

Guide to RailTEC Student, Faculty and Staff Presentations at TRB

Washington, D.C.
11-15 January 2026

RailTEC is proud to be represented throughout the Rail Section of the 2026 TRB Program. Following is a count of our presence in different aspects of the program.

30 Authors

- 16 U of I RailTEC
- 5 RailTEC Alumni
- 9 NURail CoE

2 Sessions Chaired

- 2 RailTEC Alumni

10 Committee Members

- 3 U of I RailTEC
- 7 RailTEC Alumni

1 Committee Meetings Chaired

- 1 RailTEC Alumni

Schedule of Rail Presentations & Posters by RailTEC Faculty & Students

Improving Railroad Track Resiliency Through Inspection and Innovation

Sunday 9:00 AM - 12:00 PM | Workshop 1019

Mitigating Railroad Track Bucking

Robert Wilson, Federal Railroad Administration (FRA)

Marcus Dersch, University of Illinois, Urbana-Champaign

Steve Wilks, IBI Group

Current Research in Railroad Infrastructure

Monday 8:00 AM - 9:45 AM | Poster Session 2039

Feasibility of Fouling Index Estimation in Ballast Layers Using Embedded Wires: A Laboratory-Scale Study

Dongsoo Lee, University of Illinois, Urbana-Champaign

Youngmin Kim, Daejin University

Kangil Lee, Daejin University

Jong-Sub Lee, Korea University

Erol Tutumluer, University of Illinois, Urbana-Champaign

Jung-Doung Yu, No Organization

BallastAttN: Occlusion-Robust 3D Railway Ballast Characterization through Data Synthesis and Deep Learning

Kelin Deng, University of Illinois, Urbana-Champaign

Qijia Fan, University of Illinois, Urbana-Champaign

Erol Tutumluer, University of Illinois, Urbana-Champaign

Influence of Ice-Bonded Ballast on Rail Break Gap Size: A Laboratory and Finite Element Model Investigation

Coleman Froehлке, University of Illinois, Urbana-Champaign

Kamyar Kosarneshan, University of Illinois, Urbana-Champaign

J. Riley Edwards, University of Illinois, Urbana-Champaign

Marcus Dersch, University of Illinois, Urbana-Champaign

Railroad Safety Research

Monday 8:00 AM - 9:45 AM | Poster Session 2040

The Probability of Tank Car Damage and Release for Specific Derailment Conditions

Paul Gharzouzi, American University of Beirut

Steven Kirkpatrick, Applied Research Associates, Inc.

Paolo Gardoni, University of Illinois, Urbana-Champaign

Chen-Yu Lin, National Yang Ming Chiao Tung University

Christopher Barkan, University of Illinois, Urbana-Champaign

Leandro Iannacone, Lunds Universitet

Prediction of Freight Train Derailments and Risk by Track-Geometry Defects Using Statistical Models

Paula Yaghi, Rutgers University, New Brunswick

Hao Wang, Rutgers University

Abderrahmane Meddah, Federal Railroad Administration (FRA)

Railroad Equipment and Operations Research

Monday 8:00 PM - 9:45 AM | Lectern Session 2038

Delayed-Compensated Kalman Filter Model for Real-Time Cloud-Based Train Localization Using Head- and End-of-Train GPS Data

Yingtong Tan, Michigan Technological University

Kuilin Zhang, Michigan Technological University

Jose Rosales-Yepe, ENSCO, Inc.

Jared Withers, Federal Railroad Administration (FRA)

Container Terminal Resource and Performance Comparison of Self-Propelled Autonomous Railcars and Conventional Intermodal Trains

Qianqian Tong, University of Texas, Austin

C. Tyler Dick, University of Texas, Austin

Track Structure Evaluation and Performance

Monday 10:30 AM - 12:15 PM | Lectern Session 2065

Leveraging UAV Data to Quantify Differential Rail Displacement Near Structures and its Effects on Rail Neutral Temperature

Paige Hardt Failoni, University of Illinois, Urbana-Champaign

J. Riley Edwards, University of Illinois, Urbana-Champaign

Jose Gustavo Venancio da Silva Ramos, University of Illinois, Urbana-Champaign

Marcus Dersch, University of Illinois, Urbana-Champaign

Arthur Lima, University of Illinois, Urbana-Champaign

Evaluation of Railway Track Substructure Moduli Using Falling Weight Deflectometer Backcalculation

Youngdae Kim, University of Illinois, Urbana-Champaign

Rami Chkaiban, Applied Research Associates, Inc.

Youngsung Koh, University of Illinois, Urbana-Champaign

Yazmin Martinez, University of Illinois, Urbana-Champaign

Erol Tutumluer, University of Illinois, Urbana-Champaign

Jeremy Beasley, U.S. Army Engineer Research and Development Center

Abby Cisko, U.S. Army Engineer Research and Development Center

Ryan Langlois, Applied Research Associates, Inc.

Michael Harrell, Applied Research Associates, Inc.

Track Inspection for Resilient Infrastructure

Monday 1:30 PM - 3:15 PM | Lectern Session 2106

Track Based Inspections

Marcus Dersch, University of Illinois, Urbana-Champaign

James Hyslip, HNTB

Schedule of Rail Committee Meetings with RailTEC Alumni Presiding

Rail Safety Management Systems Committee

Tuesday 10:30 AM-12:30 PM

Sam Chadwick, FTA, presiding



Christopher P.L. Barkan

Robert E. Skinner, Jr. Distinguished
Transportation Research Management Award

RailTEC Faculty, Staff, Students and Alumni extend our sincerest thanks to the people, partners and organizations supporting rail transportation engineering research and education at University of Illinois Urbana-Champaign.

We are deeply grateful and appreciate the opportunity to work with you!



U.S. Department of Transportation



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