Registration and Check-In Information

Registration and check in for the meeting will be available all week at Sheraton Downtown Philadelphia in the Liberty Ballroom Foyer. Please check in upon your arrival at the meeting in order to receive your name badge and other important materials and information.

Sheraton has a CASH ONLY policy for alcohol purchases at conference events if drink tickets have been used/and or not provided as well as concessions in the foyers.

REGISTRATION HOURS
Sunday, June 2—3:00pm to 7:00pm
Monday, June 3—8:00am to 7:00pm
Tuesday, June 4—8:00am to 7:00pm
Wednesday, June 5—8:00am to 6:00pm
Thursday, June 6—8:00am to 5:00pm

MEETING UPDATES
Keep up to date with changes by checking for updates on the bulletin board next to registration, on the CVENT app and on the meeting website.

RECEIPTS AND LETTERS OF PARTICIPATION
Your registration confirmation that was emailed to you when you registered for the meeting will serve as your receipt. In keeping with our conservation efforts, we will not provide printed receipts to attendees on site at the meeting. If you have misplaced your original receipt and need another copy emailed to you, visit the Registration Desk for assistance.

MESSAGES
Message boards will be located near registration. Feel free to post messages, CV's, and job opportunities during the meeting.

IDENTIFICATION
Your conference name badge is required for entry to all sessions, activities and social events and regardless of your age, a valid picture ID is required for service of alcoholic beverages.

WI-FI
Login: Sheraton_Meeting
Password: freshwater24
About the Society for Freshwater Science

Mission
The Society for Freshwater Science (SFS) is an international scientific organization whose purpose is to promote further understanding of freshwater ecosystems (rivers, streams, lakes, reservoirs, and estuaries) and ecosystems at the interface between aquatic and terrestrial habitats (wetlands, bogs, fens, riparian forests, and grasslands). The society fosters the exchange of scientific information among the membership, and with other professional societies, resource managers, policymakers, educators, and the public. Society members study genetics to community structure of freshwater organisms, freshwater ecosystem function, physical processes that affect freshwaters, and linkages between freshwater ecosystems and surrounding landscapes. Applied aspects of their science include habitat and water quality assessment, conservation, fisheries and invasive species management, integrated water resource management, and restoration.

Vision
The Society for Freshwater Science (SFS) will be a vibrant, inclusive, and diverse community dedicated to advancing, applying and translating science for the health and vitality of freshwater ecosystems and the services they provide.

Core Values
1. Promoting excellence in freshwater science: SFS is dedicated to advancing freshwater science to understand fundamental properties of aquatic ecosystems, promoting interaction across the disciplinary breadth of freshwater science, and applying our science to improve freshwater policy and management.
2. Sustaining a supportive, cooperative, and open scientific community: SFS is rooted in a welcoming and collaborative community committed to maintaining and growing that community through its publications, annual meetings, mentoring and training programs and associated activities.
3. Advancing diversity, inclusivity and equity in freshwater science: SFS recognizes the inherent value of diversity, inclusivity, and equity in freshwater science. SFS is dedicated to becoming a more diverse and equitable society through inclusion, where all scientists are welcomed and their voices heard, thus promoting diverse perspectives and representation in freshwater science.
4. Developing and supporting freshwater scientists: SFS is dedicated to the development of students and early career freshwater scientists and practitioners, and to supporting the continued development of all freshwater scientists throughout their careers.

Current Society
Today SFS enjoys its status as a premier international organization of aquatic scientists interested in a wide range of various scientific endeavors including environmental impact assessments; ecology and taxonomy of microbes, algae, invertebrates, and fish; carbon and nutrient dynamics; watershed dynamics; hydrology and geomorphology; conservation and restoration. SFS encourages interdisciplinary exchange through its meetings and journal publications. SFS membership is averages 1500 scientists, a large percentage of which are students. Although the majority of members hail from North America, SFS membership is comprised of individuals from around the globe. The membership also crosses many employment sectors: academia, private consulting, and federal, state, provincial, and municipal governments. SFS commitments to interdisciplinary, international, and inter-institutional exchange and mentorship of young scientists have positioned SFS as a leader in integrative aquatic science.

History of SFS
The Society was founded as the Midwest Benthological Society by 13 charter members at Havana, Illinois, in the spring of 1953. The first annual meetings attracted the Midwest’s best benthic scientists, which led to rapid increases in membership and a diversification within the society. Later renamed the North American Benthological Society, and most recently the Society for Freshwater Science, the society has expanded from our early and ongoing specialization in stream insect ecology to include a range of disciplinary interests from genes to landscapes. SFS has also expanded from its core focus on lotic freshwater ecosystems to benthic habitats in wetlands, estuaries, and oceans, and to the riparian and shorelands.

Meeting Theme: Connecting to Enhance Freshwater Science
Connections are integral to our lives and to our ecosystems. River networks are natural nexuses that encourage connections across physical, social, and biological systems. Climate change and environmental issues are highlighting unexpected implications for river networks and associated human and ecological systems. In times of rapid environmental and social change, systems and communities with strong connections have been suggested to show the greatest resilience.

By connecting with colleagues from other regions, countries, backgrounds and disciplines, we have opportunities to share new findings and perspectives across generations of students, teachers, researchers and managers. SFS strives to facilitate opportunities for multiple types of connections so that the quality of our freshwater understanding can be enhanced and a diverse community of freshwater scientists are enabled and ready to address pressing issues through resilient science.

For more information visit freshwater-science.org or sfsAnnualMeeting.org
Meeting Organizers

2024 Annual Meeting

Annual Meeting Committee
David B. Arscott (Chair)
Laura Craig (Co-chair, Local Arrangements)
Sherri L. Johnson (President)
Andreas Leidolf (Executive Director)
Christina Murphy (Special and Contributed Sessions, Oral)
Marc Peipoch (Posters)
Matthew McTammany (Workshops)
Megan Fork (Field Trips)
Abagael Pruitt (Student Activities)
Vivian Bravo (Headwaters Leadership Academy Representative)

Communications and Media Specialist
Andrea Ward

2023-2024 Student Resources Committee (SRC) Officers
Abagael Pruitt (Chair)
Anna Vincent (Past Co-chair, BoD Representative)
Emily Taylor (Past Co-chair)
Lindsey Rasnake (Silent Auction Chair)
Elise Snyder (Live Auction Chair)
Aaliyah Wright (Merchandise Chair)
Amaryllis Adey (Social Media Chair)
Champagne Cunningham (Undergraduate Affairs Chair)
Michelle Wolford (Diversity and Inclusivity Co-Chair)
Noelle Gadfly Stratton (Diversity and Inclusivity Co-Chair)
Angelika Kurthen (Virtual Events Chair)
Eva Bacmeister (Local Arrangements Chair)
Sarah Flynn (Student-Mentor Mixer Chair)

Committee Members
Tyler Allen, Alia Benedict, Gabriel Borba, Jamie Cochran, Erik Curtis, Vanessa Czeszynski, Amelia Grose, Bana Kabalan, Mohsin Khan, Love Kumar, Mitchell Liddick, Zacharie Loveless, Grace O'Malley, Liz D. Ortiz Munoz, Katherine Perez Rivera, Hazel Quarterman, Renn Schipper, Chelsea Smith, Emma Thrift

Society Officers & Information

2023-2024 Executive Committee
Sherri Johnson (Chair, President)
Erin Hotchkiss (Vice President)
David Arscott (President-Elect)
Steven Thomas (Past President)
Wil Wollheim (Vice President-Elect)
Peter Levi (Treasurer)
Eugènia Martí (Secretary)
Anna Hamilton (Finance Committee Chair)
Katherine O'Reilly (PIP Representative)
Andreas Leidolf (Executive Director)

2023-2024 Board of Directors
Sherri Johnson (Chair, President)
Erin Hotchkiss (Vice President)
David Arscott (President-Elect)
Steven Thomas (Past President)
Wil Wollheim (Vice President-Elect)
John Kominoski (Past Vice President)
Peter Levi (Treasurer)
Eugènia Martí (Secretary)
Lauren Kinsman-Costello (Academic Representative)
Ann Marie Reinhold (Early Career Representative)

Website and Social Media

We encourage you to use the meeting website and the detailed online schedule for all current information and to navigate the meeting.

Meeting Website
https://sfsannualmeeting.org

Society Website
https://freshwater-science.org

Mobile App
Download “CVent Events” on Google Play or Apple App Store, Search “Society for Freshwater Science Annual Meeting 2024”

Facebook
www.facebook.com/FreshwaterScience/

X (formerly Twitter)
https://twitter.com/benthosnews
#2024SFS

Conference Planner/Meeting Management

USU Office of Events
Melisa Wood
435-797-1914
melisa.wood@usu.edu

Recording Policy

Please! No recording of individual talks or sessions (oral or poster). Audio taping, videotaping, or photographing of presentations is not allowed at the meeting. Thank you for your cooperation.
SFS Meeting Code of Conduct

The Society of Freshwater Science is an international scientific organization whose purpose is to promote further understanding of freshwater ecosystems and ecosystems at the interface between aquatic and terrestrial habitats. SFS members and authors of SFS publications are expected to adhere to the SFS Bylaws, SFS Science-Based Policy, and SFS Meetings Social Media Conduct Policy.

SFS Annual Meetings, open to SFS members and those interested in freshwater sciences, are among the most respected meetings in the freshwater science community. SFS is committed to providing a safe, inclusive, productive, and welcoming environment for all meeting participants and staff. All participants including, but not limited to, attendees, speakers, volunteers, exhibitors, SFS staff, service providers and others are expected to abide by this SFS Meetings Code of Conduct. This Code of Conduct applies to all SFS meeting-related events whether in person or virtual and including, but not limited to, the SFS Annual Meeting, activities sponsored by SFS Chapters and organizations other than SFS but held in conjunction with SFS events, in public or private facilities, or online.

Expected Behavior

SFS encourages a proactive and constructive dialog and asks all meeting attendees to respect the following guidelines at all events associated with a SFS Meeting:

• Communicate openly with respect and consideration for others, valuing a diversity of views, opinions, and identities.
• Turn off any ringers or otherwise disrupting devices or mute yourself as appropriate while attending presentations or during live streams of sessions.
• Request permission from speakers before posting or sharing recordings or photographs from their presentation or extracting materials from the meeting website.
• Avoid personal attacks directed toward other attendees, participants, SFS officers or conference management staff, suppliers/vendors, and members of the public.
• Be mindful of your surroundings and of your fellow participants.
• Respect the rules and policies of the meeting venue, hotels, SFS contracted facility, or any other venue, including virtual and multimedia platforms.
• Speak up or intervene if you observe discriminatory or other harmful behavior directed at others whether that behavior occurs while participating in conference events or at an off-site venue.
• Techniques and trainings for bystander intervention are available online and can be viewed in advance. An example is: https://www.ajsocal.org/bystander-intervention-trainings/
• If you notice a dangerous situation or someone in immediate distress, please call for help immediately.
• Communication about harassment or other issues can occur in person with any of the SFS Board of Directors, SFS Executive Director (Andy Leidolf), SFS Communication Specialist (Andrea Ward) or members of the Council of Underrepresented Voices (CUV). Notification can also occur by emailing your concern to SAFE@freshwater-science.org.
• Reporting Unacceptable Behavior & Consequences
  • Anyone experiencing or witnessing behavior that constitutes an immediate or serious threat to public safety is advised to contact 911 and locate a landline phone and ask for security.
  • Anyone requested to stop unacceptable behavior is expected to comply immediately.
  • If you are the subject of unacceptable behavior or have witnessed any such behavior, please immediately notify SFS Board of Directors, SFS Executive Director (Andy Leidolf), SFS Communication Specialist (Andrea Ward) or members of the Council of Underrepresented Voices (CUV). Notification can also occur by emailing your concern to SAFE@freshwater-science.org.
  • After receiving a report of inappropriate behavior, SFS officers and representatives from CUV will assess the report and work with the complainant to determine the most appropriate response. SFS is committed to protecting the privacy of all individuals involved in the incident to the greatest extent possible.
  • SFS leadership reserves the right to take any lawful action deemed necessary in response to a violation of this code. This could include, but is not limited to, immediate removal from the meeting without warning or refund.

Ensuring Inclusion & Diversity in the future

The SFS leadership and the Council of Underrepresented Voices also encourages anyone to contact SFS officers or the Council of Underrepresented Voices regarding ways in which the Society can improve inclusion & diversity and encourage both a stimulating and supporting atmosphere.

Version 5. Updated May 2024
SFS Data Privacy Policy

Overview
The Society for Freshwater Science values its members’ privacy and strives to maintain critical services while diligently protecting private information. SFS only collects and stores information that is crucial to its services and has developed systems and policies to protect member information from misuse. SFS uses members’ data for three primary services: (1) communicate events, programs, news, publications, and policies that are of interest to SFS members, (2) process payment for conference services, journal services, merchandise, and workshops, and (3) understand the demographic make-up of our membership. The SFS Data Privacy Policy covers use of member data by SFS officers and the Board of Directors, SFS staff, SFS committees, and affiliates of the journal Freshwater Science.

SFS cannot provide its core services by itself, and thus has many digital partners with whom they work. Digital partners assist with conference planning, mass communication, technical support, publication support, and database management. Each digital partner is aware of the SFS Data Privacy Policy and will abide by the principles outlined here with regards to data use. This Data Privacy Policy is specific to data that is used by SFS for the three primary services described above, but digital partners of SFS may collect more data than those detailed here. SFS only works with digital partners that have policies about data privacy and advises members to view the digital partners’ privacy policies for more information. The following are digital partners of SFS, their roles, and links to privacy statements for those organizations:

- Utah State University Conference Services: membership management and conference services
- MemberClicks: membership database management (privacy policy)
- University of Chicago Press: Freshwater Science journal services (privacy policy)
- MailChimp: email communications (legal statements)
- Stroud Water Resources Center: taxonomic certification (privacy policy)
- CanTrust: website hosting (privacy policy)

How SFS collects data
By being an SFS member and/or participating in SFS events and activities, members authorize SFS and its partners to collect and use data about their members as described in this policy. Data are collected on members, meeting attendees, or users of other SFS services by SFS and its digital partners through the following methods:

- Membership registration
- Event registration (e.g., annual meeting)
- Payments or donations to SFS
- Award applications or nominations
- Direct surveys
- Taxonomic certification

What kinds of data does SFS use?
SFS uses member data that can be classified into four categories:

1. Contact information (e.g., name, email, institution)
2. Professional information (e.g., institution, research interests)
3. Financial information (e.g., credit card number, billing address)
4. Demographic information (e.g., gender, race, ethnicity)

Each category of data is treated differently; contact and professional information are available to committees, society officers, and select digital partners to facilitate communication and professional development. Select contact and professional information are also available to all SFS members through the directory in the membership portal (https://sfs.memberclicks.net/). Member financial data are tightly controlled and only available to the SFS Treasurer and digital partners that assist with financial transactions. Access to the demographic information is controlled by the Membership and Data Committee and only provided to SFS officers and committee chairs as de-identified data, preferably as summary statistics. For more specifics about what data attributes are collected, contact the chair of Membership and Data Committee (https://freshwater-science.org/about/society-governance/officers-committees).

SFS collects demographic data for efforts related to recruitment and retention of underrepresented groups. These data are used to better understand how the membership changes over time, and to report trends in membership composition to SFS leadership, committees, and general membership. SFS used early versions of these data for benchmarking relative to the general population (Abernathy et al. 2020; Burnett et al. 2022), and these efforts identified demographic groups that are underrepresented in the SFS membership relative to the general population and other STEM disciplines. SFS will continue to collect these data on a rolling basis and compare to previous years of SFS membership. These comparisons can allow SFS to evaluate the past, and inform future recruitment and retention efforts of underrepresented groups.

Retention and use of data by SFS
SFS strives to secure and protect the private data of its members but cannot fully guarantee the security of member data. SFS will use reasonable technical, administrative, and physical controls to secure the confidentiality of personal information and SFS will review and update their security controls on a regular basis. However, this Data Privacy Policy is not a guarantee that data may not be accessed, disclosed, altered, or destroyed by a breach of security safeguards. If an SFS member becomes aware of any breach of SFS security safeguards, or of any unintentional disclosure of data to an unauthorized third party, please immediately contact the SFS Executive Director at exec.director@freshwater-science.org.

All private membership data will be stored and accessed from password-protected devices, only used for the intended purposes, and not shared with any third parties or individuals not approved to access the data. Demographic data will be de-identified prior to use and will be shared with outside organizations only as aggregate and summary statistics. SFS retains member data for only as long as necessary to fulfill our primary services. SFS will retain indefinitely certain de-identified professional and demographic data for purposes of long-term study of membership trends. If there is no legal basis or other requirement to retain data and after there has been no activity from an individual member for 48 months, those data are no longer needed by SFS and will be purged.
Sharing of data outside of SFS
SFS will not intentionally share membership data in raw format with any organizations outside of the digital partners mentioned above. SFS will never sell member contact information to third parties. An exception may be made to this data sharing policy in cases where SFS is legally obligated to share data (e.g., financial data) with a government agency to conform to legal requirements. Demographic data in aggregate and de-identified format may be shared outside of SFS in the form of public presentation and/or publications. De-identified demographic data may be shared with other scientific societies (e.g., Consortium of Aquatic Science Societies) at the discretion of the SFS president if these data will advance broader recruitment and retention initiatives. SFS participates in joint meetings with other scientific societies, which may require SFS to share members’ contact information with other scientific societies or their conference management service providers.

Policy for updates
The SFS Data Privacy Policy was most recently updated by the Membership and Data Committee on August 9, 2022, and approved by the Board of Directors on September 15, 2022. SFS retains the right to update this privacy policy at any time, but members will be alerted to any substantial changes via email in the SFS Monthly Splash.

Acceptance of the terms
By joining SFS and/or using the websites affiliated with SFS members and users are agreeing to the terms in this privacy statement.

Contact information
• For questions about the SFS Data Privacy Policy please contact the SFS Executive Director at exec.director@freshwater-science.org
• To update any personal data please access the SFS Member Portal at https://sfs.memberclicks.net/
• For any other questions about SFS Membership please contact USU Event Services at eventservices@usu.edu

Approved by the SFS Board of Directors on 15 September 2022.

SFS Meetings Social Media Conduct Policy
SFS meetings, open to SFS members and those interested in freshwater sciences, are among the most respected meetings in the freshwater science community. SFS is committed to providing a safe, productive and welcoming environment for all meeting participants and staff. All participants including, but not limited to, attendees, speakers, volunteers, exhibitors, SFS staff, service providers, members of the press, and others are expected to abide by this SFS Meetings Social Media Conduct Policy. This policy applies to all SFS meeting-related events including those sponsored by organizations other than SFS but held in conjunction with SFS events, in public or private facilities.

“Social media” includes all websites or online applications that allow users to create and/or share content and to participate in social networking. Examples include Twitter, Facebook, Instagram, and Flickr.

This policy is guided by the understanding that SFS members and conference attendees should always assume that presenters do not wish to have photos of or specific results from their presentations posted on social media unless explicitly stated otherwise.

Expected Behavior:
1. Do not post recordings or videos of scientific sessions or plenary talks on social media without prior permission from the speaker.
2. Do not explicitly share data or specific results on social media without prior permission from the speaker. General statements about the conclusions of the presentation are acceptable.
3. Do not use social media to harass, intimidate, or otherwise conduct activities which may have detrimental effects on other SFS members. Note that the SFS Meetings Code of Conduct applies to social media use, including posts using the meeting hashtag or referencing events at the SFS meeting.

Guidelines for Speakers:
Some speakers may choose to permit attendees to record and share descriptions of specific results, photos, video or audio of their presentations. However, it is your right to deny permission to anyone. If someone violates this policy or continues unreasonably harassing you for permission, please see “Reporting Unacceptable Behavior and Consequences” below.

Reporting Unacceptable Behavior & Consequences:
All violations of this policy are subject to the SFS Annual Meeting Code of Conduct and should be referred in the same way as outlined in that policy.
About Philadelphia
From the SFS 2024 Local Arrangements Committee

Famous as the birthplace of life, liberty and the pursuit of happiness, Philadelphia is home to fascinating museums, vibrant parks, national historic sites and famous (and delicious) food. Yo, welcome to Philly! Visit the Visit Philadelphia website to learn more.

Food & Drink

Walking distances from the Sheraton are listed for restaurants below. Note that because of the historic nature of the city and its buildings, restaurants and bars are not always accessible. Please check in advance, if needed. Links are highlighted in blue.

Philly is known for its Cheesesteak Sandwiches ever since Philadelphians Pat and Harry Olivieri created the sandwich in the early 1930s. So, of course there are plenty of places to get a cheesesteak sandwich in Philly, but Jim’s South is arguably the best. For the best vegan cheesesteak in Philly, see Tattooed Mom below under ‘Restaurants & Bars’. But first, here are some of the best places nearby to taste this local invention:

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**Angelo’s**
Simple parlor known for classic and creative sandwiches, fried snacks, and breakfast options.
736 S 9th St
Philadelphia, PA 19147
Distance from Sheraton: 1.7 miles
*CASH ONLY/TAKEOUT ONLY

**Jim’s South Street**
Original 1939 location of local chain serving authentic Philly-style cheesesteaks & hoagies.
400 South St
Philadelphia, PA 19147
Distance from Sheraton: 1.9 miles

**Pat’s King of Steaks**
The self-proclaimed “Inventor of cheesesteak” offers classic versions of Philly’s favorite sandwich.
1237 E Passyunk Ave
Philadelphia, PA 19147
Distance from Sheraton: 2.1 miles
Across the street from Pat’s!

**Geno’s Steaks**
Patrons line up 24/7 for the cheesesteak sandwiches served up at this no-frills landmark.
1219 S 9th St
Philadelphia, PA 19147
Distance from Sheraton: 2.1 miles
Across the street from Pat’s!

**John’s Roast Pork**
Iconic roast-pork sandwich & cheesesteak joint that only accepts cash & closes by late afternoon.
14 E Snyder Ave
Philadelphia, PA 19148
Distance from Sheraton: 3.7 miles
*CASH ONLY

**Reading Terminal Market**
1136 Arch St, Philadelphia, PA 19107
Distance from Sheraton: 0.6 miles

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**Beck’s Cajun Cafe**
New Orleans-style Cajun cuisine.

**By George Pizza, Pasta & Cheesesteaks**
Brick oven pizza, stromboli, lasagna, salads, sandwiches & cheesesteaks.

**Carola’s Caribbean Cuisine**
Serving authentic, freshly prepared Caribbean dishes.

**Carmen’s Famous Italian Hoagies & Cheesesteaks**
Authentic Italian hoagies & cheesesteaks.

**Dinner’s Bar-B-Q Chicken**
Chicken Bar-B-Q with secret sauce.

**DiNici’s**
Hot roast beef, pork & meatball sandwiches.

**Down Home Diner**
Made from scratch country cookin’.

**Dutch Eating Place**
Great Pennsylvania Dutch food & lunches.

**El Merkury at The Market**
Serving authentic, freshly prepared Caribbean, Latin American, and Central American street food & lunches.

**DiNic’s**
Chicken Bar-B-Q with secret sauce.

**Dienner’s Bar-B-Q Chicken**
Cheesesteaks.

**Hershel’s East Side Deli**
Classic hand-carved deli sandwiches & authentic homemade Jewish specialties.

**Hunger Burger**
Patties with a purpose. All natural burgers, fries, shakes, salads & sides.

**Kamal’s Middle Eastern Specialties**
Lunch specials, falafel, fresh juices & desserts.

**Kismet Bialys**
Offering traditional Bialys in addition to limited edition and seasonal flavors.

**Little Thai Market**
Thai food, fresh Asian herbs & grocieries.

**Luhn Vegan Deli**
Fresh vegan foods made locally for your health and soul.

**Ma Lessie’s Chicken & Waffles**
American soul food crafted from family recipes.

**Molly Malloy’s**
35 beers on tap & handcrafted dishes.

**Nana’s Kitchen**
Traditional Indian-Pakistani dishes, gluten free, vegan, vegetarian & halal meats.

**Olympia Gyro**
Greek specialties, gyro, souvlaki & more.

**Pearl’s Oyster Bar**
Serving breakfast and lunch every day! Fresh seafood dishes made from scratch.

**Profi’s Creperie**
Savory & dessert crepes made to order.

**Saami Somi**
Georgian-inspired cuisine, pantry items & fresh baked breads.

**Sang Kee Peking Duck**
Duck, pork, spare rib platters & noodle soups.

**Shanghai Gourmet Restaurant**
Cantonese, Mandarin & Szechuan soups & platters.

**Spataro’s Cheesesteaks**
Hoagies, sandwiches, cheesesteaks, soups & breakfast sandwiches.

**Tambayan**
Filipino-fusion menu of breakfast, all day fare & desserts.

**The Original Turkey**
Fresh roasted turkey sandwiches & platters from the Bassetts.

**Uni Seafood & Sushi Bar**
Freshly prepared seafood, sushi & sides.
Restaurants & Bars

Con Murphy's Irish Pub
This Irish pub run by a couple of Limerick gents offers the traditional plates & pints of Guinness.
1700 Benjamin Franklin Pkwy
Philadelphia, PA 19103
Distance from Sheraton: 0.1 miles

Asia on the Parkway
Informal venue with patio seats plating Chinese & Thai specialties, along with Japanese sushi.
1700 Benjamin Franklin Pkwy
Philadelphia, PA 19103
Distance from Sheraton: 0.1 miles

Sabrina's Cafe
Relaxed New American cafe with a devoted following for its breakfast & brunch offerings.
1804 Callowhill St
Philadelphia, PA 19130
Distance from Sheraton: 0.2 miles

City Tap House
New American pub fare & craft beers in a big space with a huge video wall screening games.
100 N 18th St
Philadelphia, PA 19103
Distance from Sheraton: 0.2 miles

Pizzeria Vetri
Relaxed destination with a contemporary vibe serving Neapolitan pizzas, plus calzones & salads.
1939 Callowhill St
Philadelphia, PA 19130
Distance from Sheraton: 0.4 miles

Buena Onda
Tacos, quesadillas & margaritas at this taqueria inspired by the Baja Peninsula.
1901 Callowhill St
Philadelphia, PA 19130
Distance from Sheraton: 0.4 miles

Happy Rooster
Quirky corner bar with worn leather booths serving seasonal American fare.
118 S 16th St
Philadelphia, PA 19102
Distance from Sheraton: 0.5 miles

Nom Wah Philadelphia
Hip, laid-back Chinese eatery offering a wide range of dim sum specialties, plus tea & pastries.
218 N 13th St
Philadelphia, PA 19107
Distance from Sheraton: 0.5 miles

Real Food Eatery
Fast casual spot serving healthy lunchset, with grilled proteins, greens, and grains.
207 S 16th St
Philadelphia, PA 19102
Distance from Sheraton: 0.6 miles

Black Sheep
Old-style outfit in a tri-level townhouse serving pub fare & a good selection of tap beer.
247 S 17th St
Philadelphia, PA 19103
Distance from Sheraton: 0.6 miles

Barcade
The original arcade bar - vintage video games and craft beer. Two locations.
1326 Chestnut St, Philadelphia, PA 19107
Distance from Sheraton: 0.7 miles
and
1114 Frankford Ave
Philadelphia, PA 19125
Distance from Sheraton: 2.5 miles

Cavanaugh's Rittenhouse
Sports bar with craft beer and pub food.
1913 Sansom St
Philadelphia, PA 19103
Distance from Sheraton: 0.7 miles

Ranstead Room
Hidden cocktail bar with a speakeasy vibe. Expect a wait to get in.
204 N 9th St
Philadelphia, PA 19107
Distance from Sheraton: 0.8 miles

Bob and Barbaras
Known widely for free live music, Philly's longest running drag show, and "The Special". (This is the bar where the "Citywide Special" - a cheap beer and a shot - got its start!)
1509 South St
Philadelphia, PA 19146
Distance from Sheraton: 1.0 miles
*CASH ONLY

Mac's Tavern
Welcoming, non-nonsense pub in Old City. Owned by Rob and Kaitlin McElhenney of It's Always Sunny in Philadelphia fame.
226 Market St
Philadelphia, PA 19106
Distance from Sheraton: 1.5 miles

National Mechanics
Casual eatery in a former bank building serving American fare amid quiz nights & other events.
22 S 3rd St
Philadelphia, PA 19106
Distance from Sheraton: 1.5 miles

Khyber Pass Pub
Cozy bar with great music, Southern BBQ, a variety of vegan options, and a vast beer selection.
56 S 2nd St
Philadelphia, PA 19106
Distance from Sheraton: 1.6 miles

Tattooed Mom
Artsy, rock and roll/punk/alternative bar with great food (including vegan) and cocktails.
530 South St
Philadelphia, PA 19147
Distance from Sheraton: 1.8 miles

Museums

Academy of Natural Sciences

Independence National Historic Park and the Liberty Bell
The President's House (George Washington and John Adams)

National Constitution Center

Museum of the American Revolution

The African American Museum in Philadelphia

Weitzman National Museum of American Jewish History

Independence Seaport Museum

Adventure Aquarium (Camden, NJ)

Philadelphia Museum of Art (Rocky Statue)

The Franklin Institute

Parks

Boathouse Row & Kelly Drive (along the Schuylkill River Trail)

City Hall & Dilworth Park

Dilworth Park

Fairmount Park

Franklin Square

Love Park

Penn's Landing (Delaware River)

The Rail Park

Rittenhouse Square

Schuylkill River Trail and Banks Boardwalk
Meeting Site & Transportation

Welcome To Sheraton Philadelphia Downtown

![Sheraton Philadelphia Downtown, marriott.com](sheraton-philadelphia-downtown-marlrott-com)

Discover the national treasure of Pennsylvania at the Sheraton Philadelphia Downtown. Our hotel in the heart of Downtown Philadelphia offers everything you need to stay connected during travel. Unwind in our guest rooms and suites with upscale furnishings, ergonomic workspaces, and inspiring city views in select accommodations. Savor American cuisine and specialty drinks in a friendly atmosphere at one of our two on-site dining options or try restaurants nearby. Stay active at our 24-hour fitness center. During your stay, enjoy easy access to museums like Philadelphia Museum of Art along Benjamin Franklin Parkway, Liberty Bell, Independence Hall, the Pennsylvania Convention Center, LOVE Park, and more. Easily get to attractions via 30th Street Station just five minutes away. With 60,000 sq ft of event space and a scenic Center City location, our hotel is an excellent choice for your next formal meeting or special occasion. Whatever brings you to town, enjoy your stay at the Sheraton Philadelphia Downtown

How to prepare for your stay:

Getting Here

Located in Center City, just 15 minutes from Philadelphia International Airport, our reimagined Downtown Philadelphia hotel offers easy access to Philadelphia Museum of Art, LOVE Park, Pennsylvania Convention Center, and Drexel University. Easily get to attractions via 30th Street.

Here are the directions from the airport to the hotel via the SEPTA Public Transport system.

- **Bus Stop:** 17th St & Summer Street - FS—157 feet
- **Metro/Subway:** RACE-VINE—0.3 Miles
- **Metro/Subway:** Suburban Station—0.3 Miles
- **Train:** 30 Street Station—0.9 Miles
- **Airport:** Philadelphia International Airport—8 Miles

Parking

- No in/out privileges for self-parking. Valet Parking is $60 per night.
- On-Site Daily Parking: $39
- Valet Parking: $60
- Electric Car Charging Station Available

Transportation

When visiting Philadelphia, if you are planning to remain in Center City during your trip, it's easier to walk, ride a bike or take public transportation than renting a car. After all, the main section of the city only spans 25 blocks between the two rivers to the east and west.

Philadelphia has become one of the most bike-friendly big cities in the country with dedicated bike lanes on city streets, hundreds of miles of trails and a growing number of bicycle commuters. Philly makes biking even better with Indego, a city-wide bike sharing service that offers rentals starting at just $4 per ride.


Philadelphia is home to an extensive and convenient public transportation system called SEPTA (Southeastern Pennsylvania Transportation Authority). This public transit system is budget-friendly and relatively easy to navigate. This system runs throughout the city and offers many options for getting around, including buses, regional trains, underground subway trains and (in some parts of the city), above-ground trolleys. These options will get you to most places you need to go to in the city—and some suburbs as well.

[iseptaphilly.com](http://iseptaphilly.com)

Taking Taxis

Taxis are plentiful in Philadelphia and found at many taxi stations around the city. They can also be flagged down on just about any street. Rideshare companies (such as Lyft and Uber) are also solid options in the city and surrounding suburbs.

Car Rental

A car is not required to get around Philadelphia. The city has a lot of traffic, tiny streets, and limited parking. Parking lots are expensive in center city, and there may be no parking options in South Philly, depending on the neighborhood. However, if you want to visit the surrounding New Jersey beaches and other suburban areas, you will need to rent a car.

Tips for Getting Around the City

- The subways run 24 hours from Thursday to Sunday nights.
- Train, bus, and trolley schedules are often different on nights and weekends (but not all routes), so be sure to check them out.
- Several SEPTA “night owl” bus routes run 24-hours a day. Check the website for schedules.
- The “Market-Frankford subway line” is often referred to as the “EL” train.
- The New Jersey PATCO line is often referred to as the “Speedline.”
- If you’re in the city during rush hour and only need to travel a few blocks, it might be faster to walk than wait for a bus or take a taxi
- SEPTA is bicycle-friendly on most routes
Get Connected

Access the Society for Freshwater Science Annual Meeting from anywhere!

Conference App

Download Cvent Events on Google play or the Apple App Store:

Search for Society for Freshwater Science Annual Meeting 2024
## Meeting Schedule

### Saturday, June 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Event—Field Trips</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-guided</td>
<td>Philly Murals Walking Tour</td>
<td>Offsite</td>
</tr>
<tr>
<td>(any time/day)</td>
<td>Visit to Bartram’s Garden</td>
<td>Offsite</td>
</tr>
<tr>
<td>7:30 AM - 11:00 AM</td>
<td>Birding Tour at the Discovery Center (Strawberry Mansion Preserve)</td>
<td>Offsite</td>
</tr>
<tr>
<td>8:30 AM - 2:30 PM</td>
<td>Visit to Great Marsh Institute</td>
<td>Offsite</td>
</tr>
<tr>
<td>8:30 AM - 5:00 PM</td>
<td>Hidden Gem Canoe Field Trip: Discover the Brandywine River</td>
<td>Offsite</td>
</tr>
<tr>
<td>10:00 AM - 12:30 PM</td>
<td>Tour the Collections at the Academy of Natural Sciences: Track A</td>
<td>Offsite</td>
</tr>
<tr>
<td>10:00 AM - 12:30 PM</td>
<td>Tour the Collections at the Academy of Natural Sciences: Track B</td>
<td>Offsite</td>
</tr>
<tr>
<td>1:00 PM - 5:00 PM</td>
<td>Mussel Hatchery at Fairmount Water Works</td>
<td>Offsite</td>
</tr>
</tbody>
</table>

### Sunday, June 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location in Sheraton</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 6:00 PM</td>
<td>Nursing/family private space - Unsupervised</td>
<td>Parlor C &amp; D</td>
</tr>
<tr>
<td>9:00 AM - 1:00 PM</td>
<td>Workshop: Getting Published: A Science Writing Workshop</td>
<td>Salon 10</td>
</tr>
<tr>
<td>9:00 AM - 4:00 PM</td>
<td>Workshop: Spatial Analysis &amp; Stats Modeling with R &amp; spmodel</td>
<td>Salon 5-6</td>
</tr>
<tr>
<td>9:00 AM - 4:00 PM</td>
<td>Workshop: Ecological Apps of Bayesian Stats—with R and Stan</td>
<td>Independence Ballroom B</td>
</tr>
<tr>
<td>9:00 AM - 5:00 PM</td>
<td>Orientation for EMERGE/INSTARS fellows</td>
<td>Independence Ballroom A</td>
</tr>
<tr>
<td>9:00 AM - 4:00 PM</td>
<td>SFS Board of Directors Meeting</td>
<td>Horizons Rooftop</td>
</tr>
<tr>
<td>12:00 PM - 3:00 PM</td>
<td>Exhibitor setup</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>12:00 PM - 7:00 PM</td>
<td>SRC Merchandise and Silent Auction setup</td>
<td>Mezzanine Foyer</td>
</tr>
<tr>
<td>12:00 PM - 4:00 PM</td>
<td>Workshop: NEON Aquatic Biodiversity Workshop</td>
<td>Philly North/South</td>
</tr>
<tr>
<td>12:30 PM - 4:00 PM</td>
<td>Workshop: Intro to DIY Water Monitoring Technology</td>
<td>Salon 3-4</td>
</tr>
<tr>
<td>3:00 PM - 7:00 PM</td>
<td>Registration and Exhibits open</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>4:00 PM - 5:00 PM</td>
<td>Welcome Mixer/Reception [open]</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>5:00 PM - 6:30 PM</td>
<td>SFS Meeting Opening: Land Acknowledgement; Welcome from President;</td>
<td>Liberty Ballroom ABC</td>
</tr>
<tr>
<td></td>
<td>Awards for Distinguished Service, Environmental Stewardship,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leadership; Presentation by Award of Excellence winner</td>
<td></td>
</tr>
<tr>
<td>6:30 PM - 8:00 PM</td>
<td>Dinner on your own</td>
<td>Offsite</td>
</tr>
<tr>
<td>6:30 PM - 8:30 PM</td>
<td>SRC Trivia Session [open]</td>
<td>Horizons Rooftop</td>
</tr>
<tr>
<td>8:00 PM - 10:00 PM</td>
<td>Welcome Mixer/Reception/Ice Cream Social [open]</td>
<td>Liberty Ballroom ABC and Foyer</td>
</tr>
</tbody>
</table>

### Monday, June 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location in Sheraton</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM - 8:30 AM</td>
<td>Freshwater Science Editorial Board Breakfast</td>
<td>Seminar C</td>
</tr>
<tr>
<td>7:00 AM - 8:30 AM</td>
<td>SRC Student Orientation Breakfast</td>
<td>Horizons Rooftop</td>
</tr>
<tr>
<td>8:00 AM - 7:00 PM</td>
<td>Presentation ready room</td>
<td>Salon 9</td>
</tr>
<tr>
<td>8:00 AM - 7:00 PM</td>
<td>Registration</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>8:00 AM - 10:00 PM</td>
<td>Exhibits</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>8:00 AM - 6:00 PM</td>
<td>Nursing/family private space</td>
<td>Parlor C &amp; D</td>
</tr>
<tr>
<td>8:00 AM - 10:00 PM</td>
<td>Silent Auction bidding and SRC Merchandise for sale</td>
<td>Mezzanine Foyer</td>
</tr>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td>Welcome/Announcements; Short video - Judy’s Creek; Plenary Session I:</td>
<td>Liberty Ballroom ABC</td>
</tr>
<tr>
<td></td>
<td>Erik L. Silldorff, Ph.D. “Aquatic Life in the Delaware River Basin:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Our Unique History, Past Successes, and Persistent Challenges”</td>
<td></td>
</tr>
<tr>
<td>9:00 AM - 12:00 PM</td>
<td>Taxonomic Certification Program (TCP) Test Session 1</td>
<td>Seminar A</td>
</tr>
<tr>
<td>10:00 AM - 10:30 AM</td>
<td>Coffee Break</td>
<td>Liberty and Mezzanine Foyers</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
<td>Location in Sheraton</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>Lunch on your own</td>
<td>Offsite</td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>SFS Committees - Lunch Meeting</td>
<td>Horizons Rooftop</td>
</tr>
<tr>
<td>1:00 PM - 4:00 PM</td>
<td>Taxonomic Certification Program (TCP) Test Session 2</td>
<td>Seminar A</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td>Extra session - SFS Science &amp; Policy, 4 presentations</td>
<td>Salon 2</td>
</tr>
<tr>
<td>3:00 PM - 3:30 PM</td>
<td>Coffee Break</td>
<td>Liberty and Mezzanine Foyers</td>
</tr>
<tr>
<td>3:00 PM - 5:00 PM</td>
<td>Poster Session (#1) view poster instructions below</td>
<td>Liberty Ballroom D</td>
</tr>
<tr>
<td>4:00 PM - 5:00 PM</td>
<td>Taxonomic Certification Committee (TCC) Meeting [open]</td>
<td>Seminar A</td>
</tr>
<tr>
<td>5:00 PM - 7:00 PM</td>
<td>Dinner on your own</td>
<td>Offsite</td>
</tr>
<tr>
<td>5:00 PM - 7:00 PM</td>
<td>Dry Rivers RCN meeting</td>
<td>Offsite</td>
</tr>
<tr>
<td>6:00 PM - 8:00 PM</td>
<td>Endowment Committee Meeting</td>
<td>Offsite</td>
</tr>
<tr>
<td>6:30 PM - 8:00 PM</td>
<td>SRC Student/Mentor Mixer</td>
<td>Liberty Ballroom ABC</td>
</tr>
<tr>
<td>8:00 PM - 10:00 PM</td>
<td>Live Auction/Bingo to benefit SRC [open]</td>
<td>Liberty Ballroom and Foyer</td>
</tr>
<tr>
<td>9:00 PM - 11:00 PM</td>
<td>SFS Members JAM session - all volunteer [open]</td>
<td>Horizons Rootop</td>
</tr>
</tbody>
</table>

**Tuesday, June 4**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location in Sheraton</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM - 8:30 AM</td>
<td>EMERGE+INSTARS+alumni mixing &amp; networking breakfast</td>
<td>Horizons</td>
</tr>
<tr>
<td>8:00 AM - 7:00 PM</td>
<td>Registration</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>8:00 AM - 7:00 PM</td>
<td>Presentation ready room</td>
<td>Salon 9</td>
</tr>
<tr>
<td>8:00 AM - 6:00 PM</td>
<td>Nursing/family private space</td>
<td>Parlor C &amp; D</td>
</tr>
<tr>
<td>8:00 AM - 10:00 PM</td>
<td>Silent Auction bidding</td>
<td>Mezzanine Foyer</td>
</tr>
<tr>
<td>8:00 AM - 10:00 PM</td>
<td>Exhibits</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td>Welcome/Announcements; Hynes Award; Plenary Session II: Seetha Coleman-Kammula, Ph.D. “Why is PFAS a wicked problem?”</td>
<td>Liberty Ballroom ABC</td>
</tr>
<tr>
<td>10:00 AM - 10:30 AM</td>
<td>Coffee Break</td>
<td>Liberty and Mezzanine Foyers</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>SFS Membership Business Lunch [open]</td>
<td>Liberty Ballroom ABC</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>3:00 PM - 3:30 PM</td>
<td>Coffee Break</td>
<td>Liberty and Mezzanine Foyers</td>
</tr>
<tr>
<td>3:30 PM - 5:00 PM</td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>4:30 PM - 6:00 PM</td>
<td>Fun Run</td>
<td>Offsite</td>
</tr>
<tr>
<td>6:00 PM</td>
<td>Dinner on your own</td>
<td>Offsite</td>
</tr>
<tr>
<td>7:00 PM - 8:00 PM</td>
<td>LGBTQ+ mixer [open]</td>
<td>Independence A</td>
</tr>
<tr>
<td>7:00 PM - 9:00 PM</td>
<td>Early Career mixer [open]</td>
<td>Offsite - Uptown Beer Garden</td>
</tr>
<tr>
<td>7:00 PM - 9:00 PM</td>
<td>SFS Endowment Reception</td>
<td>Horizons Rooftop</td>
</tr>
</tbody>
</table>

**Wednesday, June 5**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location in Sheraton</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 7:00 PM</td>
<td>Registration</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>8:00 AM - 7:00 PM</td>
<td>Presentation ready room</td>
<td>Salon 9</td>
</tr>
<tr>
<td>8:00 AM - 6:00 PM</td>
<td>Nursing/family private space</td>
<td>Parlor C &amp; D</td>
</tr>
<tr>
<td>8:00 AM - 1:00 PM</td>
<td>Taxonomy Fair Set-Up</td>
<td>Liberty Foyer</td>
</tr>
<tr>
<td>8:00 AM - 10:00 PM</td>
<td>Exhibits</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>8:00 AM - 4:00 PM</td>
<td>Silent Auction bidding - closes Wed evening</td>
<td>Mezzanine Foyer</td>
</tr>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td>Welcome/Announcements; 2024 Fellows Awards; Plenary Session III: Alison M. Meadow, Ph.D. “Engaged Research and Societal Impact: Linking Research and Evaluation to Engaged Research and Societal Impact to Improve Practice and Outcomes”</td>
<td>Liberty Ballroom ABC</td>
</tr>
<tr>
<td>10:00 AM - 10:30 AM</td>
<td>Coffee Break</td>
<td>Liberty and Mezzanine Foyers</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td>EMERGE fellows interviews by SEI</td>
<td>Seminar Rooms C &amp; D</td>
</tr>
</tbody>
</table>
10:30 AM - 12:00 PM | Concurrent Sessions | Various
---|---|---
12:00 PM - 1:30 PM | SRC Grad Student Workshop: CV/Resume Review | Horizons Rootop
12:00 PM - 1:30 PM | SFS Fellows Meeting | Liberty Ballroom ABC
12:00 PM - 1:30 PM | Lunch on your own | Offsite
1:30 PM - 3:00 PM | EMERGE fellows interviews by SEI | Seminar Room C & D

1:30 PM - 3:00 PM | Concurrent Sessions | Various
3:00 PM - 3:30 PM | Coffee Break | Liberty and Mezzanine Foyers
3:00 PM - 5:00 PM | Taxonomy Fair | Liberty Ballroom Foyer
3:00 PM - 5:00 PM | Poster Session (#2) view poster instructions below | Liberty Ballroom D
4:00 PM - 5:00 PM | Informational Booth- SFS Chapters and Committees | Liberty Ballroom ABC
4:30 PM - 5:30 PM | Urban River Chapter meeting | Ballroom A
5:00 PM - 6:00 PM | Taxonomy Fair tear down | Liberty Ballroom Foyer

6:30 PM - 10:30 PM | SFS Social Event at Brooklyn Bowl | Offsite- Brooklyn Bowl, 1009 Canal Street
_**Buses will be looping continually beginning at 6:00pm at Sheraton with last bus departing Brooklyn Bowl at 10:15pm**_

### Thursday, June 6

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location in Sheraton</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM - 8:30 AM</td>
<td>SFS New Board of Directors Breakfast</td>
<td>Horizons Rooftop</td>
</tr>
<tr>
<td>8:00 AM - 5:00 PM</td>
<td>Registration</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>8:00 AM - 3:30 PM</td>
<td>Presentation ready room</td>
<td>Salon 9</td>
</tr>
<tr>
<td>8:00 AM - 6:00 PM</td>
<td>Nursing/family private space</td>
<td>Parlor C &amp; D</td>
</tr>
<tr>
<td>8:00 AM - 10:30 AM</td>
<td>Exhibits open</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>8:00 AM - 3:30 PM</td>
<td>Silent Auction pickup, Registration Desk</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>10:00 AM - 12:30 PM</td>
<td>EMERGE &amp; INSTARS Closing Workshop</td>
<td>Horizons Rooftop</td>
</tr>
<tr>
<td><strong>8:30 AM - 10:00 AM</strong></td>
<td>Welcome/Announcements; Presentation of HLA certificates; Plenary Session IV: Multiple presenters. “From a Ripple to a River: At the Confluence of Diversity, Equity, and Inclusion in SFS. An invitation to learn about and engage with SFS’s current and future DEI initiatives.”</td>
<td>Liberty Ballroom ABC</td>
</tr>
<tr>
<td>10:00 AM - 10:30 AM</td>
<td>Coffee Break</td>
<td>Liberty and Mezzanine Foyers</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>10:30 AM - 1:30 PM</td>
<td>Posters and Exhibits tear down</td>
<td>Liberty Ballroom D</td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>Lunch on your own</td>
<td>Offsite</td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>EMERGE Steering Committee</td>
<td>Franklin Room</td>
</tr>
<tr>
<td><strong>1:30 PM - 3:00 PM</strong></td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>3:00 PM - 3:30 PM</td>
<td>Coffee Break</td>
<td>Liberty and Mezzanine Foyers</td>
</tr>
<tr>
<td><strong>3:30 PM - 5:00 PM</strong></td>
<td>Concurrent Sessions</td>
<td>Various</td>
</tr>
<tr>
<td>3:30 PM - 5:00 PM</td>
<td>EMERGE fellows interviews by SEI</td>
<td>Seminar Rooms C &amp; D</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>Conference closes; Dinner on your own</td>
<td>Offsite</td>
</tr>
<tr>
<td>5:30 PM</td>
<td>Bench Buddy - informal meet up for dinner planning</td>
<td>Liberty Ballroom Foyer</td>
</tr>
<tr>
<td>5:30 PM - 6:30 PM</td>
<td>Happy hour - no host</td>
<td>Offsite - City Tap Logan Square, 100 N 18th St.</td>
</tr>
</tbody>
</table>

**Poster Instructions**

Please avoid installing or taking down posters during Plenary sessions. If that cannot be avoided, please do it quietly.

*For those presenting their poster on Monday from 3:00 PM - 5:00 PM:*

Posters can be installed starting Sunday, posters must be taken down by Tuesday 3:00 PM. During the Tuesday 3:00 to 3:30 PM coffee break, a group of volunteers will take down any remaining poster from Monday’s session and set it aside for later pick up.

*For those presenting their poster on Wednesday from 3:00 PM - 5:00 PM:*

Posters can be installed starting Tuesday 3:30 PM, posters must be taken down by Thursday noon.
Aquatic Life in the Delaware River Basin: Our Unique History, Past Successes, and Persistent Challenges

The 13,000 square miles (34,000 sq.km.) of the Delaware River watershed are in many ways extraordinary, and yet this watershed is also quite ordinary, with countless positives and negatives that have resulted from 400 years of choices – good and bad. Unlike many rivers in the eastern United States, migratory fish can still reach hundreds of kilometers into the headwaters because we have (fortunately) failed to dam the river’s mainstem. Freshwater mussels persist at densities of a million animals per kilometer of river for much of its length, and the river serves as a biological reference benchmark for rivers throughout the northeastern United States. Yet end-of-pipe ammonium is still permitted at 35 mg/L right here in Philadelphia and throughout the Delaware estuary, and dissolved oxygen sags below 50% saturation annually during summer. Streams and rivers are “impaired” in all corners of the watershed, and more than 50 years after passage of the Clean Water Act we struggle to reverse these impairments. I share stories and anecdotes, data and conclusions from a career spent largely fighting here in this Delaware River watershed, fighting and learning. This ‘stream and its valley’ continues to inform and guide, and I explore how the currents and eddies sweep us on this sinuous journey toward knowledge, protection, and restoration.

Engaged Research and Societal Impact: Linking Research and Evaluation to Engaged Research and Societal Impact to Improve Practice and Outcomes

We have solid (and ever-growing) evidence that engaged research practices - when researchers and community members, practitioners, and/or policy makers work together to examine problems and generate research in support of solutions - generate research that is more likely to be useful, usable, and used to inform behavior, practice, and policy. We also know that engaged research requires skills, resources, and time that are often in short supply. Furthermore, when engagement is not undertaken ethically and appropriately, we can undermine even our best intentions and do further harm to communities and relationships of trust. In this talk, I’ll discuss some of the principles of engaged research and how we can use evaluation practices as tools for reflecting and learning that will help us be more effective in our engagement practices and help generate more positive and long-lasting impacts for the people we work with.

From a Ripple to a River: At the Confluence of Diversity, Equity, and Inclusion in SFS

An invitation to learn about and engage with SFS’s current and future DEI initiatives

Summary: An overarching vision of SFS is to be a vibrant, inclusive, and diverse community dedicated to advancing, applying and translating science for the health and vitality of freshwater ecosystems and the equitable distribution of the benefits they provide. Pioneering efforts in the Society to advance inclusion began with the Diversity and Education committee and the Instars program, laying the groundwork for growth in diversifying the field of freshwater science. Recognition of the Society’s commitment to diversity and inclusion was key to the funding of the year-round Emerge program by the National Science Foundation (NSF), which broadens participation and leadership in freshwater science. The Justice, Equity, Diversity and Inclusion task force and associated Council of Underrepresented Voices, as well as activities in recently NSF-funded BIO-LEAPS (Leading Culture Change Through Professional Societies of Biology) projects, have identified and are facilitating additional changes in SFS structures and functions to create a more welcoming and affirming Society to all. Summaries of these efforts will be presented, followed by an open discussion on how to become involved and to help SFS and the freshwater sciences become more inclusive.
SFS Fellows Program

The Fellows of the Society for Freshwater Science are selected based on sustained excellence in contributions to freshwater science research, policy, or management. These are the leaders, at national and international levels, of their areas of freshwater science. 2024 is the seventh year of the Fellows program, and each new class of Fellows is chosen by past Fellows. More information on the program and a list of previous SFS Fellows can be found at https://freshwater-science.org/awards-programs/sfs-fellows.

2024 Class of SFS Fellows

ROBERT O. HALL, JR.
Dr. Robert Hall is Distinguished Professor of Limnology at Flathead Lake Biological Station, University of Montana, where he has worked since 2017. Prior to that he was on the faculty at University of Wyoming, where he started in 1998. Since graduate school at University of Georgia, he has been interested in stream carbon and nitrogen cycling and food webs, but with a career trajectory of studying ever larger rivers. Dr. Hall's current work links geomorphology to stream metabolism and nitrogen cycling, time-series analyses of river metabolism, food webs, isotope tracers, statistical modeling, and dissolved organic and inorganic carbon dynamics in rivers. His teaching portfolio includes a field-based summer course on stream ecology taught on the Middle Fork Flathead, and a graduate course on ecological models and data. Alongside his excellence in research and substantial contributions to freshwater science, colleagues cite Dr. Hall's collaborative spirit and widespread generosity in mentorship, and credit these for his influence in fostering the next generation of freshwater scientists.

WILLIAM H. MCDOWELL
Dr. William H. McDowell is Professor Emeritus of Environmental Science and Research Professor in the Department of Natural Resources and the Environment at the University of New Hampshire. He is also a Research Professor at Florida International University. He began his research career working on stream ecosystems with Dr. Stuart Fisher at Amherst College, where he received a B.A. in Biology. Dr. McDowell received a Ph.D. in Aquatic Ecology from Cornell University, working on dissolved organic matter dynamics in the Hubbard Brook Experimental Forest with Dr. Gene Likens. He has worked on the biogeochemistry of land-water interactions in New Hampshire, Czech, Siberian, and Puerto Rican streams. He initiated ongoing long-term research at two sites, the tropical Luquillo Mountains of Puerto Rico and the suburban Lamprey River of New Hampshire. His research focus has been on understanding the fundamental interactions between nutrients and dissolved organic matter, and the ways in which land use, soils, hydrologic flow paths, and extreme events affect a wide range of ecological processes in inland waters. He has addressed the importance of inland waters to continental and global scale biogeochemistry with colleagues in many continental-scale collaborations, such as the LINX projects. Dr. McDowell is former Chairperson of the Department of Natural Resources at UNH, serves as Director of the NH Water Resources Research Center, and held a UNH Presidential Chair until his retirement from teaching in 2023. He was awarded the UNH Distinguished Professor Award in 2017 and is an elected Fellow of both the American Association for the Advancement of Science and the American Geophysical Union.

Past Fellows

2017 Inaugural Class of SFS Fellows:
Dave Allan
Michael Barbour
Art Benke
Ken Cummins
Cliff Dahm
Walter Dodds
Stuart Fisher
Stephen Hamilton
Jim Harrington
Bob Hughes
Jim Karr
Susan Jackson
Jerry Jacob

2018 Class of SFS Fellows:
Chuck Hawkins
Gary Lambert

2019 Class of SFS Fellows:
Alan Covich
Nancy Grimm
Richard Hauer
Jeremy Monroe

2020 Class of SFS Fellows:
Emily Bernhardt
Lucinda Johnson

2021 Class of SFS Fellows:
Leonard Ferrington
Mary Freeman
Judith Li
John Morse

2022 Class of SFS Fellows:
Stan Gregory

2023 Class of SFS Fellows:
William Clements
David Strayer

2024 Class of SFS Fellows:

ROBERT O. HALL, JR.

WILLIAM H. MCDOWELL
2024 Award Recipients

The Society for Freshwater Science Career Awards recognize the best among the Society for their contributions to freshwater research and environmental policy. Recipients’ work advances freshwater science and leads to actions that improve environmental justice across the globe. More information on the program can be found at https://freshwater-science.org/awards-programs/career-awards.

2024 Award of Excellence

The SFS Award of Excellence is awarded for outstanding contributions to freshwater science

STUART BUNN

Congratulations to Dr. Stuart Bunn, recipient of the 2024 Award of Excellence. Dr. Bunn completed his PhD at the University of Western Australia in 1985 on the community structure and functional organization of small forest streams. He traveled to Canada in 1986 to take up a postdoctoral position with Professor Noel Hynes at the University of Waterloo (and attended his first NABS MABS meeting the following year in Orono, Maine). He returned to Australia in 1988 to take up a teaching appointment at Griffith University in Brisbane and moved to a research leadership role in 1996. He is currently an Emeritus Professor at the Australian Rivers Institute and was its founding Director until mid-2022.

Dr. Bunn’s major research interests are in the ecology of river and wetland systems with a particular focus on the science to underpin river management. This work has resulted in over 300 technical publications, most of which are in peer-reviewed journals. He has extensive experience working with international and Australian government agencies and industry on water resource management issues. He has led the development and implementation of several major collaborative research programs in partnership with State government agencies, industry, and universities. Dr. Bunn has also been an active member and chair of several state and national science advisory committees. He is currently a member of the Murray-Darling Basin Authority and has previously served as a National Water Commissioner and as a Director of Land and Water Australia. He was appointed to the Earth Commission, hosted by Future Earth, in 2019 and in 2022 was elected as a Fellow of the Australian Academy of Science.

2024 Hynes Award for New Investigators

The SFS Hynes Award for New Investigators is awarded to an early-career freshwater scientist who was the senior author of an outstanding primary publication within five years of receiving their terminal degree.

AYAN SANTOS FLEISCHMANN

Congratulations to Dr. Ayan Fleischmann, recipient of the 2024 Hynes Award for New Investigators. Dr. Fleischmann is an interdisciplinary hydrologist working with tropical hydrology and sustainable development of wetlands, especially in the Amazon region. He holds an Environmental Engineering degree from the Federal University of Rio Grande do Sul (UFRGS) in Brazil, and a PhD in Water Resources and Environmental Sanitation from UFRGS and Université Toulouse III - Paul Sabatier (France). He is currently a full researcher and leader of the Research Group on Geosciences and Environmental Dynamics in the Amazon, at the Mamirauá Institute for Sustainable Development in the Central Amazon. His research focuses on understanding the hydrology and climate of tropical wetlands and the impacts of past, current, and future climate and environmental changes on social-ecological systems associated with riverscapes. He also coordinates the “Conexões Amazônicas” network for science outreach related to the Amazon. The research detailed in the Hynes Award-winning publication, “Increased floodplain inundation in the Amazon since 1980” (Environmental Research Letters, 2023), presents a broad assessment of recent inundation trends and its impacts in the Amazon Basin. A 26% increase in annual maximum inundation extent along the Amazon River floodplains was estimated to have occurred since 1980. This has major implications to the region’s social-ecological systems and stresses the needs of improving our knowledge of the ongoing environmental changes that threaten the largest fluvial system on Earth.

2024 Environmental Stewardship Award

The SFS Environmental Stewardship Award recognizes successful translation of scientific knowledge into the social/public arena through policy or regulatory reform, research that enhances freshwater ecosystem rehabilitation or conservation, or public outreach and science education that strengthens public support for managing freshwater ecosystems.

LUCINDA B. JOHNSON

Congratulations to Dr. Lucinda B. Johnson, recipient of the 2024 Environmental Stewardship Award. Dr. Johnson is an aquatic and landscape ecologist whose research focuses on the impacts of multiple stressors on aquatic ecosystems with emphasis on human activities (e.g., land use) and climate change. She has recently been named a Senior Research Fellow after stepping down as the Director of Research at the Natural Resources Research Institute of the University of Minnesota Duluth. She leads and advises multidisciplinary research teams that address issues of regional to global concern, with particular emphasis on the Laurentian Great Lakes. Her research and advisory activities lie at the nexus of research, management, and policy. She currently serves as U.S. Co-Chair of the International Joint Commission’s Science Advisory Board Science Priority Committee, also serves as vice chair of the Executive Committee for EPA’s Board of
Scientific Counselors (BOSC), and has served on the Minnesota Governor’s Climate Change Advisory Council. During her career, she has participated in a number of EPA Advisory Panels that were especially relevant to SFS, including Lake Erie Phosphorus Reduction, Effects of Connectivity on Downstream Waters (an ongoing effort to expand coverage under the Clean Waters Act), Mountaintop Mining, and Benchmarks for a Conductivity Standard. As vice chair of the EPA BOSC she led the review of the agency’s research on PFAS. Dr. Johnson served as NABS Secretary for two terms, as NABS President (during which the society’s name was changed to SFS), and was named an SFS Fellow in 2020. She credits mentors and colleagues, especially Judy Meyer and Cliff Dahm, with providing opportunities early in her career that opened doors to the deeply satisfying work involved in environmental stewardship.

2024 Distinguished Service Award

The SFS Distinguished Service Award is awarded to a Society member who has made a genuine and lasting contribution to the betterment of the Society.

BETSY A. COLBURN

“Congratulations to Dr. Betsy A. Colburn, recipient of the 2024 Distinguished Service Award. Dr. Colburn is an aquatic ecologist and an Associate of the Harvard Forest, where she has conducted research on headwater streams and vernal pools and worked on conservation-related issues. Prior to that, Betsy worked for 18 years as an Aquatic Ecologist and a Water Resources Specialist at the Massachusetts Audubon Society. Recently, she has been assessing potential water-quality impacts of proposals to make New England more self-sufficient in food production by bringing much of the land formerly occupied by small farms back into agricultural use. She has a longstanding interest in regulatory approaches to water quality protection, as well as a commitment to broader, non-regulatory, landscape-scale efforts to protect land and water resources. Her book, “Vernal Pools: Natural History and Conservation,” remains the only comprehensive overview of the seasonal woodland ponds that provide important breeding habitat for frogs, salamanders, and a host of invertebrate species in eastern North America. Dr. Colburn has taught comparative physiology, endocrinology, seminar on salt glands, and winter-term field course in Death Valley at Williams College; limnology, water quality, and groundwater hydrology and protection at Antioch-New England Graduate School, and “Water, Land-Water Interactions, and Aquatic Ecology” in the Department of Landscape Architecture at Harvard’s Graduate School of Design. She has also served on numerous state and federal committees dealing with water resources regulations and policy. Currently, she is preparing her collections of aquatic macroinvertebrates for archiving in a museum, so that they will be available for future researchers to study.

At NABS (and later SFS), Dr. Colburn became involved with the Science Policy Committee, co-chairing with Bob Hughes for several years, and most recently served as chair of the Finance Committee for five years, following several years as a Finance Committee member.”

2024 Leadership Award

The SFS Leadership Award recognizes early or mid-career (<20 years from PhD) members for extraordinary work in furthering the Society’s mission, especially by expanding the impact of the Society and the field of freshwater science.

CARLA L. ATKINSON

Congratulations to Dr. Carla Atkinson, recipient of the 2024 Leadership Award. Dr. Atkinson is an Associate Professor in the Department of Biological Sciences at the University of Alabama. She has been a member of SFS for more than 15 years and is a co-founder and current chair of the Southeast Chapter of SFS. Dr. Atkinson won the 2015 Hynes award for her paper on tracing consumer-derived nitrogen in riverine food webs (Atkinson et al 2014) and has gone on to become a global leader in the study of freshwater mussels, one of the most threatened faunal groups in aquatic ecosystems, and her work on mussel communities is fundamental to understanding the mechanisms driving declines in native mussel biodiversity (e.g., Atkinson et al. 2012). Her science will guide freshwater research for years to come, but her leadership in freshwater science goes well beyond her scholarship, and her dedication to training the next generation of freshwater scientists is as impressive as it is effective. Dr. Atkinson has also found the time to contribute to SFS despite the effort required to complete the work summarized above. She has served on the SFS Student Resources Committee while a PhD student, the Education and Diversity Committee, Public Information and Policy Committee (social media subcommittee), and the 2023 Brisbane Planning Committee. She has also co-organized five special sessions at SFS meetings over the years. Dr. Atkinson has led a wide array of public outreach on behalf of freshwater science and freshwater mussels, and she serves on multiple state panels focused on mussel conservation and works extensively with the Alabama Biodiversity Center. Through all these efforts, she has been a tireless advocate for freshwater mussels, aquatic ecology, and conservation and management of our freshwater ecosystems.
2024 SFS Exhibitors

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Freshwaters Illustrated
PO Box 921
Corvallis, OR 97339
info@freshwatersillustrated.org
www.freshwatersillustrated.org/

In this comprehensive book, Richardson lays out the origins and nature of the most prominent environmental stressors to freshwater systems. The first two chapters provide a review of freshwater biology and hydrology. Each of the next 12 chapters focuses on a particular class of stressors, interactions they may have with other stressors, and a range of solutions currently available to mitigate the problems they cause. The last two chapters pull together key concepts to focus on the restoration of freshwater ecosystems and the importance of long-term monitoring.

“This book is exceptional in that it represents the perfect balance of fundamental knowledge about aquatic ecosystems as well as lucid examples of how that knowledge can be applied to solve complex problems, including those that can transcend scale.”

—Steven J. Cooke, Professor, Carleton University, Ottawa, Canada
Getting Published: A Science Writing Workshop

Sunday, June 2, 9:00 am – 1:00 pm
Location—Salon 10

Most scientists are expected to publish their research, and career advancement often depends on how frequently and well we publish. However, completing a technically sound research project does not guarantee it will be published. Manuscripts need to (1) target an appropriate audience and (2) tell an interesting story that is easily understood by readers. In this workshop, I will cover how to select the most appropriate journal for your paper and ways to improve the likelihood that your manuscript will be accepted. The specific topics we will cover include:

- Selecting a journal – it may not be Science or Nature
- The life history of a submitted manuscript including dealing with reviewers and editors
- The elements of effective scientific writing: clarity and economy
  - Writing for the reader
  - Beyond IMRD – organizing your paper to tell a compelling and easily understood story
  - Effective and responsible use of citations – less is often more
  - Paragraphs – topic sentences and a central, unified focus
  - Syntax and grammar – the stuff you learned in high school (maybe) and then forgot (apparently almost everybody)
- Where to get additional help (self-help resources)

Ecological Applications of Bayesian Statistics – with R and Stan

Sunday, June 2, 9:00 am – 4:00 pm
Location—Independence Ballroom B

This workshop focuses on the practical applications of Bayesian statistics within the environmental and ecological sciences, drawing from the examples provided in “Bayesian Applications in Environmental and Ecological Studies with R and Stan” by Qian, DuFour, and Alameddine (2023, CRC Press). We envision a day-long workshop that begins with an overview of fundamental statistical inference logic. This is followed by an exploration of the modern numerical techniques that have made Bayesian statistics more accessible, liberating practitioners from the complexities of mathematics that previously limited its application to simple cases. The morning session will wrap up with several straightforward examples that illustrate the use of a relatively simple computer program for Bayesian modeling. In the afternoon session, we delve into real-world data examples to illustrate the iterative process of statistical modeling. This process includes model formulation, model-fitting, and model evaluation. These examples highlight Bayesian hierarchical modeling as a versatile framework for almost all environmental and ecological data analysis and modeling problems. This short course offers practical guidance on modern Bayesian computation using R and Stan. Participants will have hands-on experience with annotated computer code and datasets available through a designated GitHub repository. This workshop initially debuted at the SFS2023 Conference in Brisbane, Australia, where it drew an audience of more than 30 colleagues. The upcoming workshop represents an enhanced iteration, incorporating valuable insights from the 2023 experience. It includes improved handout materials and an upgraded computer program.

Spatial Analysis and Statistical Modeling with R and spmodel

Sunday, June 2, 9:00 am – 4:00 pm
Location—Salon 5–6

Statistical models often assume that the data are independent. Incorrectly assuming data independence can harm models, resulting in incorrect slope estimates, misleading p-values, and poor predictions. The independence assumption is often inappropriate for spatial data, as spatial observations close together tend to be more similar than spatial observations far apart (Tobler’s Law). Statistical models for spatial data that incorporate spatial dependence tend to notably outperform similar models that rely on independence. Unfortunately, building spatial dependence directly into statistical models is challenging, both from theoretical and computational perspectives, limiting the use of these models in ecological settings. However, recent advances in R software, which we will discuss throughout the workshop, make acquiring spatial data and building spatial models much more accessible.

In this workshop, we will first focus on R tools for accessing and handling the spatial data required to build models, highlighting R data libraries like EPA’s StreamCatTools, FedData, prism, and other data web services. Then we will focus on using these data to build spatial statistical models using the R package spmodel (https://usepa.github.io/spmodel/). With spmodel, ecologists can seamlessly incorporate spatial dependence into their statistical models. spmodel implements user-friendly syntax that builds from the lm() and glm() functions familiar to base-R users, which significantly eases the transition from fitting independence models to fitting spatial models. We will practice using spmodel to fit these spatial statistical models, interpret the model fit and inspect model diagnostics, perform model selection, and make predictions at unobserved locations. We also discuss some advanced spmodel tools and extensions to modeling binary, count, and skewed data, implementing random forests, and incorporating dependence via non-Euclidean distance measures like neighborhood distance or stream distance.
Workshop: NEON Aquatic Biodiversity
Sunday, June 2, 12:00 – 4:00 pm
Location—Philly North/South
The National Ecological Observatory Network (NEON) provides open ecological data from 81 locations across the United States. NEON data cover a wide range of subject areas within ecology, including organismal observations, biogeochemistry, remote sensing, and micrometeorology. This short course will focus on NEON biodiversity data collected from our 34 aquatic sites, including 24 wadeable streams, 3 rivers, and 7 lakes for taxonomic groups such as fishes, benthic macroinvertebrates, and algae. Instructors will first provide an overview of the breadth of NEON aquatic biodiversity data before leading a code-along exercise on how to find, access, and work with the datasets. Instruction will include how to search for taxa, locations, and dates of interest and then download and format NEON biodiversity datasets for standard ecological analyses in R. Specifically, we will provide an overview of how to use the data discovery and visualization tools available in the neonUtilities and ecomDP R packages (https://github.com/EDIorg/ecocomDP) for this task. We will then demonstrate how properly formatted NEON data can be used as inputs for some common ecological analyses available in widely used R packages (e.g., vegan). Examples include: Jost (2007)-style alpha, beta, and gamma diversity; alpha, beta, and gamma variability; and multivariate analyses and data visualizations using common ordination techniques (e.g., NMDS). At the end of the workshop, time will be reserved for participants to work with the NEON data of their choice with instructors present to address any questions that arise while working with the individual data sets. Basic familiarity with R is required for participation in the workshop.

Introduction to DIY Water Monitoring Technology
Sunday, June 2, 12:30 – 4:00 pm
Location—Salon 3–4
It is easier than ever for researchers to assemble their own water monitoring technologies instead of buying pre-assembled commercial products. Researchers pursue this Do-It-Yourself path for a variety of reasons: to customize monitoring technology not available commercially; to save money; to explore new techniques; to take advantage of real-time data capabilities. Stroud Water Research Center has developed an ecosystem of open-source DIY hardware and software (EnviroDIY.org) intended to make it easier and less expensive for researchers to get started with DIY environmental monitoring. This workshop will provide a hands-on introduction (a DIY “icebreaker”) to the core component of any DIY device: a programmable microcontroller and data logger. Participants will 1) learn basic terminology and functionality of the Mayfly Data Logger, 2) learn how to program the Mayfly to interrogate environmental sensors and record measurements, 3) gain confidence in pursuing the next steps for connecting commercially-available environmental sensors to the Mayfly to make field-ready monitoring equipment. This workshop is for beginners with little (or no) electronics experience, but who are eager to learn DIY techniques for conducting their research or incorporating it in their classrooms. The workshop will briefly introduce the Monitor My Watershed Data Sharing Portal as a tool for relaying real-time sensor data from a Mayfly Data Logger to the web and sharing that data publicly. The workshop will not cover how to make environmental sensors (we rely on commercially available sensors for our instruction and application).
Special Events

Note: Please wear your SFS 2024 name badge to be admitted to any Annual Meeting Events. IDs may be requested. Tickets will be issued for those who registered for the Offsite Social.

Sunday

4:00 – 5:00 PM – Welcome Mixer and Reception
Liberty Ballroom Foyer.
Welcome to SFS 2024!

5:00 – 6:30 PM – Meeting opening ceremony with career awards
Liberty Ballroom ABC.
Presentation by Award of Excellence winner, Dr. Stuart Bunn.

6:30 - 8:00 PM – SRC Freshwater Trivia
Horizons Rooftop at Sheraton.
Dive into the depths of freshwater knowledge at our exciting Trivia Event designed especially for students! Join us for an interactive evening of fun facts and friendly competition as we explore the wonders of freshwater ecosystems. Test your understanding of lakes, rivers, and wetlands while competing for fantastic prizes and bragging rights. Only $10 to participate, and food will be provided!

8:00 -10:00 PM – Ice Cream Social and mixer
Liberty Ballroom Foyer.
All attendees and families are welcome.

Monday

7:00 – 8:30 AM – SFS-SRC Student Orientation
Horizons Rooftop at Sheraton.
Students, please join the Student Resource Committee (SRC) for our student orientation. Learn about the SRC’s activities (e.g. live auction, silent auction, student-mentor mixer), opportunities to get involved in the society, and how to have a rewarding meeting experience. We will also seek nominations for leadership and committee positions.

Noon -1:30 PM – Meeting of SFS Committees
Horizons Rooftop at Sheraton.
If interested in volunteering for a Committee, please attend. Lunch provided for those who indicated they would attend during registration.

3:00 - 5:00 PM – Poster session #1 and afternoon treats
Liberty Ballroom D
Join the excitement at our Poster Session Scavenger Hunt during both poster sessions! Challenge yourself to meet new people and explore the diverse range of posters on display. The prize is a copy of the book ‘Foundations of Stream Ecology.’ Scavenger Hunt is free for students and just $5 for others to participate. Posters can be installed starting Sunday and need to be taken down by Tuesday at 3pm.

6:30 PM -8 PM – SRC Student/Mentor mixer
Liberty Ballroom ABC at Sheraton.
The student-mentor mixer is designed to facilitate interactions between students and experienced professionals. Mentors may include aquatic science professors, research associates, post-doctoral researchers, government employees, and private consultants. This mixer provides students a great opportunity to network and engage in lively conversation with mentors and peers in a relaxed environment. Each student will be assigned to a mentor. Pre-registration is required.

8:00 –10:00 PM – Live Auction and Bingo, Liberty Ballroom and Foyer.
All are welcome. Join us for bingo and a live auction of crafts, swag, and more donated by fellow SFS members! All proceeds will benefit the SRC and funding student opportunities.

Tuesday

4:30-6:00 PM – Fun Run 5K
Race starts at Lloyd Hall in Boathouse Row
(Participants must pre-register, bussing provided from Sheraton).
Race starts at Lloyd Hall in Boathouse Row and continues out and back along the Schuylkill River Trail, ending near the base of the Philadelphia Museum of Art steps, one of the most visited locations in Philly. Everyone from SFS is invited to join us and have a go at recreating the scene from the legendary movie Rocky! If you are not participating in the race, the steps are a nice 1 mile walk or quick Uber ride from the Sheraton.

7:00 - 8:00 PM – LGBTQ+ Mixer
Liberty Ballroom.
All are welcome. Join us for celebration, connection, and community as we come together to embrace diversity and unity. Whether you’re a proud member of the LGBTQ+ community or a passionate ally, everyone is welcome to dance, mingle, and make new friends in a safe and inclusive space.

7:00 - 9:00 PM - Early Career Mixer
Uptown Beer Garden,1500 JFK Boulevard, Philadelphia.
Join the Early Career Committee for an event connecting SFSers who are looking for their next position with those who are searching for their next team member. Looking for a grad or postdoc position? In need of a technician? Hiring a postdoc? Connect with them at this off-site event! ALL MEMBERS ARE WELCOME! There will be a fantastic spread of appetizers (FREE), and drinks will be available for purchase. Come hang out and help connect members from all career stages!

7:00 - 9:00 PM – Endowment Reception
Horizons Rooftop at Sheraton.
Endowment Awardees and contributors to the SFS donations and endowments.
Wednesday

12:15 -1:30 PM - SFS Fellows gathering
Liberty Ballroom ABC
To welcome new Fellows and brainstorm. Bring your own lunch.

3:00 - 5:00 PM – Poster Session #2 and afternoon treats
Liberty Ballroom D
Join the excitement at our Poster Session Scavenger Hunt during both poster sessions! Challenge yourself to meet new people and explore the diverse range of posters on display. The prize is a copy of the book 'Foundations of Stream Ecology.' Scavenger Hunt is free for students and just $5 for others to participate. Posters can be installed starting Tuesday at 4 PM and need to be taken down by Thursday at noon.

6:30 -10:30 PM - SFS Social
Offsite at Brooklyn Bowl
Ticketed event, tickets available for pre-sale and purchase during registration. This event will be held off-site at the Brooklyn Bowl Philadelphia, 1009 Canal Street, and will provide something for everyone! Brooklyn Bowl hosts a variety of spaces and activities, including a premier performance/concert area, 24 state-of-the-art bowling lanes, and quiet areas within 38,000 sq ft. of interior space spread out over two levels. Our evening will feature food and drinks, free bowling, and live music by the Ocean Avenue Stompers. SFS Buses will run between the Sheraton and Brooklyn Bowl continuously between 6:00 PM and 10:15 PM.

Thursday

5:30 PM - Make plans for happy hour or dinner
Sheraton Foyer.
Meet others at the SFS Buddy Bench (formerly Registration Desk). The local arrangements chair will provide a list of nearby restaurants and bars.

5:30-6:30 PM – Happy hour
City Tap Logan Square
100 N 18th St., Less than a quarter mile from the Sheraton
Taxonomy

Taxonomic Certification Genus Level Testing—2024

Image Tests are online for this event and you will need your own laptop computer (may be provided if requested):

**EPT—East or West**
- *Chironomidae—North America*
- *General Arthropods—East or West*

**Specimen & Slide Tests** require microscope, light etc. (may be provided if requested):
- *Oligochaeta—North America*

**Test Sessions:**
All testing will take place on Monday, June 3, 2024 in Seminar Room A, first floor. The tests are three hours long.

**Morning Session:** 9:00 am – 12:00 pm
**Afternoon Session:** 1:00 pm – 4:00 pm

Please contact Mike Broomall at tcp@stroudcenter.org directly if you wish to sign up for any tests in Philadelphia. Additional information about the exams can be found at: [www.stroudcenter.org/sfstcp](http://www.stroudcenter.org/sfstcp)

**Taxonomic Certification Committee Meeting—2024**
The TCC meeting will follow the test sessions from 4-5pm in Seminar Room A, first floor. All are welcome. Please RSVP at tcp@stroudcenter.org to let us know if you would like to attend the meeting.

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Annual SFS Taxonomy Fair

**Wednesday, June 5, 2024, 3:00 pm – 5:00 pm**
**Liberty Ballroom Foyer, during Poster Session**
The Taxonomic Certification Program would like to invite you to the Annual SFS Taxonomy Fair at the 2024 Annual meeting. Taxonomic experts will be gathered during the poster session Wednesday afternoon to discuss any and all taxonomic issues and help with identifications. This year there will be prizes for those attendees that bring the ‘most interesting specimens’ to the Taxonomy Fair. Are you flying to SFS? Please be aware that the FAA has recently changed their guidelines for flying with biological specimens, a description of how to package specimens can be found here:

https://www.faa.gov/about/initiatives/hazmat_safety/

Or in lieu of specimens, bring your laptop with specimen images to discuss with the experts!

Do you not have any specimens to examine but have questions about taxonomy or systematics? Be sure to stop by and chat with the invited experts and hear the latest news about the taxonomy of your favorite invertebrate or algal taxon. We look forward to seeing you at this year’s fair.

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Taxonomic Fair

**Participating Taxonomic Experts:**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Taxonomic Group</th>
<th>Affiliation</th>
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</thead>
<tbody>
<tr>
<td>Mark Wetzel</td>
<td>Oligochaeta</td>
<td>Illinois Natural History Survey</td>
</tr>
<tr>
<td>Becca Winterringer</td>
<td>Unionid Mollusks</td>
<td>The Nature Conservancy</td>
</tr>
<tr>
<td>Sarah Spaulding</td>
<td>Diatoms</td>
<td>US Geological Survey</td>
</tr>
<tr>
<td>Fredric Govedich</td>
<td>Leeches</td>
<td>Southern Utah University</td>
</tr>
<tr>
<td>Jon Gelhaus</td>
<td>Diptera, Tipuloidea</td>
<td>Academy of Natural Sciences of Drexel University</td>
</tr>
</tbody>
</table>
Meetings

*Asterisk denotes events that are for specific committee members and/or by invitation only.

SFS Committees Lunch Meeting
Monday, June 3, 12:00 – 1:30 pm
Horizons Rooftop

SFS Endowment Reception*
Tuesday, June 4, 7:00 – 9:00 pm
Horizons Rooftop
For donors and recipients, by invitation.

SFS Membership Business Luncheon
Tuesday, June 4, 12:00 – 1:30 pm
Liberty Ballroom ABC
This is the Society’s annual business meeting where reports are presented, and voting is conducted. Pre-registration required.
2024 Field Trips

Philly Murals Walking Tour

Self-Paced Tour: available any time during daylight hours
Organizer: Megan Fork (mfork@wcupa.edu)
Registration Cost: $0.00
Participants will be responsible for potential transportation costs.

Philadelphia is home to an abundance of great public art, including dozens of murals. Choose this option if you would like to be connected to other SFS participants who are also interested in touring Philly’s public art. You may choose to participate in a self-guided tour, using the map published by the non-profit organization Philly Mural Arts found here. Philly Mural Arts can also arrange formal guided tours, whether by bike, segway, trolley, on foot, etc.

Information on costs for professionally-guided tours available at https://www.muralarts.org/tours/

Birding Tour at the Discovery Center
(Strawberry Mansion Preserve)

Saturday, June 1, 7:30 am – 11:00 am
Organizers: Keith Russell (keith.russell@audubon.org)
Registration Cost: $0.00
Transportation and binoculars provided.
Participants will engage in a guided birding tour led by Audubon Mid-Atlantic at The Discovery Center, a facility for research and science-based conservation projects and educational programs. The Discovery Center is located on the banks of the Schuylkill River and includes a man-made reservoir, serving as a major migratory stopover on the Atlantic Flyway for over 100 species of birds and as a premier destination for bird watching throughout the region. Binoculars will be available. Learn more at: https://www.discoveryphila.org/about-us-1

Visit to Bartram’s Garden

Saturday, June 1, 8:00 am – 5:00 pm
Organizer: Megan Fork (mfork@wcupa.edu)
Registration Cost: $0.00
Participants will be responsible for arranging and paying their own transportation ($5.00 round trip via public transit).

Bartram’s Garden, in southwest Philadelphia along the banks of the Schuylkill River, is the nation’s oldest surviving botanic garden. Choose this option if you would like to be connected to other SFS participants who are also interested in visiting Bartram’s Garden together. The 50 acre property includes tidal wetlands, a community farm rooted in the African Diaspora, a botanic garden that features native plants highlighted in John Bartram’s (“the father of American botany”) 18th century records, and much more. Read more about Bartram’s Garden at https://www.bartramsgarden.org/ Participants can take the #36 trolley from City Hall to Bartram’s Garden (~35 minutes, $2.50 each way).

People who sign up for this field trip will be connected via email to curate their own groups and experiences whether on Saturday or throughout the week.

Visit to Great Marsh Institute

Saturday, June 1, 8:30 am – 2:30 pm
Organizer: Megan Fork (mfork@wcupa.edu)
Registration Cost: $50.00
Lunch and transportation provided.

The Great Marsh is the largest contiguous marsh complex in southeastern Pennsylvania, and comprises a variety of freshwater habitats including forested swamps, marshes, sedge meadows, fens, ponds, springs, and deepwater marshes and is designated as an Important Bird Area by the Audubon Society. The Great Marsh is currently managed privately by the non-profit organization the Great Marsh Institute (https://greatmarshinstitute.org/), which supports scientific research on the property. Field trip participants will tour the property by ORV to see a variety of habitats, discussing the history of the area and current research and monitoring efforts in the marsh.
Hidden Gem Canoe Field Trip: Discover the Brandywine River

Saturday, June 1, 9:00 am – 4:00 pm
Organizer: Tara Muenz (Stroud Center; tmuenz@stroudcenter.org)
Registration Cost: $80.00

Hidden Gem Canoe Field Trip: Discover the Brandywine River

Saturday, June 1, 9:00 am – 4:00 pm
Organizer: Tara Muenz (Stroud Center; tmuenz@stroudcenter.org)
Registration Cost: $80.00

Fee includes transportation to/from site, canoe, paddle, PFD, dry bag, lunch, and snacks.

The Brandywine River canoe program is a paddle in the present moment, featuring peaceful sounds of the wild, connections to water quality, and time with a hidden gem of the larger Delaware River watershed. We’ll paddle five miles from Brandywine River Museum in Pennsylvania to Smith Bridge at First State National Historical Park in Delaware. Along the way, you’ll enjoy the following:

- Canoe 101 introduction: no prior experience is necessary! This is an easy stretch of river for first-time paddlers and yet still exciting if you’ve paddled 100’s of miles.
- One shore stop – for lunch and exploring the river
- Historical and cultural presentations with a possible short tour of the Brandywine River Museum.
- Water-related giveaways!

What more could you ask for? Jump on in and join the Stroud Center on this adventure!

Tour the Collections at the Academy of Natural Sciences: Track A

Saturday, June 1, 9:45 am – 1:00 pm
Organizers: Tanya Dapkey (thd45@drexel.edu) and Mariena Hurley (mkh96@drexel.edu)
Registration Cost: $0.00

Field trip + optional lunch you can select below.

Track A: Patrick Center, museum exhibits, Diatom herbarium collection, and Botany collection.

Participants will get guided tours of museum exhibits and behind-the-scenes tours of the ANS collections. Tours will be in groups of 12-15 people and will spend 20-30 minutes touring each collection with its director. Each participant will get a tote bag with the ANS logo as well as a wrist band allowing them to visit the museum at another time. There will also be the option to participate in a networking lunch following the tour (register separately).

Tour the Collections at the Academy of Natural Sciences: Track B

Saturday, June 1, 9:45 am – 1:00 pm
Organizers: Tanya Dapkey (thd45@drexel.edu) and Mariena Hurley (mkh96@drexel.edu)
Registration Cost: $0.00

Field trip + optional lunch you can select below.

Track B: Patrick Center, museum exhibits, Malacology collection, and Ichthyology collection.

Participants will get guided tours of museum exhibits and behind-the-scenes tours of the ANS collections. Tours will be in groups of 12-15 people and will spend 20-30 minutes touring each collection with its director. Each participant will get a tote bag with the ANS logo as well as a wrist band allowing them to visit the museum at another time. There will also be the option to participate in a networking lunch following the tour (register separately).

Networking lunch: Add-on to Academy of Natural Sciences Tour

Saturday, June 1, 12:30 pm – 2:00 pm
Organizers: Tanya Dapkey (thd45@drexel.edu) and Mariena Hurley (mkh96@drexel.edu)
Registration Cost: $25.00

After the tours, join us for a networking lunch* ($25 per person) from 12:30 to 2:00 pm at the Academy. The lunch will feature the Academy’s Women in Natural Sciences (WINS) program, which recently celebrated its 40th year. WINS is a free after-school and summer science enrichment program at the Academy of Natural Sciences serving young women from underrepresented communities and households facing financial limitations within the Philadelphia School District. Lunch attendees will hear from a WINS representative and have an opportunity to meet WINS alumnae and attend a poster session.

*Munch is contingent upon the purchase of a minimum number of tickets. If the minimum number is not met, ticket costs will be reimbursed.

Mussel Hatchery at Fairmount Water Works

Saturday, June 1, 1:15 pm – 5:00 pm
Registration Cost: $10.00*

*The $10 fee will be donated to Fairmount Water Works

If participants choose to take the bus, they will need to pay their own bus fare.

The Fairmount Water Works Interpretive Center (https://fairmountwaterworks.org/), on the banks of the Schuylkill River in Philadelphia, was the city’s first water pumping station in the early 1800s and served the city for almost 100 years. Since then, the space has housed an aquarium, swimming pool, and now a mussel hatchery and education center. While many of the installations were damaged by the historic flooding from Hurricane Ida in 2021, the mussel hatchery (https://fairmountwaterworks.org/visit/freshwater-mussel-hatchery/) will be open during 2024 SFS. Participants will tour the mussel hatchery, learn about the facility’s history, and have the option to tour the green storm-water infrastructure on the grounds. Participants can get to the Fairmount Water Works on foot (~ 30 minutes; 1.3 miles) or public transit (~ 20 minutes via the #32 bus and $2.50 each way).
2023 Student Presentation Awards

One hundred and seventeen (117) student presentations, 77 of which were SFS-affiliated, were evaluated by judges at the 2023 Joint Freshwater Sciences Meeting in Brisbane, Queensland, Australia. There were many fine presentations and we congratulate all students for their participation. We also thank the professional attendees who submitted 449 scoring forms (265 for SFS-affiliated students) and provided constructive feedback to students. We also thank the members and the parallel student awards committees from our partner- ing societies—New Zealand Freshwater Sciences Society and Australian Freshwater Sciences Society—for a successful combined student awards program at the 2023 meeting.

2023 Award Winners

Ayi Ajavon-Mipoom and Lauren Emer
Best Oral Presentation in Basic Research
An Autoethnography

Christopher Meijer
Runner-up Oral Presentation in Basic Research
The role of New Zealand coastal lakes in the life history of diadromous fish species

Anna French
Best Oral Presentation in Applied Research
Net-spinning caddisflies influence nutrient uptake in streams

Jordyn Stoll
Runner-up Oral Presentation in Applied Research
Evidence of nutrient limitation in the CHAB riddled Nyanza Gulf, Lake Victoria, Kenya

Olufemi Akinnifesi
Best Presentation Emphasizing Methodology
Biofilm stoichiometry on in-stream substrate informs nutrient and metal limitation status

Aaron Klarenbach
Best Poster Presentation in Basic Research
Aquatic macroinvertebrate communities of central Arizona highland streams

Tyler Allen
Best Poster Presentation in Applied Research
A comparative assessment of green product toxicity: What are the potential effects when released into the environment?

Connor Quiroz (co-winner)
Best Oral or Poster Presentation by an Undergraduate Student
Revealing how wildfires can affect river sediments and chemistry during droughts and after precipitation

Lexi Yokomizo (co-winner)
Best Oral or Poster Presentation by an Undergraduate Student
Revealing how wildfires can affect river sediments and chemistry during droughts and after precipitation

Thank You

SFS would like to give a special thanks to Lienne Sethna, Matthew Troia, and PJ Torres for managing the 2023 Student Presentation Award Process.

We are also appreciative of Matthew and PJ for continuing their service to the Society in this role for the Philadelphia 2024 meeting.

Moving Forward:
2024 SFS Student Awards Subcommittee
If you or anyone you know wants to be involved in this process in coming years, please email us here:
sass@freshwater-science.org
2024 Undergraduate and Graduate Awards

With the support of the SFS Endowment Committee and SRC leadership, our committee had the pleasure of reviewing applications covering a wide breadth of topics across the freshwater science domain. From stoichiometry to invasive species, applications showed real promise and originality for future freshwater science research. We’d also like to thank the SRC for their assistance in securing judges for undergraduate presentations, and graduate student attendees for their willingness to serve as judges in Philadelphia.

2024 Undergraduate Travel Awards

The Society for Freshwater Science Student Resources Committee (SRC) congratulates this year’s winners of the SRC Undergraduate Travel Awards!

Corbin Hite  
University of Notre Dame  
Effects of invasive waterweed (Elodea canadensis) on water chemistry and food web dynamics of an Alaskan lake

Olivia Houpt  
The Ohio State University  
Understanding the impact of invasive Bythotrephes longimanus on Yellow Perch angling success in western Lake Erie

Tanya Iyer  
Indiana University Bloomington  
Spatial and temporal patterns in phytoplankton in the lower Ohio River

2024 Graduate Student Conservation Research Award

Guido A. Herrera-Rodriguez  
Are oil palm plantations a sustainable alternative for freshwater ecosystems in degraded lands?

Nina Keck  
Idaho State University  
An investigation of the aquatic plant Azolla filiculoides and its relation to nutrient chemistry and habitat characteristics in a river affected by phosphorus pollution, Idaho.

Olivia Schaul  
Loyola University Chicago  
Storm-mediated transport of microplastic in an urban watershed

Gabriel Smith-Nez  
Coconino Community College  
Dams, diets, and diversity: food webs in tailwater fisheries
Annual Instars Program

Instars is a continuing program within the Society for Freshwater Science (SFS) that seeks to increase diversity and inclusivity within the freshwater sciences. Launched at the SFS Annual Meeting in 2011, Instars serves underrepresented minority (URM) undergraduate participants (i.e., Instars Fellows) by helping them develop scientific identity and a sense of shared values.

The Instars program creates a support network of undergraduate peers and graduate student mentors to help first-time attendees navigate the Annual Meeting, provides daily opportunities for Fellows to meet and converse with prominent freshwater scientists, and ensures that Fellows have the opportunity to present undergraduate research. Instars also fills a pressing need for many Fellows who are interested in graduate-level research, but lack financial resources to travel for campus visits; by providing a wealth of information on freshwater graduate programs in a single location and immediate access to faculty from many of these programs, Instars has helped numerous Fellows secure graduate positions.

Overall, the Instars program has been successful in helping the freshwater science community become a more inclusive one. In a recent survey of past Instars participants (2011-2018), 61% of respondents reported that they ultimately pursued graduate study, 52% reported that they are currently involved in freshwater science at a professional level, and 90% reported that Instars had a positive influence on their career choices and development.

The new Emerge program builds upon the core strengths of the current Instars program. Emerge will continue to engage URM students in multiple activities at the SFS Annual Meeting while complimenting those activities with a series of mid-year training and networking functions to further promote scientific integration. Emerge will also provide a heightened sense of continuity and community for URM students as they progress from undergraduate studies to the next ‘life stages’ of their graduate student and early career roles, by offering expanded funding to program alums who choose to return as mentors. Each of the Emerge activities will include a mix of undergraduate, graduate, and early career individuals. This continuity will ensure that undergraduate participants benefit from a diversity of mentoring perspectives, while providing new incentives for alums to remain actively involved in the program throughout their careers.

More information on these programs can be found at https://freshwater-science.org/awards-programs/instars-program.

Orientation for Emerge/Instars Fellows

Invitation Only
Sunday, 2 June 2024, 9:00 am - 4:00 pm
Sheraton Philadelphia Downtown—Independence Ballroom A

At this orientation workshop, new Instars and Emerge Fellows will meet peers who have similar interests in the study of freshwaters, graduate student mentors, and faculty who will guide them through the meeting. We will introduce the themes of the meeting program and explore topics of common interest to participants. Instars and Emerge program participants will be encouraged to present results of research during the week of the meeting. Following the meeting, they will work as teams in professional development activities based on chosen themes explored at the meeting. Interested participants (undergraduate students, graduate students, and early career professionals), as well as faculty supporting URM students are encouraged to contact members of the planning committee from each program to develop pre-meeting discussions and networking. Applications to participate in the program as either Instars or Emerge Fellows are typically due the first week of February; applications for Instars graduate mentors are typically due in March.

Emerge and Instars Closing Workshop

(Invitation Only)
Thursday, 6 June 2024, 10:00 am - 12:30 pm
Sheraton Philadelphia Downtown—Horizons Rooftop

AMY ROSEMOND
University of Georgia
rosemond@uga.edu

CHECO COLÓN-GAUD
Georgia Southern University
jccolongaud@georgiasouthern.edu

PATINA MENDEZ
University of California, Berkeley
patina.mendez@berkeley.edu

DANIEL MCGARVEY
Virginia Commonwealth University
djmcgarvey@vcu.edu

AMANDA RUGENSKI
University of Georgia
atrugenski@uga.edu

BREANNA ONDICH
University of Georgia
breanna.ondich@uga.edu

More information on these programs can be found at https://freshwater-science.org/awards-programs/instars-program.
Student Organized Events

**SRC Freshwater Trivia**

Sunday, June 2, 6:30-8:30 pm  
Location—Horizons Rooftop  
Dive into the depths of freshwater knowledge at our exciting Trivia Event designed especially for students! Join us for an interactive evening of fun facts and friendly competition as we explore the wonders of freshwater ecosystems. Test your understanding of lakes, rivers, and wetlands while competing for fantastic prizes and bragging rights. Only $10 to participate, and food will be provided! Pre-registration required.

**SFS–SRC Student Orientation**

Monday, June 3, 7:00 – 8:30 am  
Location—Horizons Rooftop  
Students, please join the Student Resource Committee (SRC) for our student orientation. Learn about the SRC’s activities (e.g. live auction, silent auction, student-mentor mixer), opportunities to get involved in the society, and how to have a rewarding meeting experience. We will also seek nominations for leadership and committee positions.

**SFS–SRC Student/Mentor Mixer**

Monday, June 3, 6:30– 8:30 pm  
Location—Liberty Ballroom ABC  
The student-mentor mixer is designed to facilitate interactions between students and experienced professionals. Mentors may include aquatic science professors, research associates, post-doctoral researchers, government employees, and private consultants. This mixer provides students a great opportunity to network and engage in lively conversation with mentors and peers in a relaxed environment. Each student will be assigned to a mentor. Pre-registration is required.

**Live Auction**

Monday, June 3, 8:00– 10:00 pm  
Location—Liberty Ballroom and Foyer  
Join us for bingo and a live auction of crafts, swag, and more donated by fellow SFS members! All proceeds will benefit the SRC and funding student opportunities.

**Silent Auction**

Monday, June 3 – Wednesday, June 5  
8:00 am–4:00 pm  
Location—Mezzanine Foyer  
Check out this year’s SRC silent auction with over 130 books available, ranging from classic freshwater science works to brand new titles. All proceeds will benefit the SRC and funding student opportunities.

**Poster Session Scavenger Hunt**

Monday, June 3, 3:00-5:00 pm and Wednesday, June 5, 3:00–5:00 pm  
Location—Liberty Ballroom D  
Join the excitement at our Scavenger Hunt during both poster sessions! Challenge yourself to meet new people and explore the diverse range of posters on display. The prize is a copy of the book ‘Foundations of Stream Ecology.’ It’s free for students and just $5 for others to participate.

**LGBTQ+ Mixer**

Tuesday, June 4, 7:00– 8:00 pm  
Location—Liberty Ballroom  
Join us for an evening of celebration, connection, and community as we come together to embrace diversity and unity. Whether you’re a proud member of the LGBTQ+ community or a passionate ally, everyone is welcome to dance, mingle, and make new friends in a safe and inclusive space.

**SRC Workshop**

Wednesday, June 5, 12:00 – 1:30 pm  
Location—Horizons Rooftop  
Freshwater science professionals from a range of careers and career stages will review student CVs and resumes. Lunch will be provided. Pre-registration is required.
Presenter Information

Concurrent Sessions

Twelve concurrent sessions will be held in the Convention Center in the meeting rooms. Each session room will be equipped with a projector, screen, a PC laptop, remote/pointer, and a microphone. Wi-fi—wireless internet access has been arranged for our group throughout the facility and in all the meeting rooms. Access the abstract system by the assigned deadline to upload your presentation(s) so that they can be pre-loaded on the laptop in your room prior to your scheduled start time.

Upload your final presentation no later than midnight the day prior to your scheduled presentation (i.e., 11:59 pm Monday for a Tuesday presentation). If you need assistance or have questions, visit the presenter management team located near the registration area in the North Foyer.

Link for Uploading
http://sfsannualmeeting.org/Papers.cfm

IMPORTANT:
All session presentations are pre-downloaded from the online system, not manually loaded in the presentation room onsite, however a speaker management team will be on hand if you need assistance.

The speaker management team is available any time conference registration is open. Check in at the registration desk and you will be directed to a speaker management team member to assist you if needed. DO NOT WAIT UNTIL THE DAY OF YOUR PRESENTATION TO DO THIS.

Session Chair Information

Please arrive at the room -30 minutes early to 1) familiarize yourself with the meeting room and AV equipment and 2) greet the speakers in your session. For some, this may be their first talk and it would be helpful to familiarize all with the ground rules. Your presentation files will be pre-loaded on the laptop in the room in a folder, and your file name will be identified by date and time for your session for each session. Once the presentation is launched, the presenter will control the program from the podium using the provided handheld slide advance/laser pointer (the presenter may use the mouse or up/down/right/left keys for navigation as well).

Always start sessions on time; do not delay while people return from breaks. If a presenter ends early or a talk is canceled, wait until the scheduled start of the next presentation before continuing. Please briefly introduce the speaker by giving their name, their affiliation, and the title of their talk – no need to announce all co-authors nor to add any biographical information. The session chair will serve as a timer and indicate reminder times. We must keep on time! Do not allow speakers or Q&A to run over time because it affects all other concurrent sessions.

Time slots for talks are 15 minutes in total, including Q&A. Suggest ahead of time that speakers leave 2-3 minutes at end for questions, but note that this won’t always happen. Please be prepared to stop a talk if they run out of time. Don’t forget to allow for the ~1 min it takes to change presentations, which you can do during last question. (Note: Some special session talks are scheduled for 30 minutes. Please prepare accordingly).

To help keep talks on schedule, you can use the provided timecards to help the speaker keep track of their time. We will use the following timing conventions:

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<thead>
<tr>
<th>Time Card</th>
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<tr>
<td>Blue Card</td>
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<td>Orange Card</td>
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Poster Session

The Poster Session will officially take place on Monday, June 3 and Wednesday, June 5 from 3:00 to 5:00 pm in Liberty Ballroom D.

Posters will be mounted on poster boards located in Liberty Ballroom D. Posters must be no larger than 45 inches high by 41 inches wide. If your poster exceeds these specifications, it may be subject to removal. Posters will adhere to the boards using push pins that will be provided.

Please avoid installing or taking down posters during Plenary sessions. If that cannot be avoided, please do it quietly.

For those presenting their poster on Monday from 3-5 PM:
Posters can be installed starting Sunday, posters must be taken down by Tuesday 3:00 PM. During the Tuesday 3:00 to 3:30 PM coffee break, a group of volunteers will take down any remaining poster from Monday’s session and set it aside for later pick up.

For those presenting their poster on Wednesday from 3-5 PM:
Posters can be installed starting Tuesday 3:30 PM, posters must be taken down by Thursday noon.
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#### SPECIAL SESSIONS

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S06 The Ecology of Aquatic Plants, 2018-2023

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Developing Community Size Spectra as a Tool for Aquatic Invasive Species Management in Freshwaters

Murry, Brent
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**SFS 2024—Connecting to Enhance Freshwater Science**

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- C07 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
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- C10 Community Ecology
  - Vargas, L.; Natalia; Capps, Krista; Rojas-Castillo, Oscar A.
- C11 Trash Talk: Ecology of Anthropogenic Materials in Freshwater Ecosystems
  - Fernández, J.; Ratcliffe, M.; Atkins, J.

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- C07 Contaminant and Trace Element Biogeochemical Cycling in Aquatic Ecosystems
  - Gerson, Jacqueline; Eagles-Smith, Collin; Walters, David
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**Posters**

The Poster Sessions will be 3:00–5:00 PM in the Liberty Ballroom D

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Poster numbers that start with W will be available on Wed, June 5

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**C01 Algae**

M-1  **Anna Agi**, Checo Colón-Gaud, Kalina Manoylov  
*TAXONOMIC PRECISION USE OF DIATOM COMMUNITIES IN HYDROLOGICALLY VARIABLE WETLANDS*

*FILAMENTOUS NON-HETEROCYTOUS CYANOBACTERIA AND GREEN MACROALGAE DOMINATE BENTHIC ALGAL MAT PROLIFERATIONS IN THE SHENANDOAH RIVER, VIRGINIA, USA*

M-3  **Rwan Alsaadi**, Emma Boyden, R Christian Jones, Hannah Toney, Rosalina Stancheva Christova  
*TAXONOMIC COMPOSITION AND PHOTOSYNTHETIC PIGMENTS OF PHYTOPLANKTON FROM THE SHENANDOAH RIVER, VIRGINIA, USA*

M-4  **Dalton Tryba**, Jingjing Li, Justin Murdock  
*IDENTIFYING_THRESHOLDS_AND_OPTIMAL_RANGES_OF_LIGHT_FOR_ALGAL_GROWTH_IN_LARGE_RIVERS*

M-5  **Angel Checo Reynoso**, Alysha Putnam, Michelle Staudinger  
*BIODIVERSITY CONSERVATION IN THE FACE OF CLIMATE CHANGE: FUCAOID MACR ALOGAE DYNAMICS ON BOSTON HARBOR ISLANDS*

M-6  **Sarah Barker**, Lauren McGrath, Marina Potapova  
*DIATOM ASSEMBLAGES OF THE RIDLEY CREEK WATERSHED OVER 114 YEARS OF OBSERVATIONS*

M-7  **Matthew Nichols**, H. Maurice Valett, Michael DeGrandpre, Robert O. Hall  
*THE INFLUENCE OF NUTRIENT LIMITATION IN A WESTERN MONTANA RIVER*

M-8  **Tanya Iyer**, Lindsay Rasnake, Todd Royer  
*SPATIAL_AND_TEMPORAL_PATTERNS_IN_PHYTOPLANKTON_IN_THE_LOWER_OHIO_RIVER*

M-9  **Chelsea Scheirer**, Saeed Kariunga, Michael Zampini, Jane Marks, Mary Power, Steven Thomas  
*CLADOPHORA EPHIPHYTE COMMUNITY COMPOSITION RESPONSE TO CHANGING TEMPERATURE*

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**C02 Fish and Other Aquatic Vertebrates**

M-10  **Tariku Hailu**  
*THE CURRENT FISH PROCESSING AND MARKETING OF LAKE TANA: REVIEW (SURVEY)*

M-11  **Justin Furby**, Casey Pennock  
*EVALUATING FISH COMMUNITY PERFORMANCE ACROSS A LONGITUDINAL GRADIENT IN NOVEL ECOSYSTEMS*

M-12  **Adam C. Hensley**, Alexander D. Huryn, Jonathan P. Benstead, Carla L. Atkinson, Tori A. Hebert  
*LIGHT AND TEMPERATURE AS DRIVERS OF ORGANISMAL METABOLISM IN FIVE SPRING-STREAMS ON ALASKA’S NORTH SLOPE.*

M-13  **Adamaris Agosto**, Allison Roy, Adrian Jordaan  
*INTERANNUAL COMPARISON OF JUVENILE ALEWIFE AGE AND GROWTH IN EASTERN MASSACHUSETTS (USA)*

M-14  **Grace Davis**, Allison Roy, Adrian Jordaan, Julian Burgoff  
*COMPARING JUVENILE RIVER HERRING GROWTH IN TWO COASTAL MASSACHUSETTS LAKES*

M-15  **Hannah Condon**, David Janetski  
*INFLUENCE OF ROAD CULVERTS ON FISH SPECIES COMPOSITION IN PENNSYLVANIA STREAMS*

M-16  **Leslie Rieck**, Sofia Odoemena  
*DEVELOPING A GEOSPATIAL DATABASE TO ADDRESS MIGRATORY FISH CONSERVATION NEEDS IN PENNSYLVANIA STREAMS*

M-17  **Sydney Ingham**  
*VARIATION IN SIZE OF FISH ACROSS THE ARIZONA VERDE RIVER*

M-18  **Keiara Pham**, Christina A. Murphy, Jeremy Romer, Kevin Stertz  
*FRESHWATER CSI: CHINOOK SALMON LIFE-HISTORY INFLUENCES HOW DIAGNOSTIC STRUCTURES RELATE TO FISH LENGTH*

M-19  **Johnathan Ellard**, Hayden Roberts, Dan Daugherty, Matthew Acre, Joshua Perkin  
*SCALE-DEPENDENT TRADEOFFS BETWEEN HABITAT AND TIME IN EXPLAINING ALLIGATOR GAR (ATRACTOSTEUS SPATULA) MOVEMENT*

M-20  **Gabriel Michael Smith-nez**, Eric Scholl, Morgan Ford, Ted Kennedy, Charles Yackulic, Dan Kowalski, Robert Zueilig, Daren Carlisle  
*DAMS, DIETS, AND DIVERSITY: FOOD WEBS IN TAILWATER FISHERIES*

M-21  **Ridge Sliger**, William Annis, Lily Thompson, Brandon Peoples  
*INTEGRATING BIOTIC MEASURES TO BARRIER ASSESSMENT PRIORITIZATION*

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**C03 Invertebrates**

M-24  **Emma Guelzow**, Noelle Raezer, Tanya Dapkey  
*FRESHWATER SNAIL INVENTORY OF THE UPPER DELAWARE RIVER*

M-25  **Amy Treonis**  
*NEMATODE COMMUNITIES ASSOCIATED WITH SPRINGS IN THE NAMIB DESERT OF NAMIBIA*

M-26  **Alan Mock**, Joel Trelxler, Nathan Dorn  
*PHENOLOGY OF INVERTEBRATE COMMUNITIES ABOVE THE WATER LINE IN A SUBTROPICAL WETLAND*

M-27  **Shelby Medlock**, Julia Earl  
*USING STABLE ISOTOPE ANALYSIS TO INVESTIGATE THE TROPHIC ECOLOGY OF AQUATIC BEETLES AND HEMIPTERA*

M-28  **Ariana Martinez**, Keith Gido, Logan Rowley, Laura Totten, Marvin Boyer  
*SPATIAL AND TEMPORAL VARIABILITY OF MACROINVERTEBRATES IN A REGULATED PRAIRIE RIVER*

M-29  **David Speth**, Christopher Niech, Roger Yeardley, Paul Weaver  
*HOW COLONIZATION CONDITIONS AFFECT MACROINVERTEBRATE COMMUNITY STRUCTURE IN STREAM MESOCOSMS*

M-30  **Isabelle Pillow**, Jonathan Novotny, Michelle Evans-White  
*DETERMINING DIET VARIATION AMONG ARKANSAS WINTER STONEFLY SPECIES (CAPNIIDAE: ALLOCAPNIA) USING STABLE ISOTOPE ANALYSIS*

M-31  **Hope Romero**, Zoey Clark, Margaret Jelsma, Samantha Lopez-Diez, Teigen Christiansen, Kate Boersma  
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W-8 Haley Racioppo, Lydia Bradshaw, Tori Hebert, Halvor Halvorson
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W-9 Matthew Woo, Thomas Detmer, Montana Airey, Dov Sax, Peter McIntyre
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W-10 Jason Aguirre
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C08 Urban Ecology

W-11 Rachel Scarlett, Jacob Hosen, Sandra Clinton, Suresh Rao, Sara McMillan
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W-12 Brynnnen Beck, Shannon Speir, Claire Meara, Caroline Anscombe
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W-13 Claire Meara, Shannon Speir, Brynnnen Beck, Caroline Anscombe
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W-14 Nora Haddon, Adriana Cooper, Erin Eberhard, Claire Ebner, Talia Pope, David Costello, Lauren Kinsman-Costello
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W-15 Tracey Curran, Timothy Maguire
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W-16 Liza Toll, Natalie Montano, Emma Neill, Kayley Porter, A.J. Rossbach, Elle Thompson, Molly Costanza-Robinson, Eric Moody
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W-18 Zoe Porter, Justin Murdock
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W-19 Mason Ibrahim, Rada Petric, Charlie Wahl
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W-20 Emily Campbell, Michael Back, Talia Pope, Grace Watson, Hana Esber, Adriana Cooper, Lauren Kinsman-Costello
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C04 Microbial Ecology

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W-2 Madison Brown
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W-3 Lydia McGregor Bravo, Kevin A. Kuehn, Steven Thomas, Jonathan P. Benstead
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W-5 Lauren Morris, Garrett Hopper, Jonathan Lopez, Carla L. Atkinson
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W-22 Charlie Kloppenburg
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M-44 Emily Mulcahy, Carla López Lloreda, Katherine Wardinski, Nicholas Corline, Erin Hotchkiss
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M-50 Frederick Sutor, William Breck Bowden, Eric Roy, Andrew Schroth, Alexander Michaud, David Emerson, Elizabeth Herndon, Lauren Kinsman-Costello, Stephanie Hurley
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SFS has a number of exciting initiatives that we will pursue in the coming year. There are a number of posters providing background information and opportunities for involvement scattered throughout the registration and exhibition areas—your Society wants to hear from you and counts on you for your active participation and involvement.

- **Journal Refresh**—Learn about exciting plans for the future of our Society's not-for-profit journal *Freshwater Science*
- **Headwaters Leadership Academy**—Accelerate your freshwater science career by applying to participate in the next cohort of HLA
- **Early Career Initiatives**—Learn about the work of SFS's Early Career Development Committee to support our early career members
- **Council of Underrepresented Voices**—Engage with and support CUV, a forum for members of underrepresented groups to convene and provide perspective and guidance on SFS goals, operations, and initiatives.
- **Student Resources Committee Initiatives**—Learn about SRC initiatives for Philly 2024 and beyond
- **SFS Instars**—Learn about this original SFS program—first launched in 2011—that seeks to increase diversity and inclusivity in the freshwater sciences
- **NSF Emerge**—Learn about this innovative program promoting scientific integration and providing continuity and community for underrepresented students in the freshwater sciences
- **NSF Eco-Dive**—Hear about this innovative research project seeking to evaluate scientific conferences for diverse engagement
- **NSF LEAPS: RISE**—Planning grant with ESA to promote an inclusive environment in professional societies by building capacity of leaders, broadening participation, and dismantling structural barriers in societies.
- **Journal Endowment Funding Opportunities**—Learn about available funding to support publishing in our Society's not-for-profit journal *Freshwater Science*
- **SFS Chapters**—Hear about the exciting activities of our many active chapters and consider joining one (or two)
MARK YOUR CALENDAR FOR NEXT YEAR’S MEETING

2025 Society for Freshwater Science Annual Meeting

18–22 May 2025
San Juan, Puerto Rico
Puerto Rico Convention Center

Meeting Co-chairs:
William H. McDowell, University of New Hampshire/Florida International University
Alonso Ramírez, North Carolina State University

Society for Freshwater Science