



8th International Crosstie & Fastening System Symposium

Preliminary Program
9-10 June 2026



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Dear 2026 Symposium Attendee,

Welcome to Champaign-Urbana, Illinois and the Department of Civil and Environmental Engineering (CEE) at the University of Illinois Urbana-Champaign. CEE at Illinois is home to the Rail Transportation and Engineering Center (RailTEC), and we look forward to you meeting the students, staff, and faculty that work within RailTEC and CEE.

We are pleased that you have chosen to attend the 8th International Crosstie and Fastening System Symposium and hope you will actively participate in discussions and engage your fellow attendees throughout the event. Our objective is to facilitate the transfer of technology and knowledge as well as to further domestic and international communication and collaboration on the design and performance challenges and solutions for crossties and fastening systems. We are hopeful that you will enjoy the technical presentations, research discussions, Class I keynote addresses, and your time in and around Champaign-Urbana.

We would like to thank the Federal Railroad Administration (FRA), Engineer Research and Development Center (ERDC), Applied Research Associates (ARA), Bay Area Rapid Transit (BART), and National University Rail Center of Excellence (NURail CoE) for their ongoing sponsorship of rail infrastructure research at RailTEC at Illinois. Without these organizations and the many other individuals and organizations that frequently provide input and guidance for our research, we would not be able to conduct research and host an event such as this.

If there is anything that our team can do to make your stay in Champaign-Urbana more enjoyable, please do not hesitate to contact one of the faculty, staff, or students within RailTEC. Have a wonderful week!

Sincerely,

Marcus S. Dersch

J. Riley Edwards

Arthur de O. Lima

RailTEC Infrastructure Research Sponsors



U.S. Department
of Transportation

Federal Railroad
Administration



2026 Symposium Information

Symposium Location:

Newmark Civil Engineering Laboratory
205 N Mathews Ave, Urbana, IL 61801

Registration Fees:

Registration (paid before 5/26)	\$550
Onsite Registration (Paid after 5/26)	\$600
Government Registration	\$275
Parking Pass	\$25/day

*Public metered parking is available around the symposium venue.

Register today at crosstie.railtec.illinois.edu/registration

Important Requirements for the Tour:

Steel-toed boots are required at the RAIL tour. Please plan accordingly when packing for this trip. Safety glasses will be provided to conference attendees on site.

Non-US Citizens:

The technical tour takes place on the US Army Corps of Engineers facility that houses RAIL. All non-US Citizens that submitted their passports by the requested deadline and **MUST** bring their passport on the day of this tour (Tuesday, 9 June 2026).

US Citizens:

You **MUST** bring a state ID on the day of the tour in order to access RailTEC's RAIL (Tuesday, 9 June 2026).

Schedule at a Glance

Tuesday 9 June

Technical Presentations	8:00am - 11:40am
Lunch	11:40am - 1:20pm
Technical Presentations	1:20pm - 2:40pm
Technical Tour*	3:00pm - 5:00pm
Dinner (Allerton Park & Retreat Center)*	6:00pm - 8:00pm

Wednesday 10 June

Technical Presentations	8:00am - 11:00am
Lunch	11:00am - 12:50pm
Technical Presentations	12:50pm - 5:00pm
Dinner (Engineering Hall Patio)	5:30pm - 7:30pm

*Transportation will be provided.



Eric Gehringer Union Pacific Railroad Executive Vice President-Operations

Eric Gehringer has served as executive vice president-Operations since 2021. He is responsible for all aspects of Union Pacific's operations, including the Transportation, Engineering, Mechanical, Dispatching, Customer Care and Support, and Premium Operations departments.

Gehringer joined Union Pacific in 2006 as a management trainee. He previously served in numerous positions, including senior vice president-Transportation, Operating's chief mechanical officer as well as chief engineer. Prior to joining Union Pacific, he held positions at Northwest Airlines and Daimler Chrysler.

A graduate of St. Louis University with a degree in aerospace engineering, Gehringer received an MBA from the University of Nebraska-Lincoln.

He serves on the Board of Directors for Children's Nebraska Foundation and is a member of the United States Strategic Command Council.

Technical Presentations

Concrete Crossties

Bond of Indented Prestressing Wires in Concrete Railroad Ties Produced with Type IL Cement

Bob Peterman - Kansas State University

Design Optimization and Durability Enhancement of Concrete Crossties Using Localized Memory Bars

Bassem Andrawes & Ernesto Alfredo Perez Claros - University of Illinois Urbana-Champaign

Structural Effects of End-Anchoring Plates in Prestressed Concrete Railroad Crossties

Przemysław Stanisławski, Łukasz Chudyba, & Piotr Piech - TrackTec

Optimizing Precast Concrete Crossties Manufacturing: Electrical Resistivity as a Non-Destructive Indicator of Early-Age Strength Development

Melina Clara Scasserra - Universidad de Buenos Aires

Technical Presentations

Timber Crossties

Nondestructive Assessment of Hardwood Railroad Tie Quality

Fatemeh Rezaei - Mississippi State University

Evaluating Crosstie Preservative Systems: Traditional and Emerging Approaches

Noah Babik - Koppers Inc.

Method Development for Accelerated Weathering of Wood Railroad Ties and Quantification of the Service Lifetime Impact of Coatings Technologies

Ross Poland & Alexis Crawford - Heritage Research Group

Aurora Technology

Ryan Richard - Loram

Quantifying the Effect of Shoulder Ballast Cleaning on Crosstie Service Life Extension

Kenza Soufiane - Loram

Lateral Track Strength and Torsional Resistance Considering Track Buckling

Lateral Track Strength: Influences of Tie and Ballast

Steve Wilk - MxV Rail

Quantifying Track Lateral Capacity Using Impulse Response

John Popovics & Sunav Dahal - University of Illinois Urbana-Champaign

Mitigating Track Buckling Risk through Enhanced Lateral Resistance Using Under Sleeper Pads

Raphael Damasceno Marott - Getzner Werkstoffe

Torsional Resistance and Effect on Buckling

Kaifeng Hu - University of Illinois Urbana-Champaign

Fasteners

Investigating the Causes of Railway Fastening System Force Loss

Eleir Bortoleto - Vale Institute of Technology

Finite Element Analysis of Loading Environment of Screw Spikes

Yin Gao - MxV Rail

Rail Anchors Slip Strength and Installation Considerations

Marcus Dersch - University of Illinois Urbana-Champaign

Deanchoring and RNT Restoration - A Dynamic FEA Study

Kamyar Kosarneshan - University of Illinois Urbana-Champaign

Class I Perspectives & Improving Performance

Union Pacific Automated Inspection Update

Mike Gilliam - Union Pacific Railroad

A Comparative Evaluation of Under-Tie Pads on Track Maintenance Costs

Jaeik Lee - University of Illinois Urbana-Champaign

Comparative Performance Assessment of Modern Concrete Railroad Ties and Legacy Ties Fabricated Over 45 Years Ago

Bob Peterman - Kansas State University

Track Inspection & Component Monitoring

Expanding the Scope of Automated Tie Inspection with AI Modeling

Tony Mauricio - RailMetrics

Backcalculation Framework for Railway Falling Weight Deflectometer: From Layer Moduli to Track Structure Capacity Rating

Erol Tutumluer - University of Illinois Urbana-Champaign

Development and Evaluation of Machine Learning Models for Detecting Key Railroad Infrastructure Defects

Husnu Narman - Marshall University

Longitudinal Track Movement: Insights from a Rail Creep Field Investigation

Jose Gustavo Venancio Da Silva Ramos - University of Illinois Urbana-Champaign

Composite Crossties and Crossing Considerations

Evaluation of Aged Properties of Synthetic Ties Based on Follow-Up Survey for Major Applications and Predictable their Life Span

Katsunori Yoshino - Sekisui Chemical Co., Ltd.

Urethane Chemistry for EWC Rail Ties

James Monroe - BASF Corporation

Deployable Cellular Structures Based Novel Railroad Tie Design and their Behavior under Flexural and Compressive Loads

Arka Chattopadhyay - Marshall University

Effect of Timber Type on Structural Response at Grade Crossing

Ramez Hajj - University of Illinois Urbana-Champaign



Symposium Contacts:



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