

Sixth International Symposium on Bioremediation
and Sustainable Environmental Technologies

CALL FOR ABSTRACTS

May 8-11, 2023 | Austin, Texas

Abstracts due October 31, 2022

battelle.org/biosymp
#BattelleBio23

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The Sixth International Symposium on Bioremediation and Sustainable Environmental Technologies will be held May 8-11, 2023, in Austin, Texas, at the Austin Marriott Downtown (304 E Cesar Chavez St, Austin, TX 78701). Battelle has organized and presented this premier international technical conference since 1991.

The 2019 Bioremediation Symposium (Baltimore, MD | April 2019) was attended by more than 800 environmental professionals from 25 countries. A comprehensive technical program was conducted with nearly 450 platform talks and posters presented in 49 breakout sessions and 4 panel discussions. Battelle was also pleased to host 60 exhibitors over the length of the program. Sponsors and Exhibitors were public- and private-sector organizations active in environmental assessment, remediation, and management.

The 2023 Symposium will be designed for and presented by scientists, engineers, regulators, remediation site owners, constructors, and other environmental professionals representing universities, government agencies, consultants, and R&D and service firms from around the world.

The Bioremediation Symposium event series is a forum for sharing research results, practical experiences, and opportunities associated with advances in bioremediation and sustainable remediation.

Symposium Overview

Short courses will be offered on Monday, May 8, 2023. The Plenary Session will convene Monday evening, after which the Welcome Reception and Exhibit Hall will open. The technical program will be conducted Tuesday, May 9, through Thursday, May 11, with platform talks and panel discussions during the day and poster receptions Tuesday and Wednesday evenings. A student paper competition will be conducted, and networking and career development opportunities will be provided for students during the Conference.

We hope you will submit an abstract to be considered for the program. Abstracts are due October 31, 2022. The program will be developed based on the abstract review conducted by the Program Committee and the Session Chairs.

The platform and poster sessions will be organized around the following major themes:

- Innovations in Bioremediation Technologies
- Bioremediation Implementation Practices
- Application of Bioremediation to Complex Sites
- Characterization and Remediation of PFAS
- Biodegradation of Emerging Contaminants
- Plastics
- Advanced Tools for Assessing Bioremediation
- Advances in Natural Attenuation
- Managing Petroleum Hydrocarbon-Impacted Sites
- Innovative Biological Approaches to Waste Management
- Sustainability and Resilient Remediation
- Evaluating and Mitigating Vapor Intrusion
- Munitions Response

See pages 4-5 for the anticipated scope of the technical program and page 6 for information on preparing and submitting an abstract.

The Symposium is Organized and Presented by Battelle

Battelle's environmental engineers, scientists and professionals offer focused expertise to government and industrial clients in the U.S. and abroad. Combining sound science and engineering solutions with creative management strategies, Battelle works with clients to develop innovative, sustainable and cost-effective solutions to complex problems in site characterization, assessment, monitoring, remediation, restoration, and management.

Every day, the people of Battelle apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio, since its founding in 1929, Battelle serves the national security, health and life sciences and energy and environmental industries.



Symposium Sponsors

The following organizations have made financial contributions toward the general costs of planning and conducting the Symposium.



Sponsorship Opportunities

For information about sponsoring specific events, see the **Sponsors & Exhibitors** page.

Technical Program Scope

Examples of anticipated presentation topics are listed below. The list is numbered to provide an easy means of referencing these topics on your abstract submittal form; see the “Submittal” paragraph on page 6.

This is not a list of sessions, nor is it a comprehensive list of topics. Abstracts are welcome on all relevant topics.

Innovations in Bioremediation Technologies

- 1a. Advances in Amendment Formulation
- 1b. Cometabolic Biodegradation
- 1c. Engineering Biogeochemical Transformation
- 1d. Enhanced Methods for Biodegradation/ Biotransformation of Organic and Inorganic Contaminants
- 1e. Phytoremediation
- 1f. Biosolids-Based Remediation
- 1g. Advances in Heat-Enhanced Bioremediation
- 1h. Optimization of Classical Bioremediation Technologies
- 1i. Synthetic Biology Driven Remediation

Bioremediation Implementation Practices

- 2a. In Situ Bioremediation Applications
- 2b. Ex Situ Biological Treatment
- 2c. Innovative and Efficient Amendment Delivery Strategies
- 2d. Biobarrier Installation and Management
- 2e. Bioremediation of Heavy Metals
- 2f. Challenges in Application of Bioremediation Tools
- 2g. Secondary Impacts of Biological Treatment

Application of Bioremediation to Complex Sites

- 3a. Bioremediation in Complex Geological Settings
- 3b. Bioremediation of Deep Contamination
- 3c. Bioremediation of Sediments

- 3d. Bioremediation Approaches for the Innovative Management of Large or Dilute Plumes
- 3e. Impacts of Mixed Contaminants on Biodegradation

Characterization and Remediation of PFAS

- 4a. Fate and Transport of PFAS
- 4b. Innovative Treatment Technologies for PFAS In Situ
- 4c. Innovative Treatment Technologies for PFAS Ex Situ
- 4d. Comparing Ex Situ Destructive Technologies
- 4e. GAC-Based PFAS Treatment Technologies
- 4f. Best Practices and Approaches for Analyzing PFAS
- 4g. PFAS Program Management in a Rapidly Changing Regulatory Environment
- 4h. PFAS Source and Forensic Considerations
- 4i. Management of PFAS Investigative-Derived Waste
- 4j. PFAS Risk Assessment
- 4k. Best Practices for PFAS Characterization
- 4l. PFAS in Surface Water and Storm Water
- 4m. PFAS in Built and Engineered Materials

Biodegradation of Emerging Contaminants

- 5a. 1,4-Dioxane Treatment Technologies
- 5b. Fate and Transport of 1,4-Dioxane
- 5c. Emerging Contaminants: Detection, Degradation, Fate and Transport

- 5d. Combined Treatment of Emerging Contaminants with CVOCs
- 5e. Addressing Emerging Contaminants in a Regulatory Framework

Plastics

- 6a. Microplastics and Nanoplastics: Degradation and Effects on the Environment
- 6b. Microplastics: Fate and Transport
- 6c. Microplastics: Eco/Human Health and Risk Assessment
- 6d. Advances in Analytical Technologies for Microplastics

Advanced Tools for Assessing Bioremediation

- 7a. Tools for Site Assessment and Bioremediation Monitoring
- 7b. Compound-Specific Isotope Analysis
- 7c. Chemical Fingerprinting and Forensics
- 7d. Mass Flux and Mass Discharge to Assess Biodegradation
- 7e. High-Resolution Site Characterization
- 7f. On Site Sensors for Microbial Processes
- 7g. Modeling and Monitoring Approaches to Improve Remedy Design and Implementation
- 7h. Improved Conceptual Site Models that Include Biodegradation Data
- 7i. Big Data and Integration of Molecular Tools in Site Assessment: Advanced Omics
- 7j. Machine Learning Approaches and AI

Technical Program Scope Continued

This is not a list of sessions, nor is it a comprehensive list of topics. Abstracts are welcome on all relevant topics.

Advances in Natural Attenuation

- 8a. Advances in Tools and Techniques for Assessing MNA
- 8b. Groundwater/Surface Water Interactions
- 8c. MNA for Achieving Site Remedial Goals
- 8d. Impacts of Matrix Diffusion on MNA
- 8e. MNA for Nondegrading Contaminants

Managing Petroleum Hydrocarbon-Impacted Sites

- 9a. Advances in Oxygenate Remediation
- 9b. Natural Source Zone Depletion
- 9c. Remediation and Management of Petroleum-Hydrocarbon Contaminated Sites
- 9d. Petroleum Hydrocarbon Metabolites
- 9e. Petroleum Remediation in Surface Water and Deep-Sea Environments
- 9f. LNAPL Bioremediation/NSZD Modeling

Innovative Biological Approaches to Waste Management

- 10a. Advances in Biological Wastewater Treatment Processes
- 10b. Treatment of Nitrate-Impacted Groundwater
- 10c. Bioremediation of Radionuclides in Radioactive Waste
- 10d. Bioremediation of Coal Combustion Residuals

Sustainability and Resilient Remediation

- 11a. Best Practices in Green and Sustainable Remediation (GSR)
- 11b. Sustainable Remediation Assessment Tools
- 11c. Energy and Greenhouse Gas Footprint of Bioremediation
- 11d. Impacts of Climate Change and Extreme Weather Events on Remediation
- 11e. Risk Modeling for Climate Change
- 11f. Robotic Technologies for Environmental Site Assessment and Monitoring
- 11g. Adaptive Site Management Strategies to Cope with Climate Change

Evaluating and Mitigating Vapor Intrusion

- 12a. Innovative Tools for Evaluating Vapor Intrusion Risk
- 12b. Vapor Intrusion Design and Mitigation Methods
- 12c. Vapor Intrusion from Non-VOC Sources (e.g., Lead, PFOAs, and Radionuclides)
- 12d. Vapor Intrusion: Lessons Learned

Munitions Response

- 13a. Bioremediation of Munitions Constituents
- 13b. Insensitive Munitions: Characterization, Fate, and Transport
- 13c. Underwater Fate and Transport of Munitions Constituents

Program Committee

Symposium Chairs

Pamela Chang, PMP (Battelle)
Deepti Krishnan Nair (Battelle)

Technical Steering Committee

Wendy Condit, PE (Battelle)
David L. Freedman, Ph.D. (Clemson University)
Kate Kucharzyk, Ph.D. (Battelle)
Carmen Lebron (Consulting Engineer)
Frank Loeffler (University of Tennessee)
Charles Newell, Ph.D., PE (GSI Environmental, Inc.)
Michael Pound (U.S. Navy/NAVFAC SW)
Michael A. Singletary, PE (U.S. Navy)
John Wilson, Ph.D. (Scissortail Environmental)

Abstract Preparation and Submittal

Abstracts are due October 31, 2022.

The program will be developed through a multilevel review by the Program Committee and the session chairs, beginning in November 2022. **To ensure full opportunity for placement in the program, abstracts should be submitted no later than October 31, 2022.** Because several hundred abstracts are expected, abstracts must be well-written, clearly and concisely outlining the material being proposed for presentation. Abstracts with a pronounced commercial slant will not be accepted. Abstracts must convey the information reviewers will need to assess the scope of the work and the data likely to be available at the time of the presentation, determine its relevance, compare it with other proposed presentations, and, if accepted for the program, assign it to an appropriate session.

Format, Content & Required Subheadings. Abstracts must be in English and cannot exceed one standard-size page. Format requirements and an example abstract are available on the **Abstract Specifications and Submittal** page.

NOTE: Abstracts must be organized under the following required subheadings—**Background/Objectives**, **Approach/ Activities**, and **Results/Lessons Learned**.

Submittal. Abstracts are to be submitted online only via the link on the **Abstract Specifications and Submittal** page. **Abstracts submitted by email will not be accepted or reviewed.** The submittal form will require complete contact information (postal mailing address, phone number, and email) for the corresponding/presenting author and for all co-authors.

Session placement suggestions and format preference (platform or poster) may be entered on the submittal form. However, final placement and format preference cannot be guaranteed. Final decisions on placement and format will be based on the best overall design of the Symposium program.

Notification of Acceptance/Placement. In February 2023, the corresponding/presenting author of each abstract will be notified by email of the placement decision. If the abstract was accepted, this email will state the session and format (platform or poster) to which it was assigned and provide information on preparing the presentation and submitting an updated abstract shortly before the Symposium.

Inquiries. Questions about abstract preparation and submittal should be addressed to biosymp@battelle.org.

No financial assistance is available to support registration or other costs of attending the Symposium. All presenting authors and session chairs are expected to register and pay the applicable technical-program registration fees.

This policy is necessary because registration fees are the major source of funding for the Symposium and a significant percentage of registrants will make presentations or chair sessions.



Student Participation

Student papers are due December 2, 2022.

Students are encouraged to attend the Symposium and will find their participation valuable to their career development. In addition to the technical information gained by attending presentations and visiting exhibits, students will be able to meet and talk with environmental professionals representing a wide range of work experience and employers.

Reduced Registration Rate. The student rate is approximately half the university rate and provides full access to all technical sessions, exhibits and meals. Full-time students are eligible; documentation of current enrollment is required.

Student Paper Competition. Papers may be submitted on any topic relevant to the overall technical scope of the Symposium and will be reviewed for originality of the research, clarity of data presentation, and discussion of results. An individual may submit only one paper, and winners of student paper competitions at past Battelle conferences are not eligible. The primary author must (a) be a full-time student at the time the paper is submitted and (b) give the corresponding poster or platform presentation at the Symposium. The primary author of each winning paper will receive a complimentary, nontransferable registration and a cash award, which will provide substantial assistance with travel and hotel costs. Participants will be informed of the results by February 28, 2023.

Students who wish to present their work at the Symposium, whether they win the competition or not, should submit abstracts by the October 31, 2022, abstract due date. They may then submit their competition papers by the December 2, 2022, student paper due date. Student papers should not exceed 8 pages (including figures, tables, and references). Detailed specifications and submittal information will be available on the **Student Participation** page by October 14, 2022.



Short Course Proposals

Proposals are due November 18, 2022.

Courses on topics within the general scope of the Conference will be offered on Monday, May 8, the day before the technical program begins. See the **Short Course** page for details on proposal content and submittal instructions.

Proposals will be evaluated, and the point-of-contact will be notified of the results by January 31, 2023. Accepted courses will receive information about scheduling and how course registrations will be handled. Course descriptions will be posted on the website in February 2023.

Inquiries. Questions about course proposals should be addressed to biosymp@battelle.org.

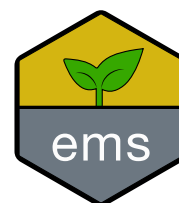
Learning Lab Proposals

Learning Lab Proposals are due November 30, 2022.

Generate exposure, demonstrate use, or solicit feedback for a technology, software, prototype, or tool in a 25-minute, hands-on demonstration, or user experience, in the Learning Lab. If selected, there is no additional fee to participate. Selection decisions will be based on the best overall design of the Symposium program.

The link to the **Learning Lab Proposal Form** can be found on the Symposium website on the **Learning Lab** page.

Learning Lab Sponsors



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Exhibits

Exhibit space will open for general sale on October 24, 2022.

Organizations that provide assessment, remediation, and management services and products are invited to exhibit. Exhibitors will have the opportunity to present information to a focused audience of approximately 800 people who acquire and use environmental management products and services at industrial and government sites around the world. General breakfasts and beverage breaks will be located in the Exhibit Hall.

Booth Selection. Symposium sponsors will be contacted in early October, before general sales open, to select their booth spaces. Exhibits will open for general sale October 24, 2022. The **Sponsors and Exhibitors** page will contain links to the Exhibitor terms and conditions, the application form, and the floor plan showing available spaces.

Exhibit Fee and Payment. The fee for an 8-ft x 10-ft booth is \$3,450 if payment is made by January 13, 2023, and \$3,650 if paid later. Space will be assigned on a first-come, first-served basis, according to receipt of completed application and payment. See the **Exhibitor** website for additional details.

Inquiries. Please contact Susie Warner (The Scientific Consulting Group, Inc.) at 301.670.4990, or send an email to bio2023@scgcorp.com.

Registration

By October 15, 2022, a link to online registration will be available on the **Registration** page. Exhibit booth staff will be registered by their exhibit managers. Short course registration information will be added to the website in December 2022.

The following technical program registration fees cover admission to all platform and poster sessions, exhibits, group lunches, receptions, daily continental breakfasts, and refreshment breaks.

	Paid by March 10, 2023	Paid after March 10, 2023
Industry	\$1,050	\$1,125
Govt/Univ*	\$925	\$1,025
Student	\$450	\$500

* The university fee applies to full-time faculty and other teaching and research staff, including post-doctoral students.

** The student fee is reserved for full-time students through PhD candidates whose fees will be paid by their universities or who will not be reimbursed for out-of-pocket payment. Documentation of current enrollment is required.

See the **Registration** page for a complete list of terms and conditions. Registration terms and conditions are subject to change without notice and are applicable to all levels of registration, including booth staff and Sponsor/Exhibitor discounted registrants. No one under 18 years of age will be admitted to any Symposium event unless registered as a student, valid student ID required at check-in.

Payment. Payment is required to confirm registration and registration discounts apply only to payments received by the specified dates. Checks will be accepted for registrations made through March 10, 2023. Beginning March 11, 2023, payment only be made by major credit card. Purchase orders will not be accepted. Fees are not transferable to other Battelle Conferences. Symposium Information meant for attendees only (e.g., links to mobile apps, abstracts, and registration lists) will be sent only to individuals who have paid in full.



Symposium Venue & Hotel

The Symposium will be held at the **Austin Marriott Downtown** (304 E. Cesar Chavez St, Austin, TX 78701). Information on room rates and reservation options will be available on the **Venue: Hotel and City** page in January 2023.

The Austin Marriott Downtown is located in the heart of downtown Austin, Texas, just steps away from world-class attractions and entertainment.

Indulge in this chic, urban retreat that offers luxury comfort and sophisticated amenities. The hotel features a rooftop pool with breathtaking views, two-level lobby bar, a signature restaurant, Corinne, and a rooftop tropical bar with tiki cocktails.

Enjoy easy access to family-friendly local attractions like The Bullock Museum or the Austin Zoo while you are in town or, visit one of the many shopping and entertainment districts nearby like the the 2nd Street District, the 6th Street Entertainment District, or the South Congress (SoCo) Avenue Shopping District.

Go on a treasure hunt for some of the iconic murals scattered throughout Austin or check out the world's largest urban bat colony that resides under the Congress Avenue Bridge. Take a trip to Lady Bird Lake or Lake Travis for some water recreation or other outdoor activities.

See austintexas.org for more information.

Room Blocks. A room block has been set aside at the Austin Marriott Downtown. The rates below are in effect for reservations made on or before 5:00 p.m. on Friday, April 14, 2023, unless rooms in the block sell out before that date.

The group rate at the Austin Marriott Downtown is \$285 per night (single/double) plus applicable taxes, fees, and assessments. Subject to availability of rooms at the time reservations are made, the group rate can be used for check-in as early as, Tuesday, May 2, and check-out as late as Sunday, May 14.

Inquiries

Bioremediation Symposium Office

biosymp@battelle.org

Sponsorship, exhibits, and registration:

Susie Warner (The Scientific Consulting Group, Inc.)

bio2023@scgcorp.com

phone: 301.670.4990 | fax: 301.670.3815

The Bioremediation Symposium has a group rate agreements with only the Austin Marriott Downtown. We have not partnered with any travel agency or third-party for travel/hotel discounts. If you receive a call or an email offering assistance in making hotel reservations or changing existing reservations, we advise caution. The Symposium has no agreement with any organization to contact participants and offer reservation assistance, nor have we provided attendee contact information to anyone for that purpose.

Please use only the reservation links provided on the “Venue: Hotel and City” page on the Symposium website (available in January 2023) to make hotel reservations.



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