

Eleventh International Conference on Remediation
of Chlorinated and Recalcitrant Compounds

CALL FOR ABSTRACTS

April 8-12, 2018 | Palm Springs, California

Abstracts due August 31, 2017

battelle.org/chlorcon | [#Chlorinated18](https://twitter.com/Chlorinated18)

BATTELLE



Battelle's Chlorinated Conference provides the most comprehensive update on innovations and technologies to address chlorinated and recalcitrant compound contaminated sites.

The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds will be held April 8-12, 2018, in Palm Springs, California.

The 2016 Chlorinated Conference was one of extraordinary growth and was attended by more than 1,660 environmental professionals from 28 countries. The largest technical program in Chlorinated Conference history was conducted with nearly 900 platform talks and posters presented in 71 breakout sessions and 10 panel discussions. Battelle was pleased to host more than 100 exhibitors, another record, over the length of the program.

The 2018 Conference will be another outstanding opportunity for the environmental remediation community to meet, learn, and network. Conference participants include representatives from academia, state and federal government agencies, consulting firms, research organizations, and industries from around the world.

The technical program will be conducted Monday–Thursday, April 9–12. Short courses will be conducted on Sunday, April 8, and Tuesday afternoon, April 10. The breadth and depth of the technical program, combined with daily opportunities to meet and engage with other environmental professionals at meals and receptions, will make participation in the Conference a valuable investment for you and your organization.

IMPORTANT DATES

July 24, 2017: Exhibit sales open

August 31, 2017: Abstracts due

September 25, 2017: Short course proposals due

October 13, 2017: Student papers due

The Preliminary Program brochure will be available at www.battelle.org/chlorcon in December 2017.

CONFERENCE SPONSORS

Battelle gratefully acknowledges the financial commitment and support of the following organizations.



The Conference 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. www.battelle.org



TECHNICAL PROGRAM SCOPE

Examples of anticipated presentation topics are listed below; use the numerical codes to reference topics you believe are the best match for your proposed presentation. This is neither a final nor comprehensive list. Abstracts are welcome on all relevant topics. Presentations will address the full range of technologies that can be used to remediate sites contaminated by chlorinated and other recalcitrant compounds. Risk, regulatory, and site management issues associated with these technologies will be discussed. The program will emphasize field applications, case studies, and site-closure approaches, but submissions on fundamental research and laboratory, pilot, and modeling studies are encouraged.

Remediation Technology Innovations

- 1a. Lessons Learned with In Situ Technologies
- 1b. Emerging Remediation Technologies
- 1c. Biological Remedies
- 1d. Biological Remedies: Bioaugmentation
- 1e. Biological Remedies: Biobarriers
- 1f. Biological Remedies: Cometabolic
- 1g. Monitored Natural Attenuation
- 1h. Abiotic and In Situ Biogeochemical Processes
- 1i. Phytoremediation/Mycoremediation
- 1j. In Situ Chemical Oxidation
- 1k. In Situ Chemical Reduction
- 1l. Thermal Remediation
- 1m. Heat-Enhanced Remediation
- 1n. Injectable Carbon Amendments
- 1o. Other Physical/Chemical Remedies
- 1p. Bench, Pilot, and Treatability Studies
- 1q. Advances in Amendments
- 1r. Innovative and Optimized Delivery Methods
- 1s. Combined Remedies and Treatment Trains
- 1t. Electroenhanced Technologies

Assessing Remediation Effectiveness

- 2a. Advances in Monitoring Injection Effectiveness (e.g., Radius of Influence)
- 2b. Applications of Mass Flux and Mass Discharge for Remedial Design/Optimization
- 2c. Estimating Cleanup Timeframes and Modeling to Support Site Closure
- 2d. Optimizing Remedial Systems
- 2e. Big Data, Data Mining, and Portfolio Optimization
- 2f. Performance-Based Remediation and Environmental Management
- 2g. Cost Effectiveness of Remedies
- 2h. Key Remediation Performance Indicators

Green and Sustainable Remediation

- 3a. Best Practices in GSR and Case Studies
- 3b. Advances in GSR Evaluation Tools
- 3c. Integrating Social and Ecological Considerations into GSR
- 3d. Reusing and Revitalizing Contaminated Sites
- 3e. Impact of Climate Change and Sea Level Rise on Remediation Sites

Addressing Challenging Site Conditions

- 4a. Adaptive Site Management and Risk Management Strategies

- 4b. Lessons Learned in DNAPL Source Zone Remediation
- 4c. Low-Permeability Zone Case Studies
- 4d. Large, Dilute Plume Case Studies
- 4e. Commingled/Mixed Plume Case Studies
- 4f. Surface Water/Groundwater Interactions
- 4g. Cold Region Case Studies
- 4h. Radiological Concerns
- 4i. Landfill Management
- 4j. Long-Term Monitoring Optimization

Fractured Rock

- 5a. Site Characterization (Including High-Resolution and Geophysical Tools)
- 5b. Managing/Remediating Chlorinated Solvent Impacts at Fractured Bedrock Sites
- 5c. Managing/Remediating Petroleum Impacts at Fractured Bedrock Sites
- 5d. Karst Aquifer Case Studies

Petroleum and Heavy Hydrocarbon Site Strategies

- 6a. LNAPL Recovery Techniques and Transitions based on LNAPL Recovery Limits
- 6b. In Situ Remediation of Petroleum Hydrocarbons
- 6c. Natural Source Zone Depletion
- 6d. TPH Risk Assessment and Metabolites
- 6e. Environmental Considerations for Hydraulic Fracturing/Shale Gas Production
- 6f. Remediation of Heavy Hydrocarbons

Emerging Contaminants

- 7a. Advances in the Analysis of Per- and Polyfluorinated Alkyl Substances (PFAS)
- 7b. PFAS: Risk Assessment and Toxicity
- 7c. PFAS: Site Characterization, Fate and Transport
- 7d. PFAS: Remediation
- 7e. Energetics, Perchlorate
- 7f. Insensitive Munitions
- 7g. 1,4-Dioxane, Brominated Flame Retardants, NDMA, and Other Emerging Contaminants

Metals

- 8a. Heavy Metal and Metalloid Fate and Transport
- 8b. Remediation Approaches
- 8c. Mine Remediation and Closure Strategies
- 8d. Coal Ash Site Restoration

Vapor Intrusion

- 9a. Chlorinated Compound Vapor Intrusion
- 9b. Petroleum Hydrocarbon Vapor Intrusion
- 9c. Advances in Vapor Intrusion Investigations
- 9d. Vapor Intrusion Mitigation and Effectiveness
- 9e. Radon Gas
- 9f. Characterizing Mass Flux for Vapor Intrusion Assessment

Characterization, Fate and Transport

- 10a. Conceptual Site Models
- 10b. Improvements in Site Data Collection, Data Management, and Data Visualization
- 10c. Groundwater Modeling Advancements
- 10d. Advanced Investigation Tools and Techniques
- 10e. High-Resolution Site Characterization (HRSC)
- 10f. Incremental Sampling for Characterization
- 10g. Applying Stratigraphic Concepts to Hydrogeology
- 10h. Risk Assessment Practices, Applications, and Benefits
- 10i. Bioavailability Considerations

Advanced Diagnostic Tools

- 11a. Innovative Monitoring and Measurement Tools
- 11b. Advances in Laboratory Analytical Methods
- 11c. Real-Time Analysis to Inform Decision-Making
- 11d. Use of Passive Samplers
- 11e. Use of Advanced Molecular Tools for Site Assessment or Remedy Performance
- 11f. Compound-Specific Isotope Analysis
- 11g. Environmental Forensics
- 11h. Remote Monitoring and Use of Drones

International Environmental Remediation Markets

- 12a. Regulatory Considerations
- 12b. Case Studies and Lessons Learned
- 12c. Capacity Building Efforts

Technology Transfer and Stakeholder Communications

- 13a. Advances in Technology Transfer
- 13b. Technology Verification
- 13c. Decision Analysis Tools for Environmental Restoration Applications
- 13d. Stakeholder Success Stories and Risk Communication

PROGRAM COMMITTEE

Conference Chairs

Wendy Condit, PE (Battelle)
 Ramona Darlington, PhD (Battelle)

Steering Committee

Dora Chiang, PhD, PE (AECOM)
 Kira Lynch (U.S. EPA, Region 10)
 Shaily Mahendra, PhD (UCLA)
 Victor Medina, PhD (U.S. Army Engineer Research
 & Development Center)
 Ravi Naidu (CRC CARE)
 Anthony Nelson (NAVFAC EXWC)
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 Bill Newman (RNAS Remediation Products)
 Heather Rectanus, PhD, PE (Battelle)
 David Reynolds, PhD, PE (Geosyntec Consultants)
 David Tsao, PhD (BP Corporation North America, Inc.)

ABSTRACT PREPARATION AND SUBMITTAL

Abstracts are due August 31, 2017.

The program will be developed through an intense, multilevel review by the Program Committee and the session chairs. **To ensure full opportunity for placement in the program, abstracts should be submitted by August 31, 2017.** Because more than 1,000 submissions are expected, abstracts must be well written, clearly and concisely outlining the material being proposed for presentation. Abstracts with a pronounced commercial or marketing tone will not be accepted.

Format/Content/Required Subheadings. Abstracts must be in English and cannot exceed one 8.5"x11" standard-size page. Format requirements and an example abstract are available on the Conference website under "**Abstract Specifications and Submittal.**"

Abstracts must be organized under the following required subheadings—**Background/Objectives, Approach/ Activities, and Results/Lessons Learned.** Abstracts must convey the information reviewers will need to assess the scope of work and to understand the data likely to be available at the time of the presentation. This information will be used to determine the relevance of the abstract, compare it with other proposed presentations, and assign it to an appropriate platform or poster session if accepted.

Submittal. Abstracts are to be submitted online via a link that will be added to the "**Abstract Specifications and Submittal**" webpage by June 30, 2017. Abstracts submitted by email will not be accepted for review. The online 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. The corresponding/presenting author's preferences will be taken into account by the reviewers, but cannot be guaranteed. Final decisions on placement and format will be based on the best overall design of the Conference program.

Notification of Acceptance/Placement. In December 2017, 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 Conference.

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

LEARNING LAB PROPOSALS

NEW in 2018!

Interested in generating exposure for a new product, software, or prototype or demonstrating the use of an existing tool or technology to Conference attendees?

Demonstrate use of a technology, software, and/or tool in a 30-minute, hands-on demonstration, or user experience in a Learning Lab, located in the Exhibit Hall. Large-scale equipment (e.g., drilling equipment, mobile laboratories, etc.) may be accommodated in an outside space on a case-by-case basis. Fill out and return the **Learning Lab Proposal Form**, found on the Conference website on the Sponsors & Exhibitors page, for your demonstration to be considered. If selected, there is no additional fee to participate.

Learning Lab Sponsor. We appreciate the participation of **Porewater Solutions and Burns & McDonnell**, whose contribution will be applied toward the overall cost of the Learning Lab experience.



SHORT COURSE PROPOSALS

Proposals are due September 25, 2017.

Courses on topics within the general scope of the Conference will be offered on Sunday, April 8, and Tuesday afternoon, April 10.

Details on proposal content and submittal instructions will be added to the Conference website by June 30, 2017. Proposals will be evaluated, and instructors will be notified of the results by October 31, 2017. If your course is selected, you will receive information about scheduling and how course registrations will be handled. Course descriptions will be posted on the website in December 2017.

STUDENT PAPER COMPETITION

Papers are due October 13, 2017.

Student papers may be submitted on any topic relevant to the overall technical scope of the Conference. 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 Conference. 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. Competition participants will be informed of the results in December 2017.

Students who wish to present their work at the Conference (if they win the competition or not) should submit abstracts through the online system by the August 31, 2017, abstract due date. They may then submit their competition papers by the October 13 student paper due date.

Detailed specifications and submittal information will be available at www.battelle.org/chlorcon by June 30, 2017.

STUDENT ATTENDANCE

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

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

Student Events. In addition to the Student Paper Competition, special events to enhance students' and young professionals' career development and networking opportunities will be announced in the Preliminary Program. **Information about corporate sponsorship of student events is available on the Conference website.**



EXHIBITS

Exhibits open for general sale July 24, 2017.

All Exhibits will be displayed in the Palm Springs Convention Center (277 N. Avenida Caballeros, Palm Springs, CA 92262). Organizations that provide environmental 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 1,600 people who acquire and use environmental management products and services at industrial and government sites around the world. Daily continental breakfasts, breaks and receptions, as well as poster displays and presentations and the Learning Lab, will be located in the Exhibit Hall.

Booth Selection. Conference Sponsors will select their booth spaces in June 2017. Exhibits will open for general sale July 24, 2017, when the link to the exhibit webpage will be posted at www.battelle.org/chlorcon. Email reminders will be sent a few days before July 24 to contacts for organizations that have exhibited at recent Battelle conferences. The exhibit webpage will contain the terms and conditions, the application form, and the floor plan showing available spaces. Space will be assigned on a first-come/first-served basis, according to receipt of completed application and payment.

Booth Fees. Additional terms and conditions apply; see the Exhibit webpage for details.

Booth Size	Paid by Oct. 15, 2017	Paid after Oct. 15, 2017
Standard Inline 10'x10'	\$3,695	\$3,995
Standard Inline 10'x20' <i>(Endcaps not permitted)</i>	\$6,995	\$7,235
20'x 20' Island	\$12,995	\$13,295

Tentative Exhibit Hall Hours

- Sunday, April 8, 6:00-9:00 p.m.
- Monday, April 9, 7:00 a.m.-6:30 p.m.
- Tuesday, April 10, 7:00 a.m.-1:00 p.m.
- Wednesday, April 11, 7:00 a.m.-6:30 p.m.
- Thursday, April 12, 7:00 a.m.-1:00 p.m.

Inquiries. Please contact Susie Warner at 301.670.4990, or send an email to chlorinated2018@scgcorp.com.

REGISTRATION

A link to online Conference registration will be available on the Conference website by June 30, 2017. Short course registration will be added to the website in November 2017.

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

	Paid by Feb. 23, 2018	Paid after Feb. 23, 2018
Industry	\$955	\$1025
Gov./Univ.*	\$830	\$930
Student**	\$440	\$490

**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 Ph.D. 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.*

Booth Staff Registration. Booth staff will be registered by their exhibit managers.

Non-U.S. Registrants. For registrants outside the United States, it is recommended that you wait until your visa application has been approved prior to registering. Refunds will not be granted after the “no refund” date in the event your visa application is denied.

Registration Terms & Conditions Registration terms and conditions are subject to change without notice. No one under 18 years of age will be admitted to any Conference event unless registered as a student. **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 February 23, 2018. Beginning February 24, 2018, payment can be made only by major credit card. Purchase orders will not be accepted. Fees are not transferable to other Battelle Conferences. **Substitutions/Transfers.** Substitutions/transfers for technical program registrants will be accepted at any time, but will incur a \$100 transfer fee. **Refund Policy.** By registering for the Conference, you agree to the following registration cancellation refund policy:

Registration Cancellation Requested Date	Refund
By January 12, 2018	75% of the registration fee (less a \$50 service fee)
January 13, 2018 - March 9, 2018	50% of the registration fee (less a \$50 service fee)
After March 9, 2018	No refunds.

Paid no-shows will receive all materials covered by their registration fees. Refunds will be processed to the credit card used for payment. No refunds will be made after March 9, 2018, for any reason.

Cancellation Policy. If Battelle cancels the Conference due to circumstances beyond Battelle's reasonable control such as, but not limited to, acts of God, acts of war, government emergency, labor strikes, and/or unavailability of the event or exhibition facility, Battelle shall refund to attendee his/her previously paid registration fee(s) less a share of event cost incurred by Battelle. This refund shall be the attendee's exclusive remedy and Battelle's sole liability for cancellation of the event for reasons generally described in this paragraph.

No financial assistance is available to support registration or other costs of attending the Conference. All presenting authors, session chairs, and panel participants are expected to register and pay the standard technical-program registration fees. This policy is necessary because registration fees are the major source of funding for the Conference and a significant percentage of registrants will make presentations or chair sessions.

CONFERENCE VENUE AND HOTELS

Located just two miles from Palm Springs International Airport, the Palm Springs Convention Center (PSCC) and the adjacent Renaissance Palm Springs Hotel offer expansive, contiguous meeting and exhibit space, all on one level and under one roof.

The PSCC, managed by SMG Worldwide, participates in a comprehensive environmental program designed to utilize best practices in water conservation, energy efficiency, waste diversion, and air quality. SMG’s Green IMPACT Program (which stands for innovation, mindfulness, participation, accountability, consistency and transparency) supports green and sustainable practices at its conference facilities worldwide. The in-house catering partner, Savoury’s, utilizes biodegradable products, locally grown food, and donates excess food to local assistance programs. It also participates in the City of Palm Springs’ pilot composting program.

Hotels. Subject to availability of rooms at the time reservations are made, the Conference rate can be used for check in as early as Thursday, April 5, 2018 and check out as late as Saturday, April 15. Links to online reservations for both hotels will be added to the Conference website by June 30, 2017. Be sure to obtain a registration confirmation number and to inquire about the hotel’s cancellation and early check-out policies.



Renaissance Palm Springs

	Renaissance Palm Springs	Hilton Palm Springs
Address	888 East Tahquitz Canyon Way <i>(connected to Convention Center)</i>	400 East Tahquitz Canyon Way <i>(1 block away from Convention Center)</i>
Group Rate	\$200/night + tax (single)	\$189/night + tax* (single or double) <i>*requires one night room/tax deposit</i>
	<i>A percentage of rooms will be available at the prevailing U.S. Government per diem rate (plus tax) for U.S. federal, state, and local government employees. Government ID will be required at check-in.</i>	
Group Rate Expiration	March 22, 2018, unless the block sells out before that date	March 15, 2018, unless the block sells out before that date
Phone Reservations	888-682-1238	800-445-8667 or 760-320-6868
	<i>If you are making a reservation by phone, mention that you are attending the "Battelle Chlorinated Conference" to qualify for the group rate.</i>	

The Chlorinated Conference does not have group rate agreements with any properties other than the Renaissance Palm Springs and the Hilton Palm Springs nor have we partnered with any travel agency or third-party for travel/hotel discounts. If you receive a call or an email that offers assistance in making/changing hotel reservations, we advise caution. The Chlorinated Conference has no agreement with any organization to contact participants and offer reservation assistance, nor have we provided contact information to anyone for this purpose.

PALM SPRINGS AND SURROUNDINGS

Within easy walking distance of the Convention Center, you will find restaurants, shops, and attractions. Village Fest, a street fair, is held downtown every Thursday evening. Stop by the Palm Springs Art Museum or the Architecture and Design Center; admission is free on Thursdays from 4:00-8:00 p.m. The downtown area displays the mid-century modern architecture the city is famous for, and the street names recall its beginnings as a getaway spot for the stars of Old Hollywood.

Just minutes from downtown, you can take the Palm Springs Aerial Tramway 2,643 feet up to Mount St. Jacinto State Park, where extensive hiking trails branch out in all directions. Explore the terrain of the Greater Palm Springs area by bike, Jeep, or hot air balloon. Visit Joshua Tree National Park, where two distinct desert ecosystems—the Mojave and the Colorado—come together, and the canyons of the San Andreas Fault await you. visitgreaterpalmsprings.com