCENE STRATIGRAPHIC UNITS IN THE DAUGHTRIDGE CORE OF NORTH CAROLINA: TO SUPPORT INTERSTATE CORRELATION OF FALL ZONE PLACER DEPOSITS**
- 53-5 57 Carter, Mark*; Seidenstein, Julia; Farrell, Kathleen M.; Nelson, Michelle S.; Rodysill, Jessica; Odom, William; Holm-Denoma, Chris; Occhi, Marcie E.; Hawkins, David W.: **USING THE U.S. GEOLOGICAL SURVEY GEOTEK MULTI-SENSOR CORE LOGGER SYSTEM TO ANALYZE AND PRESERVE CORE FROM THE OLD HICKORY HEAVY MINERAL DEPOSIT, SOUTHEASTERN VIRGINIA**
- 53-6 58 Farrell, Kathleen M.; Anthony, Calley*; Hamilton, McKenzie: **PLIOCENE AND EARLY PLEISTOCENE STRATIGRAPHIC UNITS IN THE CLARKE CORE OF VIRGINIA: TO SUPPORT INTERSTATE CORRELATION OF FALL ZONE PLACER DEPOSITS**
- 53-7 59 Hanna, Heather D.*; Stoddard, Edward F.; Blake, David: **EXTENDING INTERSTATE EDGE-MATCHING INTO THE NORTH CAROLINA PIEDMONT: PRODUCTION OF THE GEMS LEVEL 3 RALEIGH 100K BEDROCK GEOLOGIC MAP**

Geologic Time Scale Poster v. 6.0

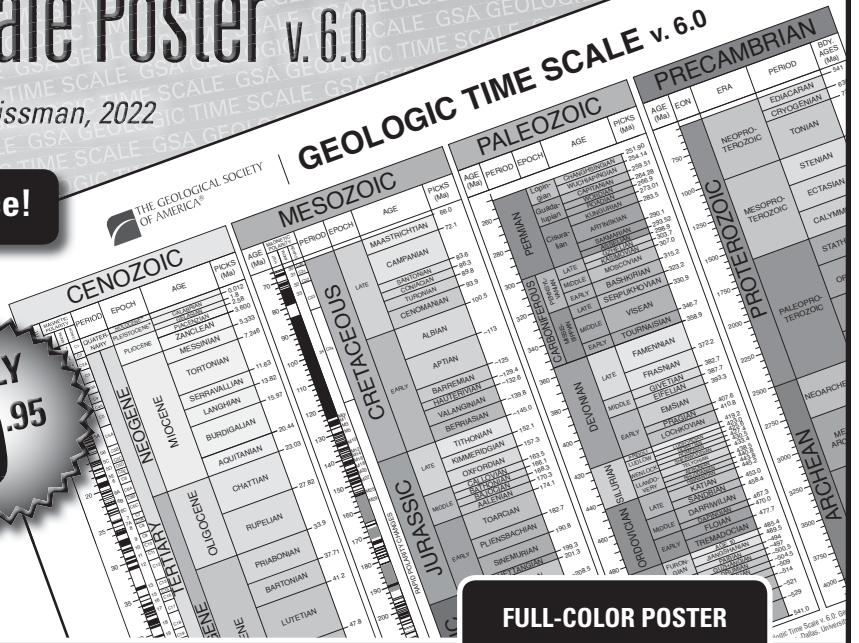
Compiled by J.D. Walker and J.W. Geissman, 2022

New version | Same great price!

Use this colorful, poster-size version of GSA's Geologic Time Scale (v. 6.0) to decorate your office or classroom.

GTSP06F | 20" x 25" — folded

ONLY \$9.95



FULL-COLOR POSTER



THE GEOLOGICAL SOCIETY OF AMERICA®

BUY ONLINE ▶ store.geosociety.org

toll-free +1.800.472.1988 | +1.303.357.1000, option 3 | gsaservice@geosociety.org

Widely read and highly cited, *Geology* is the place to submit your paper.

"Thank you so much for your help getting the article looking so good. This is my 3rd publication with a GSA journal, and I always have such a good experience with the process."

—Rebecca Morris, Ph.D. candidate, University of Victoria, Canada



THE GEOLOGICAL SOCIETY OF AMERICA®

www.geosociety.org

Enjoy personalized, friendly service when you publish with GSA, plus many other benefits including rigorous peer review and recognition in your field.

Learn more ▶ <http://tinyurl.com/GSA-geology-journal>

Submit today ▶ <https://geology.msubmit.net>

The #1 journal in the geosciences category for the past 16 years ▶ 2022 impact factor: 5.8. 5-year: 5.9.

Notes and Doodles

Index of Authors

How to use the indexing system:

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

Example: Gordon, Richard G. ... 59-4*

Find Session #59 in the Technical Session portion of the Program, and look at the fourth paper in the session.

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

*Denotes Presenter

A

A. Atekwana, Eliot 47-3
Abimbola, Olatayo 49-8*
Abioye, Rilwan 35-6*
Ackerson, Michael 38-9
Acosta-Colon, Angel 18-6
Acosta-Jimenez, Isabella 51-23*, 51-24
Acree, Geonna 51-8
Acres, Olivia D. 5-4*, 31-4*, 51-16
Adams, Mark 14-7
Adams, Trent 39-1*, 39-2
Afriyie, Emmanuel 35-1*
Agharabi, Ayman 21-5*
Aguirre, Danielly 41-17
Al-Hassan, Sulemana 34-8
Aleinikoff, John N. 1-6
Allen, Audrey 6-4, 18-3*, 35-3
Allen, Joseph 41-23
Allen, Tom 45-4
Allison, David T. 25-1
Allman, Lindsay 38-3
Alvarado, Guillermo E. 2-1, 2-4
Aly, Mohamed 39-4
Andersen, C. Brannon 41-6
Andersen, Kira 41-6
Anderson, Nicholas 41-24*
Andresen, A. 1-4
Andrews, Kenneth R. 51-8, 51-18
Andrews, William 14-10
Ankeney, Grace 12-2*
Anthony, Calley 53-6*
Apollo, Oceana 51-1*
Araya, Maria Cristina 2-2, 38-1
Ashcraft, Scott 16-2, 28-1, 28-2
Ashwood, Loka 19-2
Atekwana, Estella 47-3
Aurelio, R. Peter 49-1
Ausbrooks, Scott 32-2

B

Bailey, C.M. 15-5
Bailey, Christopher M. 16-7, 28-1
Bakkar Hindeleh, Henriette 2-2
Bapst, Conner W. 51-10
Barbeau, David L. Jr. 5-7, 11-1, 11-3, 11-5, 11-7, 29-4, 31-7, 33-4
Barineau, Clinton 1-9, 5-6, 15-2*, 15-4, 31-6, 51-27, 51-28
Barker, Gillian 41-16
Barnhart, Katherine 43-3
Barrett, Nathaniel 49-7
Barrette, Nolan 14-3
Barron, Arturo 5-6, 31-6
Barta, Isabelle 38-4*
Bast, Shawn 5-8, 10-2, 31-8
Bateman McDonald, Jacob M. 7-2
Bauer, Carly 49-2*
Bauer, Shiloh 51-17
Bearden, Bennett L. 35-11
Bearden, Rebecca 35-10*
Beats, Kamaren K. 41-18

Becker, Martin A. 51-10
Becker, Naomi 32-8, 32-9*, 37-2
Beebe, D. Alex 35-4*
Behr, Rose-Anna 14-13*
Belak, Ethan 6-2*
Belkin, Jacob 51-6
Benson, Andrew 41-21
Bentley, Callan 20-3, 47-1
Benton, Joshua 14-7, 19-3*
Bercovici, Antoine D. 41-18
Bernstein, Arla G. 8-1
Berrios, Paola 41-23*
Bertram, Conlan 9-6
Bessant, Sharon 41-17
Bhatt, Dhruvkumar S. 5-9, 22-1, 31-9
Bilenker, Laura 38-2, 38-4, 38-5, 38-7
Bill, Holland 49-5
Billor, Mehmet Zeki 41-20
Biondi, Xanadu 30-3
Bitner, Lucian 17-5, 38-9, 38-12*
Bitting, Kelsey 41-4
Black, Kerry 41-14*
Black, Timothy C. 5-16, 27-2*, 31-16
Blake, David E. 29-2, 29-4*, 29-5, 29-6, 33-3* 37-1, 37-2, 52-2, 53-7
Bloch, Jonathan I. 21-3
Blore, Michael K. 5-4, 31-4, 51-7
Bobyarchick, Andy 37-3*
Bolding, Robert W. 14-5
Bollen, Elizabeth 1-7, 25-1
Boonsue, Dulaney 41-16
Borowski, Walter 41-8*
Bowers, Leah 41-16
Bowman, Andrew 32-2
Boxleiter, Anthony 32-5*
Boyer, Diana 10-1
Bozdog, George 39-3*
Bradley, Phillip 42-2*
Bradley, Phillip J. 29-7*, 42-3, 52-2*
Brame, Scott 3-8, 43-4*
Braniecki, Garrett 4-3*
Brannin, Joseph R. 44-9
Bratton, Kaitlynn 27-1*
Brauer, Suzanna 41-13
Bregy, Joshua 4-1*
Brewer-LaPorta, Margaret 28-1, 28-2
Briggs, Richard 12-1
Brink, Alyson 51-14
Brown, C.H. 42-2
Brown, Cody 9-2*
Brown, Terri 51-34, 51-34*
Brundrett, Joseph 41-16
Bryan, Jonathan 32-3*
Bryan, Jonathan R. 32-4
Burgess, Jerry 29-6*
Burns, Grace 26-3*
Bushell, Matthew 40-4*
Buynevich, Ilya 5-10, 31-10
Buynevich, Ilya V. 22-1
Byerly, Ben 1-2, 32-2, 32-3
Byl, Tom 51-14
Byrd, Tyler 17-2*
Byrne, Colin L. 16-1, 41-2

C

Cabrera, Jeremyah 51-12*
Cain, Connor J. 19-2
Campbell, Amanda 3-5*
Campbell, David 1-10
Campos-Durán, Daniela 2-1
Cantele, Grace 38-10*
Carland, Ricky 10-1*
Carmichael, Sarah 10-1, 41-13
Carter, Mark 29-3, 37-1*, 53-5*
Carter, Mark W. 29-1, 29-2, 32-6, 32-8, 32-9, 32-10, 34-5, 37-2
Casale, Gabriele 51-26
Case, George 24-2
Casebolt, Sahale 30-1
Cashman, Miranda 18-2
Cato, Craig L. 1-1
Cattanach, Bart 14-7*
Cavalline, Tara 25-3
Cemen, Ibrahim 46-1
Chadwick, John 38-13*
Chambers, Randy 3-1
Chanda, Piyali 36-5
Chapman, LeeAnna 41-5
Chen, Peggy 8-3
Chiara, Anita Di 48-1
Childers, Daniel P. 16-1, 41-2
Chilton, Kristin 35-8*
Chou, Ju 49-1
Christian, Jadon 23-1*
Christian, Simon 41-21
Cicero, Taylor 8-3
Ciruzzi, Dominick 41-9, 51-33
Cizler, Evan 22-2*
Clague, David A. 38-13
Clark, Josh 51-11
Clark, Kelly 51-11
Clinton, Sandra M. 3-10
Cloutier, Sydney M. 51-6*
Cobb, Kaylee 51-9
Cocker, Mark D. 18-4
Cohen, Matthew C. 41-14
Cole, Rachel M.R. 30-3
Cole, Sydney 5-10*, 22-1, 31-10*
Colgan, Joseph P. 14-3
Comans, Chelsea 21-2
Connell, Hailey S. 45-6*
Conner, Shannon 5-12, 31-12
Connolly, Matthew Huth 3-1
Conroy, Jessica L. 4-2
Cook, Brian 1-2*, 1-3
Cook, Carly 26-2*
Cooke, Siobhán B. 4-5
Cordle, Jonathan 51-6
Cormier, Eric 51-9*
Cornell, Mei 41-16
Cote, Susanne 16-3
Coto Brenes, Catalina 38-1
Counts, Derek B. 51-23, 51-24
Cowan, Ellen A. 13-3, 22-3
Cox, Mara 20-3, 47-1*
Coyan, Joshua 24-2
Cracas, Thomas 38-6*

Crampe, Emily 43-8*
Crawford, Matthew 39-5*, 43-5
Creek, Amanda 41-5*
Cribb, Warner 41-17
Crocker, Kelsey 24-2
Cronin, Kelly E. 44-6
Cronkite-Ratcliff, Collin 24-2
Crowley, Brooke E. 4-5
Crye, Kiersten 2-4
Culbreth, Nicholas 3-6
Culver, Stephen 9-1, 9-2, 51-1
Cummings, William 41-25*
Currier, Ryan 17-5*, 38-9, 38-12
Curry, Adam 2-6*, 2-7*
Curry, Magdalena Ellis 29-8
Curtis, Juliana 6-3

D

D'Aurelio, Ryan 51-18
Dabbs, Forrest 2-1*
Dale, Bridget 5-1*, 31-1*
Daley, Luke 51-22*, 51-23, 51-24
Davies, Gareth 2-5*
Davis, Benjamin L. 15-6*, 24-1
Davis, Ella 47-2*
Davis, Ethan 5-2*, 31-2*
Davis, Kathryn 5-8*, 31-8*
Davis, Zachary 38-8*
Dean, Justin 2-3*
DeAngelo, Jacob 24-2
Deans, Jeremy 17-1, 17-2, 27-2, 33-2*
Deasy, Ryan 29-1, 29-3*
Deasy, Ryan T. 37-1, 37-2
Deino, Alan L. 16-3
Dempsey, Alexandra 23-1
DePoy, Melissa 5-8, 31-8
DeVries, Stephanie 3-2, 3-7*
DeWitt, Regina 9-1
Dhulipala, Aparna 8-3
Dibble, Addy 38-13
Dickerson, Dan 8-3
Ding, Linwood 8-3
Do, Ivy 15-4*
Doar, William R. III 13-1, 34-3, 45-7, 52-1, 53-2* 53-3
Dobbs, Elizabeth 16-5*
Doby, Elke 49-5*
Dockery, David T. III 32-2
Doctor, Daniel 14-11
Doctor, Daniel H. 19-3, 32-7*
Dortch, Jason M. 39-5, 43-5
Douds, Ashley 50-1
Dragovic, Besim 2-10
Driscoll, Eran 16-7*
Duff, Patrick 13-2
Duggar, Kayleigh 41-16
Dumitru, Oana A. 18-2
Dunn, Renee 44-4*
Dwyer, Deepa 48-1
Dyche, Jared B. 51-7
Dyer, Blake C. 18-2

E

Ebersole, Sandy 32-3
Edwards, Ashley M. 5-13, 31-13
Eiseman, Hannah 51-17
Eke, Chima 19-4*
El'Shaer, Hiba 51-1
Elliott, W. Crawford 32-5
Ellis, Marie C. 51-10
Eppes, Martha Cary 7-1
Eppes, Martha Cary (Missy) 34-6
Eshbaugh, Max 2-8, 2-9*
Ettensohn, Frank 21-5, 23-2
Evans, Jason 4-4
Evans, Rob L. 47-3
Evart, Lucas 24-2

F

Fagan, Amy 41-16
Farrell, Kathleen M. 32-6*, 42-3, 52-1, 53-4, 53-5, 53-6
Farris, David 15-3*
Ferguson, Terry 7-1
Fidler, Mary 11-1, 11-4
Fishel, Emma 29-5*
Fishel, Emma R. 29-2, 29-4, 37-1, 37-2
Flinchum, Brady 41-25
Forbes, Sophie 51-25*
Forcino, Frank L. 26-2
Formo, Eric 17-6
Forrest, Joseph 1-10*
Foster-Baril, Zachary 15-5
Fosu, Francis 34-8*
Fowler, Gary III 17-3*, 24-1*
Fox, David L. 21-4
Fradella, Seth 5-16*, 27-2, 31-16*
Friedman, Sarah 48-1
Futrell, Justin 29-2*, 37-1, 37-2
Futrell, Justin L. 29-4, 29-5

G

Gale, Ashby 44-5*
García, Ángel Jr. 5-15, 18-6, 31-15, 51-21
Gardner, Kristina 51-14
Garland, Carey J. 51-25
Garrett, Jack 51-14
Garrison, Ervan 34-7
Gerales Vega, Monica 18-6
Gibbons, Ryan 41-4*
Gibson, Michael 40-1, 51-14
Gilfillan, Abby 3-8*
Gillis, Morgan 6-3, 6-4
Gillon, Kenneth A. 43-2*
Girimurugan, Senthil Balaji 49-1
Gokey, Kailee 6-3
Goldman, Daniel 4-6, 5-3, 31-3
Goldstein, Steven L. 18-2
Gonzalez Rivera, Adriel I. 38-7*
Goodwin, David 4-3
Gourari, Lahcen 21-5
Grammatikopoulos, Tassos 29-1, 34-4*
Grant, Ashley 38-13
Gray, Alexander 14-11*, 32-7
Gray, Christopher A. 51-17*
Gray, Floyd 18-4
Greb, Stephen 11-2, 50-1*
Green, Chloe 33-6
Gregory, Caitlyn 51-20
Gregory, Connor 38-11*
Gremillion, Shara 35-7*
Grimley, David A. 4-2*, 30-4
Grosell, Martin 23-1, 51-6
Gross, Andrew M. 5-10, 22-1, 31-10
Gunn, Trevor S. 29-8*
Gunnin, R. Davis 40-3
Gurley, Laura N. 49-6*
Gustafson, Chloe 12-1
Guthrie, Greg 35-11*
Guthrie, Gregory 35-10
Guthrie, Gregory M. 32-2*

H

Haanel, Luke V. 41-7*
Hagadorn, James 5-6, 31-6
Hair, Brooke 16-4, 44-2, 51-15
Haile, Estifanos 41-12
Hajec, Hannah 25-2*
Hall, Sarah R. 39-7*
Hamelin, Clementine 5-5, 31-5
Hames, Bill 15-1, 38-8, 41-20
Hames, W. 1-4*
Hames, Willis 2-4, 36-3*
Hamilton, McKenzie 53-4, 53-6
Hamilton, McKenzie S. 30-4*

Hampton, Caroline 51-27*, 51-28
Hanna, Heather D. 53-7*
Hannides, Angelos K. 35-5
Hanson, Doug 32-2
Har, Nicolae 21-5
Harley, Grant 4-1
Harmon, Russell S. 2-6, 2-7
Harper, Chloe 51-3*
Harris, David C. 11-2
Harris, M. Scott 3-1, 45-7*, 52-1, 53-2
Hartz, Morgan 46-1*
Harrison, Valerie 32-2
Hastings, Kathryn E. 51-6
Hatcher, Robert Jr. 1-5*, 20-5*
Hathaway, Don 1-10
Hawkins, David W. 14-12, 29-1, 36-7, 53-5
Hawksley, Andrew 51-19*
Hazelgrove, Abigail 51-33*
Heckert, Andrew 44-1*, 44-4, 44-7
Heitmuller, Franklin 5-16, 27-2, 31-16, 35-7
Heller, Matthew J. 36-7
Helme, Kimberly 20-3
Hensen, Corey 32-2
Hensley, Andrew 4-5*
Hepworth, Elizabeth A. 51-10
Herold, Joslyn I. 16-3*
Heur, Rachael M. 51-6
Hewitt, Nathan 5-9*, 31-9*
Hewitt, Nathan S. 22-1
Hickman, John 11-2*, 50-1
Hickman, John B. 14-10
Hidalgo, Paulo 2-1, 2-2, 2-4*, 17-5, 38-1, 38-9, 38-12
High, Madison 41-12*
Hindman, Andrew 32-3
Hirosky, Breanna 2-10*
Hirtz, Jaime A.M. 14-3*
Hladik, Christine M. 9-3
Hobson, Lane 41-16
Hodge, Wayne 49-4*
Hoffmann, Sharon 20-4
Hoffmann, Trevor 17-1*
Hogg, Ethan 51-7*
Holm-Denoma, Chris 1-6, 1-9*, 24-2, 32-8, 34-1*, 37-1, 53-5
Holsinger, Ashley 5-15*, 31-15*
Holt, David 5-16, 31-16
Holterhoff, Peter 4-8, 26-1
Hoole, Brad 40-5*
Hooper, Geoffrey D. Jr. 51-16*
Hoover, Alivia 6-1
Hopkins, Kristina G. 49-6
Hopwood, Lucy 51-8*
Horsman, Eric 17-4
Horton, J. Jr. 29-3, 37-2
Horvath, Peter 38-11
House, P. Kyle 11-6
Houston, A'naja 51-28
Howard, Scott 36-4, 37-4, 42-3*, 52-1*
Howlett, Thomas 5-8, 31-8
Hubbard, Bernard 18-4*
Hubbs, Amber 41-21
Huber, Davis M. 9-5
Hudgins, Tom 38-2, 38-5, 38-7
Hudson, Natalie 40-1*
Hulbert, Richard C. Jr. 44-9*
Hull, Sarah 32-10, 33-1*
Hunt, Emma 38-11, 41-14
Hunter, Robert 51-34
Huot, Sebastien 45-4
Hyland, Ethan 4-3

I

Ibarra, Daniel 18-6
Ingle, Nathaniel 5-5*, 31-5*
Inman, Charley 44-2*
IODP, Expedition 395/395C 48-1
Ionesco, Nathalie 3-3
Ishan, Rezaul Bari 14-8*

J

Jackson, William Jr. 1-3*
Jaman, Md Hasnat 24-3*
Jang, Hyungjoo 4-9
Janssen, Natalie 6-4
Jarrett, Bret 35-5
Jaume, Steven 36-4*
Jeffreys, Jordan 5-7*, 31-7*
Johnson, Bradley 16-2, 51-22, 51-23, 51-24
Johnson, Liz 36-5
Johnson, Nailah 15-5*
Johnson, Tess 9-7
Johnstone, Samuel A. 14-3
Jones, Emily 34-7*

Juarez-Zuniga, Sandra 15-5
Jurgeevich, Jeremy 16-6, 39-1, 39-2

K

Kardulias, Drosos 51-23, 51-24
Kardulias, Nick 51-23, 51-24
Karrat, Lhoucine 21-5
Kassis, Zoie R. 49-1
Kaste, James M. 41-10
Kath, Randy 14-5*
Katunwehe, Andrew 47-3
Kelley, Sam 5-8, 10-2*, 31-8
Kellogg, James 37-4
Kelly, Jacque L. 9-3, 9-4
Kelly, Wendy 14-12*
Kelly, Wendy S. 39-6
Kelsey, Miles 36-6*
Kenney, Andrew 44-1*, 44-4, 44-7
Kenney, Caroline 41-23
Kerr, Phil 11-1
Kershner, Samantha 51-32*
Khurana, Sage A. 30-3
Kiberu, John Mary 47-3
Kibria, Md 5-18, 19-1*, 31-18, 51-30*
Kight, Abby 11-5
Kinczyk, Mallory 5-1, 31-1
King, Jessica 9-1*
Kingsbury, Grace 51-23, 51-24*
Kinnamon, Cait 13-3*
Kirk, Ryan 41-4
Klatt, Ernest 1-10
Knight, Michael R. 49-1
Koch, Hudson 39-5, 43-5*
Koehn, Lars 36-1*, 36-5
Kortan, Matthew 15-5
Korte, David 39-1, 39-2
Koury, Agnes 41-16
Kowalewski, Michał 4-9, 4-10, 30-1
Kraics, Tess K. 49-1
Krantz, Russell 16-6*
Krekeler, Ethan 6-4, 18-3, 18-5, 35-3
Krekeler, Mark 6-1, 6-2, 6-3, 6-4, 12-2, 18-3, 18-5, 35-3, 38-6
Kresse, Evelyn K. 30-3*
Kroeger, Emma 11-1*, 11-4
Kwagalakwe, Asenath 2-3, 47-3*

L

Labay, Keith A. 14-1
Lafferty, Brooke 41-17*
LaHusen, Sean Richard 43-3
Laiben, Oliver 51-20
LaMaskin, Todd 29-2
LaMaskin, Todd A. 29-4, 29-5
Lamborn, Courtney 51-28*
Lang, Karl 11-6
Lang, Katherine 36-7
Lang, Katherine E. 42-2
Langille, Jackie 14-7, 16-6, 33-6*
LaPorta, Philip Jr. 28-1, 28-2*
Lapp, Abigail 41-22*, 48-1
Larsen, Lacie 5-8, 5-17*, 10-2, 31-8, 31-17*, 41-16*
Lasemi, Yaghoob 50-1
Lassetter, William L. 36-7
Lautz, Laura 3-5
Law, Richard D. 47-2
Lazar, Kelly Best 5-12, 31-12
Lederer, Graham 18-4, 24-2
Lee, Katie 5-8, 10-2, 31-8
Lee, Ming-Kuo 19-2
Lee, Quinn 35-11
Leier, Andrew 11-1, 11-3, 11-5
Leigh, David 35-2*
Leigh, David S. 7-2
Lennex-Stone, June E. 51-30
Leorri, Eduardo 9-1
Leslie, Stephen 4-6*, 5-3, 31-3
Levine, Jamie 51-26
Levine, Norman 22-2, 35-6, 45-6
Lewis, Gregory P. 41-6
Liem, Sage 41-15
Linzmeier, Benjamin J. 35-4
Lipton, Jennifer 39-1
Littleton, Aidan L. 4-8*
Liyangedara, Pamod 4-9, 4-10*
Lockwood, Rowan 30-3
Lohry, Teo 51-17
Love, Meredith 33-4*
Luciano, Katherine 13-1*, 45-7, 52-1, 53-2
Luffman, Ingrid 14-8, 35-1, 49-8
Lukens, William 21-4*
Lukens, William E. 16-3, 27-1
Lung, Ethan 51-14*
Lupo, Mary 1-8*, 53-1*

Lusk, Alexander D. 14-14
Lynn, Ashley 32-8, 32-10*
Lynn, Ashley S. 14-7
Lyson, Tyler R. 41-18
Lytle, Marion 6-1, 6-2, 12-2, 18-3, 18-5, 35-3

M

MacDonald, James Jr. 49-1*
Maden, Shay 40-2, 44-8
Maguire, Parris E. 51-9, 51-16
Mahan, Shannon A. 45-7
Maisch, Harry M. IV 51-10*
Maldonado, Maria 2-2
Mallinson, David 9-1, 9-2, 51-1
Mangum, Holly E. 42-2
Manning-Berg, Ashley 3-2
Marek, Bret 51-6
Markley, Christopher 43-8
Marsh, Christopher 5-18*, 31-18*, 51-13, 51-30
Marshall, Scott T. 13-3, 22-3
Martin, Andrew 17-1
Martin, Paul S. 22-4
Martin, Steven 14-9*
Martina, Joseph 11-5*
Mason, Cody 11-6
Mather, Louise 20-3*
Mattes, Kaleigh M. 49-1
Mauser, Kay 51-29*
Maxwell, Justin 4-1
McAleer, Ryan 32-8, 37-1
McAuley, Ryan J. 37-2
McCarthy, Caitlin 13-3
McClure, Caroline H. 5-13, 31-13
McCrady, Patrick 36-1
McGraw, Emma 49-7
McKenzie, Emily 21-3*
McLachlan, Dr. Robin 8-2, 45-3
McLachlan, Robin 9-6*, 51-2, 51-11
McLaughlin, Keith 36-4
McLeod, Claire 6-1, 6-2, 12-2, 18-3, 18-5, 35-3, 38-6
McLeroy, Griffin 51-28
McNeal, Karen S. 19-2
McSweeney, Robert 43-6, 43-7*
Meador, Jason 35-2
Means, Savannah 11-4*
Medlin, Alexander 30-2*
Meeks, Owen 1-7, 25-1*
Melini, Daniele 45-5
Meng, Jingyao 14-12, 32-9, 36-7*
Merrill, Caleigh G. 51-10
Merschhat, Arthur 1-6*, 29-3, 32-8*, 32-9, 32-10, 34-5, 37-1, 37-2, 51-26
Metz, Zoe 51-11*
Michael, Emily K. 42-2
Michalski, Brianna 4-4
Mickelson, Maxwell 23-2*
Miller, Brent V. 15-1
Miller, Jerry 49-7*
Millner, Shane 49-7
Minchak, Scott A. 28-1, 28-2
Mirus, Benjamin 43-3
Missimer, Thomas M. 49-1
Mittwede, Steven 20-1*, 34-2
Mobasher, Katayoun 20-4*
Moecher, David 5-2, 31-2, 34-2*
Mohan, Advay 8-3
Monjarez, Aliyah 41-21
Montenegro, Juan-Felipe 51-13
Moraes, Flavia D.S. 5-13, 31-13
Morales, Adriana 41-15
Moran, KT 8-4*
Mordensky, Stanley 24-2
Morgan, Anna 48-2*
Morgan, Daniel 48-2
Morgan, Jacob 3-9*
Morgan, Justin 16-1*, 41-2*
Morris, Emily 14-9
Morrow, Robert IV 14-6, 34-3, 37-4*, 42-1*
Moscardelli, Lorena 32-2
Mullen, Avery 8-3
Mulligan, Ryan 9-2
Mundil, Roland 1-6
Murchek, Jacob 24-2
Murphy, Damian 5-8, 31-8, 41-16
Mwongyera, Hillary 47-3

N

Nadler, Jess 41-15
Naliboff, John 47-3
Nandi, Arpita 43-6, 43-7
Narducci, Rachel E. 44-9
Neal, Andy 3-6*

Nelson, Ellen 14-14
Nelson, Michelle 29-1*, 32-6, 34-6*
Nelson, Michelle S. 53-5
Newman, Julie 14-14*
Neydon, Kali 18-6*
Nimblett, Jada 2-2*, 17-5, 38-9, 38-12
Njinju, Emmanuel 2-3
Norvell, Bryce 41-13
Nowell, Derrick Jr. 8-3
Ntambila, Daud 41-19

O

O'Keefe, Jen 51-12, 51-13, 51-14, 51-20
O'Keefe, Brendon 5-6*, 31-6*
O'Loughlin, Claire 49-3*
Oboh-Ikuenobe, Francisca 51-12
Occhi, Marcie E. 32-6, 53-5
Ochoa, Diana 51-13
Odom, William III 34-5*, 53-5
Oehlert, Amanda M. 23-1, 51-6
Ohrberg, Makayla 5-11*, 31-11*
Okpaku, Brooke 16-1, 41-2
Olaoye, Jellil 48-1*
Oldroyd-Johnson, Tess 8-3*, 17-4*
Opafunso, Zacheus Olaniyan 34-8
Ophori, Duke U. 19-4
Orivri, Uzezi 36-5*
Orndorff, Randall C. 32-7
Orndorff, Tiffany N. 30-3
Orris, Greta J. 18-4
Owaby-Connolly, Briar 3-1*

P

Pachecho Alvarado, Javier 2-2
Pacheco, Aaron 38-1*
Page, F. Zeb 41-15
Painter, Olivine 41-11*
Palmer, Megan 33-6, 43-6*, 43-7
Parcells, Ruby 5-19*, 31-19*
Parham, Joshua 51-5*
Parker, Mercer 32-7
Parsons, Brooke 3-6
Parsons-Hubbard, Karla 26-3
Patton, Keira 51-14
Pavlovich, Milo 41-10*
Pearson, Stuart 9-2
Pecora, Domenic R. 51-10
Pelt, Katherine E. 29-7, 52-2
Peppe, Daniel 16-3
Perfit, Michael 38-13
Peters, Chelsea 35-9*
Peterson, Holly 3-3*
Petitt, Destini N. 3-10
Pfaff, Katharina 34-1
Phelps, Geoff 24-2
Phillips, Noah 14-14
Pianowski, Laura 1-9, 24-2, 34-1
Pickett, Marris 41-17
Pieniasek, Lori 36-8*
Pierce, Courtney Nicole 53-3
Piphus, Desire 49-9*
Pistone, Mattia 5-19, 17-6*, 31-19, 38-10
Platt, Bryant 14-3
Platt, Sophia 41-16
Poirier, Robert K. 18-2
Poletti, Jacob 24-2
Pollyea, Ryan M. 36-1, 36-5
Portell, Roger W. 4-9, 51-7, 51-8, 51-9
Posadas, Aiden 41-16
Pound, Matthew J. 51-13
Powell, Nicholas 29-3, 37-1, 37-2*
Pratt, Thomas 12-1
Precht, William F. 18-2
Price, Katie 35-2
Prince, Philip 36-1, 43-1*
Prior, Ashley Draven 14-6*
Pritchard, Adam 44-2
Pscholka, Christian 8-2*
Puckett, Mark 51-14
Pullen, Alexander 11-1, 11-3, 11-4, 11-5
Purkis, Sam 23-1

Q

Quanrud, Will 11-3*
Quinn, Alec 44-7*

R

Rajaonarison, Tahiry 47-3
Rajkumar, Adrianna 20-4
Rameded Tipton, Travis 39-4*
Ramirez, Ruben 41-19*
Randall, Georgeanna 49-7
Ratliff, Joshua 51-14

Ray, Clara 9-3*
Raymo, Maureen E. 18-2
Redka, Julia 41-1*
Rehrig, Alexander 41-16, 49-7
Reynolds, Valerie 25-3
Richardson, Justin B. 41-10
Richie, Matthew G. 41-8
Richter, Daniel D. 7-1
Riker, Jenny 39-7
Riley, Anna-Maria 41-13
Ripepi, Nino 36-1
Rittenour, Tammy 34-6, 53-2
Rivera, Elyssa 38-2*
Rizzolo, Jack 25-3
Roberts, Nicolas 14-14
Robeson, Scott 4-1
Robinson, Chase 13-2*
Robinson, Delores 1-3
Robinson, Delores M. 1-1*
Robinson, Devan 14-10*
Roby, Martin 17-6
Rodysil, Jessica 53-5
Roe, Warren P. 14-3
Rogers, Liam 25-3*
Rosendale, Melissa 36-7
Rosera, Joshua 24-2*
Rosero, Stalin A. 53-4*
Rossie, James B. 16-3
Rots, Rachel R. 49-1
Ruhukya, Jessica 17-5, 38-9*, 38-12
Ruiz, Angie 22-1
Ruiz Perea, Anishka M. 38-7
Ruiz-Arriaga, Daniel 15-5
Russo, Carly J. 5-13*, 31-13*
Ryan, Peter 2-1, 2-4

S

Samson, Scott 34-2
Samuels, Joshua X. 40-2, 40-3, 44-8*, 51-5
Sanders, April 6-3*
Sanders, Margaret 24-2
Sanders, Sabrina J. 26-1*
Sandstrom, Michael R. 18-2*
Santucci, Vincent L. 5-4, 31-4, 51-16, 51-17, 51-18
Sas, Robert 16-6, 39-1, 39-2*
Sasina, Amanda M. 15-5
Satolli, Sara 48-1
Satterfield, Caelinn 51-15*
Savarese, Michael 5-9, 5-10, 22-1*, 31-9, 31-10
Savala, Brandon 37-4
Sayit, Kaan 41-20
Schatzberg, Sam 51-9
Schell, Thomas 51-31*
Schley, Rhett 51-28
Schmidt, Palmer 51-12
Schoepfer, Shane 10-2, 21-1*
Schreiber, Madeline 49-2, 49-9
Schroeder, Paul 34-7
Schubert, Blaine 40-3, 40-5, 44-8
Schwimmer, David 44-3*
Scoggins, Lucca 41-13*
Sedaghat, Azadeh 38-6
Seezen, Michael Jr. 41-3*
Seidenstein, Julia 53-5
Sekhon, Natasha 18-6
Self-Trail, Jean 51-14
Sellers, Britton 5-8, 31-8
Sepúlveda, Julio 41-18
Seramur, Keith C. 13-3, 22-3*
Sexton, Brennen 4-9, 30-1*
Shah, Anjana 12-1*, 29-1, 34-1, 34-3*
Shaulis, Barry J. 6-1, 6-2, 12-2, 18-3, 38-6
Shaw, Colin A. 41-23
Shefelton, Kinsey 28-1*, 28-2
Shen, Zhixiong 35-5
Shirah, Elle 5-13, 31-13
Shobe, Charles M. 35-8
Shoffner, Kaley 41-16
Shoup, Bryce O. 45-4
Shuster, Finn 51-18*
Silliman, James Silliman 49-4
Silva, Lilliana M. 49-1
Sinibaldi, Robert W. 44-9
Sirianni, Hannah 9-2
Slaughter, Stephen 39-7
Slinker, Audrey G. 41-21
Small, Elizabeth 5-12*, 31-12*
Smallwood, Liberty 51-13*
Smith, Kathlyn 44-6*
Smith, Michael 29-1, 36-7
Smith, Nicholas 4-8, 26-1
Smith, Tyler 19-2*

Smith, Valarie 1-9
Soller, David 32-1*
Sotelo-Emery, Julia 41-15*
Southworth, Scott 1-6
Spada, Giorgio 45-5
Sparks, Thomas 11-2, 50-1
Sparrow, Katy J. 5-13, 31-13
Spencer, Quentin 9-5*
St John, Kristen 51-3
Stafford, Emily S. 26-2
Stamm, Nancy R. 32-1
Stamps, D. Sarah 2-3, 41-19, 45-5, 47-3
Stanley, Matthew 35-4
Stapleton, Colleen 8-1*
Starnes, Brooke 41-16
Stefanik, Morgan 10-2
Steger, Jacob 49-5
Steinbauer, Jonathan 14-12
Steltenpohl, M. 1-4
Stewart, Emily 25-2, 36-6, 38-3
Stewart, Kevin 32-10, 33-1
Stigall, Alycia L. 4-7
Stillwell, Charles C. 49-6
Stinson, Andrew D. 5-3*, 31-3*
Stittle, Landon 6-3
Stockli, Daniel F. 15-5
Stoddard, Edward F. 53-7
Stokowski, Steven 14-15*
Stoltzfus, Abbey 6-1
Stowell, Harold 1-7*
Stowell, Harold H. 25-1
Strait, Zach 51-20
Strom, Kyle 35-8
Suarez, Kaitlyn 32-8
Sukop, Michael 3-4
Sullivan, Julia 38-13
Sumrall, Colin 4-7*, 4-8, 26-1
Surge, Donna 4-3, 30-2
Suther, Bradley E. 7-2*
Swailom, Meredith 43-5
Swartz, Jackson 38-2, 41-20*
Sweetkind, Donald 14-3

T

Talaber, Juliet 9-4*
Tanner, Benjamin 4-4*
Tarajos, Sarah 51-2*
Taylor, Michael H. 47-3
Teabo, Eric Jr. 8-3, 9-7
ten Brink, Uri 12-1
Terrell, Tucker 13-3
Terry, Miles 51-20*
Tew, Berry 32-2
Them, Theodore R. II 21-3, 41-18
Therault, Bailey 43-8
Thigpen, Ryan 1-7, 34-2
Thomasian, Sara 20-2*
Thompson, Caroline 16-2*
Thompson, Garrett J. 29-7, 52-2
Thompson, Jessica 12-1
Thompson, Victor D. 51-25
Thuy, Ben 4-7, 4-8, 26-1
Tikoff, Basil 14-14
Tobes, Justine 8-3, 9-7*
Tobin, Thomas 21-2*
Tollo, Richard P. 1-6
Tontini, Fabio Caratori 17-2
Tormey, Blair 22-4*
Torres, Luis Jr. 4-9*
Totten, Rebecca 21-2
Toumazou, Michael 51-23, 51-24
Toy, Virginia Gail 17-6
Trantham, Brennan 14-7
Tripp, Gerald R. 51-26*
Trippi, Michael 14-4*
Trouet, Valerie 4-1
Trudell, Daniel 49-5
Tugume, Fred 47-3
Tull, James F. 1-8, 1-9
Tully, Lancen 29-4
Tully, Lancen S. 5-7, 11-7*, 31-7, 33-4
Turala, Madelyn M. 40-3*
Tweet, Justin S. 5-4, 31-4, 51-16, 51-17, 51-18
Tyler, Carrie 4-10

U

Uddin, Ashraf 24-3
Upton, Olivia 16-4*
Utsunomiya, Masayuki 51-14

V

Valencia, Miguel 3-4*
Vance, R. Kelly 9-4
Vance, Robert 2-8*, 2-9

VanDenburgh, Samantha 38-5*
VanderEspt, L. Olivia 51-13
Vaughan, Nora 7-1*
Vazquez, Jorge 37-1
Velazquez Santana, Liannie 6-4, 12-2, 18-3, 18-5, 35-3
Ventura-Valentin, Wilnelly 6-4, 12-2, 18-3, 18-5, 35-3
Vest, Jordan 6-4*, 18-3, 18-5, 35-3
Viète, Daniel 29-6
Viñola-López, Lazaró W. 4-5
Vinson, David 3-10*
Vires, Becky 51-24
Visaggi, Christy C. 5-4, 5-13, 5-14, 31-4, 31-13, 31-14, 44-6, 51-7, 51-8, 51-9, 51-16, 51-17, 51-18
Viso, Richard F. 35-5
Vohs, Abigail 51-4*
Vulava, Vijay 41-3, 41-7, 49-3

W

Waddell, Georgia 11-6*
Walker, J Douglas 14-14
Walker, Madison 38-3*
Walker, Sally E. 9-5, 26-3
Wallace, Davin 35-7
Wallace, Michael 3-6
Walls, Sarah 51-6
Warehime, Jonathan 45-3*
Washell, Cristina 20-4
Waters-Tormey, Cheryl 5-8, 14-7, 31-8, 33-5*
Watkins, Douglas 45-1*
Watkins, Latasia 2-2
Weary, David 32-7
Webb, Paul 35-2
Webster, Rachel 41-18*
Wegmann, Karl 5-1, 31-1
Wehmiller, John 52-1
Welch, Ryan 5-8, 31-8
White, Cole 3-2*
White, Connor 44-10*
White, John C. 41-21*, 51-19
Whitman, Lily 51-21
Whitmeyer, Shelley 5-15, 31-15, 51-21
Whitney, Blake 41-16
Whitney, Donna 5-5, 31-5
Whitcar, Rich 45-4*
Wiens, Ashton M. 24-2
Wijesinghe, Dhanuska 27-1, 27-3, 49-5
Wilcox, Jeffrey 51-32
Wilhelm, Frank 3-9
Willard, Debra 9-1
Williams, Andrew 33-2
Williams, Arlecia 51-8
Williams, Christopher 32-4*
Williams, Karen 45-5*
Williams, Kelsey A. 34-7
Williams, Michael 32-8
Williams, Olivia 40-2*, 44-8
Williams, Randy 14-14
Williams, Sheri 15-3
Williamson, Duncan 35-6
Williamson, Nolan 27-3*
Wlishire, Carley S. 5-4, 5-14*, 31-4, 31-14*
Wilson, Alicia 35-6
Wilson, Frederic 12-1, 14-1*, 18-1*, 18-4
Wilson, Press 41-6*
Winer, Madeline 41-9*
Wing, Scott 21-3
Wintzer, Niki 24-2
Wise, Michael A. 2-6, 2-7
Withana Gamage, Prabhathi W. 49-5
Witt, Anne 36-7, 39-6*
Wood, Cecelia 49-2
Woodard, Jacob 43-3*
Wright, Eric 45-7
Wrobel, Dean 35-5*
Wudke, Hannah 6-1, 6-2, 6-4, 18-5*
Wurtz, Alyssa 44-4
Wyatt, Abby 51-21*
Wykel, Andrew 34-3
Wykel, Charles 53-3*

Y

Yasar, I. Dogancan 15-1*, 41-20
Yolles, Vince 41-15
Youngerman, Alan 51-14

Z

Zhu, Junfeng 41-11
Zimmerer, Madalyn 6-1*, 6-4, 18-3, 35-3*
Zollinger, Logan 11-5
Zou, Haibo 41-20
Zybalá, Darlene 36-2*

Notes and Doodles