
INNOVATIVE ENVIRONMENTAL SOLUTIONS IN OUR NEW WORLD
AN AECOM ENVIRONMENTAL WEBINAR SERIES
OCTOBER WEBINARS
AECOM
Imagine it.
Delivered.

Friday, October 2, 2020 (12:00 pm EDT)
Going Beyond the TRIR:
Renew Focus on High-Consequence Risks

OUR SPEAKER:
PETER KROLL, PE, CPEA, CPSP, CSP

Mr. Kroll is an engineer and principal project manager in AECOM's Pittsburgh, PA, office with over 40 years of experience in EHS consulting and engineering. He has significant safety compliance experience with industrial clients and is a Certified Safety Professional. He is also co-leader of AECOM's Health & Safety Consulting Technical Practice Group.

Although many companies only focus on lagging indicators such as OSHA recordable injuries, an emphasis on unsafe behavior/acts and using leading indicators is recognized by many safety professionals as a better way to improve safety in the workplace. Our webinar will help our clients renew their focus on high-consequence risks.

REQUEST INVITATION

Wednesday, October 7, 2020 (11:00 am EDT)
Remedial Process Optimization - Higher Efficiency and Lower Cost

OUR SPEAKERS:
JOSEPH LUTY, PE
VENUS SADEGHI, PHD

JOSEPH LUTY, PE. Joseph Luty is a licensed Professional Engineer (NJ) with 25 years' experience in design, installation and operation & maintenance of ground water and soil remediation systems at current and former industrial facilities, petroleum refineries/ terminals and retail service stations. Mr. Luty serves as the Remediation Technical Services Director for several global oil & gas client portfolios and is also AECOM's Remedial Process Optimization Technical Practice Leader. He has significant experience developing remedial action plans and path-to-closure strategies as well as performing remedial process optimization reviews to reduce operating cost and lifecycle.

VENUS SADEGHI, PHD. Dr. Sadeghi is a senior project manager and a remediation subject matter expert at AECOM. She has over 20 years of experience in environmental remediation of soil and groundwater, with emphasis on remediation of recalcitrant and emerging contaminants of concern. Her responsibilities have included development of feasibility studies, design and implementation of treatability studies (laboratory and field scale), design and implementation of full-scale remedies (*in situ* and *ex situ*), and optimization of existing remedies.

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REMEDIAL PROCESS OPTIMIZATION: AN OVERVIEW OF APPROACHES AND RESULTS

Remedial Process Optimization is the systematic evaluation and enhancement of site remediation processes to ensure that human health and the environment are being protected over the long term at minimum risk and cost. During this presentation, Mr. Luty will present an overview of approaches to RPO and summarize several examples of results where cost, risk and/or project schedule were minimized.

REMEDIATION SYSTEM OPTIMIZATION AT AIR FORCE PLANT 44 IN TUCSON, ARIZONA

Since 2012, Dr. Sadeghi has been involved with RPO activities at Air Force Plant 44 (AFP44), part of the Tucson International Airport Area Superfund Site. The groundwater at AFP44 is contaminated with a mix of chlorinated VOCs, as well as the emerging contaminant, 1,4-dioxane. A groundwater treatment system using advanced oxidation process has been operating at the site since 2009, and AECOM took over site environmental and RPO activities in 2012. RPO measures implemented include *in situ* bioremediation at source areas and optimization of the groundwater treatment system, including the injection and extraction well network and system infrastructure. These RPO measures have expedited achievement of the remedial action objectives for the site.

Thursday, October 15, 2020 (11:00 am EDT)
Comparison of Real-Time TCE Measurement Methods

OUR SPEAKERS:
BART EKLUND
MARTY HALE

BART EKLUND. Bart Eklund is the Director of the Air Quality Practice in the Americas at AECOM. He is the author of approximately 20 journal articles, 30 U.S. government publications, and 50 peer-reviewed papers in conference proceedings. Bart has served as a testifying expert in U.S. state and federal courts, as well as for permit hearings, enforcement actions, and international arbitration proceedings.

MARTY HALE. Marty Hale is an Atmospheric Scientist with approximately 10 years of experience. Mr. Hale primarily works in the field of quality assurance of air measurement systems and with gas chromatography for air monitoring applications. He has led a number of field studies to address potential TCE exposures and evaluate the contribution from various emission sources.

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In vapor intrusion (VI) studies, trichloroethylene (TCE) often gets special attention because of concerns about its toxicity, resulting from even relatively short-term exposure. Therefore, there is interest in finding and addressing preferential pathways and indoor sources of TCE as quickly as possible. We will describe recent work that included performing real-time TCE measurements at multiple facilities using a field GC, a HAPSITE GC/MS, and a FROG portable GC. Data are presented and discussed related to the analytical sensitivity of the various analyzers, correlations found during side-by-side measurements, measurement frequency and turnaround time, and ease of use.

Friday, October 23, 2020 (11:00 am EDT)
Workforce of the Future – How Changing Demographics Should Affect Your Safety Program

OUR SPEAKER:
MICHELLE COUTU MSPH, CIH, CSP

Michelle has a diverse background in Occupational Safety and Health. As a consultant, she has built and implemented EHS programs, developed and conducted safety training, and completed hazard assessments across multiple industries including pharmaceutical, chemical manufacturing, higher education and utilities. During the COVID19 Pandemic, she has developed re-occupancy and disinfection protocols for transportation, venue management, and real estate industries. She has an MS in Public Health, in addition to being a Certified Industrial Hygienist and Certified Safety Professional.

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As the twenty first century continues to unfurl, we know one thing is for certain, change is inevitable. The workforce that we strive to empower and protect looks very different from the work force of even 20 years ago. Understanding the past and present will help us anticipate future trends, allowing us to proactively prepare for the next challenge. In addition to age, we will discuss how cultural barriers impact the implementation of our safety programs. We will review best practices for building people-centered safety programs focused on protecting a diverse workforce.

Wednesday, October 28, 2020 (4:00 PM EDT)
AECOM Innovations in Routing and Siting Analysis

OUR SPEAKERS:
MELINDA JENSEN, KRISTI TEYKL, DOUG BALDWIN

MELINDA JENSEN. Mrs. Jensen has over 20 years of experience serving as a Project Manager, Technical Manager, and Quality Assurance/Quality Control Manager for transmission line routing studies and linear corridor EAs and EISs. She is formally trained as an Expert Witness and has served in that capacity in numerous hearings and depositions. She has managed and prepared EAs and EISs in compliance with NEPA and has performed all routing studies in Texas in accordance with Title II. Mrs. Jensen has further experience in natural resources impact analyses and planning for power clients, including an EA/Habitat Conservation Plan for inclusion in a USFWS Section 10(a) permit application for Oncor Electric Delivery.

KRISTI TEYKL. Kristi serves as a Practice Lead for Information Management Solutions at AECOM. With 23 years of experience developing and implementing geospatial data and technology solutions, she is responsible for conceptualization, technical design, advanced spatial analysis, and management of projects with a technology focus for a diverse array of clients. Since 2002, she has provided direct support to numerous T&D siting/routing studies and environmental assessment projects across North America and played an integral role in developing proprietary AECOM GIS solutions to streamline the siting/routing processes. She has extensive training and hands-on experience utilizing GIS and remote sensing technology (including UAS and GeoAI) and her expertise encompasses the spectrum of GIS functionality in support of real-world planning, engineering, and environmental management applications.

DOUG BALDWIN. Doug is a data scientist and GIS specialist. He has worked with a wide variety of groups supporting statistical analysis, app development, and data management tasks. Doug has been at AECOM for 4 years after working as a research assistant at the Pennsylvania State University, where he focused on applying remote sensing, statistics, and machine learning to hydrologic modeling studies.

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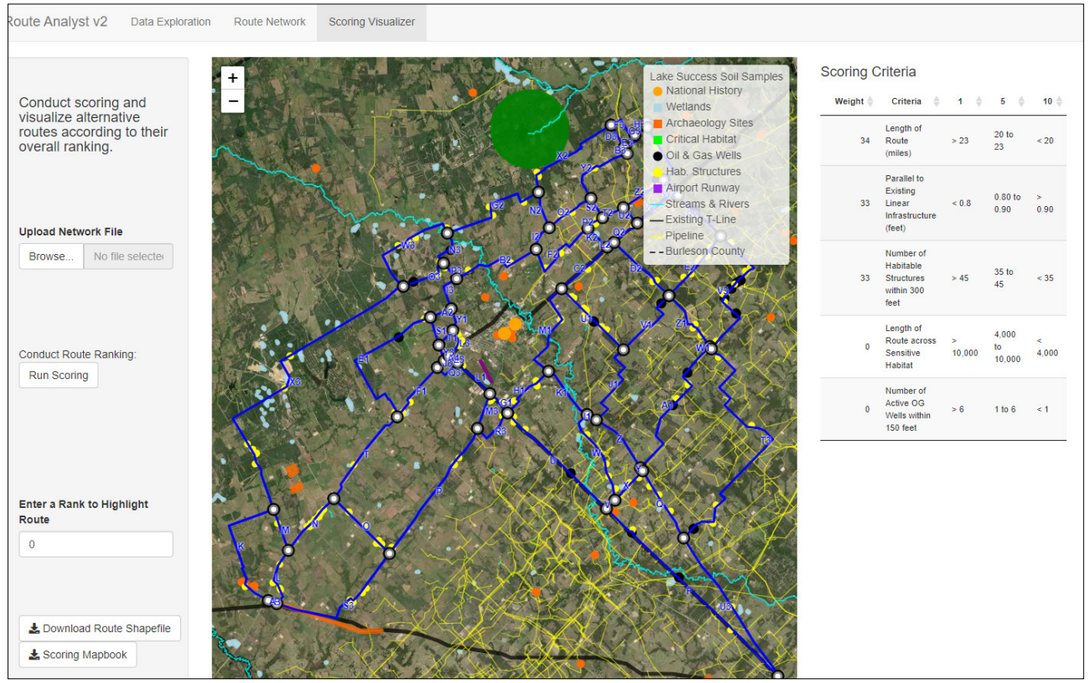
AECOM has successfully applied innovative GIS solutions to routing and siting projects for greater efficiency in the selection of sound, defensible, and constructible T&D sites and routes. AECOM developed OptiSite and RouteAnalyst, a specialized framework of GIS tools and methodologies that apply a comprehensive, multi-tiered decision support model to assess existing constraints and aid planners and developers in efficiently identifying and analyzing optimum candidate sites and routes. This approach integrates a user-defined spatial assessment to identify environmental, cultural, infrastructure, and engineering considerations, identify minimum impact areas, and identify sites and routes best-suited for a specific type of energy development. The results are key elements that aid our clients in making informed decisions about complex siting considerations. Most critically, these tools offer the flexibility to be used as standalone processes or to augment existing siting methodologies.

This webinar will introduce attendees to AECOM's latest innovations in routing and siting analysis, which offer a number of advantages in comparison to more traditional siting and routing methods, including:

- Lower cost due to systematic, logical and efficient approach
- More rapid and flexible analysis via extensive use of GIS methods
- Ease of scenario evaluation and iteration with computer-based tools
- Open process conducive to client input and public participation
- Use of decision analysis tools at every step to optimize performance



Thursday, October 29, 2020 (11:00 AM EDT)
Diversity, Equity and Inclusion
Emerging Issues, Practices and Strategies

OUR SPEAKERS:
BRIAN KENNEDY, KORY WILMOT, ASHLEY BUSH

BRIAN KENNEDY, AICP. Mr. Kennedy is a Senior Project Manager, Task Leader and Planning and Permitting Program Manager. Brian is the IAP Technical Practice Group Leader and serves as the Public Involvement Practice Leader for Transportation in the Americas region. Brian is an environmental process management expert and an award-winning public engagement program leader.

KORY WILMOT, AICP. Kory Wilmot is a Senior Urban Planner and has worked for AECOM for 16 years with his primary focus on community planning, environmental studies, and public engagement. He has worked closely with local, state and Federal government agencies throughout the United States in the development and implementation of infrastructure projects. Mr. Wilmot has a Bachelor's of Art in Urban and Regional Planning from the University of Illinois and a Master's in Public Administration from the University of North Carolina.

ASHLEY BUSH. Ashley Bush Ervin is a Transportation planner at AECOM. She received her BS at Georgia Institute of Technology in Building Construction, and received a Master's degree in City and Regional Planning at University of North Carolina-Chapel Hill. For the last 4 years, Ashley has worked at AECOM as a transportation planner and focuses on public involvement and environmental documentation on various transportation projects. Ashley has also worked on several hurricane recovery projects throughout North Carolina.

REQUEST INVITATION

Public involvement and environmental justice are required aspects of state and federal approval processes such as NEPA and have been critical components of public decision-making for decades. As a result of COVID-19, increased racial tensions and other factors, the terms diversity, equity and inclusion (DEI), and their underlying issues, have brought change and new approaches to the deliberative decision-making process. This webinar highlights changing requirements, expectations and methods for dealing with DEI and ways of optimizing tasks and outcomes through the implementation of Best Management Practices.

Four Key Areas of DEI

1
ECONOMIC OPPORTUNITY
Mentoring, Internships, DBE Programs, Development Potential

2
INVESTMENT BENEFITS
Equitable Outcomes from Public Expenditures

3
DISPROPORTIONATE EFFECTS ANALYSIS
Equitable Distribution of Burdens

4
OUTREACH AND ENGAGEMENT TO TYPICALLY UNDERREPRESENTED PARTICIPANTS
Inclusive Involvement (Online Innovation and the Need for Equivalent Offline Techniques)

Thursday, October 29, 2020 (1:30 pm EDT)
1,4-Dioxane *In Situ* Remediation: Conventional and Innovative Solutions

OUR SPEAKERS:
DUSTIN BYTAUTAS, PE
REBECCA MORA

REBECCA MORA. Ms. Mora is a senior engineer with over 22 years of environmental investigation and remediation experience. She specializes in design and implementation of innovative technologies, particularly for groundwater sites contaminated with emerging contaminants and/or chlorinated solvents. Ms. Mora is a Principal Investigator/key technical team member on several DOD-funded research projects related to 1,4-dioxane and PFAS remediation approaches. She also specializes in the use of molecular diagnostic tools such microbial and isotopic analyses. Ms. Mora is a member of the ITRC Environmental Molecular Diagnostics Team and PFAS Team, part of the AECOM/UCLA research team for biodegradation of 1,4-dioxane, and led the AECOM *In Situ* Bioremediation Technical Practice Group. She served as an ITRC instructor for their internet-based training offered to the environmental industry on the use of EMDs. She is also the project manager for the AECOM development team demonstrating and commercializing AECOM's DE-FLUOROTM remediation technology for PFAS destruction.

DUSTIN BYTAUTAS, PE. Mr. Bytautas has over 14 years' experience in engineering design and project management of large-scale remediation projects. He has been responsible for the direction of teams comprised of multi-discipline technical experts to meet client objectives, with a focus on delivery, quality, schedule and financial management. He is a technical expert in *In Situ* Chemical Oxidation (ISCO) and bioremediation having been involved in the implementation of *in situ* applications at over forty sites. Dustin manages a team of environmental engineers and scientists and is responsible for their development and growth.

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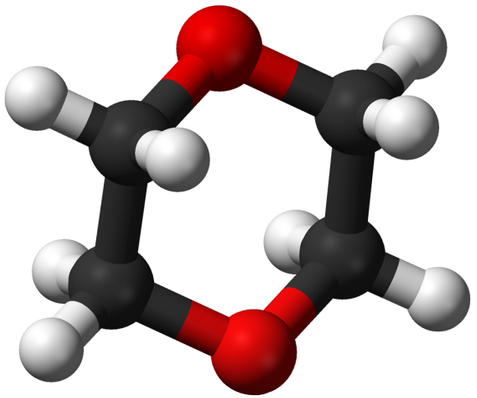
ENHANCED IN SITU BIODEGRADATION OF 1,4-DIOXANE

1,4-Dioxane is a probable human carcinogen and an emerging contaminant in groundwater at many military and industrial sites. Numerous studies provide evidence that 1,4-dioxane can be biodegraded aerobically and several cases have documented both metabolic and cometabolic 1,4-dioxane biodegradation since the early 1990s. However, enhanced *in situ* biodegradation efforts have been limited by inconsistent microbial performance in the field. Pseudonocardia dioxanivorans CB1190 (CB1190) is a monooxygenase-expressing microorganism that has been shown to metabolically degrade 1,4-dioxane as a source of carbon and energy in bench-scale and pilot-scale *ex situ* reactors. This technology field demonstration project evaluated bioaugmentation with CB1190 as a means to enhance *in situ* biodegradation of 1,4-dioxane at Air Force Plant 3, in Tulsa, Oklahoma. The field demonstration was performed using an emerging technology referred to as an *in situ* bioreactor. Detailed results from the 6-month ISBR demonstration will be shared during the webinar.

1,4-DIOXANE TREATMENT USING ISCO

1,4-Dioxane has emerged as a contaminant of concern for numerous sites. It is most commonly found at sites co-mingled with chlorinated solvents and their daughter products. *In situ* chemical oxidation (ISCO) using activated potassium persulfate can generate both oxidative and reductive-free radical species that can expedite the destruction of 1,4-dioxane and chlorinated solvents. ISCO was evaluated for use at a site contaminated with 1,4-dioxane and chlorinated solvents in groundwater migrating from an industrial area into adjacent wetlands. Due to the sensitivity associated with working in a wetland, the remedial design focused on using permeable reactive barriers to minimize the footprint of injection activities. The remedial strategy was conducted in a stepwise process that included laboratory scale assessment, a field pilot test, and full-scale application. This webinar will provide a discussion of the results from treatability study through full-scale implementation.



About AECOM

AECOM is the world's premier infrastructure consulting firm, delivering professional services throughout the project lifecycle – from planning, design and engineering to program and construction management. We partner with our clients in the public and private sectors to solve their most complex challenges and build legacies for generations to come. On projects spanning transportation, buildings, water, governments, energy and the environment, our teams are driven by a common purpose to deliver a better world. AECOM is a Fortune 500 firm with revenue of approximately $20.2 billion during fiscal year 2019.

See how we deliver what others can only imagine at aecom.com and @AECOM.

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