



Guide to RailTEC Student, Faculty and Staff Presentations at TRB

Washington, D.C.
13-15 January 2019

RailTEC is proud to be represented throughout the Rail Section of the 2019 TRB Program. Below is a count of our presence in different aspects of the program.

37 Authors

25 U of I RailTEC
12 RailTEC Alumni

3 Session Chairs

3 U of I RailTEC

18 Committee Members

10 U of I RailTEC
8 RailTEC Alumni

4 Committee Meeting Chairs

2 U of I RailTEC
2 RailTEC Alumni

2 TRB Emeritus Members

Schedule of Rail Presentations & Posters by RailTEC Faculty & Students

Characterizing Railroad Track Performance Under Variable Loads and Support Conditions

Monday 8:00 AM - 9:45 AM

Lectern Session 1134 | Convention Center, 143C

Timothy Stark, University of Illinois, presiding

Geosynthetic Reinforced Approaches and Bridge Abutments for Railways

Timothy Stark, University of Illinois

Jennifer Nicks, Federal Highway Administration (FHWA)

Implications of Field Loading Patterns on Different Tie Support Conditions Using Discrete Element Modeling – Dynamic Responses

Bin Feng, Wenting Hou & Erol Tutumluer, University of Illinois

Recent Developments in Railroad Operations, Capacity, and Performance

Monday 10:15 AM- 12:00 PM

Lectern Session 1203 | Convention Center, 150A

Tyler Dick, University of Illinois, presiding

Advances in Railroad Track Infrastructure

Monday 10:15 AM - 12:00 PM

Lectern Session 1204 | Convention Center, 144B

Mechanistic Investigation of Timber Crosstie Spike Failures in Elastic Fastening Systems

Thomas Roadcap & Marcus Dersch, University of Illinois

Current Research in Track Structure System Design

Tuesday 10:15 AM- 12:00 PM

Poster Session 1501 | Convention Center, Hall A

Riley Edwards, University of Illinois, presiding

Railroad Track Maintenance Research

Tuesday 10:15 AM- 12:00 PM

Poster Session 1502 | Convention Center, Hall A

Prediction of Center Flexural Performance of Pretensioned Concrete Railroad Crossties

Josué César Bastos, Marcus Dersch & Riley Edwards, University of Illinois

Causes of Concrete Crosstie Rail Seat Negative Bending Moments

Yubing Liang, Riley Edwards & Marcus Dersch, University of Illinois

Investigation into the Effect of Lateral and Longitudinal Loads on Railroad Spike Stress Magnitude and Location using Finite Element Analysis

Marcus Dersch, Thomas Roadcap & Riley Edwards, University of Illinois

Yu Qian, University of South Carolina

Discrete Element Modeling of Full-Scale Ballasted Track Dynamic Responses from Zhejiang University High-Speed Rail Testing Facility

Bin Feng, Eun Hyun Park, Haohang Huang, Erol Tutumluer & Youssef Hashash, University of Illinois

Wei Li & Xuecheng Bian, Zhejiang University

Monitoring Fouled Ballast Sites

Timothy Stark, Yixiong D. Ren & Zachary Boucias, University of Illinois

Hugh Thompson, II, Federal Railroad Administration (FRA)

Theodore Sussman Jr., Volpe Transportation Center Cambridge, MA

Robert Banister, BNSF TR&D Topeka, KS

Analysis of Geometric Ballast Plate for Laboratory Testing of Resilient Track Components

Jacob Branson, Marcus Dersch, Riley Edwards, Arthur de Oliveira Lima & Jae-Yoon Kim, University of Illinois

Emerging Railroad Operating Technologies

Tuesday 1:30 PM- 3:15 PM

Lectern Session 1542 | Convention Center, 144B

Relative Capacity and Performance of Fixed and Moving Block Control Systems on North American Freight Railway Lines and Shared Passenger Corridors

Tyler Dick, Darkhan Mussanov, Leonel Evans, Geordie Roscoe & Tzu-Yu Chang, University of Illinois

Highway-Rail Grade Crossing Research

Tuesday 1:30 PM- 3:15 PM

Poster Session 1564 | Convention Center, Hall A

Empirical Bayes Method for Highway-Rail Grade Crossing Accident Prediction

Jacob Mathew & Rahim Benekohal, University of Illinois

Forecasting Railroad Track Degradation

Tuesday 3:45 PM- 5:30 PM

Lectern Session 1609 | Convention Center, 143C

Track Degradation Monitoring to Assess Proposed Class Specific Ballast Requirements

Hugh Thompson, II, Federal Railroad Administration (FRA)

Timothy Stark, University of Illinois

Radim Bruzek, ENSCO, Inc.

Rail Safety Innovations Deserving Exploratory Analysis Program

Tuesday 3:45 PM- 5:30 PM

Poster Session 1638 | Convention Center, Hall A

Adaptive Prestressing System for Concrete Crossties (Rail Safety IDEA Project #33)

Bassem Andrawes, University of Illinois

Schedule of Rail Committee Meetings with RailTEC Presiding

Rail Group Executive Board

Monday 6:00 PM- 7:30 PM

Marriott Marquis, Capitol Hill (M3) | By Invitation

Avery Grimes, Patriot Rail Company, presiding

Railroad Track Structure System Design Committee, AR050

Tuesday 8:00 AM- 9:45 AM

Marriott Marquis, Congress (M4)

Riley Edwards, University of Illinois, presiding

Rail Capacity, AR040(1), Joint Subcommittee of AR040, AR030, AP070, AT010, AR010

Tuesday 7:30 PM- 9:30 PM

Marriott Marquis, Mount Vernon Square (M3)

Tyler Dick, University of Illinois, presiding

TRB Rail Committee Emeritus Members

Dr. Christopher Barkan | AR000 Rail Group

Dr. Ernest Barenberg | AR050 Railroad Track Structure System Design

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

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



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