

# 2024 Northeastern Section Meeting Program

Vol. 56, No. 1



*Beach near Portsmouth, New Hampshire. Photo credit: iStock.com/ William Reagan.*

*Manchester, New Hampshire | 17–19 March*

[www.geosociety.org/ne-mtg](http://www.geosociety.org/ne-mtg)

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(at time of press February 2024)

*We are grateful to several societies, companies, and agencies that made substantial contributions to underwrite the cost of the 2024 meeting. Please take time to thank these sponsors for their contributions to help make this meeting a success. Listed below are sponsorship organizations.*

**PLATINUM LEVEL**



**GOLD LEVEL**



**SILVER LEVEL**



**LEAD LEVEL**



**FINAL PROGRAM  
FOR**

**59th Annual Meeting  
NORTHEASTERN SECTION MEETING  
GEOLOGICAL SOCIETY OF AMERICA  
17–19 MARCH 2024**

**DoubleTree by Hilton Manchester Downtown  
Manchester, New Hampshire USA  
with  
Eastern Section, Society for Sedimentary Geology  
Eastern and New England Sections, National Association of Geoscience Teachers**



**Hosted By:**

Yale University Department of Earth and Planetary Sciences  
Department of Earth Sciences, Dartmouth College  
Sanborn, Head & Associates  
University of Pennsylvania Master of Science in Applied Geosciences  
Boston College, Dept. of Earth & Environmental Sciences  
Hager-Richter Geoscience, Inc.

**Committee for the 2024 Meeting**

General Chair: ..... David West  
Technical Program Co-Chairs: ..... Shane Csiki, Anne Lightbody, Sara Mana  
Student and Volunteer Help Chair: ..... Sara Mana

**Northeastern Section GSA Officers for 2023–2024**

Chair: ..... Nancy Price  
Secretary – Treasurer: ..... David West  
Members at Large: ..... Amber T.H. Whittaker, Michelle Markley  
Past Chair: ..... Howell Bosbyshell

**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:
  - o Internet: [geosociety.ethicspoint.com](http://geosociety.ethicspoint.com)
  - o Phone: +1-844-237-8688
  - o Mobile: [geosociety.navexone.com](http://geosociety.navexone.com)
- Or, direct any questions or concerns to [ethics@geosociety.org](mailto: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



The meeting will be held in Manchester, New Hampshire, USA, the largest city in northern New England. Manchester is situated on the Merrimack River about 50 miles northwest of Boston and 60 miles south of the White Mountains. The meeting location is the DoubleTree by Hilton, Manchester Downtown (700 Elm Street, Manchester, New Hampshire 03101) less than 10 miles from the Manchester-Boston Regional Airport (MHT) and proximal to a wide variety of shops and restaurants. This location, situated between the Atlantic coast and White Mountains, offers many opportunities to experience picturesque New England. We invite you to join us at Manchester 2024, where we have developed a strong technical program that covers a broad scope of geologic topics and discussions on the recruitment of the next generation of geoscientists.

## Accommodations

Rooms have been reserved at the DoubleTree by Hilton, Manchester Downtown, 700 Elm Street, Manchester, New Hampshire, which will serve as the location of all the meeting technical programs, exhibits, and associated activities. The hotel offers many amenities, including restaurants, bar, pool, fitness center. Discounted self-parking is available for \$14/day.

## Registration

Registration is required to participate in all events associated with the meeting, including technical sessions, 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.

	<b>Full</b>	<b>1-Day</b>
Professional Member .....	\$250 .....	\$175
Professional Member 70+.....	\$150 .....	\$150
Professional Nonmember.....	\$300 .....	\$200
Early Career Professional Member..	\$200 .....	\$175
Student Member.....	\$100 .....	\$75
Student Nonmember .....	\$125 .....	\$100
K–12 professional.....	\$100 .....	\$75
Guest/Spouse.....	\$75 .....	\$65

Guest registration is intended for non-geoscientists accompanying a registered professional, student or K–12 professional. 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 at the hotel in the Assembly Room and is available on the following schedule:

Saturday, 16 March: 4–8 p.m.  
Sunday, 17 March: 7 a.m.–5 p.m.  
Monday, 18 March: 7 a.m.–5 p.m.  
Tuesday, 19 March: 7 a.m.–noon

## Cancellations, Changes, and Refunds

Requests for additions, changes, and cancellations must have been made in writing to GSA Headquarters by 19 February 2024. 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 in the meeting and create your own schedule of events to attend. You can also view the full abstracts text from this program. You can access the online meeting program by visiting: <https://gsa.confex.com/gsa/2024NE/meetingapp.cgi/Home/0>

## Accessibility

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

## Continuing Education Units (CEU credit)

Continuing Education Unit (CEU) credits are available for attending GSA meetings, field trips, and short courses. This is an excellent opportunity to earn CEUs toward your requirements for your employer, K–12 school, or professional license. A contact hour is defined as a typical 60-minute classroom instructional session or its equivalent. Each meeting day equals 0.8 CEU, offering 2.4 CEUs for the joint meeting technical program, with additional CEUs available from field trips and short courses. Please check the meeting website after the meeting to download your CEU certificate.

## Special Events & Activities

*Saturday, 16 March*

**Welcoming Reception.** 5–7 p.m. Please join us in the Armory of the Manchester DoubleTree Hotel to visit with friends and colleagues and officially kick-off the 59<sup>th</sup> Annual Meeting of the Northeastern Section of the Geological Society of America. Exhibits will be open, and hors d'oeuvres and one complementary drink are included with each registration. A cash bar is also available. **Food and cash bar**

*Sunday, 17 March*

**Morning Fitness Class.** 6:15–7 a.m., Hale Room. Enjoy a 45-minute full-body workout with GSA Finance Director, Anita Monk-Ryan. Each class includes a warm-up, low-impact cardio, muscle toning, and a cool-down. Please wear athletic shoes and comfortable clothing, and bring a water bottle and hand towel.

**Geoscience Career Program Workshop Part 1: Career Planning and Networking.** 9–10 a.m., Stark Room. This workshop will help you prepare for your career in the geosciences and practice your networking skills. See Opportunities for Students section for additional details.

**Geoscience Career Program Workshop Part 2: Geoscience Career Exploration.** 10–11 a.m., Stark Room. Workshop presenters and professionals in the field will be present to discuss career opportunities. See Opportunities for Students section for additional details.

**National Association of Geoscience Teachers (NAGT) Luncheon.** noon–1:30 p.m., Pierce Room. This is a ticketed event. Professional \$35.

**Roy J. Shlemon Mentors Program in Applied Geoscience.** noon–1:30 p.m., Webster Room. GSA student members will have the opportunity to discuss career prospects and challenges with applied geoscientists from various sectors over a FREE lunch. First come, first served.

**Geology Club Meet-up.** 2–3 p.m. Stark Room. 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.

**Northeast Tectonics Reception honoring Sandra Barr.** 5:30–7 p.m., Pemigewasset and Assembly Rooms. All are welcome to join us in a celebration of the career of Sandra Barr and for informal networking amongst students and professionals. Light hors d'oeuvres and cash bar. This is a non-ticketed event.

**LGBTQ Reception.** 5:30–7 p.m. Webster Room. Stop by for conversation and informal networking. This is a non-ticketed event.

**ES-SEPM Meeting and Reception.** 6:30–8 p.m., Stark Room. Join the Eastern Section of the Society for Sedimentary Geology (ES-SEPM) and the Sedimentary Geology Division of GSA for their annual meeting and reception. The Keynote speaker for the event is Dr. Dennis Terry, Associate Professor, Dept. of Earth and Environmental Science, Temple University, and Chair-elect of the GSA Soils and Soil Processes Division. This is a non-ticked event, and everyone is welcome. Snack/hors d'oeuvres will be served, and beverages available nearby.

*Monday, 18 March*

**Morning Fitness Class.** 6:15–7 a.m., Hale Room. Enjoy a 45-minute full-body workout with GSA Finance Director, Anita Monk-Ryan. Each class includes a warm-up, low-impact cardio, muscle toning, and a cool-down. Please wear athletic shoes and comfortable clothing, and bring a water bottle and hand towel.

**Geoscience Career Program Workshop Part 3: Cover Letters, Résumés, and CVs.** 9–10 a.m., Stark Room. This

workshop focuses on how to prepare the best résumé possible. See Opportunities for Students section for additional details.

**John Mann Mentors Program in Applied Hydrogeology.** noon–1:30 p.m., Webster Room. GSA student members interested in applied hydrogeology or hydrology as a career will have the opportunity to network with professionals in these fields over a FREE lunch. First come, first served.

**Northeastern Section Management Board Meeting.** Noon–1:30 p.m., Pierce Room.

**Town Hall Panel Discussion: Recruiting the New Generation of Geoscientists.** Time 5:30–7 p.m., Pemigewasset and Assembly Rooms. All are invited to this panel discussion that will feature individuals from colleges/universities, the K–12 community, federal and state geologic agencies and the private consulting industry discussing the future needs across all sectors of the geoscience community, and the importance of recruiting younger individuals into the geosciences to fulfill these needs.

**Map and Art Blast.** 7–9 p.m., Armory, Originating at the Portland NEGSA meeting in 1998, this annual event invites all meeting attendees to post and informally discuss newly published and in progress geologic maps, digital images, and geo-artwork of all sorts. No abstract submission is required. Cash bar and light hors d'oeuvres available.

*Tuesday, 19 March*

**Morning Fitness Class.** 6:15–7 a.m., Hale Room. Enjoy a 45-minute full-body workout with GSA Finance Director, Anita Monk-Ryan. Each class includes a warm-up, low-impact cardio, muscle toning, and a cool-down. Please wear athletic shoes and comfortable clothing, and bring a water bottle and hand towel.

### Opportunities for Students

**Roy J. Shlemon Mentors Program in Applied Geoscience.** Sun., 17 March, noon–1:30 p.m., Webster Room. Students will have the opportunity to discuss career prospects and challenges with applied geoscientists from various sectors over a FREE lunch. GSA student members will receive priority; any remaining space will be offered to student non-members on a first come, first served basis.

**Geology Club Meet-up.** Sunday, 2–3 p.m. Stark Room. 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.

**John Mann Mentors Program in Applied Hydrogeology.** Mon., 18 March, noon–1:30 p.m., Webster Room. Students interested in applied hydrogeology or hydrology as a career will have the opportunity to network with professionals in these fields over a FREE lunch. GSA student members will receive priority; any remaining space will be offered to student non-members on a first come, first served basis.

### GSA Career Workshops

**Geoscience Career Program Workshop Part 1: Career Planning and Networking.** Sun., 17 March, 9–10 a.m., Stark Room. Your job-hunting process should begin with career planning, not when you apply for jobs. This workshop

will help you begin this process and will help you to practice your networking skills. This section is highly recommended for freshmen, sophomores, and juniors. The earlier you start your career planning the better.

**Geoscience Career Program Workshop Part 2: Geoscience Career Exploration.** Sun., 17 March, 10–11 a.m., Stark Room. 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.** Mon., 18 March, 9–10 a.m., Stark Room. 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 examples 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 Assembly Room.

### Exhibits

Exhibits are located in the Armory of the hotel.

#### Hours of Exhibits

Set up: Saturday, 16 March, 12–4 p.m.

Open: Saturday, 16 March, 5–7 p.m.

Open: Sunday, 17 March, 8 a.m.–5 p.m.

Open: Monday, 18 March, 8 a.m.–5 p.m.

Open: Tuesday, 19 March, 8 a.m.–noon

Tear Down: Tuesday, 19 March, noon–5 p.m.

As of mid-February, Exhibitors include:

- 2025 Joint GSA NE/NC Sections Meeting
- Beta Analytics
- Geological Society of New Hampshire
- Holcim
- New York State Geological Survey
- NYS Board for Geology Professional Licensure
- RELION - MonSun GeoSci
- Sanborn, Head & Associates, Inc.
- Temple University
- The Geological Society of America Bookstore
- The Geological Society of America Divisions
- The Geological Society of America Foundation
- University of Massachusetts Lowell Environmental, Earth & Atmospheric Sciences
- University of Pennsylvania Masters of Sciences in Applied Geosciences
- U.S. Geological Survey
- Verder Scientific
- Yale University Department of Earth & Planetary Sciences

### Technical Program

The technical program consists of Symposia, Theme, and Discipline sessions, organized into oral and poster sessions. The technical program begins at 8 a.m. on Sunday, 17 March and concludes by noon on Tuesday, 19 March. All technical sessions (oral and poster) are located at the DoubleTree by Hilton Manchester Downtown.

### Oral Sessions

All oral sessions have 20 minutes per presentation (17 minutes, presentation; 3 minutes, question and discussion). Presentations must be prepared using PowerPoint or PDF for-mats, 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 com-puter mouse and slide advancer, and a speaker timer. Laptops in oral session rooms do not have internet access, so please do not include external links in your presentation.

### Speaker Ready Room

All oral session presenters should visit the Speaker Ready Room located in the Spaulding Room 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:

Saturday, 16 March: 4–8:30 p.m.

Sunday, 17 March: 7 a.m.–6 p.m.

Monday, 18 March: 7 a.m.–6 p.m.

Tuesday, 19 March: 7–10 a.m.

Each speaker must bring their 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 above. 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.

### Session Chair Orientations

Each Session Chair is requested to attend a 15-minute "Session Chairs Orientation" held in Pemigewasset Room, from 7–7:15 a.m. on the morning of the day on which your session is to take place. This meeting will include a review of session time management, AV procedures, and other information affecting the conduct of the day's sessions.

Session chairs are asked to strictly adhere to the technical program schedule and to limit speakers to their allotted time. If a speaker does not appear for an assigned time slot, session chairs should call a break or discussion period and begin the following presentation at its scheduled time.

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

### Poster Sessions

Poster Sessions are located in the Armory Room of the Hotel. 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 will be provided for each poster board.

### Technical Sessions

#### *Discipline Sessions:*

- D1. General Geology (Posters)
- D2. Paleontology (Posters)

#### *Theme Sessions:*

- T1. Unveiling Pathways into the Geological, Atmospheric, Marine, and Environmental Sciences
- T2. What is the Future of Field Camp?
- T3. Northern Appalachian Magmatism: From the Precambrian to the Cretaceous
- T5. Deciphering a cryptic geologic record: New insights from field and lab investigations of the Appalachians in the United States and Canada.
- T7. Unraveling Appalachian Orogenic Events Using Geological and Geophysical Methods
- T8. Micro to Macro: Linking Structural Geology, Petrology, Geochronology, and Tectonics across scales.
- T10. Glacial Geology and Geomorphology of Northeastern North America: Current Gaps and Future Directions.
- T12. Current Research in Lacustrine Sedimentary Records and Processes for Understanding Climate and Environmental Change
- T14. Phanerozoic Paleoceanographic and Climatic Changes (Posters)
- T15. Improvements to our Understanding of Past Climate and Environments through the Development of Proxies, the Generation of New Biomarker Records, and the Interpretation of Sedimentary Archives
- T17. Trace Elements in the Environment.
- T19. Recent Advances in PFAS and Emerging Contaminant Science: From Human Health Risk Assessment to Fate and Transport.
- T20. Groundwater and Surface Water Characterization through Modeling and Field Methods
- T23. Watershed Processes and the Fluvial Forms and Dynamics they Produce
- T25. Estuary and Tidal Marsh Dynamics, Resiliency, and Restoration

- T26. Current Research in Coastal and Nearshore Processes
- T28. Mapping in the Geosciences: Processes and Products (Posters)
- T29. Geohazards in the Northeastern U.S.: Investigation and Mitigation
- T31. Economic Geology and Critical Mineral Resources Symposium:
  - S1. Applied Investigations by Northeastern State Geological Surveys: Honoring the Tradition of Robert Marvinney
  - S2. Neoproterozoic and Paleozoic Geological Connections Among Northwest Africa, Europe, and Eastern North America – A Session Honoring the Career of Sandra M. Barr

### Short Courses

#### **SC1. Teaching Environmental Justice with Geoscience.**

Sat., 16 March, 1:30–5:00 p.m. in the Stark Room of the DoubleTree Hotel. Gary Gomby, Central Connecticut State University, garygomby@ccsu.edu.

**Description:** This highly relevant and timely afternoon short course describes the rationale for and process involved in teaching environmental justice with a geoscience focus. Case studies contextualize geoscience within a framework of justice and equity, thereby increasing the relevance of basic geoscience to addressing societal issues.

**SC2. Using GMDE and LiDAR texture shading in the field and lab.** Sat., 16 March, 1:30–5:00 p.m. in the Pierce Room of the DoubleTree Hotel. Richard W. Allmendinger, Cornell University, rwa1@cornell.edu.

**Description:** This short course covers how to use the GMDE family of desktop and iOS programs for field work and in your teaching with emphasis on workflows. Examples will use texture shaded LiDAR digital terrain models (DTMs) which are reminiscent of X rays through tree cover.

### Cultural and Regional Attractions

#### **Currier Museum of Art**

The Currier is an internationally recognized art museum located right in Manchester. The Currier features European and American paintings, decorative arts, photographs and sculptures, including works by Picasso, Monet, O'Keeffe, and Wyeth. Exhibitions, tours, and events are scheduled year-round. The museum also owns Frank Lloyd Wright's Zimmerman House, the only residence in New England that was designed by the acclaimed American architect and is open to the public.

#### **Millyard Museum**

The Millyard Museum tells the history of Manchester, located in Mill No. 3 in the historic Amoskeag Millyard. Operated by the Manchester Historic Association, the Millyard Museum is housed in Mill No. 3 at the corner of Commercial and Pleasant Streets in the historic Amoskeag Millyard. The Museum's Henry M. Fuller State Theatre Gallery features rotating exhibitions on a variety of topics. The Millyard Museum also features the Discovery Gallery, a multi-purpose space used for school groups, family programs, lectures, temporary exhibits and other activities.

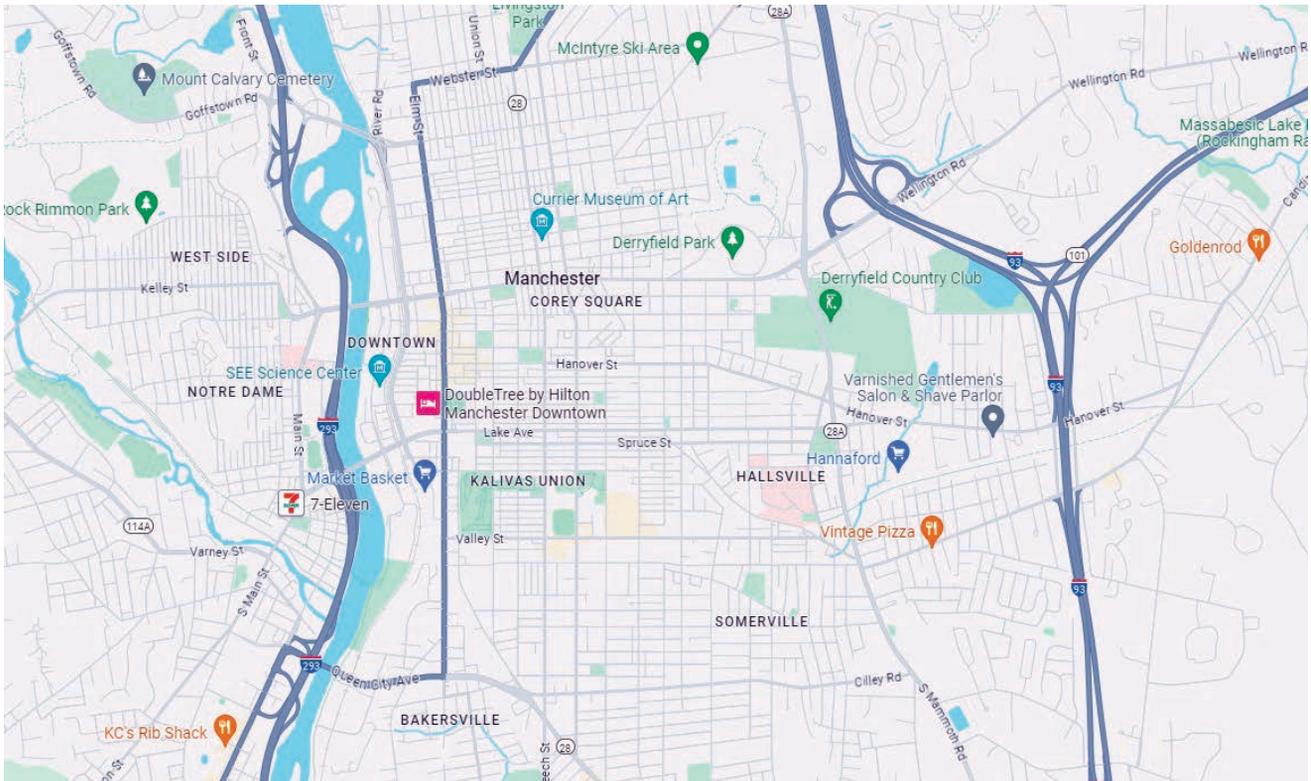
## Massabesic Center

The 5,000 square foot Massabesic Center is located on a historic farm site. The Center is just minutes from downtown Manchester and is bordered by 130 acres of rolling fields and mature deciduous forest with woodland wetlands, a pond, streams, and marshes. The site has been preserved as a wildlife sanctuary that encompasses a diverse array of upland habitats. There are more than five miles of trails that lead to scenic Lake Massabesic, and the property is adjacent to thousands of undeveloped acres of Manchester Water Works land.

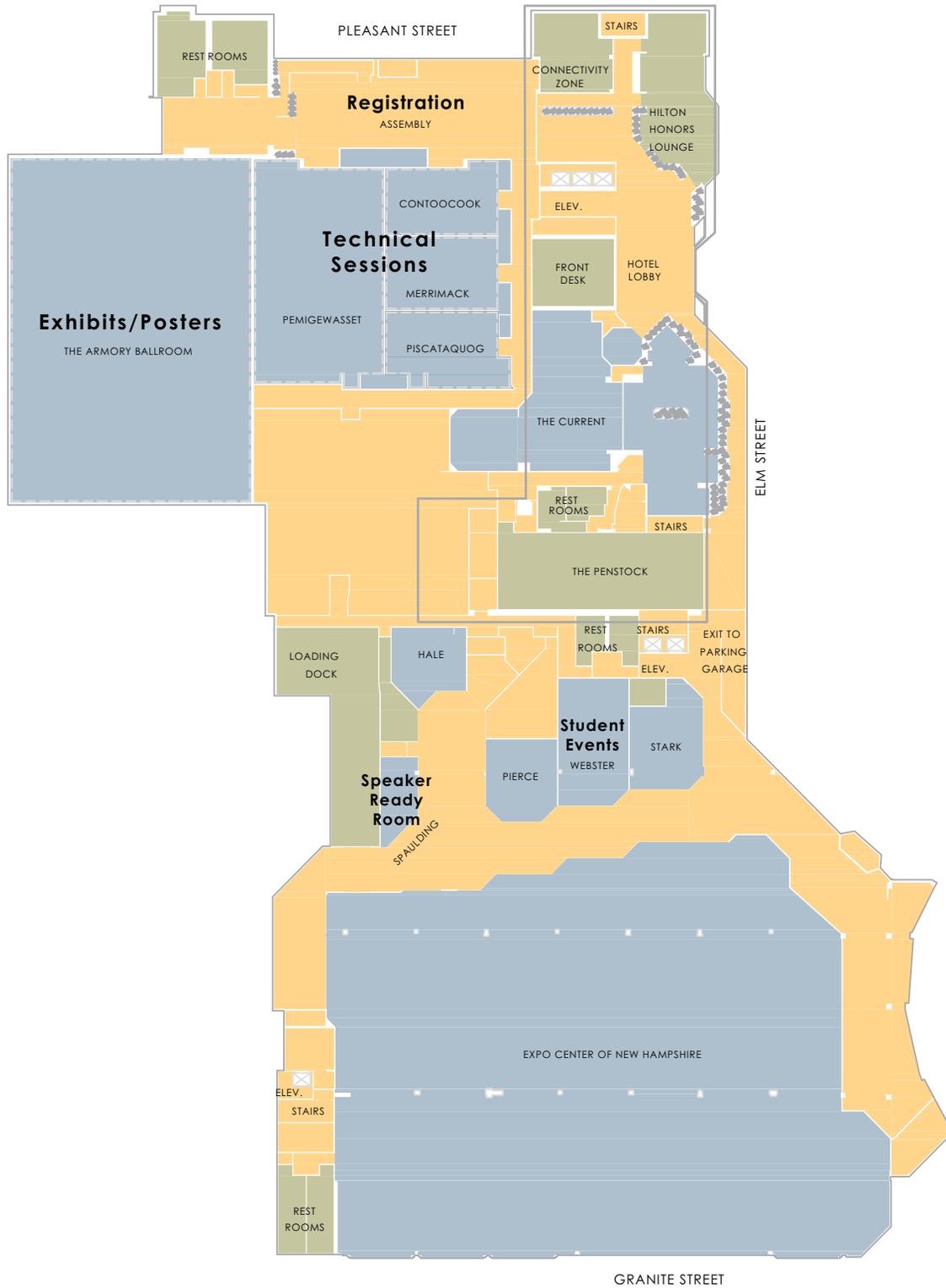
## McIntyre Ski Area

McIntyre Ski Area is Southern NH's gateway to winter adventure. Conveniently located in Manchester, NH Exit 8 off I-93 and 15 minutes from Manchester-Boston Regional Airport. The mountain's best feature is the ski-school program. Children ages 3+, all the way up to adults, can learn to ski and ride at McIntyre. Private lessons and weekday/ weekend programs available. Snow Tubing at the Bonneville Family Thrill Hill offers up to 10 lanes of snow tubing fun in 2-hour sessions.

## DoubleTree by Hilton Downtown Manchester Location



# DoubleTree by Hilton Manchester Downtown Floorplan



## Schedule of Events

EVENT	TIME	LOCATION
<b>SATURDAY, 16 MARCH</b>		
Short Courses 1. Teaching Environmental Justice with Geoscience (Short Course)	1:30-5:00 pm	Stark Room
Short Courses 2. Using GMDE and LiDAR Texture Shading in the Field and Lab (Short Course)	1:30-5:00 pm	Pierce Room
Welcoming Reception (Ticketed Event)	5:00-7:00 pm	Armory Ballroom
<b>SUNDAY, 17 MARCH</b>		
Morning Fitness Class: Enjoy a 45-minute Full-body Workout with GSA Finance Director, Anita Monk-Ryan	6:15-7:00 am	Hale Room
Geoscience Career Program Workshop Part 1: Career Planning and Networking (Workshop)	9:00-10:00 am	Stark Room
Geoscience Career Program Workshop Part 2: Geoscience Career Exploration (Workshop)	10:00-11:00 am	Stark Room
<b>Morning Oral Technical Sessions</b>		
P2. Neoproterozoic and Paleozoic Geological Connections Among Northwest Africa, Europe, and Eastern North America I – A Session Honoring the Career of Sandra M. Barr	8:00 am-noon	Pemigewasset Room
T12. Current Research in Lacustrine Sedimentary Records and Processes for Understanding Climate and Environmental Change	8:00 am-noon	Contocook Room
T23. Watershed Processes and the Fluvial Forms and Dynamics They Produce	8:00 am-noon	Merrimack Room
T29. Geohazards in the Northeastern U.S.: Investigation and Mitigation	8:00 am-noon	Piscataquog Room
<b>Morning Poster Sessions:</b>		
D1. General Geology (Posters)	9:00 am-1:00 pm	Armory Ballroom
D2. Paleontology (Posters)	9:00 am-1:00 pm	Armory Ballroom
T10. Glacial Geology and Geomorphology of Northeastern North America: Current Gaps and Future Directions (Posters)	9:00 am-1:00 pm	Armory Ballroom
T19. Recent Advances in PFAS and Emerging Contaminant Science: From Human Health Risk Assessment to Fate and Transport (Posters)	9:00 am-1:00 pm	Armory Ballroom
T31. Economic Geology and Critical Mineral Resources (Posters)	9:00 am-1:00 pm	Armory Ballroom
National Association of Geoscience Teachers (NAGT) Luncheon (Ticketed Event)	12:00-1:30 pm	Pierce Room
Geology Club Meet-up (Ticketed Event)	2:00-3:00 pm	Stark Room
LGBTQ Reception (Ticketed Event)	5:30-7:00 pm	Webster Room
Northeast Tectonics Reception honoring Sandra Barr (Ticketed Event)	5:30-7:00 pm	Pemigewasset and Assembly Rooms
ES-SEPM Meeting and Reception (Ticketed Event)	6:30-8:00 pm	Stark Room
Roy J. Shlemon Mentors Program in Applied Geoscience (Workshop)	12:00-1:30 pm	Webster Room
<b>Afternoon Oral Technical Sessions</b>		
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<b>Afternoon Poster Sessions:</b>		
T3. Northern Appalachian Magmatism: From the Precambrian to the Cretaceous (Posters)	1:30-5:30 pm	Armory Ballroom
T12. Current Research in Lacustrine Sedimentary Records and Processes for Understanding Climate and Environmental Change (Posters)	1:30-5:30 pm	Armory Ballroom
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Morning Fitness Class: Enjoy a 45-minute Full-body Workout with GSA Finance Director, Anita Monk-Ryan	6:15-7:00 am	Hale Room
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<b>Morning Oral Technical Sessions</b>		
T2. What is the Future of Field Camp?	8:00 am-noon	Contoocook Room
T7. Unraveling Appalachian Orogenic Events Using Geological and Geophysical Methods	8:00 am-noon	Merrimack Room
T8. Micro to Macro: Linking Structural Geology, Petrology, Geochronology, and Tectonics Across Scales	8:00 am-noon	Piscataquog Room
T20. Groundwater and Surface Water Characterization through Modeling and Field Methods	8:00 am-noon	Pemigewasset Room
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T1. Unveiling Pathways into the Geological, Atmospheric, Marine, and Environmental Sciences (Posters)	9:00 am-1:00 pm	Armory Ballroom
T26. Current Research in Coastal and Nearshore Processes (Posters)	9:00 am-1:00 pm	Armory Ballroom
T28. Mapping in the Geosciences: Processes and Products (Posters)	9:00 am-1:00 pm	Armory Ballroom
Northeastern Section Management Board Meeting (Ticketed Event)	12:00-1:30 pm	Pierce Room
John Mann Mentors Program in Applied Hydrogeology (Workshop)	12:00-1:30 pm	Webster Room
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P1. Applied Investigations by Northeastern State Geological Surveys: Honoring the Tradition of Robert Marvinney	1:30-5:30 pm	Pemigewasset Room
T3. Northern Appalachian Magmatism: From the Precambrian to the Cretaceous	1:30-5:30 pm	Merrimack Room
T26. Current Research in Coastal and Nearshore Processes	1:30-5:30 pm	Piscataquog Room
T1. Unveiling Pathways into the Geological, Atmospheric, Marine, and Environmental Sciences	2:30-5:30 pm	Contoocook Room
<b>Afternoon Poster Sessions:</b>		
T2. What is the Future of Field Camp? (Posters)	1:30-5:30 pm	Armory Ballroom
T5. Deciphering a Cryptic Geologic Record: New Insights from Field and Lab Investigations of the Appalachians in the United States and Canada (Posters)	1:30-5:30 pm	Armory Ballroom
T14. Phanerozoic Paleogeographic and Climatic Changes (Posters)	1:30-5:30 pm	Armory Ballroom
T15. Improvements to our Understanding of Past Climate and Environments through the Development of Proxies, the Generation of New Biomarker Records, and the Interpretation of Sedimentary Archives (Posters)	1:30-5:30 pm	Armory Ballroom
T17. Trace Elements in the Environment (Posters)	1:30-5:30 pm	Armory Ballroom
T25. Estuary and Tidal Marsh Dynamics, Resiliency, and Restoration (Posters)	1:30-5:30 pm	Armory Ballroom
Town Hall Panel Discussion: Recruiting the New Generation of Geoscientists (Ticketed Event)	5:30-7:00 pm	Pemigewasset and Assembly Rooms
Map and Art Blast (Ticketed Event)	7:00-9:00 pm	Armory Ballroom
<b>TUESDAY, 19 MARCH</b>		
Morning Fitness Class: Enjoy a 45-minute Full-body Workout with GSA Finance Director, Anita Monk-Ryan	6:15-7:00 am	Hale Room
<b>Morning Oral Technical Sessions</b>		
T5. Deciphering a Cryptic Geologic Record: New Insights from Field and Lab Investigations of the Appalachians in the United States and Canada	8:00 am-noon	Pemigewasset Room
T15. Improvements to our Understanding of Past Climate and Environments through the Development of Proxies, the Generation of New Biomarker Records, and the Interpretation of Sedimentary Archives	8:00 am-noon	Contoocook Room
T17. Trace Elements in the Environment	8:00 am-noon	Merrimack Room
T25. Estuary and Tidal Marsh Dynamics, Resiliency, and Restoration	8:00 am-noon	Piscataquog Room
<b>Morning Poster Sessions:</b>		
T7. Unraveling Appalachian Orogenic Events Using Geological and Geophysical Methods (Posters)	9:00 am-1:00 pm	Armory Ballroom
T8. Micro to Macro: Linking Structural Geology, Petrology, Geochronology, and Tectonics Across Scales (Posters)	9:00 am-1:00 pm	Armory Ballroom
T20. Groundwater and Surface Water Characterization through Modeling and Field Methods (Posters)	9:00 am-1:00 pm	Armory Ballroom

# 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

## SUNDAY, 17 MARCH 2024

### MORNING ORAL TECHNICAL SESSIONS

#### SESSION NO. 1

**S2. Neoproterozoic and Paleozoic Geological Connections Among Northwest Africa, Europe, and Eastern North America I – A Session Honoring the Career of Sandra M. Barr (GSA Structural Geology and Tectonics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)**

8:00 AM, Doubletree by Hilton, Pemigewasset Room

Yvette Kuiper, Margaret Thompson, Chris E. White, Belkacim Saïd, Faouziya Haïssen and Pilar Montero, Presiding

- |     |         |  |
|-----|---------|--|
|     | 8:00 AM | <b>INTRODUCTORY REMARKS</b>  |
| 1-1 | 8:05 AM | Lin, Shoufa*: <b>FOLLOWING THE STEPS OF SANDRA BARR: MY WORK IN THE CANADIAN APPALACHIANS</b>  |
| 1-2 | 8:25 AM | van Rooyen, Deanne*; White, Chris E.; Barr, Sandra M.; Sunatori, Évelyne: <b>STRUCTURAL AND METAMORPHIC HISTORY OF THE CENTRAL CAPE BRETON HIGHLANDS, NOVA SCOTIA, CANADA: IMPLICATIONS FOR THE SALINIAN AND ACADIAN OROGENIES</b>                     |
| 1-3 | 8:45 AM | Miller, Brent*; Barr, Sandra M.: <b>U-PB AGE, TRACE ELEMENT AND HF ISOTOPIC COMPOSITIONS OF ZIRCON FROM SILURIAN AND EARLY DEVONIAN GRANITE, GABBRO, AND PYROXENITE IN(?) THE BLAIR RIVER INLIER, NORTHERN CAPE BRETON ISLAND, NOVA SCOTIA, CANADA</b> |
| 1-4 | 9:05 AM | Zagorevski, Alex*; van Staal, Cees R.; Joyce, Nancy L.: <b>THE PROVENCE AND TECTONIC HISTORY OF DASHWOODS</b>  |
| 1-5 | 9:25 AM | Kerr, Andrew*: <b>TREKKING THROUGH AVALONIA: NEWFOUNDLAND'S EAST COAST TRAIL AS A SCENIC WINDOW INTO NEOPROTEROZOIC STRATIGRAPHY AND TECTONICS</b>   |
|     | 9:45 AM | <b>BREAK</b>   |

- |      |          |  |
|------|----------|--|
| 1-6  | 10:00 AM | van Staal, Cees*; Lin, Shoufa; Valverde-Vaquero, Pablo; Dunning, Greg; Burgess, Jerry; Schofield, D.I.; Joyce, Nancy: <b>TECTONIC EVOLUTION OF SALINIC AND ACADIAN HIGH GRADE METAMORPHIC TECTONITES OF THE MEELPAEG NAPPE NEAR PORT AUX BASQUES, SOUTHWESTERN NEWFOUNDLAND: SILURIAN SALINIC UNDERTHRUSTING OF THE GANDER MARGIN BENEATH COMPOSITE LAURENTIA AND LOCHKOVIAN EDUCTION, FOLLOWED BY BI-VERGENT NAPPE FORMATION AND DEXTRAL TRANSPRESSION DURING THE ACADIAN OROGENY</b> |
| 1-7  | 10:20 AM | Reusch, Douglas N.*: <b>BASE AND TOP OF THE BOTWOOD GROUP, NEWFOUNDLAND: IMPLICATIONS FOR SLAB BREAKOFF, NET SLAB PULL, AND CLIMATE</b>  |
| 1-8  | 10:40 AM | Ludman, Allan*; Wang, Chunzeng; Whittaker, Amber; O'Sullivan, Paul; McFarlane, Chris: <b>TIMING OF ORDOVICIAN VOLCANISM IN NORTHEASTERN MAINE: RETHINKING REGIONAL TECTONIC MODELS</b>   |
| 1-9  | 11:00 AM | Thompson, Margaret*; Crowley, James L.: <b>WEST AVALONIAN AFFINITY OF PLUTONS IN SOUTHEASTERN-MOST MASSACHUSETTS, USA</b>  |
| 1-10 | 11:20 AM | Wintsch, Robert*; McAleer, Ryan; Wathen, Bryan; Walters, Jesse; Growdon, Martha; Matthews, Jessica A.; Deasy, Ryan: <b>AN ACADIAN-ALLEGHANIAN-MESOZOIC STRETCHING FAULT, SOUTHERN NEW ENGLAND, LOCALIZED BY RODINIAN STRUCTURAL INHERITANCE</b>  |

#### SESSION NO. 2

**T12. Current Research in Lacustrine Sedimentary Records and Processes for Understanding Climate and Environmental Change (GSA Limnogeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)**

8:00 AM, Doubletree by Hilton, Contoocook Room

Michael Retelle, Tim Cook, Catherine Beck and Brad Hubeny, Presiding

- |         |                             |
|---------|-----------------------------|
| 8:00 AM | <b>INTRODUCTORY REMARKS</b> |
|---------|-----------------------------|

2-1	8:05 AM	Turner, Joshua*; Blewett, Jerome; Pearson, Anne; Leng, Qin; Patalano, Robert; Yang, Hong: <b>METHANE CYCLING IN CLARKIA PALEOLAKE DURING MIDDLE MIOCENE CLIMATE OPTIMUM (MMCO)</b>	3-5	9:25 AM	Myers, Harrison*; Chin, Tiffany; Diehl, Rebecca M.; Roy, Eric; Underwood, Kristen: <b>PREDICTING FLOODPLAIN DISSOLVED OXYGEN WITH A RECURRENT NEURAL NETWORK</b>
2-2	8:25 AM	Ghimire, Monika*; Passchier, Sandra: <b>LATE GLACIAL AND HOLOCENE CLIMATE VARIABILITY OF THE SOUTHERN TIBETAN PLATEAU BASED ON A HIGH-RESOLUTION GRAIN-SIZE RECORD IN LAKE PEIKU CO</b>	3-6	9:45 AM	Diehl, Rebecca*; Underwood, Kristen; Roy, Eric; Chin, Tiffany; Jonston, Kenneth; Wemple, Beverley: <b>FUNCTIONS OF FLOODPLAINS IN A CHANGING CLIMATE: DIFFERENCES IN SEDIMENT AND PHOSPHORUS CAPTURE ON FLOODPLAINS AND WETLANDS FROM EXTREME AND MODERATE FLOODS</b>
2-3	8:45 AM	Chassiot, Léo*; Lajeunesse, Patrick; Francus, Pierre; Frigon, Ariane; De Coninck, Arnaud: <b>THE LATE HOLOCENE ENVIRONMENTAL HISTORY OF LAKE MANICOUAGAN (QUÉBEC, CANADA, 51°N)</b>		10:05 AM	<b>BREAK</b>
2-4	9:05 AM	Landrum, Madeleine*; Hamley, Kit; Hudson, Reuben; Newsom, Bonnie D.; Gill, Jacquelyn: <b>RECONSTRUCTING HUMAN-FIRE-VEGETATION RELATIONSHIPS IN MAINE</b>	3-7	10:20 AM	Argue, Denise*; Martin, Joseph; Morrison, Jonathan: <b>MONITORING WATER-QUALITY IN THE CONNECTICUT RIVER WATERSHED HEADWATERS TO LONG ISLAND SOUND</b>
2-5	9:25 AM	Doner, Lisa*; Pendleton, Simon; Talon, Gabriel; Elliott, Christy; Davis, P. Thompson: <b>INCREASING RISK OF WILDFIRE IN NEW ENGLAND: SEDIMENTARY PERSPECTIVES FROM PAST WARM INTERVALS</b>	3-8	10:40 AM	Huba, Julianna*; Kelleher, Christa; Shaw, Stephen B.; Hurst, Eliza; Hawes, Liam; Va, Van: <b>QUANTIFYING CHANGES IN STREAM MORPHOLOGY AND VEGETATION AROUND BEAVER DAM ANALOGUES, RED CANYON CREEK, WYOMING</b>
2-6	9:45 AM	Seal, Dylan*; Baxter, Ethan F.; Snyder, Noah P.; Cook, Tim: <b>GEOCHEMICAL RB-SR ISOCHRON METHOD FOR FINGERPRINTING THE IMPACTS OF TIMBER HARVEST ON SEDIMENT PROVENANCE</b>	3-9	11:00 AM	Hachikian, Maria*; Graney, Joseph R.: <b>FORM AND FUNCTION: COMPARING TWO CONSTRUCTED WETLANDS AT BINGHAMTON UNIVERSITY</b>
	10:05 AM	<b>BREAK</b>	3-10	11:20 AM	Armstrong, Ian*: <b>A GIS-BASED HYDRAULIC MODELING TOOL FOR STREAM CROSSING REPLACEMENT PROJECTS IN MASSACHUSETTS</b>
2-7	10:20 AM	Amon, Leeli*; Lini, Andrea; Peros, Matthew; Sachse, Dirk; Rach, Oliver; St-Jacques, Jeannine-Marie: <b>THE LATE-GLACIAL SEDIMENTARY N-ALKANE AND HYDROGEN ISOTOPE RECORD OF TWO SITES IN NEW ENGLAND</b>	3-11	11:40 AM	Gartner, John*; McKay, Kieran; Matthews, Shawn; Springston, George: <b>SEDIMENT DYNAMICS AFTER DAM REMOVAL: INVESTIGATING SHIELDS PARAMETER AND CHANNEL EQUILIBRIUM ON BULL RUN RIVER, VERMONT</b>
2-8	10:40 AM	Grigg, Laurie*: <b>CONNECTIONS BETWEEN CLIMATE AND LIMNOLOGIC CHANGE DURING THE HOLOCENE IN A VERMONT POND</b>			
2-9	11:00 AM	Moodie, Essa; Ryan, Peter*; Kim, Jonathan J.; Romanowicz, Edwin: <b>EXPERIMENTAL AND EMPIRICAL ANALYSIS OF THE ROLE OF WATER TEMPERATURE ON INTERNAL PHOSPHORUS LOADING IN A EUTROPHIC LAKE</b>			
2-10	11:20 AM	Romanowicz, Edwin*; Kim, Jonathan; Ryan, Peter: <b>PHOSPHORUS AND HYDROLOGIC BUDGETS FOR LAKE CARM, VERMONT</b>			
2-11	11:40 AM	Kim, Jonathan*; Ryan, Peter; Romanowicz, Edwin: <b>USING SHALLOW MONITORING WELLS TO EVALUATE PHOSPHORUS INFLUX TO A SMALL EUTROPHIC LAKE IN NORTHERN VERMONT</b>			

### SESSION NO. 3

#### ***T23. Watershed Processes and the Fluvial Forms and Dynamics They Produce***

8:00 AM, Doubletree by Hilton, Merrimack Room

Rebecca M. Diehl, Kristen L. Underwood, Sean Smith and Anne Lightbody, Presiding

	8:00 AM	<b>INTRODUCTORY REMARKS</b>
3-1	8:05 AM	LeFebvre, Amy*; Clark, Ryan; Kelson, Keith; Lawrence, Justin: <b>INITIAL PALEOFLOOD VIABILITY FOR IMPROVING LONG-TERM HYDROLOGIC LOADING ALONG THE CONTOOCOOK, PISCATAQUOG, AND MERRIMACK RIVERS, NEW HAMPSHIRE</b>
3-2	8:25 AM	Kelson, Keith*; LeFebvre, Amy; Freymuth, Bryan; Williams, Nathan; Clark, Ryan; England, John; Potts, Stephen; Beaulieu, Olivia; Martin, Leanna: <b>ANALYSIS OF LONG-TERM FLOOD CHRONOLOGIES TO IMPROVE HYDROLOGIC LOADING FOR USACE RISK ASSESSMENTS IN NEW ENGLAND</b>
3-3	8:45 AM	Lightbody, Anne*; Fenoff, Trevor; Kager, Desmond; Sullivan, Franklin; Palace, Michael: <b>REMOTE SENSING OF RIVER BANKFULL WIDTH IN NORTHERN NEW ENGLAND</b>
3-4	9:05 AM	Underwood, Kristen L.*; Diehl, Rebecca M.; Lawson, Scott; Wemple, Beverley: <b>REGIONAL MAPPING OF FLOODPLAINS USING LOW-COMPLEXITY HYDRAULIC</b>

### SESSION NO. 4

#### ***T29. Geohazards in the Northeastern U.S.: Investigation and Mitigation***

8:00 AM, Doubletree by Hilton, Piscataquog Room

Lindsay Theis and Peter Slovinsky, Presiding

	8:00 AM	<b>INTRODUCTORY REMARKS</b>
4-1	8:05 AM	Guissepe, Alfred*: <b>USING PROBABILITY DENSITY FUNCTION ANALYSIS TO QUANTIFY LANDSLIDE OCCURRENCE IN ALLEGHENY COUNTY, PENNSYLVANIA</b>
4-2	8:25 AM	Springston, George*; Dejong, Ben; Strand, Peter; Kim, Jonathan J.: <b>WIDESPREAD SLOPE FAILURES IN VERMONT DUE TO HEAVY RAINS ON JULY 9 TO 11, 2023</b>
4-3	8:45 AM	Smerekanicz, Jay R.*; Thomas, Ethan; Sophis, Julie: <b>ENGINEERING GEOLOGY'S ROLE IN REOPENING VERMONT'S TRANSPORTATION INFRASTRUCTURE IN RESPONSE TO CLIMATE CHANGE</b>
4-4	9:05 AM	Ebel, John E.*; Cipar, John J.: <b>RECENT SEISMICITY AROUND LITTLETON, MA</b>
4-5	9:25 AM	Monecke, Katrin*; Alderson, Aaron; Boyce, Joseph I.; Brabander, Daniel J.; Ebel, John E.; Hubeny, Brad; McCarthy, Francine: <b>A PALEOSEISMIC RECORD FOR THE LAST 800 YEARS FROM TWO LAKES IN EASTERN MASSACHUSETTS</b>
4-6	9:45 AM	Gordon, Ryan*; Meeks, Jessica; Dickson, Stephen: <b>LONG-TERM OBSERVATIONS OF THE WATER CYCLE – ONGOING MONITORING PROGRAMS AT THE MAINE GEOLOGICAL SURVEY</b>
	10:05 AM	<b>BREAK</b>
4-7	10:20 AM	Reichgelt, Tammo*; Willard, Debra: <b>A DEEP-TIME PERSPECTIVE OF SEASONALITY AND EXTREME WEATHER EVENTS IN THE NORTHEAST USA</b>

- 4-8 10:40 AM Epstein, Samuel; Epstein, Peggy\*; Benimoff, Alan; Sassen, Roger: **URBAN STORM SURGE PROTECTIVE MEASURES-SYNTHETIC DUNE CONSTRUCTION - COMPARISONS TO JURASSIC SAND DUNES FROM LOW STANDS THRU HIGH STANDS SYSTEM TRACT FACIES**
- 4-9 11:00 AM Brooks, Connor\*; Baranes, Hannah; Sun, Stephanie: **DEVELOPING A COASTAL FLOODING RISK ASSESSMENT FRAMEWORK TO SUPPORT CLIMATE-SMART WORKING WATERFRONTS IN MAINE**
- 4-10 11:20 AM Benimoff, Alan\*; Zhang, Zhanyang; Heris, Mehdi P.; Toledo-Crow, Ricardo; Schäfer, Tobias; Kress, Michael: **A COLLABORATIVE AND INTERDISCIPLINARY APPROACH FOR BUILDING FLOOD RESILIENT COMMUNITIES IN STATEN ISLAND, NEW YORK**
- 5-13 13 Carl, Brian\*; Wolfe, Stephen; Franzl, David; Gontz, Allen; Pantoja Flores, Gladys; Jensen, McKelvie: **TWO GENERATIONS OF PARABOLIC DUNES IN THE SARATOGA SAND PLAINS, HUDSON VALLEY, NEW YORK**
- 5-14 14 Pantoja Flores, Gladys\*; Gontz, Allen; Wolfe, Stephen; Carl, Brian; Franzl, David; Gifford, Neil; Jensen, McKelvie: **BEEEN THERE, DUNE THAT: ALBANY PINE BUSH PRESERVE DUNE FIELD EVOLUTION USING GPR**
- 5-15 15 Edwards, Aaron; Hilliker, Joby\*: **EXPLORING THE ROLE OF MOISTURE IN ELEVATING NIGHTTIME TEMPERATURES IN MAJOR NORTHEAST U.S. CITIES**
- 5-16 16 Dimock, Emily\*; White, Kathryn; Hurlbut, Matthew; Smith, Jason: **EFFECTS OF 12/22/2022 SNOW EVENT ON DORMAN CREEK ELECTRICAL CONDUCTIVITY AND STAGE**
- 5-17 17 Howe, John\*; Hubeny, Brad: **USING GROUND PENETRATING RADAR IN SEARCH OF UNMARKED GRAVES AT THE OLD BURYING GROUND, STONEHAM MASSACHUSETTS**
- 5-18 18 Alfonso, Vanessa M.\*; Groffman, Peter M.; CHENG, Zhongqi; Seidemann, David E.: **ANCIENT CLAYS SUPPORT CONTEMPORARY BIOGEOCHEMICAL ACTIVITY IN THE CRITICAL ZONE**
- 5-19 19 Kelley, Mari\*; Pietras, Jeffrey T.; Becker, Hilary; Rust, Tyler; Arnuk, William: **UNMIXING AND MAPPING PIGMENTS: A STATISTICAL APPROACH FOR ART AND ARTIFACTS**
- 5-20 41 Hamilton, Yasmin; Bush, Kaila; Ruderman, Ethan; Zuraw, Ruth; Yellen, Brian; Martini, Anna\*: **TEMPORAL AND SPATIAL TRACKING OF CONTAMINATION WITHIN THE FORT RIVER WATERSHED**
- 5-21 42 Reyes, Francisco\*; Guevara, Victor; Vlaha, Dominik; Zuza, Andrew V.; Haproff, Peter J.; Branton, Evon R.; Brooks, Hanna L.; Thomas, Jay B.: **RECONSTRUCTING THERMOBAROMETRIC GRADIENTS IN THE NORTHWESTERN TETHYAN HIMALAYA: TESTING THE LITHOSTATIC PRESSURE PARADIGM**

## MORNING POSTER TECHNICAL SESSIONS

### SESSION NO. 5

#### D1. General Geology (Posters)

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

- |      | Booth # |   |
|------|---------|---|
| 5-1  | 1       | Epstein, Samuel*; Herman, Gregory: <b>STRUCTURAL EFFECTS OF CHICXULUB AND CHESAPEAKE-TOMS RIVER ASTEROID IMPACT EVENTS: RISKS TO HYDROCARBON ENTRAPMENTS- SOUTHEASTERN BAHAMAS</b>        |
| 5-2  | 2       | Epstein, Samuel*; Herman, Gregory; Buthman, David: <b>EFFECTS OF MULTIPLE METEOR IMPACTS ON PETROLEUM SYSTEMS TARIM, ORDOS AND SICHUAN BASINS CHINA</b>                                   |
| 5-3  | 3       | DiMascio, Grey*; Byrne, Timothy; Conklin, Zoe M.: <b>REVISIONS IN THE NARRATIVE PERTAINING TO THE SHOUFENG FAULT IN THE TAIWANESE OROGEN</b>  |
| 5-4  | 4       | Harnett, Isabella*; Martin, Samantha; Brunstad, Keith: <b>ANALOGUE MODELING OF INFLATION AND DEFLATION FEATURES IN THE TIETON ANDESITE LAVA FLOW</b>                                      |
| 5-5  | 5       | Wleh, Kaetu*; Harms, Tekla; Brooks, Hanna L.: <b>METAMORPHISM OF KYANITE SCHISTS IN THE NORTHERN GRAVELLY RANGE OF SW MONTANA DURING THE PALEOPROTEROZOIC BIG SKY OROGENY</b>             |
| 5-6  | 6       | Ver Straeten, Charles*: <b>PRESERVATION POTENTIAL OF AIRFALL VOLCANIC TEPHRAS, TERRESTRIAL SETTINGS/DEVONIAN</b>  |
| 5-7  | 7       | Naher, Jasmin*; Fielding, Christopher: <b>STRATIGRAPHIC ARCHITECTURE OF THE LOPINGIAN SUCCESSION IN THE BOWEN BASIN OF EASTERN AUSTRALIA</b>  |
| 5-8  | 8       | Brown, Seth*; Quick, James D.; Wizevich, Michael; Hogan, John: <b>STABLE ISOTOPE ANALYSES OF LIMESTONE BEDS IN THE LATE CRETACEOUS IRON SPRINGS FORMATION, SOUTHWEST UTAH</b>             |
| 5-9  | 9       | Simiganoschi, Pierre*; Vaez-zadeh Asadi, Nima; Brand, Uwe: <b>CLIMATE CHANGE MODELS: YOU WILL NEVER GUESS WHICH ONE IS RIGHT!</b>   |
| 5-10 | 10      | Lambert, Kimberly*; Swanger, Kate: <b>CONSTRAINING BEDROCK SOURCE REGIONS OF SURFICIAL DEPOSITS IN THE MCMURDO DRY VALLEYS, ANTARCTICA</b>  |
| 5-11 | 11      | Knuepfer, Peter*; Reja, Anika; Knuepfer, Peter L.K.: <b>MONITORING GLACIER CHANGE USING GOOGLE EARTH</b>  |
| 5-12 | 12      | Jensen, McKelvie; Carl, Brian; Wolfe, Stephen*; Gontz, Allen; Pantoja Flores, Gladys; Gifford, Neil: <b>GEOMORPHOLOGY OF PARABOLIC DUNES IN THE ALBANY PINE BUSH DUNE FIELD, NEW YORK</b> |

### SESSION NO. 6

#### D2. Paleontology (Posters)

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

- |     | Booth # |   |
|-----|---------|---|
| 6-1 | 20      | Reinhold, Mark E.*: <b>HOW OUR INTERPRETATION OF DINOSAURS HAS CHANGED THROUGH THE EYE OF POPULAR CULTURE</b>   |
| 6-2 | 21      | Haye, Justin*; Siegler, Sorin; Nabavizadeh, Ali; Voegele, Kristyn: <b>THE ROLE OF THE PREDETERMINED BONE IN EUOPLOCEPHALUS TUTUS DURING MASTICATION USING BIOMECHANICAL MODELING</b>    |
| 6-3 | 22      | Candlen, Maxwell Miles*; Wilhelm, Freya S.: <b>THE PODOKESAURUS PROJECT: REDISCOVERING HOLYOKE'S SWIFT-FOOTED LIZARD</b>  |
| 6-4 | 23      | Gross, Maria*; Sunderlin, David: <b>NEW MEASUREMENTS OF TRACKWAYS IN THE PASSAIC FORMATION, MILFORD, NJ: CONSIDERATION OF TRACKMAKER SOCIALITY</b>                                      |
| 6-5 | 24      | Kibelstis, Brian*; Terry, Dennis O.; Ullmann, Paul: <b>SEM-EDS ANALYSES OF SOFT TISSUES PRESERVED IN FOSSIL BONES FROM THE PALEOGENE WHITE RIVER GROUP OF NEBRASKA AND SOUTH DAKOTA</b> |
| 6-6 | 25      | Solomon, Avigal*; Monecke, Katrin; Buchholtz, Emily: <b>CONSERVATION EFFORTS AND CHALLENGES OF A FOSSILIZED EOSPERMATOPTERIS TREE STUMP FROM GILBOA, NEW YORK</b>                       |
| 6-7 | 26      | Locke, Evelyn*; Sunderlin, David: <b>EXPLORING VARIATION IN MARINE INVERTEBRATE PALEOCOMMUNITIES IN THE DEVONIAN MAHANTANGO FORMATION USING NEW DATA FROM EASTERN PENNSYLVANIA</b>      |
| 6-9 | 28      | Feldman, Howard R.*; Blodgett, Robert; Kasztl, Rachel: <b>ENDEMIC BRACHIOPODS FROM THE JURASSIC ETHIOPIAN FAUNAL PROVINCE</b>   |

- 6-10 29 Spencer, Ellie; Sunderlin, David\*: **CHARACTERIZING BOTANICAL SOURCES OF CRETACEOUS AND PALEOGENE AMBERS FROM ALASKA**

#### SESSION NO. 7

##### **T10. Glacial Geology and Geomorphology of Northeastern North America: Current Gaps and Future Directions (Posters) (GSA Quaternary Geology and Geomorphology Division)**

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

- |     | Booth # |  |
|-----|---------|--|
| 7-1 | 30      | Lasker, Maya*; Briner, Jason: <b>MAPPING LAURENTIDE ICE SHEET POSITIONS IN CENTRAL NEW YORK USING LIDAR</b>  |
| 7-2 | 31      | Eberhardt, Heidi*; Briner, Jason: <b>RE-MAPPING LATE PLEISTOCENE SHORELINES IN THE LAKE ERIE BASIN USING LIDAR</b>   |
| 7-3 | 32      | Dienstfrey, William*; Holschuh, Nicholas; Shapero, Daniel: <b>EFFECTS OF HETEROGENEITY IN SUBSURFACE PROPERTIES ON FUTURE THINNING OF PETERMANN GLACIER, N. GREENLAND</b>                  |
| 7-4 | 33      | Hertz, Naomi*; Pietras, Jeffrey T.; Schmitkons, Jonathan; Meyer, Louis: <b>FORMATION MECHANISMS OF FAYETTEVILLE GREEN LAKE AND ROUND LAKE: GLACIAL EROSION, WATERFALLS, AND SINKHOLES?</b> |
| 7-5 | 34      | Jordan, Teresa*: <b>SEDIMENTOLOGY OF QUATERNARY SEDIMENTS WITHIN AND ADJACENT WESTERNMOST FALL CREEK VALLEY, TOMPKINS COUNTY, NEW YORK</b>   |
| 7-6 | 35      | Walcott, Caleb K.; Brown, Nathan D.; Prince, Karlee K.; Briner, Jason*: <b>CAN THE ICE-SHEET CHRONOLOGY IN WESTERN NEW YORK BE IMPROVED WITH INFRARED STIMULATED LUMINESCENCE DATING?</b>  |

#### SESSION NO. 8

##### **T19. Recent Advances in PFAS and Emerging Contaminant Science: From Human Health Risk Assessment to Fate and Transport (Posters)**

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

- |     | Booth # |   |
|-----|---------|---|
| 8-1 | 36      | Romanok, Kristin M.; Bradley, Paul; Smalling, Kelly L.*: <b>DIRECT COMPARISON OF CONTAMINANT EXPOSURES AND POTENTIAL RISK IN PUBLIC AND PRIVATE TAPWATER IN A SOLE-SOURCE AQUIFER SETTING</b> |
| 8-2 | 37      | Costa, Sydney*; Arnold, Thomas: <b>MICROPLASTIC CHARACTERIZATION IN THE CHESAPEAKE AND DELAWARE BAY WATERSHEDS</b>  |
| 8-3 | 38      | Cadieux, Sarah*; Knazik, Isabella; Desaulnier, Charlotte; Davies, Alex: <b>FROM SOURCE TO TAP: MICROPLASTICS IN A SUB-WATERSHED OF THE HUDSON RIVER ESTUARY</b>                               |

#### SESSION NO. 9

##### **T31. Economic Geology and Critical Mineral Resources (Posters) (GSA Energy Geology Division; GSA Geophysics and Geodynamics Division)**

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

- |     | Booth # |   |
|-----|---------|---|
| 9-1 | 39      | Kirschenmann, Jacob*; Hart, Kenneth; Homewood, Timothy; Wilmot, Jessica; Severs, Matthew J.: <b>FLUID INCLUSION INVESTIGATION OF SHAWANGUNK MINERAL DEPOSITS</b>                                    |
| 9-2 | 40      | Homewood, Timothy*; Wilmot, Jessica; Kirschenmann, Jacob; Hart, Kenneth; Ficken, Michelle; Severs, Matthew J.: <b>MINERAL GEOCHEMISTRY AND ECONOMIC POTENTIAL OF THE SHAWANGUNK MINES, NEW YORK</b> |

## AFTERNOON ORAL TECHNICAL SESSIONS

#### SESSION NO. 10

##### **S2. Neoproterozoic and Paleozoic Geological Connections Among Northwest Africa, Europe, and Eastern North America II – A Session Honoring the Career of Sandra M. Barr (GSA Structural Geology and Tectonics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)**

1:30 PM, Doubletree by Hilton, Pemigewasset Room

Yvette Kuiper, Margaret Thompson, Chris E. White, Belkacim Saïd, Faouziya Haissen and Pilar Montero, Presiding

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|------|---------|--|
|      | 1:30 PM | <b>INTRODUCTORY REMARKS</b>  |
| 10-1 | 1:35 PM | Alvaro, J. Javier*; Mills, Andrea; Martínez-Benítez, Blanca: <b>STRATIGRAPHIC ARCHITECTURE OF THE EARLIEST RIFT (HALF-)GRABEN TROUGHS FROM EDIACARAN-CAMBRIAN TRANSITION IN THE AVALON ZONE (NEFOUNDLAND) AND THE ATLAS MOUNTAINS (MOROCCO)</b>  |
| 10-2 | 1:55 PM | Kuiper, Yvette D.*; Barr, Sandra M.; Waldron, John; White, Chris E.; Germain, Rémi; Haissen, Faouziya; El Hassani, Ahmed; Saïd, Belkacim; Martínez, David; Accotto, Cristina; Montero, Pilar: <b>A COMPARISON AMONG THE MEGUMA TERRANE OF EASTERN CANADA, THE SEHOUL BLOCK OF NW AFRICA, THE HARLECH DOME OF NORTH WALES, AND THE SOUTH PORTUGUESE ZONE OF SOUTHERN SPAIN AND PORTUGAL</b> |
| 10-3 | 2:15 PM | Waldron, John*; DuFrane, S. Andrew; Schofield, David I.; Barr, Sandra M.; White, Chris E.: <b>IS BRITAIN DIVIDED BY AN ACADIAN SUTURE?</b>   |
| 10-4 | 2:35 PM | Wang, Lijun*; Lin, Shoufa; Xiao, Wenjiao: <b>POSITION OF SOUTH CHINA IN GONDWANA</b>   |
|      | 2:55 PM | <b>BREAK</b>   |
| 10-5 | 3:10 PM | Bloch, Roger*: <b>A PLATE MODEL AND KEY UNCERTAINTIES FOR PERI-GONDWANAN TERRANES IN RELATION TO WEST AFRICA CRATON, BALTICA AND AMAZONIA</b>  |
| 10-6 | 3:30 PM | Linnemann, Ulf*; Gärtner, Andreas; Hofmann, Mandy; Zieger, Johannes; Haschke, Jessica; Zweig, Maren: <b>THE HARZ MOUNTAINS (GERMANY) – CADOMIA MEETS AVALONIA AND BALTICA: U-PB AGES OF DETRITAL AND MAGMATIC ZIRCON AS A KEY FOR THE DECODING OF PANGAEA'S CENTRAL SUTURE</b>   |
| 10-7 | 3:50 PM | Gärtner, Andreas*; Sagawe, Anja; Hofmann, Mandy; Zieger, Johannes; Linnemann, Ulf: <b>CRATONAL INTERPLAYS IN THE MIRROR OF PRE-MESOZOIC ZIRCON AGE DATABASES</b>   |
| 10-8 | 4:10 PM | Murphy, J. Brendan*; Nance, R.; Mitchell, Ross N.: <b>THE ASSEMBLY OF PANGAEA: GEODYNAMIC CONUNDRUMS REVISITED</b>   |
|      | 4:30 PM | <b>DISCUSSION</b>  |

#### SESSION NO. 11

##### **T10. Glacial Geology and Geomorphology of Northeastern North America: Current Gaps and Future Directions (GSA Quaternary Geology and Geomorphology Division)**

1:30 PM, Doubletree by Hilton, Contoocook Room

Simon Pendleton, Alia Lesnek and Aaron Barth, Presiding

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|------|---------|--|
|      | 1:30 PM | <b>INTRODUCTORY REMARKS</b>  |
| 11-1 | 1:35 PM | Davis, P. Thompson*; Keeley, Joshua; Thompson, Peter J.; Fowler, Brian K.: <b>TILL BENCHES MARK RECEDING LATE WISCONSINAN ICE MARGINS IN MOUNTAINOUS TERRAIN: A CASE STUDY FROM MOUNT MOOSILAUKE, NH</b> |

- 11-2 1:55 PM Keeley, Joshua\*: **NEWLY MAPPED, PARTIALLY THRUSTED RECESSIONAL MORAINES, TILL BENCHES, AND OTHER ICE-MARGINAL FEATURES SUPPORT ACTIVE ICE SHEET RECESSION IN THE MOUNT OSCEOLA QUADRANGLE, WHITE MOUNTAINS, NEW HAMPSHIRE**
- 11-3 2:15 PM Newton, Robert\*: **REGIONAL ICE FLOW DIRECTIONS ACROSS NEW HAMPSHIRE AND WESTERN MAINE**
- 11-4 2:35 PM Blackman, Taylor\*; White, Timothy: **THE ORIGINS AND LANDSCAPE CONDITIONS ASSOCIATED WITH VERNAL POOLS ALONG SHALE SADDLES IN THE CENTRAL APPALACHIAN MOUNTAINS OF PENNSYLVANIA**
- 11-5 2:55 PM Cuzzone, Joshua\*; Barth, Aaron; Barker, Kelsey; Morlighem, Mathieu: **ICE SHEET MODEL SIMULATIONS REVEAL POLYTHEMAL ICE CONDITIONS EXISTED ACROSS THE NORTHEAST UNITED STATES DURING THE LAST GLACIAL MAXIMUM**
- 11-6 3:15 PM Doughty, Alice\*; Pisani, Jacob: **GROWING GLACIERS ON MT. WASHINGTON, N.H**
- 3:35 PM **BREAK**
- 11-7 3:50 PM Barker, Kelsey\*; Barth, Aaron; Cuzzone, Joshua; Caffee, Marc: **FILLING IN THE GAPS FOR LAURENTIDE DEGLACIAL THINNING IN THE ADIRONDACK MOUNTAINS, NEW YORK, USA**
- 11-8 4:10 PM Kozlowski, Andrew\*; Backhaus, Karl; Feranec, Robert S.: **DRAINAGE FROM GLACIAL LAKE DELANSON AND STRUCTURALLY CONTROLLED MELT WATER ROUTING IN EASTERN NEW YORK STATE**
- 11-9 4:30 PM Wright, Stephen\*: **ICE-MARGINAL CHANNELS AND THE EVOLUTION OF GLACIAL LAKE MEMPHREMAGOG ALONG VERMONT'S NORTHERN BORDER**
- 11-10 4:50 PM Lajeunesse, Patrick\*; Ghienne, Jean-François; Belko, Alexis; Dietrich, Pierre; Brouard, Etienne; Brionne, Charles; Normandeau, Alexandre: **THE LAST PHASES OF THE LAURENTIDE ICE SHEET MARGIN IN THE ST. LAWRENCE ESTUARY AND GULF AND ADJACENT AREAS**
- 11-11 5:10 PM Franzi, David\*; Carl, Brian: **THE FINAL STAGES OF DEGLACIATION IN NORTHEASTERN NEW YORK**
- 3:15 PM **BREAK**
- 12-6 3:30 PM Meadows, Max\*; Welch, Sydney; Santangelo, Leah; Tokranov, Andrea; Marts, Jeffrey; Schlosser, Kate Emma; Ready, Jill; Justham, Tanya; Drouin, Anthony; Rousseau, Amy; Harfmann, Jennifer: **OCCURRENCE OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN SHALLOW GROUNDWATER BENEATH SOILS WITH LOW PFAS CONCENTRATIONS IN NEW HAMPSHIRE**
- 12-7 3:50 PM Palmer, Johanna\*; Hubbs, Steven; Dejong, Ben; Hayes, Joseph; Kim, Jonathan: **SITE INVESTIGATION OF A PFAS-IMPACTED FIREFIGHTER TRAINING FACILITY IN SOUTHWEST VERMONT**
- 12-8 4:10 PM Savoie, Jennifer\*: **INVESTIGATING THE OCCURRENCE OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN RIVERS AND AT WASTEWATER TREATMENT FACILITIES IN MASSACHUSETTS**
- 12-9 4:30 PM Jahn, Kalle\*; Saffer, Demian M.; Freeman, Katherine H.; Lincoln, Sara A.: **MASS-BASED EVALUATION OF PFAA STORAGE AND TRANSPORT IN A WASTEWATER REUSE SYSTEM**
- 4:50 PM **CONCLUDING REMARKS**

### SESSION NO. 13

#### *T31. Economic Geology and Critical Mineral Resources (GSA Energy Geology Division; GSA Geophysics and Geodynamics Division)*

1:30 PM, Doubletree by Hilton, Piscataquog Room

Myles Felch and John F. Slack, Presiding

1:30 PM **INTRODUCTORY REMARKS**

13-1 1:35 PM Slack, John F.\*: **CRITICAL MINERAL DEPOSITS OF NEW ENGLAND**

1:55 PM **DISCUSSION**

13-2 2:05 PM Felch, Myles\*; Holm-Denoma, Chris; Bradley, Dwight; Eusden, J. Dykstra: **A CONTEMPORARY REVIEW OF MAINE'S SPODUMENE-BEARING PEGMATITES**

13-3 2:25 PM Bradley, Dwight\*; Hillenbrand, Ian; Holm-Denoma, Chris; Felch, Myles; Eusden, J.: **GENETIC LINKS BETWEEN LITHIUM PEGMATITES AND THE ACADIAN ALTIPLANO AND THE ROLE OF PALEOCLIMATE**

13-4 2:45 PM Hamilton, Gilleann\*; Reusch, Douglas N.; Wieland, Logan; Robert, Will; Felch, Myles; Munk, Lee; Bradley, Dwight: **STREAM WATER GEOCHEMISTRY NEAR THE PLUMBAGO NORTH LITHIUM-BEARING PEGMATITE, WEST-CENTRAL MAINE**

3:05 PM **BREAK**

13-5 3:20 PM White, Timothy\*: **GEOCHEMICAL FACIES ANALYSIS OF LI-ENRICHED PALEOSOLS IN COAL MEASURE STRATA OF THE NORTHERN APPALACHIAN BASIN**

13-6 3:40 PM Wang, Chunzeng\*; McFarlane, Chris; Lentz, David R.: **GEOCHEMISTRY, TECTONIC SETTING, AND EMPLACEMENT AGE OF THE REE-NB-ZR-MINERALIZED PENNINGTON MOUNTAIN TRACHYTE OF NORTHERN MAINE**

13-7 4:00 PM Madsen, Lauren E.\*; Wang, Chunzeng; Cruz-Uribe, Alicia M.; Yates, Martin; Lentz, David R.; Whittaker, Amber: **MINERALOGY, GEOCHEMISTRY, AND METALLOGENESIS OF THE NORTHERN AROOSTOOK MANGANESE SUB-DISTRICT, AROOSTOOK COUNTY, NORTHERN MAINE**

4:20 PM **DISCUSSION**

13-8 4:40 PM Epstein, Samuel\*; Herman, Gregory; Sassen, Roger: **POSSIBLE EFFECTS OF CHICXULUB AND CHESAPEAKE – TOMS RIVER ASTEROID IMPACT EVENTS ON HYDROCARBON ENTRAPMENTS – BALTIMORE CANYON OFFSHORE US**

### SESSION NO. 12

#### *T19. Recent Advances in PFAS and Emerging Contaminant Science: From Human Health Risk Assessment to Fate and Transport*

1:30 PM, Doubletree by Hilton, Merrimack Room

Andrea Tokranov, Zachary Hopkins, Andrew Shapero and Sara Barrientos, Presiding

1:30 PM **INTRODUCTORY REMARKS**

12-1 1:35 PM Bradley, Paul\*; Smalling, Kelly; Romanok, Kristin M.: **BOTTLED-WATER CONTAMINANT-MIXTURE EXPOSURES AND POTENTIAL FOR HUMAN EFFECTS**

12-2 1:55 PM Smalling, Kelly L.\*; Romanok, Kristin M.; Bradley, Paul: **PER- AND POLYFLUOROALKYL SUBSTANCES IN UNITED STATES TAP WATER**

12-3 2:15 PM Breitmeyer, Sara\*; Williams, Amy; Duris, Joseph; Eicholtz, Lee; Shull, Dustin; Wertz, Timothy; Woodward, Emily: **PER- AND POLYFLUORINATED ALKYL SUBSTANCES (PFAS) IN PENNSYLVANIA SURFACE WATERS: A STATEWIDE ASSESSMENT, ASSOCIATED SOURCES, AND LAND-USE RELATIONS**

12-4 2:35 PM Petali, Jonathan\*: **PER- AND POLYFLUOROALKYL SUBSTANCES IN RESIDENTIAL GARDENS: A LOCAL CASE STUDY ON UPTAKE FROM NEW HAMPSHIRE**

12-5 2:55 PM Woodward, Emily\*; Duris, Joseph; Olson, Leif: **ASSESSING PFAS ENRICHMENT IN SURFACE WATER FOAMS WITHIN THE NESHAMINY CREEK BASIN IN SOUTHEASTERN PENNSYLVANIA**

- 13-9 5:00 PM Haddad, James\*; Wilson, Steve: **TWO NEW GEOCHEMICAL CERTIFIED REFERENCE MATERIALS (CRMS) REPRESENTATIVE OF NORITE AND ANORTHOSITE FROM THE STILLWATER COMPLEX, MT, USA**
- 5:20 PM CONCLUDING REMARKS

Willis, Katherine S.: **ANALYSIS AND INTERPRETATIONS OF SEDIMENT CORES FROM LAKE SEMINOLE, GEORGIA**

- 15-6 13 Nguyen, Bianca\*; Bajwa, Rohan; Davidson, Robert; Elias, Angelina; Reyes, Jennifer; Zahavi, Itamar; Schmitkons, Jonathan: **EXPLORING BIOGEOCHEMICAL SIGNATURES OF NEIGHBORING MEROMICTIC LAKES IN FAYETTEVILLE, NY THROUGH 16S RRNA SEQUENCING OF MICROBIAL COMMUNITIES**
- 15-7 14 Maxson, Grace E.\*; Prince, Karlee K.; Briner, Jason; Thomas, Elizabeth K.; Topness, Rebecca G.: **SEDIMENT CORES FROM A RARE LAKE IN WESTERN NEW YORK: A FIRST LOOK**
- 15-8 15 Cook, Tim\*; Dulin, Ian; Snyder, Noah P.; Wang, Xingchen (Tony): **EFFECTS OF LAND-USE CHANGE ON WATERSHED EROSION AND NITROGEN CYCLING IN THE NORTHEASTERN UNITED STATES**
- 15-9 16 Wiman, Charlotte\*; Hoogs, Jesse; Wallace, Elizabeth; Sullivan, Richard; O'Donnell, Michelle; Nyberg, Grace; Schiabe, Kristina; Munoz, Samuel: **SEDIMENTARY RECONSTRUCTIONS OF NOR'EASTER OCCURRENCE IN NEW ENGLAND**
- 15-10 17 Carden, Megan\*; Persky, Taylor; Leet, Kennie: **CONDITIONS FOR MODERN SILICEOUS GEL FORMATION: ALVORD HOT SPRINGS, OREGON**
- 15-11 18 Howell, Bennett\*; Leet, Kennie: **REVISITING ALKALI LAKE, OREGON MAGADIITE: A REANALYSIS OF LAKE SHORE SEDIMENTS**
- 15-12 19 Esber, Renee\*; Mana, Sara; Beck, Catherine; Stinchcomb, Gary E.; Beverly, Emily; Feibel, Craig: **PALEOENVIRONMENTAL RECONSTRUCTION OF THE LOCHERANGAN MIOCENE LACUSTRIAN FOSSILIFEROUS SITE, KENYA**
- 15-13 20 Randall, Anne\*; Kelly, Meredith; Stroup, Justin S.; Oswald, Wyatt; Burdick, Aidan; Kitchel, Nathaniel; Axford, Yarrow: **DEVELOPING A RECORD OF UPLAND DEGLACIATION AT TERMINATION 1 FROM SMITH AND SKY PONDS, NEW HAMPSHIRE**
- 15-14 21 Grozeva, Maria\*; Kelly, Meredith; Stroup, Justin S.; Randall, Anne; Kitchel, Nathaniel; Oswald, Wyatt; Axford, Yarrow: **A MIDDLE AND LATE HOLOCENE CLIMATE RECONSTRUCTION FROM SMITH POND, NEW HAMPSHIRE**
- 15-15 22 Bunnell, Georgia\*: **INTERNAL PHOSPHORUS LOADING AND CYANOBACTERIA POPULATIONS OF LAKE KANASATKA: MONITORING BEFORE AND AFTER ALUMINUM SULFATE TREATMENT**
- 15-16 23 Paulin, Christy; Grigg, Laurie\*; Pett, Lindsey: **AN INVESTIGATION INTO THE COMPOSITION OF SEDIMENT DEPOSITED IN TWO VERMONT PONDS DURING THE SUMMER OF 2023 AND ITS IMPACTS ON WATER QUALITY**

## AFTERNOON POSTER TECHNICAL SESSIONS

### SESSION NO. 14

#### T3. Northern Appalachian Magmatism: From the Precambrian to the Cretaceous (Posters)

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

Booth #

- 14-1 1 Chrzanowski, Stan; Charney, Allison\*; Steinen, Randolph P.: **MINERALOGY OF UPPER CRUSTAL XENOLITHS FROM A LAMPROPHYRE DIKE**
- 14-2 2 Hollocher, Kurt\*: **REVIEW OF BROAD-SCALE GEOCHEMICAL CHARACTERISTICS OF THE ORDOVICIAN TACONIAN VOLCANIC ARC OF WESTERN NEW ENGLAND**
- 14-3 3 Amidon, William\*; Marks, Amanda; Webb, Laura: **TIMING OF CRETACEOUS MAGMATISM IN THE CHAMPLAIN VALLEY**
- 14-4 4 Chernowsky, Bianca\*; Cooper Boemmels, Jennifer: **PHOTOGRAMMETRY AND OUTCROP-SCALE MAPPING OF BRITTLE STRUCTURES IN THE ORENAUG BASALT, POMPERAUG BASIN, CONNECTICUT**
- 14-5 5 Penny, Ryan\*; VanTongeren, Jill: **NO LATERAL GEOCHEMICAL VARIABILITY BETWEEN WESTERN AND EASTERN WHITE MOUNTAIN BATHOLITH DESPITE 10-15 MYR AGE GAP**
- 14-6 6 Parsons, Levben\*; Black, Benjamin; Hickey, Jacob; Arceneaux, Aster Asyra: **SULFUR EMISSIONS FROM THE CENTRAL ATLANTIC MAGMATIC PROVINCE FROM GLASSY MELT INCLUSIONS**
- 14-7 7 Gilbert, Sean\*; Severs, Matthew: **CONTINUING STUDIES INTO DIKES OF THE CORTLANDT-BEEMERVILLE TREND**

### SESSION NO. 15

#### T12. Current Research in Lacustrine Sedimentary Records and Processes for Understanding Climate and Environmental Change (Posters) (GSA Limnogeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

Booth #

- 15-1 8 Retelle, Michael\*; Roof, Steve; Werner, Al: **ENVIRONMENTAL MONITORING IN A HIGH ARCTIC PROGLACIAL LACUSTRIAN WATERSHED IN A WARMING HYDROCLIMATIC REGIME, LINNÉVATNET, SVALBARD**
- 15-2 9 Niewierowski, Samantha\*; Lowell, Thomas V.: **FRESHWATER DIATOM TEMPERATURE-SIZE RELATIONSHIP; A PALEOTEMPERATURE TOOL?**
- 15-3 10 Hou, Changhai\*; Griffiths, Michael L.; Seki, Osamu; Zhou, Aifeng; Patterson, Elizabeth; Ryan, Sabrina; DaSilva, Michael; Bendle, James: **A MULTI-PROXY RECORD OF LATE-GLACIAL TO HOLOCENE CLIMATE FROM LAKE BLAUVELT, NEW JERSEY**
- 15-4 11 Wall, Natalie\*; Gaudio, Sarah; Michelson, Andrew V.; Wittmer, Jacalyn M.: **INVESTIGATING CARBONATES IN THE SEDIMENTARY RECORD OF CONESUS LAKE, LIVINGSTON COUNTY, NY**
- 15-5 12 Regnier, Anna\*; Snyder, Noah P.; Bahr, Julie; Cook, Tim; Dahl, Travis; Edgington, Anthony; Landis, Joshua; Seal, Dylan;

### SESSION NO. 16

#### T23. Watershed Processes and the Fluvial Forms and Dynamics They Produce (Posters)

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

Booth #

- 16-1 24 Soma, Mohamed; Dolla, Canton T.; Harris, Madeline; Kelly, Christopher; Miranda, Ariana; Buynevich, Ilya\*: **SCIURID BURROWS AS ZOOGEOMORPHIC ELEMENTS AT MILL RUN (BUCKS COUNTY, PA): NEW DATASET IN THE UPSTREAM REACH**
- 16-2 25 Hedayatfar, Armin; Marshall, Jesse; Pointer, Isaac; Vo, Vinh; Miranda, Ariana; Buynevich, Ilya\*: **ZOOGEOMORPHIC ASSESSMENT OF AN ABANDONED BEAVER COLONY: CHEW-STUMP TAPHONOMY AND RECOGNITION POTENTIAL**
- 16-3 26 Patel, Ansh; Bui, Liem T.; Laraia, Devin J.; Hampton, Bryce E.; Miranda, Ariana; Buynevich, Ilya\*: **CERVID PEDITURBATION AS EROSIONAL-DEPOSITIONAL MECHANISM ALONG A SMALL CREEK (MILL RUN, PENNSYLVANIA)**
- 16-4 27 Smith, Sean; Thompson, Neil P.; King, Robert\*; Casella, Angeline; Libby, Hayden; Oehler, Morgan; Roberts, Samuel; Van Dam, Bea;

- SEEING THE FORESTS FOR THE STREAMS: DESIGNING HEADWATER STREAM DIAGNOSTICS IN NORTHERN WOODLAND LANDSCAPES**
- 16-5 28 Walsh, Elise\*; Germanoski, Dru; Brandes, David; Bowsher, Andrew; Thompson, Liam; Wilson, John R.; Santopatre, Andy; Winger-Sieve, Taylor: **PRE- AND POST-DAM REMOVAL CHANNEL CHANGE IN THE BUSHKILL CREEK, EASTERN PENNSYLVANIA**
- 16-6 29 Davis, Hannah\*: **THE HYDROGEOLOGIC RESTORATION OF GOLF COURSES TO WETLANDS**
- 16-7 30 Falco, Ashley\*; Helmke, Martin F.: **HYDROGEOLOGIC SIMULATION OF GREAT MARSH, CHESTER COUNTY, PENNSYLVANIA USING GIS AND MODFLOW 6 TO UNDERSTAND THE WETLAND'S PROLONGED EXISTENCE**
- 16-8 31 Gontz, Allen\*; Yule, Catherine; Chalmers, Gareth; McCallum, Adrian; Chittleborough, David; Shulmeister, James; Pantoja Flores, Gladys: **Basin Framework and Peat Architecture Inferred from Ground Penetrating Radar Surveying – Implications for Climate and Carbon Sequestration**
- 16-9 32 Walters, Nicholas\*: **Investigating Water and Soil Chemistry Dynamics during Effluent Discharge Point Transition in Cooperstown's Wastewater Treatment Plant**
- 16-10 33 Berger, Maya\*; Mazalusk, Chase; Gowin, Daltin; Whisner, Jennifer: **Geochemical Analysis of Catawissa Creek, Luzerne, Schuylkill and Columbia Counties, PA**
- 16-11 34 Hess, Mitchel; Fredrick, Kyle\*: **Land Use Mapping to Determine Potential Impacts to Streams, Pike Run, Washington County, PA**
- 16-12 35 Barclay, Janet\*; Koenig, Lauren; Fan, Yingda; Jia, Xiaowei; Appling, Alison: **Multiscale Deep-Learning Modeling Methods for Predicting Stream Temperature at Local Spatial Resolutions in Well-Observed and Data-Sparse Basins**
- 16-13 36 Kabis, Stewart\*; Lawson, Scott; Underwood, Kristen: **Using a Self-Organizing Map to Analyze Hydraulic Features of Vermont Streams to Gain Insight into Flood Response**
- 16-14 37 Flanzer, Zoe\*; Diehl, Rebecca M.; Underwood, Kristen: **Examining Variability in Streambank Erosion Rates in the Lake Champlain Basin, Vermont**
- 16-15 38 Painter, Scout\*; Stucky de Quay, Gaia: **Quantifying Fluvial Erosion and Landscape Evolution of Volcanic Islands**
- 16-16 39 Elick, Jennifer\*; Elick, Jennifer M.: **Major Flood Events in the Susquehanna River Valley Contribute to "Legacy Island" Formation: Dalmatia, PA**
- 16-17 40 Hafner, Grace; Rogers, Patrick J.; DiFrancesco, Nicholas J.\*; Bush, Peter J.: **Fluorescent Sodalite in Sediment Along the Southern Shores of the Great Lakes from Michigan to New York**

### SESSION NO. 17

#### T29. Geohazards in the Northeastern U.S.: Investigation and Mitigation (Posters)

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

- |      | Booth #   |
|------|---|
| 17-1 | 41 Moriarty, Sophia; Sajonia, Tassilo; Kiernan, Audrey; Ebel, John E.*: <b>Investigating the Subsurface Structure of the Chestnut Hill Earth Embankment Dam Using Magnetic and Resistivity Measurements</b> |
| 17-2 | 42 Olawoyin, Victor; Jorgensen, Eamon; Ebel, John E.*: <b>Investigating the Subsurface Structure of the Chestnut Hill Embankment Dam Using the Ground Penetrating Radar (GPR) Method</b>                    |

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| 17-3 | 43 Valencius, Ilan; Bader, Michael; Brune, Sean; Ebel, John E.*: <b>Investigating the Subsurface Structure of the Chestnut Hill Earth Embankment Dam Using Gravity Measurements</b>  |
| 17-4 | 44 Emery, Emerson; Hilliker, Joby*; Lutz, Timothy: <b>Exploring Whether Localized Flash Flooding Events Have Recently Increased over Southeastern Pennsylvania Using Semivariograms</b>  |
| 17-5 | 45 Myrick, Emma P.*; Klepeis, Keith A.; Springston, George; Kim, Jonathan; Berkenkotter, Bernard; Cresanti, Lauren; Karins, Spencer: <b>Characterizing Mechanisms of Mass Wasting at the Cotton Brook Landslide in Waterbury, Vermont Using Remote Sensing and Field-Based Methods</b> |

**MONDAY, 18 MARCH 2024**

## MORNING ORAL TECHNICAL SESSIONS

### SESSION NO. 18

#### T2. What is the Future of Field Camp? (GSA Energy Geology Division)

8:00 AM, Doubletree by Hilton, Contoocook Room

Sara Mana, Lauren Neitzke Adamo and Morgan Schaller, Presiding

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|      | 8:00 AM  | <b>INTRODUCTORY REMARKS</b>   |
| 18-1 | 8:05 AM  | Tully, Lancen*; Ryker, Katherine; Barbeau, David; Rademacher, Laura: <b>From Rocks to Resilience: Assessing Student Perceptions of Skill Development and Personal Growth from a Traditional Geology Field Camp</b>  |
| 18-2 | 8:25 AM  | Allen, Douglas*; Mana, Sara; Hubeny, Brad; Toraman, Erkan; Cullen, James; Hanson, Lindley: <b>Making a Small State University Field Experience More Sustainable</b>   |
| 18-3 | 8:45 AM  | Smith, Joshua B.*: <b>An Argument for Maintaining Pace-and-Compass Land Navigation and Map Reading as Topics within Geoscience Field Camp Curricula</b>   |
| 18-4 | 9:05 AM  | Hogan, John*; Kaiser, Jason; Wizevich, Michael: <b>Incorporating Student-Led "GSA Style" Field Trips into Traditional Field Camp Mapping Projects</b>   |
| 18-5 | 9:25 AM  | Beck, Catherine*; Bailey, David; Kusnerik, Kristopher: <b>Early and Often: Field Course Opportunities Enhance Experiences for Students across the Curriculum</b>  |
| 18-6 | 9:45 AM  | Markley, Michelle*; Callahan, Caitlin: <b>What are the Ethics of Going into the Field?</b>  |
|      | 10:05 AM | <b>BREAK</b>  |
| 18-7 | 10:20 AM | Vahey, Taylor*: <b>The Future of Field Camp: Attracting Interdisciplinary Students to Engage in Climate Action</b>  |
| 18-8 | 10:40 AM | Salazar, Chase*: <b>Ghosts in the Geoscience Schoolyard: A Reevaluation of Pedagogy in the Field</b>  |
| 18-9 | 11:00 AM | Cornell, Sean*; Lewis, Jon; Harris, Daniel; Schiappa, Tamra; Nikitina, Daria: <b>Innovating the Future of Geoscience Field Courses: Integrating Pre-College Student and Teacher Training Experiences into a Collaborative Learning Ecosystem for the Pennsylvania State System of Higher Education (PASSHE)</b> |

AM

MONDAY

- 18-10 11:20 AM Campbell, Seth\*; Braddock, Scott; Towns, Erin; Fromstein, Mari; Wiggins, Tah; Bellamy, Keegan: **CONNECTING UNDERSERVED STUDENTS TO POLAR STEM: LESSONS LEARNED FROM A "NEW" FIELD PROGRAM IN ALASKA**
- 11:40 AM **DISCUSSION**

### SESSION NO. 19

#### ***T7. Unraveling Appalachian Orogenic Events Using Geological and Geophysical Methods (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)***

8:00 AM, Doubletree by Hilton, Merrimack Room

Maureen Long, Yvette Kuiper, Paul Karabinos and Laura Webb, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 19-1 8:05 AM Waldron, John\*; Barr, Sandra M.; White, Chris E.: **NOT THE NEOACADIAN OROGENY**
- 19-2 8:25 AM Valley, Peter\*; Walsh, Greg J.; Merschat, Arthur; McAleer, Ryan: **GEOCHEMICAL AND TECTONIC EVOLUTION OF THE ORDOVICIAN BRONSON HILL ARC AND SILURIAN AND DEVONIAN CONNECTICUT VALLEY TROUGH: EASTERN VERMONT AND WESTERN NEW HAMPSHIRE, USA**
- 19-3 8:45 AM Schwangler, Martin\*; Waldron, John: **KINEMATICS OF THE ROUND HEAD THRUST, WESTERN NEWFOUNDLAND: INTEGRATING 2D SEISMIC INTERPRETATION AND 3D MODELING**
- 19-4 9:05 AM Scorsolini, Ludovico\*; van Staal, Cees; Yakymchuk, Chris; Hanchar, John: **TECTONO-METAMORPHIC EVOLUTION OF THE TACONIC OROGEN IN THE NEWFOUNDLAND APPALACHIANS, INSIGHTS FROM THE BAIE VERTE PENINSULA ECLOGITES**
- 19-5 9:25 AM Hillenbrand, Ian\*; Williams, Michael; Peterman, Emily; Jercinovic, Michael J.; Dietsch, Craig: **PETROCHRONOLOGIC CONSTRAINTS ON INVERTED METAMORPHISM, TERRANE ACCRETION, THRUST STACKING, AND DUCTILE FLOW IN THE GNEISS DOME BELT, NORTHERN APPALACHIAN OROGEN**
- 19-6 9:45 AM Jiang, Dazhi\*: **INTEGRATING GEOLOGY, GEOPHYSICS, AND MICROMECHANICS IN THE STUDY OF SEISMIC ANISOTROPY OF THE LITHOSPHERE**
- 10:05 AM **BREAK**
- 19-7 10:20 AM Webb, Laura\*; Karabinos, Paul M.; Long, Maureen; Khadka, Suman: **ACADIAN, NEO-ACADIAN, AND ALLEGHENIAN TECTONIC REACTIVATION OF TACONIC THRUSTS IN THE NORTHERN NEW ENGLAND APPLACHIANS**
- 19-8 10:40 AM Karabinos, Paul M.\*; Webb, Laura; Luo, Yantao; Long, Maureen; Masis Arce, Roberto: **LITHOSPHERIC-SCALE REACTIVATION OF ACCRETED TERRANES IN THE NEW ENGLAND APPALACHIANS**
- 19-9 11:00 AM Luo, Yantao\*; Long, Maureen; Link, Frederik; Karabinos, Paul; Kuiper, Yvette D.: **INSIGHTS FROM LAYERED ANISOTROPY BENEATH SOUTHERN NEW ENGLAND: FROM ANCIENT TECTONISM TO PRESENT-DAY MANTLE FLOW**
- 19-10 11:20 AM Jordan, Teresa\*; Fulcher, Sean; Gustafson, Olaf; Fulton, P.M.; Valentino, David; Chiarenzelli, Jeffrey; Pinilla Granados, D.; Clairmont, Roberto; Tester, Jefferson W.; Jacobi, Robert: **DEEP ROCKS AND STRUCTURES OF THE ALLEGHENY PLATEAU REVEALED BY GEOTHERMAL EXPLORATION IN ITHACA NY**
- 19-11 11:40 AM van der Pluijm, Ben\*; Lynch, Erin: **CHARACTERIZATION OF ANCIENT APPALACHIAN GEOFLUIDS FROM O-H ISOTOPES AND <sup>40</sup>AR/<sup>39</sup>AR DATING OF AUTHIGENIC CLAY MINERALS IN THE CENTRAL VALLEY-AND-RIDGE PROVINCE**

### SESSION NO. 20

#### ***T8. Micro to Macro: Linking Structural Geology, Petrology, Geochronology, and Tectonics Across Scales (GSA Geochronology Division; GSA Structural Geology and Tectonics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)***

8:00 AM, Doubletree by Hilton, Piscataquog Room

Emily Peterman and Nicolas Roberts, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 20-1 8:05 AM Srogi, LeeAnn\*; Withjack, Martha O.; Lutz, Timothy; Finch, Elizabeth; Patel, Isabella; Pollock, Meagen; Smith, Robert C.: **DETAILED STRUCTURAL AND PETROLOGIC ANALYSIS OF THE DEEP PART OF THE MORGANTOWN INTRUSION PROVIDES INSIGHTS INTO MAGMA PROPAGATION AND CRYSTALLIZATION**
- 20-2 8:25 AM Withjack, Martha\*; Srogi, LeeAnn; Lutz, Timothy; Patel, Isabella; Finch, Elizabeth: **LINKING STRUCTURAL GEOLOGY AND PETROLOGY AT MULTIPLE SCALES TO BETTER UNDERSTAND THE EVOLUTION OF THE MORGANTOWN (AND OTHER) CAMP INTRUSIONS**
- 20-3 8:45 AM Gervais, Felix\*; Kavanagh-Lepage, Charles; Lambert, Christopher; Beaudry, Alexandre; Moukhsil, Abdelali: **THE LONG-HOT RIGOLET PHASE OF THE GRENVILLIAN OROGENY**
- 20-4 9:05 AM Morin, Katherine D.\*; Castro, Adrian; Thomas, Jay B.; Jaret, Steven; Tailby, Nicholas D.; Hammond, Keiji: **(REE) XAMINING NYC: MONAZITE PETROCHRONOLOGY OF THE MANHATTAN PRONG**
- 20-5 9:25 AM Bosbyshell, Howell\*; Ford, Andrew C.; Boyd, Joseph: **INVERTED METAMORPHISM BELOW THE EMBREEVILLE THRUST IN THE CENTRAL APPALACHIAN PIEDMONT OF SOUTHEASTERN PENNSYLVANIA**
- 20-6 9:45 AM Molitor, Zachary\*; Jagoutz, Oliver; Cross, Andrew; Cruz-Urbe, Alicia M.; Moser, Amy: **CONSTRAINING THE 3D GEOMETRY OF CONJUGATE OROGENIC STRIKE-SLIP SHEAR ZONES IN THE NEW ENGLAND APPALACHIANS**
- 10:05 AM **BREAK**
- 20-7 10:20 AM Anderson, Erik\*; Song, Won Joon; Johnson, Scott; Gerbi, Christopher C.: **APPLICATION AND EXPLORATION OF THE PERIMETER-AREA FRACTAL DIMENSION OF RECRYSTALLIZED QUARTZ GRAIN BOUNDARIES: A CASE STUDY FROM THE SANDHILL CORNER SHEAR ZONE**
- 20-8 10:40 AM Feng, He\*; Gerbi, Christopher C.; Johnson, Scott; Cruz-Urbe, Alicia M.; Yates, Martin: **RHEOLOGICAL BRIDGE ZONE, STRESS AMPLIFICATION, AND INITIALIZATION OF STRAIN LOCALIZATION**
- 20-9 11:00 AM Roberts, Nicolas\*; Seixas, Veronica: **DISTINGUISHING DISTINCT DEFORMATION DOMAINS WITHIN A GRANITIC STRUCTURAL DOME USING EBSD-DERIVED CRYSTALLOGRAPHIC VORTICITY AXIS (CVA) ANALYSIS**
- 20-10 11:20 AM Johnson, Scott\*; Song, Won Joon; Vel, Senthil S.: **ANISOTROPIC ELASTIC STRESSES, CRITICALITY, AND ROCK FAILURE**
- 11:40 AM **CONCLUDING REMARKS**

### SESSION NO. 21

#### ***T20. Groundwater and Surface Water Characterization through Modeling and Field Methods (GSA Geophysics and Geodynamics Division)***

8:00 AM, Doubletree by Hilton, Pemigewasset Room

James Heiss, Janet Barclay, Andrew Reeve and Kalle Jahn, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 21-1 8:05 AM Benton, Joshua\*; Doctor, Daniel: **DYNAMIC BASEFLOW STORAGE ESTIMATES AND THE ROLE OF TOPOGRAPHY, SURFICIAL GEOLOGY, AND**

		<b>EVAPOTRANSPIRATION ON STREAMFLOW RECESSON CHARACTERISTICS IN THE NEVERSINK RIVER BASIN, NEW YORK</b>
21-2	8:25 AM	Moore, Richard*; Hayes, Laura; Brown, Craig J.; Smith, Richard A.: <b>LONG ISLAND SOUND (LIS) DYNAMIC SPATIALLY REFERENCED REGRESSION ON WATERSHED ATTRIBUTES (SPARROW) MODEL</b>
21-3	8:45 AM	Detenbeck, Naomi*; Le, Alyssa; Guider, Colin; Ennett, Sam; Parker, Hunter: <b>OPTIMIZING MANAGEMENT PRACTICES TO MEET LOADING TARGETS FOR THE LONG ISLAND SOUND BASIN UNDER VARIABLE CLIMATE</b>
21-4	9:05 AM	Barclay, Janet*; Holland, Madeleine; Mullaney, John: <b>SPATIAL AND TEMPORAL PATTERNS OF NITROGEN LOADING FROM GROUNDWATER - AND THEIR RESPONSE TO MANAGEMENT ACTIONS - IN WATERSHEDS ACROSS COASTAL CONNECTICUT</b>
21-5	9:25 AM	Niedzinski, Victoria*; Reeve, Andrew; Slater, Lee; Comas, Xavier: <b>MODELLING THE INFLUENCE OF SUBSURFACE GEOLOGY ON NORTHERN PEATLAND HYDROLOGY</b>
21-6	9:45 AM	Brandon, William C.*; Harte, Philip; Kelly, Patrick J.; Wilkin, Rick; Anderson, Lydia; Juliano, Christopher: <b>RADON DISTRIBUTION IN THE VADOSE ZONE AND IN GROUNDWATER: TOOLS FOR HYDROGEOLOGIC CHARACTERIZATION IN DIVERSE GEOLOGIC SETTINGS</b>
	10:05 AM	<b>BREAK</b>
21-7	10:20 AM	Moore, Henry*; Briggs, Martin A.; Iery, Ramona; Ntarlagiannis, Dimitrios; Rey, David M.; Slater, Lee: <b>QUANTIFYING THE VOLUMETRIC TRANSPORT OF HEAVY METALS ALONG THE GROUNDWATER-SURFACE WATER INTERFACE OF A SEMIDIURNAL ESTUARY</b>
21-8	10:40 AM	Mazarei Behbahani, Mohammad Reza*; Briggs, Martin A.; Rey, David M.; Bagtzoglou, Amvrossios: <b>MAPPING AND PREDICTION OF DIEL AIR-WATER TEMPERATURE SIGNALS AT HIGH SPATIAL RESOLUTION IN A CATSKILLS, NY MOUNTAIN WATERSHED</b>
21-9	11:00 AM	Tryggestad, Jon-Erik*; Davis, J.; Bryce, Julia: <b>EVALUATION OF ARTIFICIAL RECHARGE AND GROUNDWATER FLOW IN A SMALL NEW ENGLAND AQUIFER</b>
21-10	11:20 AM	Chase, Ryan*: <b>PUBLIC WATER SUPPLY WELLS AND INDUCED INFILTRATION</b>
21-11	11:40 AM	Harte, Philip*: <b>HETEROGENEITY EFFECTS ON PUMPED WELL WATER SAMPLES: USE OF PURGE ANALYZER TOOL (PAT) TO IDENTIFY HYDROGEOLOGIC FACTORS ON TIME-VARYING CAPTURE OF GROUNDWATER</b>

## MORNING POSTER TECHNICAL SESSIONS

### SESSION NO. 22

#### *T1. Unveiling Pathways into the Geological, Atmospheric, Marine, and Environmental Sciences (Posters) (GSA Energy Geology Division)*

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

	Booth #	
22-1	1	Pallatroni, Lauryn*; Chiarenzelli, Jeffrey R.: <b>DR. WILLIAM ROMEY'S SCANDINAVIAN SUITE</b>
22-2	2	Davis, Tim*; Thornburg, Jesse; Peterson, Steve; Morris, Justin: <b>COMPARING STUDENT OUTCOMES IN GENERAL EDUCATION GEOHAZARDS COURSES THROUGH SUMMATIVE AND FORMATIVE ONLINE AND IN-PERSON ASSESSMENTS</b>

22-3	3	Mahar, Valerie*; Monecke, Katrin: <b>COMMUNICATING EARTH SCIENCES TO THE WELLESLEY COLLEGE COMMUNITY USING A RASPBERRYSHAKE SEISMOGRAPH</b>
22-4	4	Froburg, Erik*; Gengarely, Lara; Clyde, Malin; Honwad, Sameer; Glenn, Megan; Andreozzi, Haley: <b>EMPOWERING K-5 TEACHERS TO DESIGN CITIZEN SCIENCE BASED CURRICULA THROUGH THE SCHOOLYARD SITES MODEL</b>
22-5	5	Hale, Stephen*; Bauer, Christopher; Gengarely, Lara; Graham, Karen; Sharkey, Judy; Varner, Ruth: <b>USING COMMUNITY ASSETS TO PROVIDE MEANINGFUL CONTEXT IN SECONDARY EARTH AND ENVIRONMENTAL SCIENCE CLASSES</b>
22-6	6	Bryce, Julia*; Ortmeier-Hooper, Christina; Silva, Bethany; SLATE Team, The: <b>STEM PATHWAYS FOR MULTILINGUAL STUDENTS AND ENGLISH LEARNERS THROUGH STEM-LANGUAGE ARTS TEACHING/LEARNING ECOSYSTEMS (SLATE)</b>

### SESSION NO. 23

#### *T26. Current Research in Coastal and Nearshore Processes (Posters) (GSA Marine and Coastal Geoscience Division; GSA Geophysics and Geodynamics Division)*

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

	Booth #	
23-1	7	Gentile, Olivia*; Oakley, Bryan A.: <b>COMPARISON OF MEASURED AND CALCULATED WAVE RUN-UP ELEVATIONS ON A MICROTIDAL PARAGLACIAL COASTLINE USING BEACH PROFILES</b>
23-2	8	DeMarco, Gabriella*; Sellers, Hannah; Oakley, Adrienne; Cornell, Sean: <b>GPR AND VIBRACORE ANALYSES FROM CUSTIS POND, SAVAGE NECK DUNES NATURAL AREA PRESERVE (SNDP), EASTERN SHORE, VIRGINIA REVEAL LATE PLEISTOCENE-HOLOCENE ENVIRONMENTAL CHANGE IN THE LOWER CHESAPEAKE BAY</b>
23-3	9	Senderoff, Preston*; Ouimet, William; Rivera, Allison: <b>INVESTIGATING MID-HOLOCENE TO PRESENT RELATIVE SEA-LEVEL RISE IN SOUTHWESTERN CONNECTICUT</b>
23-4	10	Sellers, Hannah*; DeMarco, Gabriella; Oakley, Adrienne; Cornell, Sean: <b>DETAILED MICRO AND MACRO-FOSSIL ANALYSES OF VIBRACORES FROM CUSTIS POND, SAVAGE NECK DUNES NATURAL AREA PRESERVE (SNDP), EASTERN SHORE, VIRGINIA REVEAL LATE PLEISTOCENE-HOLOCENE ENVIRONMENTAL CHANGE IN THE LOWER CHESAPEAKE BAY</b>
23-5	11	Gautam, Saranya*; Ouimet, William; Anderson, Thomas S.: <b>INVESTIGATING SUBAQUEOUS COASTAL SEDIMENT DYNAMICS ALONG CONNECTICUT COAST WITH TRACE METALS</b>
23-7	13	Pooler, Tadhg*; Cornell, Sean: <b>A PETROGRAPHIC ANALYSIS AND COMPARISON OF MODERN BAHAMIAN AND MIDDLE CAMBRIAN OOLITES FROM THE CONESTOGA/ELBROOK FORMATIONS OF SOUTH CENTRAL PENNSYLVANIA AND THEIR PALEOENVIRONMENTAL SIGNIFICANCE</b>
23-8	14	Ramos, Yaxenis*; Etterbeek, Jack; Ramos, Riovie D.; DaSilva, Michael; Mortlock, Richard; Godfrey, Linda; Griffiths, Michael L.: <b>INDIAN MONSOON VARIABILITY DURING THE PAST MILLENNIUM REVEALED BY CORAL SKELETAL RECORDS FROM ST. MARTIN'S ISLAND, BANGLADESH</b>
23-9	15	Prinz, Natalie*; Donnelly, Heather; Chen, Jian-Jih; Hu, Xinping; Wang, Xingchen (Tony): <b>USING NITRATE ISOTOPES TO TRACK ANTHROPOGENIC NITROGEN IN THE NORTHERN GULF OF MEXICO</b>
23-10	16	Garib, Steph*; Stone, Lillian: <b>A MARINE BIOTA AND SEDIMENT ANALYSIS OF RĀPAKI BAY, NEW ZEALAND</b>

AM

MONDAY

## SESSION NO. 24

### **T28. Mapping in the Geosciences: Processes and Products (Posters) (GSA Energy Geology Division; GSA Geophysics and Geodynamics Division)**

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

	Booth #	
24-1	17	Davis, P. Thompson*; Keeley, Joshua; Thompson, Peter: <b>SURFICIAL GEOLOGIC MAP OF THE MOUNT MOOSILAUKE 7.5' QUADRANGLE, NEW HAMPSHIRE</b>
24-2	18	Thompson, Peter J.*; Strauss, Justin V.; Crowley, James L.: <b>BEDROCK GEOLOGIC MAP OF THE MOUNT MOOSILAUKE, 7½' QUADRANGLE, NEW HAMPSHIRE</b>
24-3	19	Deasy, Ryan*; Wintsch, Robert P.: <b>DUCTILE TERRANE ASSEMBLY EXPOSED IN THE DEEP RIVER AND ESSEX QUADRANGLES, MIDDLESEX COUNTY, CONNECTICUT</b>
24-4	20	Thompson, Woodrow B.*; Keeley, Joshua: <b>SURFICIAL GEOLOGY OF THE BERLIN AND SHELBURNE QUADRANGLES, NORTHEASTERN WHITE MOUNTAINS, NEW HAMPSHIRE AND MAINE</b>
24-5	21	Rayburn, John*; Saturno, Christine M.; Mangona, Maghan E.: <b>GROUND PENETRATING RADAR MAPPING IN THE RIVERSIDE CEMETERY, SWANTON, VT REVEALS A LONG-FORGOTTEN DRAINAGE PIPE</b>
24-6	22	Kowalski, Kristian; Vitale, Donovan; Drzewiecki, Peter*; Steinen, Randolph: <b>USING MAGNETIC DATA TO CONSTRAIN GEOLOGICAL BEDROCK MAPPING OF THE ROCKY HILL ANTICLINE, HARTFORD RIFT BASIN, CONNECTICUT</b>
24-7	23	Eusden, J. Dykstra*; Keeley, Joshua; Hillenbrand, Ian; Csiki, Shane; Chormann, Frederick: <b>BEDROCK MAPPING ACROSS THE BRONSON HILL BELT, THE CENTRAL MAINE BELT AND THE WHITE MOUNTAIN PLUTONIC-VOLCANIC SERIES OF NORTHERN NEW HAMPSHIRE</b>
24-8	24	Trani, Aurora*; Gourley, Jonathan; Sussman, Hailey; Chmielowicz, Eleanor: <b>MAPPING CARBON:NITROGEN RATIOS IN SOILS AND PEGMATITE OCCURRENCES IN EASTERN CONNECTICUT HIGHLANDS</b>
24-9	25	Torres, Luis*; Reusch, Douglas N.; Smith, Taury; Guevara, Victor; Slack, John F.; Jones, Parker; Warburton, London; Strauss, Justin V.: <b>PRELIMINARY GEOLOGIC MAP OF THE ISLESBORO 7.5' QUADRANGLE WITH IMPLICATIONS FOR THE EVOLUTION OF THE ISLESBORO BLOCK, COASTAL MAINE</b>
24-10	26	Waldron, John*; Barr, Sandra M.; McCausland, Phil; Wang, Chunzeng; Reusch, Douglas N.; Schofield, David I.; White, Chris E.; White, Shawna: <b>TERRANE ASSEMBLAGE MAP OF THE NORTHERN APPALACHIAN AND WESTERN CALEDONIDE OROGENS</b>
24-11	27	Wang, Chunzeng*; Madsen, Lauren: <b>BEDROCK GEOLOGIC MAP OF THE NUMBER NINE LAKE QUADRANGLE, NORTHERN MAINE</b>
24-12	28	White, Chris*; Barr, Sandra M.; van Rooyen, Deanne; Sunatori, Évelyne; Kucker, Kyle J.: <b>A NEW GEOLOGICAL MAP OF THE GANDERIAN ASPY TERRANE, CAPE BRETON HIGHLANDS, NOVA SCOTIA, CANADA</b>
24-13	29	Magalhaes, Kaliann*; Charney, Allison; Seremet, Meghan; Steinen, Randolph P.: <b>TESTING THE HYPOTHESIS THAT THE WESTERN TRAP-ROCK RIDGES OF CONNECTICUT ARE COMPOSED OF BOTH WEST ROCK AND BRIDGEPORT DIABASE</b>
24-14	30	Walsh, Gregory J.*; Orndorff, Randall C.; Valley, Peter; Parker, Mercer: <b>PRELIMINARY BEDROCK GEOLOGIC MAP OF NEW ENGLAND, USA</b>
24-15	31	Valley, Peter*; Parker, Mercer; Walsh, Greg J.; Orndorff, Randall C.: <b>BEDROCK GEOLOGIC MAP OF THE PORT HENRY QUADRANGLE, ESSEX COUNTY, NEW YORK AND ADDISON COUNTY, VERMONT</b>

24-16	32	Schwangler, Martin*; Waldron, John: <b>AN UPDATED GEOLOGIC MAP OF PORT AU PORT PENINSULA, NEWFOUNDLAND, USING SUBSURFACE 3D MODELING</b>
24-17	33	Oest, Christopher*: <b>COMPILATION MAPPING AND STRATIGRAPHIC REVISION IN THE CENTRAL PENNSYLVANIA VALLEY AND RIDGE PROVINCE: AN EXAMPLE FROM UPPER DEVONIAN MARGINAL MARINE STRATA</b>
24-18	34	Converse, David*; Bothner, Wallace; Jahrling, Christian; Summa, Lori; Awwiller, David; Koch, Philip; Keeley, Joshua: <b>MAPPING BEDROCK GEOLOGY IN NORTHERNMOST NEW HAMPSHIRE</b>
24-19	35	Platt, Bryant*; Colgan, Joseph; Johnstone, Sam; Hirtz, Jaime; Barrette, Nolan: <b>PRELIMINARY BEDROCK GEOLOGIC MAP OF THE CENTRAL AND NORTHEASTERN UNITED STATES</b>
24-20	36	Maleszewski, Adrian*; Hasbargen, Les: <b>A STUDY IN THE VIABILITY OF POLE MOUNTED STRUCTURE FROM MOTION SURVEYS AS GEOMORPHOLOGICAL MONITORING TOOLS</b>
24-21	37	Hummel, Logan*; Schoonmaker, Adam: <b>GEOCHEMISTRY OF THE UTICA SHALE USING A PORTABLE XRF AS A MAPPING TOOL</b>
24-22	38	Saltman, Evan*; Eusden, J. Dykstra; Felch, Myles; Bradley, Dwight; Mikulski, Maev; Whittaker, Amber T.H.: <b>RECENT MAPPING IN THE EAST ANDOVER, ME QUADRANGLE AND DETRITAL ZIRCON U-PB GEOCHRONOLOGY REFUTE EXISTENCE OF THE PRE-METAMORPHIC PLUMBAGO MOUNTAIN FAULT, NEWRY, ME</b>
24-23	39	McCarthy, Joseph*: <b>MAKING A DETAILED AND INTERACTIVE MAP OF FAULTS, PROVINCES AND DOMAINS OF THE ENTIRE CANADIAN SHIELD USING ARCGIS PRO AND STRUCTURALLY CONTROLLED LAKES AND RIVERS</b>
24-24	40	Doherty, Bryce*; Wright, Stephen; Cable, Bren; Berlin, Jared; Patterson, Mackenzie; Bokhari, Sulemaan: <b>MAPPING AND INTERPRETING THE SURFICIAL GEOLOGY OF THE NEWPORT QUADRANGLE, NORTHEASTERN VERMONT</b>
24-25	41	Pimpinelli, Holly*; Severs, Matthew: <b>USING REMOTE SENSING AND ARCGIS TO FIND HISTORIC MINING PITS AND TAILING PILES IN THE SHAWANGUNK LEAD-ZINC DISTRICT, NEW YORK</b>
24-27	43	Pimenta, Michael*; Witharana, Chand: <b>HYDRO-GEOMORPHOLOGICAL DYNAMICS IN ALASKAN ICE WEDGE POLYGONS: A DEEP LEARNING APPROACH</b>

## AFTERNOON ORAL TECHNICAL SESSIONS

### SESSION NO. 25

#### **S1. Applied Investigations by Northeastern State Geological Surveys: Honoring the Tradition of Robert Marvinney**

1:30 PM, Doubletree by Hilton, Pemigewasset Room

Amber T.H. Whittaker, Shane Csiki and Benjamin DeJong, Presiding

	1:30 PM	<b>INTRODUCTORY REMARKS</b>
25-1	1:35 PM	Whittaker, Amber*: <b>THE PRACTICAL, FUNCTIONAL, AND CRUCIAL ROLE OF STATE GEOLOGIC SURVEYS: A REVIEW OF ROBERT G. MARVINNEY'S LEADERSHIP</b>
25-2	1:55 PM	Berry, Henry*; Halsted, Christian H.: <b>IDENTIFYING STRATIGRAPHIC PROBLEMS IN NEW ENGLAND, A COLLABORATIVE PROJECT OF THE NEW ENGLAND STATES GEOLOGIC MAPPING COALITION (NESGMC)</b>
25-3	2:15 PM	Theis, Lindsay*: <b>TWO BIRDS WITH ONE STONE: CONNECTING FIELD RESEARCH WITH EDUCATION OUTREACH AT THE MAINE GEOLOGICAL SURVEY</b>
	2:35 PM	<b>REFLECTION AND COMMENTS FROM AND ON BOB MARVINNEY</b>

- 25-4 2:55 PM Dejong, Benjamin D.\*; Springston, George; Strand, Peter; Kim, Jonathan J.: **2023 LANDSLIDE RESPONSE EFFORTS OF THE VERMONT GEOLOGICAL SURVEY**
- 25-5 3:15 PM Kim, Jonathan\*; Romanowicz, Edwin; Dejong, Ben: **MULTI-DISCIPLINARY CHARACTERIZATION OF FRACTURED ROCK AQUIFERS (FRA) TO SUPPORT SOCIETAL NEEDS**
- 3:35 PM **BREAK**
- 25-6 3:50 PM Howley, Michael\*: **EVALUATION OF RECENT DROUGHTS IN NEW HAMPSHIRE USING HIGH-RESOLUTION SPATIAL AND TEMPORAL DATA FROM THE NEW HAMPSHIRE GROUNDWATER LEVEL MONITORING NETWORK**
- 25-7 4:10 PM Mabee, Stephen\*; Duncan, Christopher C.; Clement, William P.; Pontrelli, Marshall: **MASSACHUSETTS TOP OF ROCK PROJECT: ONE APPROACH**
- 25-8 4:30 PM Backhaus, Karl\*; Forgeng, Hailey; Kozlowski, Andrew: **IMPLEMENTATION OF SURFICIAL MAPPING STANDARDS (SMS) AND GEOLOGIC MAPPING SCHEMA (GEMS) AT THE NEW YORK STATE GEOLOGICAL SURVEY: COMBINING EFFORTS FOR EFFECTIVE MAPPING**
- 25-9 4:50 PM Ianno, Adam J.\*; Fehrs, Ellen R.; Oest, Christopher W.: **BUILDING INTERCONNECTIVITY AND CROSS-DISCIPLINARITY IN GEOSCIENCE RESEARCH AND EDUCATION AT THE PENNSYLVANIA GEOLOGICAL SURVEY**
- 5:10 PM **DISCUSSION**

#### SESSION NO. 26

##### **T3. Northern Appalachian Magmatism: From the Precambrian to the Cretaceous**

1:30 PM, Doubletree by Hilton, Merrimack Room

Michael J. Dorais, Sean Kinney and Jennifer Cooper Boemmels, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 26-1 1:35 PM VanTongeren, Jill\*; Kinney, Sean; Ramezani, Jahandar: **THE TIMING AND SEQUENCE OF MAGMA EMPLACEMENT OF THE OSCEOLA GRANITE, WHITE MOUNTAIN BATHOLITH, NEW HAMPSHIRE (INVITED SPEAKER)**
- 26-2 1:55 PM Bailey, David\*; Holmwood, Alexander: **SILURIAN BIMODAL MAGMATISM IN THE COASTAL MAINE MAGMATIC PROVINCE: THE ROLE OF COMPOSITE DIKES IN THE TRANSPORT AND ERUPTION OF GRANITIC MAGMA**
- 26-3 2:15 PM Ross, Martin\*: **A NEW LATE PENNSYLVANIAN AGE FOR THE MEDFORD DIKE, MEDFORD, MASSACHUSETTS**
- 26-4 2:35 PM Ridge, John C.\*; VanTongeren, Jill; Crowley, J.L.: **A NEW 238 MA CA-ID-TIMS U-PB ZIRCON AGE FOR THE MEDFORD DIKE, MASSACHUSETTS**
- 26-5 2:55 PM Hudgins, Michael\*; Ikeda, Masayuki; Olsen, Paul E.; Schaller, Morgan: **AN OCEAN ACIDIFICATION EVENT LINKED TO THE CENTRAL ATLANTIC MAGMATIC PROVINCE DETERMINED THROUGH DIRECT MEASUREMENTS OF CO<sub>2</sub> FROM FLUID INCLUSIONS IN DEEP SEA CHERTS DURING THE END-TRIASSIC EXTINCTION**
- 26-6 3:15 PM Mazza, Sarah\*: **EVALUATING THE EVOLUTION OF A PASSIVE MARGIN: COMPARING JURASSIC MAGMATISM IN NEW HAMPSHIRE AND VIRGINIA**
- 3:35 PM **BREAK**
- 26-7 3:50 PM Eby, G. Nelson\*: **MESOZOIC MAGMATISM IN NEW ENGLAND AND QUEBEC**
- 26-8 4:10 PM Dorais, Michael\*; Kinney, Sean: **THE DRY RIVER DIORITE: INSIGHTS TOWARDS THE MANTLE CONTRIBUTION TO THE WHITE MOUNTAIN BATHOLITH, NEW HAMPSHIRE AND THE TRANSITION FROM THE CENTRAL ATLANTIC MAGMATIC PROVINCE**

- 26-9 4:30 PM Cooper Boemmels, Jennifer\*; Crespi, Jean; Galicia Barrientos, Gaby: **UNDERSTANDING EARLY CRETACEOUS INTRAPLATE MAGMATISM IN NORTHERN NEW ENGLAND: A STRUCTURAL PERSPECTIVE**
- 26-10 4:50 PM Fagan, Timothy J.\*; Sawada, Yuki: **COMPARISON OF GRANITIC ROCKS FROM NEW ENGLAND AND FROM THE MOON: IMPLICATIONS FOR IGNEOUS PETROGENESIS ON THE MOON**
- 26-11 5:10 PM Pollock, Steve\*: **THE NATURE OF SEDIMENTATION AND VOLCANISM OF THE MIDDLE TO LATE ORDOVICIAN ARC, NORTHERN MAINE WITH COMMENTARY ON THE CHEMISTRY AND ORIGIN OF ASSOCIATED CHERT**

#### SESSION NO. 27

##### **T26. Current Research in Coastal and Nearshore Processes (GSA Marine and Coastal Geoscience Division; GSA Geophysics and Geodynamics Division)**

1:30 PM, Doubletree by Hilton, Piscataquog Room

Bryan Oakley and Mark Borrelli, Presiding

- 1:30 PM **INTRODUCTORY REMARKS**
- 27-1 1:35 PM Giese, Graham\*; Borrelli, Mark; Mague, Stephen: **SHOREFACE SLOPE AND LONGSHORE SEDIMENT TRANSPORT ALONG A SANDY PARAGLACIAL COAST WITH APPLICATION TO COASTAL MANAGEMENT**
- 27-2 1:55 PM Borrelli, Mark\*; Solazzo, Daniel; dos Santos, Pedro P.G.M.: **USING VESSEL-BASED ACOUSTIC AND UNOCCUPIED AERIAL SURVEYS TO CREATE SEAMLESS ONSHORE/OFFSHORE MAPS: QUANTIFYING COASTAL CHANGE AND ASSOCIATED UNCERTAINTIES**
- 27-3 2:15 PM Roberts, Kalinda\*; Borrelli, Mark; Solazzo, Daniel; Levesque, Daniel: **MAPPING BEACH MORPHOLOGY AND GRAIN SIZES OF SOUTHERN NEW ENGLAND BEACHES USING "3D BEACH PROFILES"**
- 27-4 2:35 PM Lepire, Jonathan\*; Oakley, Bryan A.: **EVOLUTION OF A DYNAMIC COASTAL LAGOON SYSTEM NAPATREE POINT, RHODE ISLAND**
- 27-5 2:55 PM Benson, Marina\*; Lloret, Javier; Chenoweth, Kelsey: **EDGARTOWN GREAT POND IS TURNING GREEN! THE ECOLOGICAL IMPACTS OF WASTEWATER POLLUTION ON COASTAL ESTUARIES**
- 27-6 3:15 PM McKeon, Kelly\*; Piecuch, Christopher: **RIVER DISCHARGE CONTRIBUTIONS TO HIGH TIDE FLOODS ALONG THE DELAWARE RIVER ESTUARY**
- 3:35 PM **BREAK**
- 27-7 3:50 PM Buynevich, Ilya\*; Davydov, Oleksiy V.: **SUPERSTORM BETTINA (2023): IMPACT ON THE BARRIER COAST OF UKRAINE AND COMPARISON WITH SUPERSTORM SANDY (USA, 2012)**
- 27-8 4:10 PM Soulagnet, Cameron\*; Oakley, Bryan A.: **PERSISTENCE OF SORTED BEDFORM MIGRATION ON THE NAPATREE POINT, RHODE ISLAND SHOREFACE BETWEEN 2016 AND 2021**
- 27-9 4:30 PM Gutierrez, Benjamin\*; Zeigler, Sara; Lentz, Erika: **USING LINKED BAYESIAN NETWORKS TO PREDICT SEA-LEVEL RISE-DRIVEN GEOMORPHOLOGIC CHANGES TO CRITICAL BARRIER-ISLAND HABITAT**
- 27-10 4:50 PM Cheng, Jun\*; Heuser, Michael: **STORM INDUCED BEACH CHANGES AND POST-STORM RECOVERY ALONG ORTLEY BEACH, NEW JERSEY**
- 27-11 5:10 PM Oakley, Bryan\*: **THE BLOCK ISLAND BEACH PROFILE PROJECT 10-YEARS IN; OBSERVATIONS AND LESSONS LEARNED**

MONDAY

PM

## SESSION NO. 28

### ***T1. Unveiling Pathways into the Geological, Atmospheric, Marine, and Environmental Sciences (GSA Energy Geology Division)***

2:30 PM, Doubletree by Hilton, Contoocook Room

Julia Bryce, Jennifer Bourgeault, Maria Fahnestock, Lara Gengarely, Gulnihal (Rose) Ozbay and Ruth Varner, Presiding

- 2:30 PM **INTRODUCTORY REMARKS**
- 28-1 2:35 PM Bourgeault, Jennifer\*; Young, Beth; Wicklein, Haley: **MULTI-DIMENSIONAL POP-UP TENT COMBINES SOIL CONCEPTS, ART, CAREERS, INQUIRY, AND DATA; ENGAGING K-4 STUDENTS; BROADENING IMPACT FOR SCIENCE**
- 28-2 2:55 PM Smith, Joshua B.\*; Heestand, Mela Jones; Cates, Sharon E.: **A PHENOMENON ALIGNED TO NEXT GENERATION SCIENCE STANDARDS PERFORMANCE EXPECTATION MS-ESS1-4 AT THE DESERT OF MAINE IN FREEPORT**
- 28-3 3:15 PM Cormas, Peter; Fredrick, Kyle\*; Price, Matthew; Sezer, Ali; Valkanas, Michelle; Woznack, Kimberly: **FACILITATING LEARNING COMMUNITIES FOR SCIENCE FACULTY**
- 3:35 PM **BREAK**
- 28-4 3:50 PM Egendorf, S. Perl; Marin, Emma\*; Lewis, Autumn; Metzger, Arlo; Boehm, Meaghan; Chu-Jacoby, Ilexis; Ianculovici, Daniela; Bonhotal, Jean; Sheintoch, Debbie; CHENG, Zhongqi: **AN INVESTIGATION INTO THE EFFICACY OF SMALL-SCALE COMMUNITY COMPOSTS FROM NEW YORK CITY MIXED WITH CLEAN GLACIAL SUBSOILS AS CONSTRUCTED SOIL MEDIA FOR CROP GROWTH**
- 28-5 4:10 PM Speight, Thomas\*: **THE MYSTIC RIVER MONSTER - NEW ENGLAND GAS & COKE AND THE BOSTON ENERGY ECONOMY, 1894-1962**
- 28-6 4:30 PM Williams, Kevin\*; Solar, Gary: **INSIDE THE STEREO NET: TEACHING 3D SPATIAL COGNITION IN STRUCTURAL GEOLOGY USING THE IMMERSIVE PLANETARIUM ENVIRONMENT**

## AFTERNOON POSTER TECHNICAL SESSIONS

## SESSION NO. 29

### ***T2. What is the Future of Field Camp? (Posters) (GSA Energy Geology Division)***

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

- Booth #
- 29-1 1 Luther, Amy\*; Fowler, Kristoffer: **TRANSFORMATIVE LEARNING AT LSU GEOLOGY FIELD CAMP: INTEGRATING COMMUNICATION SKILLS FOR PROFESSIONAL SUCCESS**
- 29-2 2 Leet, Kennie\*; Smith, Jason: **INCREASING SELF-EFFICACY THROUGH FIELD EXPERIENCES AND UNDERGRADUATE RESEARCH: A COMMUNITY COLLEGE PERSPECTIVE**
- 29-3 3 Reynolds, Laura\*: **REIMAGINING 'THE FIELD': EXPLORATIONS IN URBAN GEOLOGY**
- 29-4 4 Tindall, Sarah; Fegely, Dane\*: **ANALYZING INACCESSIBLE OUTCROPS IN AN INTERACTIVE GAMING ENVIRONMENT**
- 29-5 5 Fredrick, Kyle\*; Hess, Mitchel; Rahm, Hunter: **AN EMBEDDED, AUTHENTIC RESEARCH EXPERIENCE IN A SEDIMENTARY GEOLOGY LAB COURSE**

## SESSION NO. 30

### ***T5. Deciphering a Cryptic Geologic Record: New Insights from Field and Lab Investigations of the Appalachians in the United States and Canada (Posters) (GSA Geochronology Division; GSA Geobiology Division; GSA Energy Geology Division; GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)***

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

- Booth #
- 30-1 6 Jiménez, Roberto\*; Martínez, David; Azor, Antonio; Gonzalez Lodeiro, Francisco; Accotto, Cristina; Jabaloy-Sánchez, Antonio; Sabar, Mohamed Salem; Lekouyrie, Ahmed: **DISTINCTIVE AFRICAN AND NON-AFRICAN DETRITAL ZIRCON SOURCES IN THE MAURITANIAN BELT**
- 30-2 7 Summa, Lori\*; Converse, David; Awwiller, David; Bothner, Wallace; Perrot, Morgann: **FILLING GAPS IN SILURO-DEVONIAN PALEOGEOGRAPHY OF THE NORTHERN APPALACHIANS**
- 30-3 8 Bradley, Dwight\*; Hillenbrand, Ian; Strauss, Justin V.: **THE MISSING, NEAR-MISSING, AND CRYPTIC UPPER CRUST OF THE ACADIAN ALTIPLANO**
- 30-4 9 Backus, Hayden\*; Cao, Wentao; Garber, Joshua M.; Smye, Andrew J.: **TITANITE FROM THE HIGH-PRESSURE BELT IN WESTERN GRENVILLE PROVINCE, CANADA RECORDS HOT EXHUMATION**
- 30-5 10 Brigham, John Mark\*; Baldwin, Suzanne L.; Thomas, Jay B.: **ECLOGITE-FACIES METAMORPHIC ROCKS OF THE WORCESTER MOUNTAINS, STOWE, VERMONT, USA**
- 30-6 11 Haugen, Ella B.; Harris, Holly E.; Peterman, Emily\*; West, David P.: **U-PB ZIRCON GEOCHRONOLOGY AND EBSD ANALYSIS OF ROCKS IN THE PASSAGASSAWAKEAG GNEISS, MID-COAST MAINE**
- 30-7 12 Lutz, Aidan\*: **CONTACT METAMORPHISM OF THE KITTYRY FORMATION AT CAPE NEDDICK, MAINE**
- 30-8 13 Cordell, William; Valentino, David\*; Chiarenzelli, Jeffrey: **STRAIN HISTORY OF THE PISECO LAKE SHEAR ZONE EASTERN TERMINATION, ADIRONDACK MOUNTAINS, NEW YORK**
- 30-9 14 Perrot, Morgann\*; Davies, Joshua; Tremblay, Alain; Ducat, Thibaut; Amidon, William; Guilmette, Carl; Halverson, Galen P.; Pinon, Héroïse; Musajo, Claire: **STRUCTURAL CHARACTERIZATION AND GEOCHRONOLOGY OF THE FAULT NETWORKS IN THE MONTREAL REGION (SOUTHERN QUEBEC, CANADA): A PRELIMINARY CALCITE U-PB DATING STUDY**
- 30-10 15 Jaret, Steven\*; Castro, Adrian; Williams, Michael; Morin, Katherine D.; Tailby, Nicholas D.; Hammond, Keiji: **MONAZITE GEOCHRONOLOGY OF MANHATTAN SCHIST FROM NEW YORK CITY**
- 30-11 16 Koran, Isabel\*; McKanna, Alyssa; Maeder, James; Guevara, Victor; Schoene, Blair: **MAGNETITE-APATITE MINERALIZATION IN THE CORE OF THE GRENVILLE OROGEN, NEW JERSEY HIGHLANDS, USA: A PETROCHRONOLOGIC APPROACH**

## SESSION NO. 31

### ***T14. Phanerozoic Paleooceanographic and Climatic Changes (Posters)***

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

- Booth #
- 31-1 17 Morrison, Audrey\*; Lefebvre, Amy; Van Patter, Ariel; Morrison, Owen; Simiganoschi, Pierre; Vaez-zadeh Asadi, Nima; Jin, Jisuo; Riechelmann, Sylvia; Blamey, Nigel; Brand, Uwe: **DRIVERS OF THE LATE ORDOVICIAN MASS EXTINCTION: A MULTI-ARCHIVE APPROACH**
- 31-2 18 Pekar, Stephen\*; Navaretta, Nicolle; Rosenthal, Yair: **RECONCILING HIGH ATMOSPHERIC CO<sub>2</sub> AND APPARENT HIGH ICE-VOLUME ESTIMATES DURING THE MIDDLE**

- MIOCENE: NEW ISOTOPIC AND ELEMENTAL RATIO RECORDS FROM IODP EXPEDITION 371, SITE U1510**
- 31-3 19 Barbelet, Thea\*; Royce, Bethany; Heo, Charlotte; Patterson, Molly O.; Pietras, Jeffrey T.: **OCEANIC RESPONSE TO HIGH-LATITUDE CLIMATE VARIABILITY AT ODP SITE 1123 DURING THE PLIO-PLEISTOCENE**
- 31-4 20 Guite, Sierra\*; Koffman, Bess; Hemming, Sidney; Licht, Kathy; Gahl, Dru; Dowd, Eleanor; Strauss, Justin V.; Kaplan, Michael; Goldstein, Steven: **SR-ND-PB RADIOGENIC ISOTOPE SIGNATURES OF PLEISTOCENE TILLS AND MIOCENE SIRIUS GROUP SEDIMENTS FROM ANTARCTICA: IMPLICATIONS FOR ICE SHEET HISTORY**
- 31-5 21 Ventrasca, Alessandro\*; Cullen, James: **USING THE RELATIVE ABUNDANCE OF *NEOGLOBOQUADRINA PACHYDERMA*, LEFT COILING TO DOCUMENT CHANGES IN SURFACE WATER CONDITIONS IN THE NE ATLANTIC OCEAN OVER THE LAST 350,000 YEARS**
- 31-6 22 King, Gretl\*; Lam, Adriane R.; St. John, Kristen: **A STUDENT PERSPECTIVE AND EDUCATIONAL OUTCOMES FROM A COURSE-BASED RESEARCH EXPERIENCE (CURE)**
- 31-7 23 Slotter, Jessica\*; Rustic, Gerald: **THERMOCLINE CONDITIONS IN THE EASTERN EQUATORIAL PACIFIC DURING THE LAST GLACIAL MAXIMUM**
- 31-8 24 Allen, Katherine\*; Stirpe, Cassandre; Sikes, Elisabeth; Russell, Joellen: **A DEEP DIVE INTO THE SOUTH PACIFIC OCEAN DURING THE LAST ICE AGE**
- 31-9 25 Hill, Kirsten\*; Rustic, Gerald: **INVESTIGATION OF CENTRAL TROPICAL PACIFIC VARIABILITY DURING THE LAST GLACIAL MAXIMUM THROUGH ANALYSIS OF TRACE ELEMENTS IN INDIVIDUAL FORAMINIFERA**
- 31-10 26 Van Pelt, Kathryn\*; Rustic, Gerald: **EXPLORING THERMOCLINE INFLUENCE ON ENSO BY RECONSTRUCTING SUBSURFACE CONDITIONS IN THE EASTERN EQUATORIAL PACIFIC OVER THE PAST 2500 YEARS USING TRACE ELEMENT ANALYSIS**
- 33-4 32 Oyewumi, Yinka\*; Edson, Michael; Schneider, Sarah: **EVALUATING MOBILIZATION AND TRANSPORT OF TRACE ELEMENTS ALONG HOCKANUM RIVER, CONNECTICUT**
- 33-5 33 Drift, Alexander\*; Robbins, Gary A.; Metcalf, Meredith J.: **AN INVESTIGATION OF ARSENIC GROUNDWATER CONTAMINATION FROM HISTORIC USE OF LEAD ARSENATE IN WESTON, CONNECTICUT**
- 33-6 34 Good, Matthew\*; Parker, Dominick; Whisner, Jennifer: **GROUNDWATER CHARACTERISTICS AT COMMONWEALTH UNIVERSITY'S BLOOMSBURG CAMPUS, COLUMBIA COUNTY, PA**
- 33-7 35 Orlando, Autumn\*; Schultz, Kalista; Slobodnik, Anastasia; Whisner, Jennifer: **GEOCHEMICAL ASSESSMENT OF THE ONEIDA #3 TUNNEL AMD TREATMENT SYSTEM IN SCHUYLKILL CO, PA**
- 33-8 36 Grom, Braxton\*; Medina, Cody; Butler, Elizabeth; Whisner, Jennifer: **ASSESSING THE SCARLIFT 15 AMD TREATMENT SITE, NORTHUMBERLAND COUNTY, PA**
- 33-9 37 Deak, Joel\*; Dennison, Holly; Nawn, Shea; Whisner, Jennifer: **GEOCHEMICAL ANALYSIS OF TOMHICKEN CREEK, LUZERNE AND SCHUYLKILL COUNTIES, PA**
- 33-10 38 Miningier, Ivy\*; Bostick, Benjamin; Lonero, Andrew; Chowdhury, Maanal; Behn, Mark: **ANALYSIS OF STABLE ISOTOPES AND TRACE METALS IN TAP WATER TO COMPARE HYDROLOGICAL CHARACTERISTICS OF THE BOSTON AND NYC WATERSHEDS**
- 33-11 39 Graham, Kathryn\*; Kulp, Thomas R.; Shamooun Pour, Michel: **CHEMOAUTOTROPHIC REDUCTION AND FUNCTIONAL GENE EXPRESSION IN SB(V)-REDUCING BACTERIAL COMMUNITIES FROM A CONTAMINATED MINE SITE**

### SESSION NO. 34

#### T25. *Estuary and Tidal Marsh Dynamics, Resiliency, and Restoration (Posters)*

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

#### Booth #

### SESSION NO. 32

#### T15. *Improvements to our Understanding of Past Climate and Environments through the Development of Proxies, the Generation of New Biomarker Records, and the Interpretation of Sedimentary Archives (Posters) (GSA Energy Geology Division)*

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

#### Booth #

- 32-1 27 Zhao, Boyang\*; Russell, James; Blaus, Ansis; Bush, Mark: **ORGANIC BIOMARKER-BASED CLIMATE HISTORY OVER THE PAST 16 KA FROM LAGUNA LLAVIUCU, ECUADOR**
- 32-2 28 Tibbett, Emily\*; Rymaszewski, Melissa; Ishutina, Dakota; Salacup, Jeffrey; Leckie, R. Mark; Castañeda, Isla S.: **RECONSTRUCTION OF TERRESTRIAL AND MARINE CLIMATE FROM SOUTHERN GREENLAND DURING THE PLEISTOCENE**

### SESSION NO. 33

#### T17. *Trace Elements in the Environment (Posters)*

1:30 PM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 3 to 5 PM

#### Booth #

- 33-1 29 Vaez-zadeh Asadi, Nima\*; Simiganoschi, Pierre; Brand, Uwe: **COAL CONSUMPTION: AN ANTHROPOGENIC LEGACY MEASURED BY MARINE ORGANISMS**
- 33-2 30 Prevost, Zoe\*; Oyewumi, Yinka: **ANTHROPOGENIC RELEASE OF MERCURY AND OTHER POTENTIALLY DANGEROUS CONTAMINANTS FROM A COAL POWER PLANT IN BRIDGEPORT, CONNECTICUT**
- 33-3 31 Hodsen, Hailey\*; Oyewumi, Yinka: **GEOCHEMICAL ANALYSIS OF POTENTIALLY DANGEROUS CONTAMINANTS FROM WETHERSFIELD COVE IN WETHERSFIELD, CONNECTICUT**

- 34-1 40 McGauley, Katelyn\*; Snyder, Noah P.; Landis, Joshua; Tedesco, Lenore P.; Charlebois-Berg, Juliana: **ESTIMATES OF ACCRETION RATES OF SALT MARSH ISLANDS IN SOUTHERN NEW JERSEY**
- 34-2 41 Rogers, Mairin\*; Kilgo, Jamie; Johnson, Catherine M.; Bauman, Brooke; Rigdon, Mathew: **SHARING COASTAL MARSH RESTORATION KNOWLEDGE: A SPATIAL DATABASE OF NATIONAL PARK SERVICE RESTORATION CASE STUDIES**
- 34-3 42 Armstrong, Michael\*; Raymond, Megan B.; Murac, James: **TIDAL WETLAND CREATION AND RESTORATION, CHITTENDEN PARK, GUILFORD, CONNECTICUT**
- 34-4 43 Bradley, Cassandra\*; Veresh, Renee; Cullen, James; Hubeny, Brad: **LATE HOLOCENE HIGH MARSH STRATIGRAPHY OF ESSEX RIVER MARSH SEDIMENTS, NORTHEASTERN MASSACHUSETTS**
- 34-5 44 Dickson, Katarina\*; Hollander, Jamie; Sarrazin, Anna; Enterline, Claire; Moore, Slade; Puryear, Kristen; Dostie, Philip T.; Johnson, Bev: **CARBON DYNAMICS UPSTREAM AND DOWNSTREAM OF A TIDAL RESTRICTION, SPURWINK MARSH, CAPE ELIZABETH, MAINE**

**MORNING  
ORAL TECHNICAL SESSIONS**

**SESSION NO. 35**

**T5. Deciphering a Cryptic Geologic Record: New Insights from Field and Lab Investigations of the Appalachians in the United States and Canada (GSA Geochronology Division; GSA Geobiology Division; GSA Energy Geology Division; GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)**

8:00 AM, Doubletree by Hilton, Pemigewasset Room

David Converse, Dwight Bradley and Athena Eyster, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 35-1 8:05 AM Walsh, Gregory\*; Valley, Peter M.; Deasy, Ryan T.; Merschat, Arthur; Aleinikoff, John N.; McAleer, Ryan J.; Regan, Sean P.: **SYNTHESIS OF THE MESOPROTEROZOIC BASEMENT OF THE SOUTHEASTERN ADIRONDACK HIGHLANDS, ESSEX COUNTY, NEW YORK**
- 35-2 8:25 AM St-Denis, Miguel\*; De Souza, Stéphane; Davies, Joshua H.F.L.; Perrot, Morgann: **DETRITAL MINERAL PROVENANCE AND AGE OF THE OAK HILL GROUP IN THE SOUTHERN QUÉBEC APPALACHIANS; PALEOGEOGRAPHIC IMPLICATIONS FOR THE LAURENTIAN MARGIN FROM NEOPROTEROZOIC DETRITAL ZIRCONS**
- 35-3 8:45 AM Lowe, David\*: **INCEPTION AND PASSIVE MARGIN REACTIVATION OF AULACOGENS ON THE EDIACARAN TO ORDOVICIAN LAURENTIAN IAPETAN MARGIN**
- 35-4 9:05 AM Pinon, Héroïse\*; Davies, Joshua H.F.L.; Musajo, Claire; Perrot, Morgann; Tremblay, Alain; Halverson, Galen P.: **TEPHROCHRONOLOGY OF ORDOVICIAN BENTONITES FROM THE MONTREAL AREA: ZIRCON AND APATITE CHEMISTRY AS A TOOL FOR STRATIGRAPHIC CORRELATIONS**
- 35-5 9:25 AM Converse, David\*; Bothner, Wallace; Jahrling, Christian; Summa, Lori; Awwiller, David; Perrot, Morgann; Tremblay, Alain; Koch, Philip; Keeley, Joshua: **SILURO-DEVONIAN GEOLOGY IN NORTHERN NH – STRATIGRAPHY, U-PB GEOCHRONOLOGY, GEOCHEMISTRY AND REGIONAL IMPLICATIONS**
- 35-6 9:45 AM Strauss, Justin V.\*; Bradley, Dwight; Thompson, Peter; Eusden, J.; Meyer, Edward E.; Reusch, Douglas; Town, Caleb Forrest; McClelland, William C.; Crowley, James L.: **DETRITAL ZIRCON U-PB GEOCHRONOLOGY OF THE GREATER CENTRAL MAINE BASIN, NEW HAMPSHIRE AND SOUTHWESTERN MAINE**
- 10:05 AM **BREAK**
- 35-7 10:20 AM Hillenbrand, Ian\*; Williams, Michael: **THE RISE AND FALL OF EASTERN NORTH AMERICA'S OROGENIC PLATEAUX: FROM THE ADIRONDACKS TO THE ACADIAN ALTIPLANO**
- 35-8 10:40 AM Williams, Michael\*; Hillenbrand, Ian; Jercinovic, Michael J.: **REACTION DATING AND BAYESIAN P-T-t-D AGE-SEQUENCE MODELING: A NEW TOOL FOR TECTONIC GEOCHRONOLOGY**
- 35-9 11:00 AM Croft, Kyra\*; Castro, Adrian; Baxter, Ethan F.: **GARNET SM-ND GEOCHRONOLOGICAL INSIGHTS INTO THE METAMORPHISM OF THE NASHOBA TERRANE, MASSACHUSETTS, USA**
- 35-10 11:20 AM Brunet, Isabella\*; Castro, Adrian; Walker, Stephanie; Jaret, Steven; Tailby, Nicholas D.: **DATING NYC: CONSTRAINTS ON THE TIMING OF METAMORPHISM**

**IN THE MANHATTAN SCHIST FROM GARNET PETROCHRONOLOGY**

- 35-11 11:40 AM Bailey, Christopher\*; Foster-Baril, Zachary; Wilk, Kinsey; Wachob, Olivia; Stockli, Daniel F.: **THERMAL EVOLUTION OF MESOZOIC RIFT BASINS AND POST-RIFT MAGMATISM IN THE MID-ATLANTIC**

**SESSION NO. 36**

**T15. Improvements to our Understanding of Past Climate and Environments through the Development of Proxies, the Generation of New Biomarker Records, and the Interpretation of Sedimentary Archives (GSA Energy Geology Division)**

8:00 AM, Doubletree by Hilton, Contoocook Room

Boyang Zhao and Emily Tibbett, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 36-1 8:05 AM Sylvia, Jillian\*; Itambu, Makarius; Joniec, Acadia; Lyon, Jenavieve; Smith, Matt; Roberts, Patrick; Leng, Qin; Yang, Hong; Patalano, Robert: **PLANT WAX BIOMARKER PALEO-ECOLOGICAL BASELINES ACROSS THE USAMBARA MOUNTAINS, TANZANIA**
- 36-2 8:25 AM Wilk, Alexander\*; Ramirez, Briana; Johnson, Thomas; Salacup, Jeff; Castañeda, Isla S.: **EVALUATING CLIMATE VARIABILITY AND PALEOTEMPERATURE PROXIES IN TROPICAL EAST AFRICA DURING THE LATE PLEISTOCENE AND MIS 5E**
- 36-3 8:45 AM Castañeda, Isla S.\*; Sun, Heeyeon; Salacup, Jeff: **TEMPERATURE AND HYDROCLIMATE VARIABILITY IN MID-LATITUDE ARID CENTRAL ASIA DURING THE PAST 13,600 YEARS: A MULTI-PROXY INVESTIGATION OF ISSYK-KUL (KYRGYZSTAN)**
- 36-4 9:05 AM Harris, Carolyn M.\*; Rhim, Jeemin; Zhang, Yujiao; Cobban, Alec; Zhou, Alice; McFarlin, Jamie; Weber, Yuki; Elling, Felix; Pearson, Anne; Kopf, Sebastian; Leavitt, William: **QUANTIFYING ENVIRONMENTAL CONTROLS ON ARCHAEOAL LIPID HYDROGEN ISOTOPE SIGNATURES IN AN EXTREMOPHILIC ARCHAEON**
- 36-5 9:25 AM Tweedy, Ruth\*; Shi, Sarah C.; Uno, Kevin: **MACHINE LEARNING ANALYSIS OF N-ALKANES FROM WOODY AND GRASSY AFRICAN PLANTS**
- 36-6 9:45 AM Turner, Joshua; Joniec, Acadia\*; Liang, Jiaqi; Niu, Gao; Yang, Hong; Leng, Qin: **IMPACT OF LEAF VARIATION ON THE FRANKS MODEL FOR ANCIENT CO<sub>2</sub> RECONSTRUCTION**
- 10:05 AM **BREAK**
- 36-7 10:20 AM Gallagher, Brett\*; Brisson, Sarah; Fielding, Christopher; Bush, Andrew: **PALEOECOLOGY AND DIVERSITY OF BRACHIOPODS THROUGH THE UPPER KELLWASSER EXTINCTION EVENT (LATE DEVONIAN) AT TIOGA, PENNSYLVANIA**
- 36-8 10:40 AM Khan, Emad Ullah\*; Saleem, Maryam; Sajjad, Syed Muhammad Wasim: **BIOFACIES, PALEOENVIRONMENT ENVIRONMENT AND STRATIGRAPHIC DISTRIBUTION OF EOCENE CARBONATES IN HAZARA BASIN, LESSER HIMALAYAS, PAKISTAN**
- 36-9 11:00 AM Aho, Tzevi\*; Amati, Lisa; Morse, Sarita: **ENVIRONMENT OF DEPOSITION AND CHARACTER OF SHELL HASHES AT TWO SECTIONS IN THE UPPER MOUNT MARION FORMATION (HAMILTON GROUP) IN EASTERN NEW YORK STATE**
- 36-10 11:20 AM Fielding, Christopher\*; Onuoha, Oluomachi I.; Frank, Tracy; Hren, Michael T.; Gibling, Martin R.: **A PALEOENVIRONMENTAL REAPPRAISAL OF THE PENNSYLVANIAN (BASHKIRIAN-MOSCOVIAN) SOUTH BAR FORMATION AND LOWER SYDNEY MINES FORMATION OF CAPE BRETON, ATLANTIC CANADA**
- 36-11 11:40 AM Cheesman, Julia\*; Urbano, Lensyl; Geiss, Christoph: **A MODEL OF SOIL DEVELOPMENT FOR LOESSIC**

**SOILS SUGGESTS RAPID DEVELOPMENT OF SOIL  
MAGNETIC PROPERTIES**

**SESSION NO. 37**

**T17. Trace Elements in the Environment**

8:00 AM, Doubletree by Hilton, Merrimack Room

Melissa Lombard, Benjamin Bostick and Maria Fahnestock, Presiding

- 8:00 AM **INTRODUCTORY REMARKS**
- 37-1 8:05 AM Koffman, Bess\*; Twining, Benjamin; Anurakwongsri, Chanon; Bjorklund, Annika; Stamieszkin, Karen; Mitchell, Catherine; Kelly, Shelly; Hwang, Inhui: **EVALUATING THE TRACE METAL FERTILIZATION POTENTIAL OF TERRESTRIAL DUST AND VOLCANIC ASH SOURCES TO THE GULF OF ALASKA**
- 37-2 8:25 AM Misra, Anant\*; Johannesson, Karen: **VANADIUM CONCENTRATIONS AND SPECIATION MODELLING ACROSS THE CHEMOCLINE FOR PETTAQUAMSCUTT RIVER ESTUARY, RHODE ISLAND**
- 37-3 8:45 AM Ward, Julia\*; Bryce, Julia; Fahnestock, Maria: **SEDIMENT MERCURY ABOVE AND BELOW THE HEAD-OF-TIDE MILL POND DAM IN DURHAM N.H**
- 37-4 9:05 AM Dricker, Alice\*; Cessna, Iris; Crist, Ainsley; Hayhow, Claire; Lively, Martin; Jim, Rebecca; Brabander, Daniel: **TRANSFORMATION DURING RECLAMATION: AN INVESTIGATION OF THE CHANGING GEOCHEMISTRY AND GEOMOBILITY OF MINE WASTE PILES AT THE TAR CREEK SUPERFUND SITE**
- 37-5 9:25 AM Cessna, Iris\*; Dricker, Alice; Crist, Ainsley; Hayhow, Claire; Lively, Martin; Jim, Rebecca; Brabander, Daniel J.: **A COMMUNITY SCIENCE APPROACH FOR EVALUATING HISTORIC AND CURRENT METAL LOADINGS TO THE TAR CREEK FLOODPLAINS, OKLAHOMA: IMPLICATIONS FOR WATERSHED MANAGEMENT**
- 9:45 AM **BREAK**
- 37-6 10:00 AM Kerstanski, Alexander J.\*; Graney, Joseph R.: **CHARACTERIZATION OF TRACE METAL CONCENTRATIONS WITHIN THE MARCELLUS SHALE ACROSS THE SOUTHERN TIER OF NEW YORK STATE**
- 37-7 10:20 AM Butterworth, Eve\*; Matney, Mila; Brabander, Daniel J.: **LEAD AND EXOTIC HEAVY METAL CONTAMINATION FROM AGING INFRASTRUCTURAL PAINTS: TOBIN BRIDGE IN CHELSEA, MASSACHUSETTS**
- 37-8 10:40 AM Shorr, Kyla; Sarikin Samari, Labib; Deng, Wilson; Xiao, Linda; Qi, Saidan; Lim, Annaliza; Johnson, Glen; CHENG, Zhongqi\*: **TRACE METALS IN BIOSWALES OF NEW YORK CITY: IMPLICATIONS ON METAL FLUXES FROM AIR AND OTHER SOURCES**
- 37-9 11:00 AM Ridenour, James\*: **ASSESSING EXPECTED ANALYTE DISTRIBUTIONS USING LOGRATIO TRANSFORMATION, MAHALANOBIS DISTANCE EVALUATION AND SOIL PHYSICAL PROPERTIES: AN EXAMPLE FROM A FARM SOIL DATASET**
- 37-10 11:20 AM Bernstein-Schalet, Jonah\*; Munoz, Sebastian; Ramos, Evan J.; Suquino, Kly D.; Gammerman, Miriam; Larsen, William; Hou, Yi; Cosslett Kemeny, Preston; Torres, Mark; Ibarra, Daniel: **WILDFIRE IMPACTS ON SOIL CHEMISTRY AND THE ROLE OF PYROGENIC CARBON IN SOIL MINERAL TRANSFORMATION**
- 11:40 AM **CONCLUDING REMARKS**

**SESSION NO. 38**

**T25. Estuary and Tidal Marsh Dynamics, Resiliency, and Restoration**

8:00 AM, Doubletree by Hilton, Piscataquog Room

Tim Cook, Brian Yellen and Zoe Hughes, Presiding

8:00 AM **INTRODUCTORY REMARKS**

- 38-1 8:05 AM Castagno, Katherine A.\*; Tucker, Molly; Borrelli, Mark; Smith, Tim P.: **RECONSTRUCTING HABITAT CHANGES AFTER RECURRING DUNE OVERWASH IN WELLFLEET, MA**
- 38-2 8:25 AM Bolt, Devon\*; Jakuba, Rachel: **IMPACTS OF SESARMA CRABS IN A LOCALIZED SALT MARSH STUDY**
- 38-3 8:45 AM Richard, Heather\*: **MICROBIAL SPECIES AND CARBON ABOVE AND BELOW MAINE TIDAL RESTRICTIONS**
- 38-4 9:05 AM Hollander, Jamie\*; Dickson, Katarina; Sarrazin, Anna; Dostie, Philip T.; Enterline, Claire; Moore, Slade; Puryear, Kristen; Johnson, Bev: **CARBON DYNAMICS UPSTREAM AND DOWNSTREAM OF A SALT MARSH TIDAL RESTRICTION, DRAKES ISLAND MARSH, WELLS, MAINE**
- 38-5 9:25 AM Sarrazin, Anna\*; Hollander, Jamie; Dickson, Katarina; Dostie, Philip T.; Enterline, Claire; Moore, Slade; Puryear, Kristen; Johnson, Bev: **IMPACT OF A TIDAL RESTRICTION ON CARBON DYNAMICS AND SEDIMENTATION IN THE JONES CREEK SALT MARSH, SCARBOROUGH, MAINE, USA**
- 9:45 AM **BREAK**
- 38-6 10:00 AM Armstrong, Michael\*; Snyder, Noah P.; Kineke, Gail C.; Smith, Jarrell; Snedden, Gregg: **SUSPENDED-SEDIMENT TRANSPORT IN A NEW JERSEY SALT MARSH TIDAL CHANNEL**
- 38-7 10:20 AM Cook, Tim\*; Autery, Molly; Woodruff, Jonathan; Yellen, Brian: **TIDAL WETLAND ACCRETION AND ELEVATION CHANGE ALONG THE ATLANTIC COAST OF THE NORTHEASTERN UNITED STATES**
- 38-8 10:40 AM Yellen, Brian\*; Teng, Wenxiu; Yu, Qian; Woodruff, Jonathan D.: **DECLINING COASTAL SUSPENDED SEDIMENT IN THE NORTHEAST US FROM SATELLITE OBSERVATIONS**
- 38-9 11:00 AM Van Dam, Bea E.\*; Smith, Sean: **"ESTUARY BUILDER": A DIAGNOSTIC TOOL FOR COASTAL VULNERABILITY RELATED TO LAND-SEA CONNECTIONS**

**MORNING  
POSTER TECHNICAL SESSIONS**

**SESSION NO. 39**

**T7. Unraveling Appalachian Orogenic Events Using Geological and Geophysical Methods (Posters) (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)**

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

- Booth #
- 39-1 1 Huba, Julianna\*; Malinconico, Lawrence; Wilson, John R.: **A GEOPHYSICAL CHARACTERIZATION OF THE TRANSITION BETWEEN THE GREAT VALLEY AND RIDGE AND VALLEY PROVINCES, PENNSYLVANIA**
- 39-2 2 Masis Arce, Roberto\*; Long, Maureen; Karabinos, Paul: **COMPARISON OF THE LITHOSPHERIC STRUCTURES ACROSS LAURENTIA AND PERI-GONDWANAN TERRANES BETWEEN NORTH AMERICA, IRELAND, AND GREAT BRITAIN**
- 39-3 3 Espinal, Kimberly\*: **SKS SPLITTING MEASUREMENTS PROBING DEFORMATION AND MANTLE FLOW BENEATH NEW ENGLAND**
- 39-4 4 Bourke, James\*; Link, Frederik; Long, Maureen; Webb, Laura; Karabinos, Paul: **CRUSTAL STRUCTURE ACROSS NORTHERN NEW ENGLAND AND THE ADIRONDACK MOUNTAINS**
- 39-5 5 Link, Frederik\*; Luo, Yantao; Long, Maureen; Kuiper, Yvette D.: **IMAGING LOWER CRUSTAL FLOW USING HARMONIC DECOMPOSITION OF RECEIVER FUNCTIONS BENEATH A DENSE SEISMIC PROFILE IN EASTERN MASSACHUSETTS**

AM

TUESDAY

39-6 6 Kuiper, Yvette\*; Long, Maureen: **AEROMAGNETIC ANOMALIES OF THE APPALACHIANS**

## SESSION NO. 40

**T8. Micro to Macro: Linking Structural Geology, Petrology, Geochronology, and Tectonics Across Scales (Posters) (GSA Geochronology Division; GSA Structural Geology and Tectonics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)**

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

### Booth #

- 40-1 7 Fulmer, Anya\*; Markley, Michelle; Pless, Claire: **NEW CONSTRAINTS ON THE TIMING OF DEFORMATION IN THE MABERLY SHEAR ZONE IN THE GRENVILLE PROVINCE OF SOUTHERN ONTARIO**
- 40-2 8 Carabin, Jeanne\*; Gervais, Felix; Sappin, Anne-Aur lie: **SHAWINIGAN-AGED REE-BEARING CARBONATITES IN THE GRENVILLE PROVINCE: GEOCHRONOLOGICAL CONSTRAINTS WITHIN THE CENTRAL METASEDIMENTARY BELT BOUNDARY ZONE**
- 40-3 9 Price, Nancy\*; Hoffman, Olivia: **PEGMATITES OF COBBLE LOOKOUT, NORTHERN MARGIN OF THE MARCY MASSIF, ADIRONDACK MOUNTAINS, NEW YORK, USA**
- 40-4 10 Evans, Mark\*: **ALLEGHANIAN SYNTECTONIC LOAD ABOVE THE MASSANUTTEN SYNCLINORIUM, NORTHERN VIRGINIA**
- 40-5 11 Solar, Gary\*; Murphy, Kelsey; Tomascak, Paul B.; Tilley, Sarah R.: **STRUCTURE, PETROGRAPHY AND GEOCHEMISTRY OF THE LOG JAM SCHIST, WESTERN CONNECTICUT**
- 40-6 12 Sanders, Shaun\*; Cao, Wentao; Massonne, Hans-Joachim; Jercinovic, Michael J.: **RUTILE CRYSTALLIZATION TEMPERATURE IN A GARNET-KYANITE GNEISS FROM THE SOUTHERN BRAS LIA OROGEN**
- 40-8 14 Koran, Isabel\*; Schoene, Blair; Wernette, Shelly; Hughes, Nigel C.; Myrow, Paul: **U-PB ZIRCON AGE CONSTRAINTS ON THE LATE CAMBRIAN AND LOWER ORDOVICIAN FAUNA OF SIBUMASU**
- 40-9 15 Thomas, Lexi\*; Kohn, Matthew J.: **USING RAMAN SPECTROSCOPY TO VALIDATE METAMORPHIC P-T PATHS FROM WESTERN NEW HAMPSHIRE**
- 40-10 16 Eyster, Athena\*; Brengman, Latisha; Nichols, Claire I.O.; Bryce, Julia: **FEASIBILITY OF THE U-PB HEMATITE CHRONOMETER IN SUPERIOR REGION MASSIVE IRON FORMATIONS**
- 40-11 17 Madonna, Anthony\*; du Toit, Charl; Gaschnig, Richard: **THE FLOOR OF THE IDAHO BATHOLITH: U-PB GEOCHRONOLOGY OF GNEISSIC ROCKS FROM UPPER SELWAY RIVER ALONG THE BOUNDARY OF THE BITTERROOT LOBE**
- 40-12 18 Connor, Matthew\*; Toraman, Erkan; Hanson, Lindley: **PRELIMINARY PETROLOGICAL, GEOCHRONOLOGICAL, AND GEOCHEMICAL CONSTRAINTS ON THE TIMING AND ORIGIN OF MAGMATISM AT MARBLEHEAD NECK, MA**
- 40-13 19 Perry, Madaleine\*; Carley, Tamara L.; Sahagian, Dork; Rossmann, Jenn Stroud: **EXPERIMENTALLY SIMULATING AND ANALYZING BUBBLE DYNAMICS AND NUCLEATION IN MAGMA**
- 40-14 20 Rivera, Serafina\*; Kotler, Mikey; Carley, T.L.; Banik, Tenley; Sahagian, Dork: **REFINING SUBGLACIAL EMPLACEMENT OF H G NGUR ON THE PERIMETER OF VATNAK KULL ICE SHEET, ICELAND**

- 40-15 21 Grant, Cameron\*; Kolawole, Folarin; Williams, Jack: **INCIPIENT RIFT FAULTING AND SCALING RELATIONSHIPS IN THE OKAVANGO-MAKGADIKGADI RIFT ZONE, BOTSWANA**
- 40-16 22 Haggerty, Emily\*; Johnson, Scott; Song, Won Joon; Vel, Senthil S.; Gerbi, Christopher C.: **THE EFFECT OF DEFORMATIONAL FABRICS AND STRUCTURES ON THERMAL CONDUCTIVITY AND RHEOLOGY**
- 40-17 23 Song, Won Joon\*; Johnson, Scott E.; Song, Bo Ra; Gerbi, Christopher C.: **DOES QUARTZ PRESERVE A RECORD OF THE EARTHQUAKE CYCLE AT THE FRICTIONAL-TO-VISCOUS TRANSITION? A STUDY OF A SEISMOGENIC BIMATERIAL SHEAR ZONE**
- 40-18 24 Song, Bo Ra\*; Song, Won Joon; Johnson, Scott E.; Gerbi, Christopher C.; Sullivan, Walter A.: **EFFECT OF POST-FRAGMENTATION VISCOUS SHEAR STRAIN ON PARTICLE SIZE DISTRIBUTION FOR DYNAMIC AND QUASI-STATIC FRAGMENTATION**

## SESSION NO. 41

**T20. Groundwater and Surface Water Characterization through Modeling and Field Methods (Posters) (GSA Geophysics and Geodynamics Division)**

9:00 AM, Doubletree by Hilton, Armory Ballroom

Authors will be present from 9:30 to 11:30 AM

### Booth #

- 41-1 25 Griesel, Madelaine\*; Heiss, James: **EFFECT OF TIDAL SALINITY VARIATIONS ON HYPORHEIC EXCHANGE IN ESTUARINE BEDFORMS**
- 41-2 26 Roy, Asim\*; Heiss, James; Raubenheimer, Britt; Elgar, Steve: **EFFECTS OF COASTAL STORMS ON FLOW AND SALINITY DISTRIBUTIONS IN A BARRIER ISLAND GROUNDWATER SYSTEM**
- 41-3 27 MacKnight, Alex\*; Pietras, Jeffrey T.; Schmitkons, Jonathan: **HOW LOW CAN YOU GO? CAN YOU GO DOWN LOW? - INVESTIGATING THE ROLE OF LOWSTANDS AND EVAPORATIVE CONCENTRATION IN THE ONSET OF MEROMIXIS IN GREEN LAKE, FAYETTEVILLE NY**
- 41-5 29 Korba, Abby; Lachhab, Ahmed\*: **INVESTIGATING AQUIFER HETEROGENEITY: A CASE STUDY OF CEER, SUSQUEHANNA UNIVERSITY, THROUGH THE INTEGRATION OF ERT, SRT, AND DRILLING LOGS**
- 41-6 30 Graves, Daniel\*; Ibarra, Daniel: **VARIABILITY OF GROUNDWATER RECHARGE IN VARIABLE CLIMATES: A GROUNDWATER FLOW MODEL FOR THE SOUTHERN GREAT BASIN**
- 41-7 31 Toledo-Crow, Ricardo; Kress, Michael; Zhang, Zhanyang; Sch fer, Tobias; Heris, Mehdi P.; Benimoff, Alan\*: **UNDERSTANDING THE FLOODING IN THE CITY: AN URBAN COMPOUND FLOODING MODEL USING MULTIPLE OPEN-SOURCED DYNAMIC DATASETS**
- 41-8 32 Reeve, Andrew\*; Ocegueda-Vargas, Ismael; Lamas-Cos o, Elizabeth; Arcega-Cabrera, Flor; Flores-Neri, Iris: **MONITORING GROUNDWATER LEVELS AND SIMULATING GROUNDWATER FLOW NEAR THE RING OF CENOTES, NORTHEASTERN YUCATAN, MEXICO**

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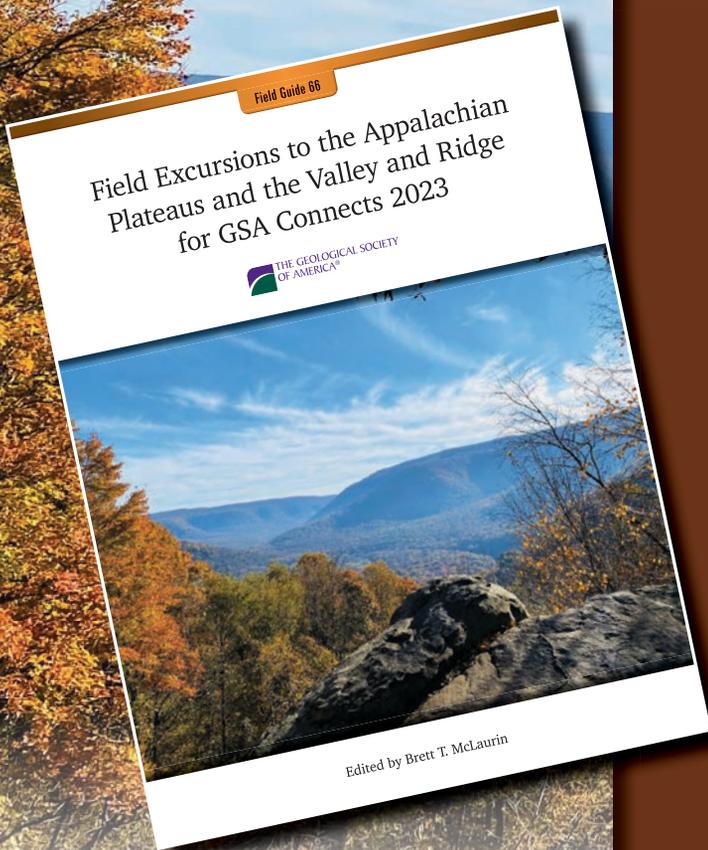
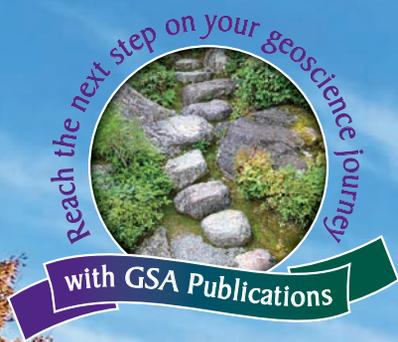
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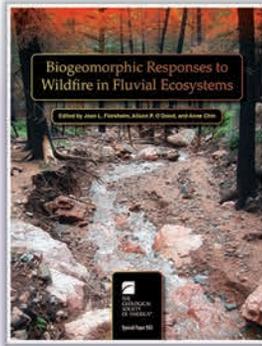
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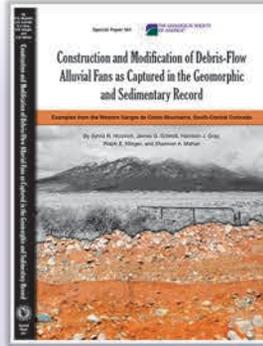
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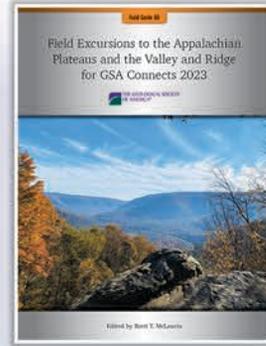
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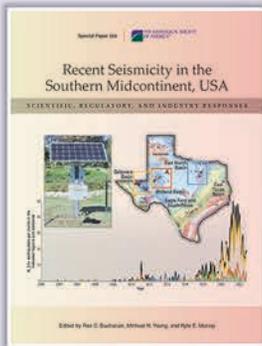
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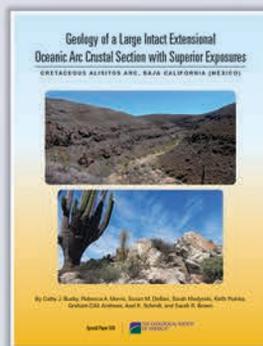
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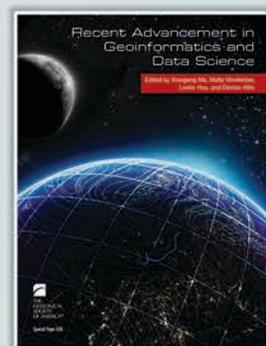
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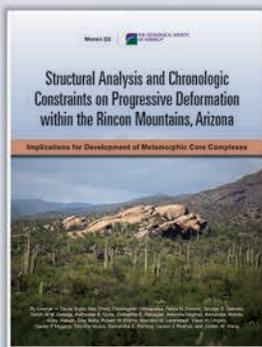
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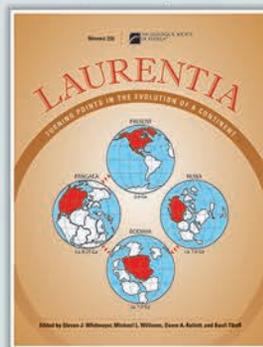
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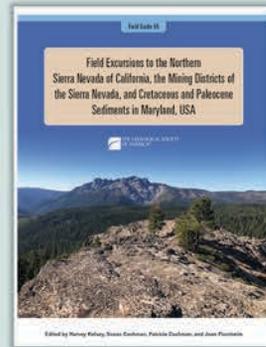
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