

20th RAILROAD ENVIRONMENTAL CONFERENCE



PRELIMINARY PROGRAM 23-24 October 2018



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Members of the Railroad Environmental Community,

The Rail Transportation and Engineering Center (RailTEC) at the University of Illinois at Urbana-Champaign is pleased to host the 2018 Railroad Environmental Conference (RREC). This year marks the twentieth annual RREC and we are honored to have played a role in its development from the small gathering of 150 people and five supporter companies in 1999 to its present scope. Interest and attendance at the conference has grown considerably in the nineteen years since then and it has emerged as the principal annual gathering of the railroad environmental professional community. Last year more than 500 people attended from throughout North America and abroad, including railroaders, consulting engineers, environmental control equipment suppliers, regulators, industry attorneys, academics and other rail transportation professionals.

The vitality of the conference program benefits from the excellent input provided by representatives from the railroads, environmental engineering, and supply firms who participate in the RREC Planning Committee. Each year this group considers topics of particular interest to the railroad industry, reviews the submitted abstracts, and selects presentations based on their quality, timeliness, and relevance. The goal is coverage of the broad array of current and emerging subjects of interest to railroads. An important criterion is innovative new ideas and results with potential to benefit and improve railroad environmental practice. The RREC organizing team has strived to achieve the proper balance with this year's selection of presentations in the following topic areas:

- Compliance & Permitting
- Ecological Conservation
- Energy, Emissions & Air Quality
- Environmental Analytical Issues
- Environmental Response
- Passenger Rail & Transit
- Remediation
- Risk & Liability Management
- Stormwater & Wastewater
- Sustainability

The RREC provides a forum for attendees to meet with colleagues, clients, regulators, researchers, and other members of the railroad environmental community to learn about new techniques and technologies, exchange views, catch up on regulatory and legislative developments, and generally stay in touch with the direction of the railroad industry's environmental programs. It is also an excellent opportunity to renew old acquaintances and make new contacts in the ever-changing railroad environmental arena.

On behalf of RailTEC at the University of Illinois at Urbana-Champaign, I would like to extend an invitation to everyone interested in railroad environmental performance, practices, and engineering to attend this year's conference. I hope you can attend and look forward to meeting you.

Sincerely,



Chris Barkan
Professor
Director - RailTEC
University of Illinois at Urbana-Champaign

Meeting Location:

Concurrent sessions will be held in the [Illini Union](#)
1401 W. Green St., Urbana, IL 61801.

Registration Fees:

Early Bird Registration (paid before 9/28)	\$350.00
Regular Registration (paid after 9/28, before 10/12)	\$475.00
Late/Onsite Registration (after 10/12)	\$600.00
Speaker and Poster Presenter Registration	\$200.00
Student Registration *	Free
2-Day Parking	\$50.00

*Proof of full-time student status required

Poster Presentation Reception and AREMA Banquet:

All conference attendees and guests are encouraged to take the opportunity to meet and discuss ideas with the Poster Presenters at the Poster Presenter Reception that will be held on Tuesday, October 23rd from 5:00 to 6:30pm in the Illini Union. The AREMA Banquet Program will be held immediately following the reception from 7:00pm to 9:00pm at Memorial Stadium.

Attire:

Recommended attire for the conference is “business casual.”

Conference Website and Online Registration:

<http://railtec.illinois.edu/RREC/overview.php>

Monday, October 22nd, 2018

Exhibitor set-up 1:00pm - 5:00pm

Tuesday, October 23rd, 2018

Continental Breakfast	7:00am - 9:00am
Registration Open	7:00am - 5:00pm
Presentation Sessions	8:00am - 12:00pm
Luncheon	12:00pm - 1:15pm
Presentation Sessions	1:15pm - 5:05pm
Reception/Poster Presentations	5:05pm - 6:30pm

AREMA COMMITTEE 13 BANQUET 7:00pm

AREMA Banquet Speaker: 8:00pm

Michael Rush - Association of American Railroads

Wednesday, October 24th, 2018

Continental Breakfast	7:00am - 9:00am
Registration Open	7:00am - 5:00pm
Presentation Sessions	8:00am - 11:55am
Luncheon	11:55am - 1:25pm
Presentation Sessions	1:25pm - 5:15pm
Adjourn	5:15pm

Tuesday

8:00-9:50AM	Plenary Session		
10:20-12:00PM	Remediation	Sustainability	Compliance
1:15-2:55PM	Remediation	Passenger & Rail Transit	Ecological
		Environmental Response	
3:25-5:05PM	Remediation	Environmental Response	Environmental Analytical Data Applications
	Retrospective / Prospective Panel		

Wednesday

8:00-9:40AM	Plenary Session	
10:10-11:55AM	Sustainability	Environmental Management
1:25-3:05PM	Sustainability	Stormwater & Wastewater
3:35-5:15PM	Risk	Stormwater & Wastewater

Compliance & Permitting

Environmental Issues Affecting the North American Rail Industry

Robert Fronczak - Association of American Railroads

Thompson River Coal Spill – Regulatory Requirements and Post-Spill Monitoring Results

Trevor Welton- Hemmera Envirochem Inc

Chris Dane - Canadian Pacific Railway

Navigating Environmental Regulatory Hurdles for New Rail Yard Development Projects - Strategies and Lessons Learned

Mark Westray & Erin Brosnan Davis - GEI Consultants, Inc

Stephen Chambers - Chambers Engineering, PA

Chadwick Conn - Eco-Energy

Coley Campbell - CSX Transportation, Inc

Planning Distance Calculations – A Better Mouse Trap

Terri Allen - Norfolk Southern Railway

Stephen Ellingson, Heather Aherns & Rebecca Spring - TRC Companies, Inc

Best Management Practices for Proactive Environmental Audits

Eric Chang - Norfolk Southern Railway

Mary Beaton - AECOM

Ecological Conservation

The Design, Construction and Commissioning of a Best in Class 99-Acre Wetland in Association with Canadian Pacific's Belle Plaine Spur in Saskatchewan, Canada

Lisette Ross, Kristel Unterschultz & Glen Koblun - Ducks Unlimited Canada
Chris Dane - Canadian Pacific Railway

Kaien Reef Compensation Habitat: Fish Recruitment to Artificial Marine Reef Habitat in Northern British Columbia.

Tim Abercrombie - Hemmera Envirochem, Inc

Breeding Birds, Leopard Frogs and Mammoths, oh my! A Canadian Perspective on Environmental Construction Monitoring in the 21st Century

Joe Van Humbeck - Canadian Pacific Railway

Ecological Restoration of Sulfur-impacted Soil on Indigenous Land Following a Train Derailment

Andrei Zawadzki - SNC-Lavalin Environment Inc

Accurate and Efficient Desktop Reviews of Potential Threatened and Endangered Species Occurrences for Oil Spill Facility Response Plans

Terri Allen - Norfolk Southern Railway
Stephen Ellingson, Heather Ahern & Rebecca Spring - TRC Companies, Inc

Energy, Emissions, & Air Quality

Evolution of Switcher Technology at Union Pacific

Mike Iden & Jim Brannen - Union Pacific Railroad

Zero-Emission Motive Power: Overview of Hydrogen Fuel Cell Technology Applied to Rail (Hydrail)

Andreas Hoffrichter - Michigan State University

Environmental Analytical Data Applications

Using Computational Models to Assess Hypothetical Crude-by-Rail Releases Associated with the Tesoro Savage Vancouver Energy Project

Matthew Horn & Jenna Ducharme - RPS ASA

Emerging Contaminants - The Concern for PFAS Contamination from the use of AFFF

Charles Neslund - Eurofins Lancaster Laboratories Environmental
Yueh Chuang & Mark Engdahl - BNSF Railway

Waste Soils - Reducing Costs of Characterization and Management

Jim Schneider & Dave Edwards - ERM

Unlocking the Mystery of Environmental Forensics Analyses

Erin Rodgers - Environmental Standards, Inc
Christopher Oakes - Norfolk Southern Railway

Environmental Management

ITRC's Adaptive Site Management Approach

Roy Thun - GHD

Using Corrective Action Reports (CARs) to Monitor and Improve Compliance and Performance

Ted Bailey - Aureus Solutions, Inc
Craig Fisher - Canadian Pacific Railway

Facilitating Collaborative Environmental Management within Lean Organizations: Canadian Pacific's Experience

David Huck - Canadian Pacific Railway
Carlos da Ponte - Sustainable Elements, Inc

Connecting People and Information to Enhance Environmental Performance

Bryan Naranjo - Norfolk Southern Railway
Mark Jasper - GHD

Sewer System Investigation Using Mobile Data Management for Regulatory Compliance - Norfolk Southern Decatur Yard

Terri Allen - Norfolk Southern Railway
Chris Harvey, Brian Hartwig & Leo Thorbecke - TRC Companies, Inc

Environmental Response

Industry Spill Planning on High Visibility Waterbodies: Railroad and Agency Case Studies

Colin McWilliams - CPSSC
Chad Livingston - Canadian Pacific Railway

Lessons Learned at Coal Derailments

Robert Fewchuk - GHD
Chris Dane - Canadian Pacific Railway

Facility Response Plan - Application of Lessons Learned

Bryan Naranjo & Christopher Huniscker - Norfolk Southern
Innovative Approach to Develop a Geographic Response Plan (GRP)
Daniel Dyer - CSX Transportation, Inc
Chris Harvey & Wade Narin van Court - TRC Companies, Inc

Geographic Response Planning (GRP's), a Class I Perspective: An Interactive Panel Discussion

Pat Brady - BNSF Railway
Tony Houdyshell - Canadian Pacific Railway
Bryan Naranjo - Norfolk Southern Railway
Michael Algots - Union Pacific Railroad
William Parry - CSX Transportation, Inc
David Slauson - CN Railway

Uses and Benefits of Crude Oil Mass Balance Results

Andrew McManus - Arcadis U.S., Inc
Chris Machenberg, Matthew Adkins & Raghu Chatrathi - CSX Transportation, Inc

Innovative Approach to Develop a Geographic Response Plan (GRP)

Dan Dyer - CSX Transportation, Inc
Chris Harvey, Leo Thorbecke & Wade Narin van Court - TRC Companies, Inc

Passenger Rail & Transit

Remedial Optimization: Transitioning from Physical LNAPL Removal to Enhanced Biological Degradation

Barbara Slim & Shaun Austin - Wood Environment & Infrastructure Solutions

Super Storm Sandy Five Years Later: Expediting NEPA, Permitting and Environmental Compliance for NJ TRANSIT's Resilience Program

Harold Orlate - BEM Systems, Inc

John Geitner - NJ Transit Corporation

Enhancing Flood Resiliency of New York City Subway System

Daniel Weiss, Manuel Ramos & Luv Sehgal - ARUP

Remediation

Remedial Optimization: Transitioning from Physical LNAPL Removal to Enhanced Biological Degradation to Natural Depletion

Todd Miller & Ben Carreon - Kennedy/Jenks Consultants

Yueh Chang - BNSF Railway

LNAPL Recovery and Remedy Transitions: A Case Study at a Railyard Fueling Facility

Andy Pennington & Dawn Gabardi - Arcadis U.S., Inc

Jeremy Coughlin & LeeAnn Thomas - Canadian Pacific Railway

In-Situ Stabilization and Removal of Soil Impacted by Lead and Arsenic

Brandt Morrow - AECOM

Steven Aufdenkampe - Norfolk Southern Railway

Regulatory Closure Through Pathway Elimination – Former Wood Treatment Plant on Railroad Property

Ben Iden & Laura Funk - Shaw Environmental & Infrastructure, Inc

Dan Dyer - CSX Transportation, Inc

Property Line Interim Measure Using PlumeStop® and AquaZVI™ to Passively Treat Groundwater and Gather CSM Information

Matthew Burns - WSP

Rapid Site Characterization of a Chlorinated Solvent Plume using High Resolution Technology and GIS Based Online Tools

Jennifer Williams & Jeffrey Bryan - AECOM

Steven Aufdenkampe - Norfolk Southern Railway

Is Bioventing a Better Alternative for LNAPL Remediation?

Brad Koons, Jonathon Smith & Steven Gaito - AECOM

Andrew Kirkman - BP

New Approach with an Old Tool: Aerobic Biooxidation to Effectively Deplete Groundwater Contaminants from Creosote

Randy Sillan - AECOM

Updated ITRC LNAPL Guidance:

A Tool for Effective Site Management Panel

David De Courcy Bower - ERM

Erik Gessert - Terrecon

David Harn - Michigan DEQ

Andy Pennington - Arcadis U.S., Inc

Challenging Bioremediation beneath Historic Railyard and Turntable in Queens, New York Accomplished with Horizontal Injection Wells

Kyle Carlton - Directional Technologies, Inc

Pipeline Project Leads to Groundwater Remediation

Jason Diamond - Arcadis U.S., Inc

Matthew Adkins - CSX Transportation, Inc

Risk & Liability Management

Managing Health and Safety: Are Your Programs Up to Date?

Peter Masson - Antea Group

Matt Carne & Jared Martin - Modesto & Empire Traction Company

Planning for Resilience

Mark Nardolillo & Mittul Patel - BEM Systems, Inc

Programmatic Approach to Demolition of Bridge Structures on Abandoned Rail Lines

Troy Neisz - Wood Environment & Infrastructure Solutions

Coley Campbell - CSX Transportation, Inc

Severe Weather Risk Management Tools for Transportation Corridors and Applications for the Railroad Industry

Rich Niles & Robert Boggs - Wood Environment & Infrastructure Solutions

Reducing Risk While Growing the Bottom Line Through Demolition

Lance Rasnake - Wood Environment & Infrastructure Solutions

Coley J. Campbell & Walker Brazell - CSX Transportation, Inc

Minimization of Unanticipated Costs Related to Unknown Conditions during Remediation and Infrastructure Improvement Projects

William Parry - CSX Transportation, Inc

Ben Girard - Arcadis U.S., Inc

Stormwater & Wastewater

Dissolved Air Flotation Retrofit-Simplified

Richard Mohlenhoff - Amtrak

Jack Waggener - AECOM

Wastewater and Stormwater - Big Data & How It Can Reduce Risk

Chad Prior & Casey Felder, Jr. - BNSF Railway

Neale Jentsch - Casne Engineering

Wastewater - EAM (Environmental Asset Management)

Casey Felder Jr., Chad Prior & Adam Bartek - BNSF Railway

Neale Jentsch - Casne Engineering

Using 3-D Visualization for Effective Design Communication

Lara Thurn & Divya Malyala - AECOM

Chrosotpher Beranek - Norfolk Southern Railway

A Simple Solution to Keep Stormwater Debris Out of Your WWTP

Christopher Beranek - Norfolk Southern Railway

Samuel Karlovich & Bob Stolt - AECOM

Railroad Storm Water – Challenges and Opportunities in Discharge Compliance: De Soto, MO Case Study

Corey Johnson - Union Pacific Railroad

Carolyn Kossik - Jacobs

Pilot-testing of a Sustainable Innovative Technology to Treat Emulsified Oil at a Rail Yard Facility

François Beaudoin, Eric Bergeron & Marie-Pier - Golder Associates, Ltd

Seble Afework - CN Railway

Local Stormwater Charges:

What Running Your Rail Through a City Might Cost You

Brent Azzo - Genesee & Wyoming, Inc
Fred Schesny - Norfolk Southern Corporation
Lupe C. Valdez - Union Pacific Railroad
Peter T. Masson - Antea Group

Enhancing Efficiency, a Multi-faceted Approach to a Wastewater Treatment Upgrade

Nicole DeRose - CN Railway

Sustainability

Lifecycle Design and Cumulative Benefit-Cost Analysis for Rail Resiliency

Mark Westray, Sam Merrill & Scott Keating - GEI Consultants, Inc

Reuse Success – Redevelopment to the Tex Tin Superfund Site in Texas City, Texas

Micheal Dobbs - Kelley Drye & Warren, LLP

Pilot Project to Determine the Effectiveness of Transforming used Rail Ties into Biofuel

Francisco Perello, Richard Johns & Christina Chan - Keystone Environmental Ltd
David Brogliatto & Mike Linder - CN Railway

Norfolk Southern Railway Corporation Sustainable Remediation Program Update

Gerlinde Wolf - AECOM
Scott Pittenger & Steven Aufdenkampe - Norfolk Southern Railway

Lessons Learned from Managing Weird Waste

Kara Angotti - Amtrak

Grow Your Own: Engaging Rail Community Stakeholders to Encourage Minority Youth STEM Education

Sergio “Satch” Pecori - Hanson Professional Services

Efficient Railway Networks through Sustainable Mainline and Yard Capacity

C. Tyler Dick - University of Illinois

Forecasting Traffic on North American Railroads

John Gray - Association of American Railroads

Sustainability and Other Life Cycle Considerations for Railway Crossties

J. Riley Edwards - University of Illinois

Next Generation Panel Discussion

Patrick Crain - CN Railway
Linellis Santiago-Bernier - Union Pacific Railroad
Chris Lager - BNSF Railway
Katrina Wright - University of Illinois

STEM Outreach to K-12 Students: The Root of Railway Engineering Education

C. Tyler Dick - University of Illinois



2018 Railroad Environmental Conference

Rail Transportation and Engineering Center (RailTEC)

University of Illinois at Urbana-Champaign

1239B Newmark Civil Engineering Laboratory

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Urbana, IL 61801

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