PRELIMINARY PROGRAM
22-23 OCTOBER 2019
2019 SPONSORS

20+Year Sponsors

AECOM

Kennedy Jenks

ERMA

HDR

TRC

15+Year Sponsors

wood.

ARCADIS

HULCHER

GOLDER

GHD

eurofins

Environment Testing
TestAmerica

Pace Analytical

Distinguished Sponsor

HANSON

Engineering | Planning | Allied Services
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 2019 Railroad Environmental Conference (RREC). This year marks the twenty-first 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 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 Protection & Conservation
- Energy, Emissions & Air Quality
- Environmental Analytical Data & Applications
- Environmental Management Systems
- Environmental Response

- Passenger Rail & Transit
- Remediation
- Risk & Liability Management
- Stormwater & Wastewater
- Sustainability, Climate Resilience & Engagement

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
George Krambles 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:
<table>
<thead>
<tr>
<th>Registration Type</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Bird Registration (paid before 8/30)</td>
<td>$365</td>
</tr>
<tr>
<td>Regular Registration (paid after 8/30, before 10/11)</td>
<td>$475</td>
</tr>
<tr>
<td>Onsite Registration (after 10/11)</td>
<td>$600</td>
</tr>
<tr>
<td>Speaker and Moderator Registration</td>
<td>$200</td>
</tr>
<tr>
<td>Student Registration*</td>
<td>Free</td>
</tr>
<tr>
<td>AREMA Committee Dinner</td>
<td>$60</td>
</tr>
<tr>
<td>2-Day Parking</td>
<td>$50</td>
</tr>
</tbody>
</table>

*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 22nd from 5:00pm to 6:30pm in the Illini Union. The AREMA Banquet Program will be held immediately following the reception from 7:00pm to 9:00pm.

Attire:
Recommended attire for the conference is “business casual.”

Conference Website and Online Registration:
**rrec.railtec.illinois.edu**

**Monday, October 21st, 2019**
Exhibitor Setup 1:00pm - 5:00pm

**Tuesday, October 22nd, 2019**
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: TBD 8:00pm

**Wednesday, October 23rd, 2019**
Continental Breakfast 7:00am - 9:00am
Registration Open 7:00am - 5:00pm
Women’s Networking & Outreach Breakfast 7:00am - 8:00am
Presentation Sessions 8:00am - 11:55am
Luncheon 12:05am - 1:35pm
Presentation Sessions 1:35pm - 5:30pm
Adjourn 5:30pm
Compliance & Permitting

“Crossing Protected Waters” - The CSXT Elvira Bridge Replacement
Cole Reagan - Wood
Matt Adkins - CSX Transportation, Inc.

“So you Want to Build a Railroad?” - An Environmental Clearance and Permitting Story
Kevin Keller - HDR

Environmental Issues Affecting the Association of American Railroads and North American Rail Industry
Robert Fronczak - Association of American Railroads

Environmental Planning to Reduce Project Delays and Environmental Impacts
William Parry - CSX Transportation, Inc.
Daniel Ley & Thomas Steiner - Arcadis U.S., Inc.

FRA’s Environmental Rulemaking, Joining 23 CFR 771 & 774 and Environmental Project Development for Federally Sponsored Rail Projects
Andrea Martin - U.S. Department of Transportation

Hidden in Plain Sight - Environmental, Health, and Safety Violations and How to Avoid Them
James Schneider - ERM

New PHMSA Compliance Challenges for Railroad ‘Comprehensive Oil Spill Response Plans’
Colin McWilliams - RIO Environmental Consultants
Leo Thorbecke - TRC Companies, Inc.

Regulatory Implications for the U.S. and Canada: British Columbia’s New Spill Planning Regulations for Rail
Colin McWilliams - RIO Environmental Consultants

Replacing Canadian National Railroad’s Bonnet Carré Spillway Bridge - Permitting Strategies to Replace Historic Structures in a Complex Regulatory Environment
Kari Harris - CN Railway
James Thomas - HDR

Staying Ahead of Emerging Regulations
Violet Fisher - BNSF Railway
Matt Prasek - EA Engineering, Science, and Technology, Inc.

Surface Transportation Board Environmental Reviews-How to Get Started
Elizabeth Diller - ICF
Danielle Gosselin - Surface Transportation Board
**Ecological Protection & Conservation**

**Consideration of a No-Action-Alternative Remedy for Surface Water Sheen to Protect Threatened and Endangered Species**
Mark Holsing - AECOM  
Ryan Schwegman - EnviroScience  
L. Christopher - Norfolk Southern Railway

**Fire on the Track - Managing Methane During Bridge Construction**
Kelly Gearhart - Union Pacific Railroad  

**Fresh Cross-Ties on River Bridges - Solutions for Summer Sheens and Regulatory Compliance**
David Sullivan & Jeff LaRock - TRC Companies, Inc.  
Paul Mastrodomenico - Global Remediation

**Managing Improperly Treated Bridge Ties Over Water**
Christopher Hunsicker & Troy Carpenter - Norfolk Southern Railway

**Monitoring and Mitigating Rail-Related Moose Mortality in Northern British Columbia**
Garrett Kerr & Brad Pollard - McElhanney Consulting Services Ltd.  
Luanne Patterson - CN Railway

**Energy, Emissions, & Air Quality**

**Air Pollution Reduction Efforts on the NCDOT Piedmont Passenger Rail Service**
Lynn Harris - McDowell Engineers & Associates / NCDOT

**Building the National Rail Emissions Inventory**
Mark Janssen - Lake Michigan Air Directors  
Matt Harrell - Illinois EPA

**Introduction and Application of New AREMA Air Quality Compliance Chapter Update and Primer on AREMA Environmental Committee 13**
Gale Hoffnagle - TRC Companies, Inc.

**Stationary Air Source Compliance: Refrigerants & Ozone Depleting Substances**
Jeffrey Barwick - Norfolk Southern Railway  
Tony Jabon - Trinity Consultants

**Successful Implementation of a Generator Compliance Program at CSX Transportation, Inc.**
Meaghan Atkinson - CSX Transportation, Inc.  
Christine Schaub - Environmental Consulting & Technology, Inc.

**Use of Digital Cameras to Measure Visible Emissions**
Rebecca Heilman - CSX - TRANSFLO Terminal Services
Presentations

**Environmental Analytical Data & Applications**

- **Challenges and Considerations with PFAS Analysis**
  Erin Rodgers - Environmental Standards, Inc.
  Christopher Oakes - Norfolk Southern Railway

- **Differentiating Impact Areas Using Compound-Specific Isotope Analysis**
  Erin Busby & Sean Gormley - Wood
  Daniel Dyer - CSX Transportation, Inc.

- **Environmental Data Science Innovation in the Age of Big Data**
  Michael Hawthorne - GEI Consultants, Inc.

- **Implementing Mobile App Technology for Trash Management**
  Gipsy Plis - CSX Transportation, Inc.

- **Technological Advancements and Direct Improvements to Field Sampling**
  Judith R. Morgan - Pace Analytical

- **The Next Evolutionary Step in Railroad Infrastructure Surveying:**
  **A Drone-Mounted LiDAR Approach to Gathering Accurate Spatial Data**
  Zachary Powers, Micah Santos & E. Daniel Carre - GHD
  Christopher Beranek & Bryan Naranjo - Norfolk Southern Railway

**Environmental Management Systems**

- **Creating a New User-Friendly Environmental Audit Management Information System**
  Eric Chang - Norfolk Southern Railway

- **Environmental Culture Change in the Rail Industry: Affecting Change through a Comprehensive Environmental Culture Assessment**
  Danielle Post & Stacey Harvey - ERM
  Dana Banks - Pan Am Railways

- **Scheduled Railroading and Environmental Management - A Tale of Collaborative Success**
  Samuel Ross & Brian Booth - CSX Transportation, Inc.

**Environmental Response**

- **Agency Coordination Following Extreme Flooding: When Emergency Repairs Are No Longer Sufficient**
  Steve Cheney & Kevin Rice - Union Pacific Railroad
  Abby Korte - Jacobs

- **Heavy Oil Transportation: Challenges, Regulations, & Risk Management for the Misunderstood ‘Non-Floating Boogeyman’**
  Colin McWilliams - RIO Environmental Consultants
  Tony Houdyshell - Canadian Pacific Railway

- **Planning for the Worst: COSRP for Crude, Ethanol, and Other Nasties**
  Matthew Horn & Gabrielle McGrath - RPS
The Real Time Benefits of GIS Data Collection During a Natural Disaster: CSX Transportation’s Emergency Response to Hurricane Florence
Lance Rasnake - Wood
Erik Henderson & Jacob Metcalf - CSX Transportation, Inc.

**Passenger Rail & Transit**

Improving the South Shore Line, One Dune Wetland at a Time
Janice Reid - HDR

NJ TRANSIT’s First-of-its-Kind “Microgrid” (a.k.a. NJ TRANSITGRID TRACTION POWER SYSTEM) to Provide Highly Reliable Power in the Core Region During Emergencies
Mittul Patel - BEM Systems
John Geitner - New Jersey Transit Corporation

Piloting the FFGA and Permitting Simultaneously without Derailing the Process
Joshua Gillespie, Jordan Myers & Caitlin Timoney - HDR

**Remediation**

Amtrak Lumber St. Facility; Eliminating Diesel Fuel Sheen to the Chicago River
Frank Aceto & Jeff Johnsen - Stantec Consulting Corporation
Robert Mesec & Craig Caldwell - Amtrak

Evolution of an Environmental Conceptual Site Model: 32 Years of Progress and Innovation
Barbara Oslund & Barry Harding - AECOM

Forensic Chemistry at Trial: Refuting Claims of Diesel Fuel Contamination at a Complex Industrial Site
Pamela Nehring & Sean Sullivan - Daley Mohan Groble PC
Allen Uhler - NewFields Environmental Practice

Pre-emptive Measures and Enhanced Reductive Dechlorination to Address
Steve Baggett, Frank Aceto & Paul Miller - Stantec Consulting Corporation
Craig Caldwell & Andy Enzman - Amtrak

Remediation of a Nitrate Plume: It’s All About the Bugs
Joshua Sales - Kennedy/Jenks Consultants
Violet Fisher & Thomas Jones - BNSF Railway

Sixteen Sweet Lines of Evidence for Surface Water Protection at an LNAPL Site
Sean Karoly & Wayne Amber - Geosyntec Consultants
Steven Aufdenkampe - Norfolk Southern Railway
Presentations

**Risk & Liability Management**

**Development and Implementation of a Direct to Locomotive Fueling (DTL) Audit Program**  
Ted Bailey & Ken Roberge - Aureus Solutions Inc.

**Managing Environmental Compliance During Construction - Proactive Strategies for Risk Management**  
Leslie Voss & Craig Broadhead - Jacobs  
Kyle Sumson - BNSF Railway

**New Approach to Evaluate Risk with Environmental Audit**  
Jason Martin - BNSF Railway  
Joseph Muggli - AECOM

**Successful Implementation of Electronic Risk Assessment Scoring**  
Meaghan Atkinson - CSX Transportation, Inc.  
Tiffanee Grumbly - Arcadis U.S., Inc.

**Using Predictive Analytics to Mitigate EHS Risks**  
William Brokaw & Rachel Mulholland - Kestrel Management Services, LLC

**Water Well History, Decommissioning and Risk**  
Jessica Johnson - Union Pacific Railroad

**Stormwater & Wastewater**

**An Equalization Approach to Protect Industrial WWTPs from Highly Concentrated Waste Streams**  
Lara Thurn, Divya Malyala, Samuel Karlovich & Robert Stolt - AECOM  
Christopher Beranek - Norfolk Southern Railway

**Condition Based Maintenance**  
Christopher Lager - BNSF Railway  
Timothy White - AECOM

**One Stormwater Basin, Three Permits: Amtrak’s Regional Solution to Maryland’s Chesapeake Bay Restoration Requirement**  
Brian Sariano, Nathan Walker & Cedric Ruhl - Wood  
Michael Panhuise - Amtrak

**Storm Water and Waste Water Design Guidelines: Examples of How the ‘Devil is in the Details’…**  
Chad Prior - BNSF Railway  
Kevin (Beau) Perry, Damon Sams & Kelsey Blaisdell - TRC Companies, Inc.

**Waterproofing a Railroad Crosstie Storage Platform and Treating Surface Water with Reverse Osmosis**  
Robert Noël de Tilly, Idris Sadoun & Peter Howard - GHD  
Frederic Gauthier & Sylvain Renaud – CN Railway
Wetlands Treatment Pond Improvements for Industrial Stormwater at a Rail Yard
Brian Zacker - CSX Transportation, Inc.
Anthony Hoffman - Gannett Fleming, Inc.

Sustainability, Climate Resilience & Engagement

Assessing the Design, Construction, and Life Cycle Sustainability of MTA New York City Transit Capital Projects
Steven Eget - Dewberry
Thomas Abdallah - New York City Transit

Getting to the Sweet Spot in a World of Changing Climates
Ryan Gottsch - Union Pacific Railroad

Maladapted: Railroads and the Urgency of Physical Climate Adaptation
Scott Nadler - Nadler Strategy

NJ TRANSIT’s Wayside Signals, Power & Communication Resiliency Project
Mittul Patel - BEM Systems
John Geitner - New Jersey Transit Corporation

Off the Beaten Track: Rethinking Stakeholder Engagement, Disclosure and Sustainability Performance of the North American Class I Railway Industry
Shelley-Ann John - Athabasca University

CREATE – Implementing Precedence: Fostering Collaboration and Partner Commitments for Community Benefits
Samuel Tuck - Illinois Department of Transportation

Refining a Successful Approach to Indigenous Engagement for Major Infrastructure Project Developments
Paul Schaap & Andrea Nokleby - Dillon Consulting Limited
Chris Dane - Canadian Pacific Railway

Sustainable Metrics for Railroad Demolition and Maintenance Wastes and Construction Material Beneficial Use Advantages
Brandon Fagan & Kevin McCarty - GEI Consultants, Inc.
Poster Presentations

Compliance & Permitting

Advisory Council on Historic Preservation’s Program Comment: Streamlining Section 106 Compliance for Rail Rights-of-Way
Chris Moelter, Rick Starzak & Elizabeth Diller - ICF
Greg Martin - BNSF Railway

Expediting the NEPA Process For Rail Projects While Remaining Legally-Compliant: Challenges in Responding to Calls for Streamlining Environmental Reviews
Michael Smith - GEI Consultants, Inc.

Fairmont, Morgantown, and Pittsburgh (FM&P) - Environmental Planning to Develop a Public Partnership and Preserve Rail History
John Blanton – CSX Transportation, Inc.
Daniel Ley & Jamie Barnette - Arcadis U.S., Inc.

Minimize Waste and Avoid the Penalty - How Sifting through Accumulated Materials Can Save Money and Prevent Unnecessary Fees
Ryan Jorrey & Jeffrey LaRock - TRC Companies, Inc.
Joel Melino - Hepaco, LLC
Rick Norris - Genesee & Wyoming Railroad Services, Inc.

Permitting Class 1 Freight Railroad Bridge Replacement Projects in the 21st Century: Collaboration Required
Amber Robinson & Ricky Wilson - HDR

Ecological Protection & Conservation

Save Migration Along Catenary - The Impact of Electrified Railway Infrastructure on Bats in Central Europe
Marcin Pakula - AECOM
Joanna Furmankiewicz - University of Wrocław Poland

Energy, Emissions, & Air Quality

ISC Optimizes Cleaning Process in the Rail Industry
Scott Arnold & Tim Koziatek - ISC - A DMP Corporation

Stationary Air Source Compliance: Emergency Generators
Jeffrey Barwick - Norfolk Southern Railway
Tony Jabon - Trinity Consultants

Application Potential of New High-Resolution Site Characterization Tools at Railroad Spill Sites for Characterization and Optimized Remediation Design
John Fontana - Vista GeoScience

TOP Assay, Years of Lessons Learned
Charles Neslund - Eurofins Lancaster Laboratories Environmental
**Environmental Response**

Deployment of Digital Geospatial Solutions to Provide Real-time Field Data During Union Pacific Railroad’s Salton Sea Mud Pot Emergency Response
Steve Cheney & Kevin Rice - Union Pacific Railroad
Chris Powers & Shannon Gonzales - Jacobs

Environmental Impact of Non-Hazardous Materials on Rail Operations
Glen Rudner - Norfolk Southern Railway

Incorporating Railroad Response Scenarios into Area Contingency Plans
Gabrielle McGrath - RPS

Managing Liability on Railroad Projects and Emergency Responses
Dave Patten - Norfolk Southern Railway

**Passenger Rail & Transit**

Navigating the Maze of Asbestos-Containing Materials Licensing in New York City and State
Margaret Halasnik - GEI Consultants, Inc

NJ TRANSIT’s Use of Mobile App to Expedite Facility Environmental Compliance Audit
Mittul Patel - BEM Systems
John Geitner - New Jersey Transit Corporation

**Remediation**

Bioremediation Successes in Cold-Weather Climates
Katie Hoffmann & Keith Rapp - Pinnacle Engineering, Inc
Greg Jeffries - BNSF Railway

Geochemical Analysis Techniques to Establish Secondary Sources of Nutrient Contamination at Legacy Fertilizer Spill Site
Andrew McManus, Janette Wilson & Sandy Conard - Arcadis U.S., Inc.
Matthew Adkins - CSX Transportation, Inc.

**Risk & Liability Management**

Considerations for Closure or Mothballing of Fuel, Oil and Industrial Wastewater Facilities
Glen Smith & James Gorley - Argus Consulting, Inc.

Former Beacon Park Railyard, Demolition & Disposal of Physical Improvements for Property Transfer
Robert McKeever & Roy Stancil - AECOM
William Parry & Coley Campbell - CSX Transportation, Inc.

**Stormwater & Wastewater**

A Unique Environmental Problem at a Railyard Yields a Unique Solution
Robert Stolt - AECOM
Poster Presentations

Christopher Beranek - Norfolk Southern Railway

**Best Management Practices to Improve Industrial Stormwater Quality at a Fertilizer Terminal Facility**
Brian Zacker - CSX Transportation, Inc.
Anthony Hoffman - Gannett Fleming, Inc.

**The Story of Ballast in Maryland**
William Parry - CSX Transportation, Inc.
Daniel Ley & Noelle Slater - Arcadis U.S., Inc

**Sustainability, Climate Resilience & Engagement**

**Don’t be Ashamed of Your Wood Ties - They Tell a Great Story**
Dallin Brooks - Western Wood Preservers Institute

**Turning the Tides - Flood Resilience for Above and Below Ground Flood Risk at Aquarium Station**
Julie Eaton - Weston & Sampson Engineers, Inc.
Andrew Brennan - Massachusetts Bay Transportation Authority

**Resilience Risk Analysis for Railroads - Practices not Paper, Tools not Tasks**
Michael Bilney - Cardno
Please join us for the inaugural

Women’s Networking & Outreach Breakfast

Wednesday

23 October 2019

The Women’s Networking & Outreach Breakfast will provide a networking opportunity for women professionals and students at the Railroad Environmental Conference. The breakfast will also feature a panel discussion with women railroad professionals to discuss their experiences and perspectives on careers in this field. More details to come.