

November CEMS Webinar

Please note, this is a repeat for the May 12 CEMS Webinar

Topic: Low-Intensity Electrochemical Redox Reactions for Contaminant Remediation in Clay & Silt Matrices

Speaker: Dr. Song Jin, Advanced Environmental Technologies and Adjunct Professor at the University of Wyoming

Time: Tuesday, November 10, 11:45am-1pm

Registration: Webinar details and links below

CEMS has received one (1) General CLE for this presentation

[CEMS November 2020 presentation notes](#)

Most in situ treatment technologies for chlorinated solvents require good physical permeability of the contaminated matrix and the availability of mass tends to adsorb on the solid matrix. Tight formations such as clay and silts present a significant challenge. The slow back diffusion of contaminants from less permeable soils into groundwater exacerbates the situation, resulting in extended treatment time and high cost.

The concept of low-intensity electrochemical redox reactions found its new applications in treating contaminants in a number field projects. The process achieves multiple electrochemical reactions in the contaminated matrix, including 1) direct and fast reductive de-chlorination of chlorinated solvents through the beta elimination pathway that does not generate intermediates of chlorinated ethenes; 2) alteration of solid-water interface for an enhanced desorption of contaminants from solids into water phase; 3) lowering redox potential rapidly in the matrix, which favors biological reductive de-chlorination and extends longevity of other electron donating compounds; and 4) synergy with other remedial technologies such as ISCO, ISCR, and injections of electron donors and carbon material. This presentation will focus on the field case studies (brownfield projects) of using the low-intensity electrochemical redox reactions for in situ treatment of PCE and TCE in the subsurface dominated by clay and silts. Field data suggest that this new method could serve as a useful tool to help achieve cost-effective compliance goals, especially in an otherwise challenging tight formation.

Dr. Song Jin is the founder of Advanced Environmental Technologies (Fort Collins, CO) and Adjunct Professor at the University of Wyoming. Song has 20+ years of experience in technological innovation and implementation. He is one of the pioneers and a leading practitioner in the niche of bioelectrochemical redox techniques for in situ remediation of contaminants. Song received his Ph.D. in 1997 from the University of Wyoming. He has published 80+ papers in peer-reviewed journals, 100+ papers in technical conferences, and four book chapters. He also holds 30 US and international patents. Prior to AET, Song served as a Principal Scientist at MWH and Western Research Institute.

Please register here using this [Registration Link](#). After registering, you will receive a confirmation email containing detailed information about joining the webinar. If you lose your registration or confirmation, or have questions, please do not hesitate to contact CEMS via email admin@coems.org.

[CEMS Lunch & Webinar Meeting/Newsletter Sponsorship Program](#)

From the Board...Making Good Use of Our Free Time by Suzanne Gabriele, Geosyntec Consultants

When I was elected on to this Board back in January 2020 and notified that I would be preparing the October “from the Board” article, I fully anticipated a reflection on the Fall Conference; one of the CEMS marquee events. We had had such an amazing conference in 2019. You may recall the topic, *Economic Growth and Sustainability: Finding the Balance between Population Growth and Environmental Stewardship*. With a roster of engaging speakers including Elizabeth Garner, the Colorado State Demographer and Dr. Jill Engel-Cox, the Director of the Joint Institute for Strategic Energy Analysis at the National Renewable Energy Laboratory, I thought for sure the 2020 Fall Conference would be just as, if not even more, engaging and easy to write about this fall. Unfortunately, at this point in the year, I certainly do not need to mention why that has all gone out the window.

I have served on a few Boards over the years and have seen my fair share of transitions – some planned and some unexpected. (By the way, if you are ever asked to serve on a Board, its best to consider the worst thing that could possibly happen to a Board. That way, you *might* be prepared for what will actually happen.) What all of us are experiencing this year, whether it’s on a management team, Board, advisory group, ad hoc committee, book club, PTA, etc., would definitely fall into the category of “unexpected.” From the CEMS end of things, we have had to cancel our three seasonal networking and educational opportunities traditionally offered to our members and nonmembers (i.e., the spring movie and social event, summer golf outing, and fall technical conference), and we have had to navigate the options for and pitfalls associated with hosting virtual events for the monthly luncheons. We thank you for standing by through all of that and look forward to seeing your faces again soon!

So, what have I and the other CEMS Board Members been doing with the free time? Other than trying to stay safe from COVID, your CEMS Board has been working to pivot programing to meet the needs of our members as best we can as well as considering how we can best serve you through these times and the times ahead. No, we have not been sitting idle.

Recently, we launched a sponsorship program for our luncheon webinars. We hope some of our members will take advantage of this opportunity to advertise services to other members and nonmembers who attend our free luncheon webinars. However, what we do not want to do is bombard our members with advertising, so we are only making sponsorships available on a limited basis. We hope you like how this turns out.

We’re also talking about how we can serve the next generation of environmental, health and safety (EHS) management professionals with more than just scholarship dollars (e.g., mentoring and outreach). Be it EHS managers, consultants, attorneys or regulators, we need fresh and innovative ideas.

(continued on Page 6)

2020 CEMS Officers:

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Treasurer: John Fontana, Vista GeoScience, (303)277-1694, jfontana@vistageoscience.com

Past President: Steve Brauner, PhD, PE, Environmental Works, Inc., (303)328-7982,
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CDPHE Liaison: Fonda Apostolopoulos, CDPHE, (303)692-3411, fonda.apostolopoulos@state.co.us

Alternate CDPHE Liason: Rachel Blomberg, CDPHE, (303)691-4024,
rachel.blomberg@state.co.us

US EPA Liaison: Stephen Dymment, US EPA Region 8, (303)312-7044, dymment.stephen@epa.gov

OPS Liaison: Tom Fox, CDLE; Division of Oil and Public Safety, (303)318-8535, tom.fox@state.co.us

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Monthly Programs:

Andy Horn, Westwater Hydrology LLC, (303)456-1981, Andy@WestwaterHydro.com

Spring Movie Event:

Monica Genadio, Environmental Science Partners, LLC, (720)936-1694, mgenadio@gmail.com

Fall Conference Co-Chairs:

Suzanne Gabriele, Geosyntec Consultants, (303)790-1340, SGabriele@Geosyntec.com
 Michael Whelan, Anchor QEA, LLC, (303)952-4850, mwhelan@anchorqea.com

Golf:

Mike Jahn, Tasman Geosciences, Inc., (303)487-1228, mjahn@tasman-geo.com

Scholarship – Co-Chairs:

Fonda Apostolopoulos, CDPHE, (303)692-3411, fonda.apostolopoulos@state.co.us
 Rachel Blomberg, CDPHE, (303)691-4024, rachel.blomberg@state.co.us

Website: Juliana Reid, CEMS, admin@coems.org

MEMBERSHIP – RENEWALS AND NEW MEMBERS

A big thank you to all those members who renewed, and welcome to our newest members.

New

Dan Griffiths, Parsons Mobility Solutions

Renew – Individual

Janet Castle, Eagle Synergistic Optimizing Technologies

John Dellaport, Quantum Water & Environment

Robin Fryberger, Sundance Environmental Consultants, Inc.

Michelle Howard, State of Colorado Division of Oil and Public Safety (OPS)

Tom Marks, Stego Industries

Megan Oller, US EPA, NEIC

Renew – Corporate

Olsson

Mitchell Clark

Andrea Cole

Sarah Foster

Jody Glennon

Paige Koutelas

Dana Mack

Kyle Peters

Vanessa Scott

Katy Sprouse

Trent Watne

Belinda Butler-Veytia

Looking for a New Position

CEMS posts many job opportunities on our website.

<http://www.coems.org/jobs>

If you or your company would like to post to our website, please just send over the job description, with contact information to admin@coems.org.

We also will post resumes for our members to help you find new opportunities.

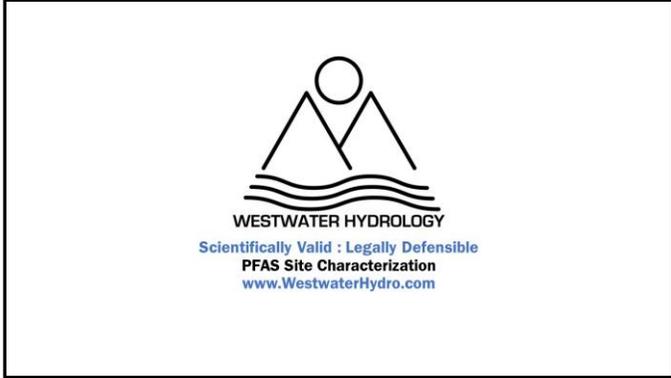
Presentation Opportunities for Upcoming CEMS Meetings

The CEMS Program Committee is currently searching for "interesting, topical and informative" presentations for our meetings in 2020 and beyond. This is a great opportunity to network with your peers, share information and technology, and become more involved with the environmental community. CEMS is interested in an assortment and variety of topics relevant to environmental and natural resources professionals. Each monthly presentation is roughly 50 minutes, followed by a question and answer period.

If you or someone you know is interested in presenting at our monthly meetings, or our annual conference, please feel free to contact our Programs Committee Chairperson, Andy Horn at Andy@WestwaterHydro.com.

Comments or suggestions from previous meetings, including the Annual Fall Conference, are also welcome. Let us know if we can publish them in the newsletter or website.

CEMS Lunch & Webinar Meeting/Newsletter Sponsors



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Questions? Email admin@coems.org

SITE CHARACTERIZATION

Membrane Interface Probe (MIP, MiHpt)
 Optical Image Profiler(OIP-UV, OIP-G, OiHpt)
 Hydraulic Profile Tool (HPT)
 3D Data Visualization & Modeling
 Ground Water Profiler (HPT-GWP)

REMEDIATION

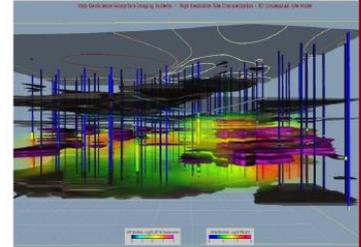
Clean-Inject In-Situ Injection Systems
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 Hydraulic Emplacement of Sand/ZVI
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 ISCO, ISCR, ISBR

ENVIRONMENTAL DRILLING

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RECRUIT AND PROFIT!!

Recruit a **NEW** member for CEMS and get a **box lunch** credit voucher! For each person you persuade to join CEMS, you will be issued a **box lunch** voucher that you can apply to the CEMS fee of your choice, whether it be a luncheon, workshop or your own membership renewal. Note that you cannot take credit for a member's renewal. However, there is **NO LIMIT** to the number of vouchers you can accumulate. Just have the new member put your name on the referral portion of the Membership Application Form. And keep those new members coming!

Members on the Move

To be included in this section, submit your previous information along with your new information via email to Juliana Reid at admin@coems.org. Changes must have occurred within the last three months, and your membership must be current.

CEMS REGULATORY UPDATE
FEDERAL AND STATE ACTIONS IMPACTING COLORADO

By April D. Hendricks
Burns, Figa & Will, P.C.
October 2020

On September 14, 2020, the Environmental Protection Agency (EPA) published a [final rule](#) amending the 2012 and 2016 New Source Performance Standards under the Clean Air Act (CAA) for volatile organic compounds (VOCs) and methane emissions from the oil and natural gas industry. In part, the EPA's final rule rescinds previous emissions limitations on and storage and transmission requirements for, methane from the oil and natural gas industry, and removed certain regulatory and reporting requirements. This rule became effective as of the date of publication. Following the publication of the rule, twenty states, including Colorado, and several municipalities, including the City and County of Denver, filed a [lawsuit](#) against the EPA in the United States Court of Appeals for the District of Columbia Circuit, seeking review of this rule. In this lawsuit, the states allege that the amendments arbitrarily eliminate pollution controls and will increase emissions of methane, VOCs, and other air pollutants, endangering the public health and accelerating the impacts of climate change. On September 17, 2020, the D.C. Circuit administratively stayed the rule, meaning that it will not go into effect until the Court has considered the merits of the petitioners' claims.

On September 30, 2020, the State of Colorado released a [draft](#) of its Greenhouse Gas Pollution Reduction Roadmap for public comment. Several state agencies, including the Colorado Energy Office, the Colorado Department of Public Health and Environment, the Colorado Department of Transportation, the Colorado Department of Natural Resources, and the Colorado Department of Agriculture, have collaborated to create this Roadmap, which outlines early actions that the State may take in order to reach the goals of reducing greenhouse gas pollution by 26% by 2025 and 50% by 2030. The Roadmap preliminarily concludes that the State must continue transitioning to renewable energy, expand the adoption of zero-emission cars, trucks, and busses, optimize land-use planning to reduce the need to drive, and work to reduce greenhouse gas emissions from various industries in order to reach its goals. Many of these proposed actions include the need for regulatory measures to reduce emissions from vehicles, the oil and gas industry, public utilities, and the coal industry. The State is accepting comments on the draft Roadmap through November 1, 2020.

On October 6, 2020, pursuant to the CAA, the EPA issued a [proposed rule](#) approving the State Implementation Plan (SIP) revisions submitted by the State of Colorado on May 21, 2017, May 14, 2018, and May 10, 2019. These revisions modify the Colorado Air Quality Control Commission's (AQCC) Regulation No. 7 by addressing Colorado's reasonably available control technology (RACT) SIP obligations for Moderate 2008 ozone nonattainment areas. The Denver Metropolitan/North Front Range Area was classified as a Moderate nonattainment area in 2016, and the State of Colorado submitted SIP revisions to the EPA between 2017-2019 to come into compliance with the CAA's air quality standards. Since that time, the EPA has reclassified the Denver Metropolitan Area as a Serious nonattainment area for ozone. The EPA approved a majority of Colorado's SIP revisions in 2018, but deferred action on the AQCC's revisions to Regulation No. 7's RACT rules, which are at issue in this proposed rule. Colorado's Regulation No. 7, entitled "Control of Ozone via Ozone Precursors and Control of Hydrocarbons via Oil and Gas Emissions," contains general RACT requirements as well as specific emission limits applicable to various industries. Comments on the EPA's proposed rule approving the State's SIP revisions must be provided on or before November 5, 2020.

**Are you a lawyer, looking for CLE's? Is someone at your office in need of CLE's? CEMS offers
a very inexpensive way to earn those needed CLE's.
Just RSVP to admin@coems.org, bring your box lunch, and attend for free.**

From the Board *(continued from page 2)*

Beyond our scholarship program, we would love to hear from our members about ways that they are addressing sustainability within their practice areas.

Later this month, the CEMS Board will kick off a strategic planning process to document and establish a direction for CEMS over the next few years. As part of the process, we'll be reviewing data trends over the past several years, analyzing the organization's strengths, weaknesses, opportunities, and threats, and setting some key objectives to advance the organization. Look for an update on these efforts at the end of 2020 or early into 2021.

In the meantime, what else can we do to serve you better? Please let us know what you would like to get out of your CEMS membership. Contact us [here](#) with your great ideas and please stay safe!

Suzanne Gabriele is a Principal Engineer with Geosyntec Consultants based in Colorado with more than 30 years of experience focused on environmental, health, safety, and sustainability management for a variety of industries including manufacturing, mining, oil & gas, and food processing.

Having worked as a strategic advisor to private and public sector clients at both the corporate and operational levels, Ms. Gabriele has extensive experience helping clients manage risks and recognizing opportunities to improve performance. Examples of Ms. Gabriele's experience include managing numerous policy and management system development and implementation projects including systems conforming to and certified under International Organization for Standardization (ISO) standards. Ms. Gabriele has also managed numerous projects where the Environmental Protection Agency (EPA) compliance-focused environmental management system standard is required. Ms. Gabriele's practice also includes advising on quality assurance programs, pollution prevention and permitting programs, and performance and compliance monitoring and auditing programs.

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The sponsorship provides the following benefits:

- Ad of certain size in the newsletter.
- All get Logo with link on website Sponsor Page or Pane with hyperlink.
- Logo on Welcome and conclusion slides on webinars OR live in-person luncheons.
- Table for one meeting or more for "live" luncheons when they resume and 1-minute company infomercial presentation at lunches (webinars get an appreciative mention).

For Webinars:

- Show a slide with logos & Company name under Sponsor Category (gold, etc.) Bigger print for bigger sponsors.
- Appreciatively mention sponsors during intro announcements and after presentation.

Sponsorship Category Pricing suggested rates:

- Bronze – One month = \$100 (logo or business card ad in newsletter)
- Silver – 3 Months = \$250 (1/8 page ad, and info table at 1 live lunch meetings)
- Gold – 6 months = \$450 (1/4 page ad, table at 2 live lunch meetings)
- Platinum – 12 months = \$800 (1/2 page ad, table at 3 live lunch meetings)

Please follow this [link to be a sponsor](#).