

Guide to RailTEC Student, Faculty and Staff Presentations at TRB

*Washington, D.C.
7-11 January 2024*

RailTEC is proud to be represented throughout the Rail Section of the 2024 TRB Program.

Following is a count of our presence in different aspects of the program.

49 Authors

- 30 U of I RailTEC
- 19 RailTEC Alumni

4 Sessions Chaired

- 2 U of I RailTEC
- 2 RailTEC Alumni

20 Committee Members

- 5 U of I RailTEC
- 15 RailTEC Alumni

3 Committee Meetings Chaired

- 1 U of I RailTEC
 - 2 RailTEC Alumni
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Schedule of Rail Presentations & Posters by RailTEC Faculty & Students

Track Resilience: Design, Construction, and Maintenance

Sunday 1:30 PM- 4:30 PM | Workshop 1073

Resilient Materials for Track Stiffness Optimization

Arthur de O. Lima, University of Illinois Urbana-Champaign

Estimating Track and Ballast Modulus of Elasticity

Radim Bruzek, ENSCO, Inc.

Timothy Stark, University of Illinois Urbana-Champaign

Improved Risk Assessment and Analysis for Derailment Prevention

Monday 8:00 AM- 9:45 AM | Lectern Session 2029

Comparative Analysis of the Effect of Distributed Power on Long-Train Derailment Characteristics

Xinhao Liu & Christopher Barkan, University of Illinois Urbana-Champaign

Chen-Yu Lin, National Yang Ming Chiao Tung University

Research Trends in Rail Safety

Monday 10:15 AM- 12:00 PM | Poster Session 2118

Quantitative Analysis of Railroad Train Collisions in the United States

Chen-Yu Lin, National Yang Ming Chiao Tung University

Chen Song & Christopher Barkan, University of Illinois Urbana-Champaign

Current Research in Rail Equipment

Monday 10:15 AM- 12:00 PM | Poster Session 2117

Sensitivity of Potential Battery Electric Locomotive Energy Benefits to Freight Railway Operating Characteristics and Charging Strategies

Michael Copley, University of Illinois Urbana-Champaign

Tyler Dick, University of Texas, Austin

Current Trends in Rail Transit Infrastructure Research

Monday 1:30 PM- 3:15 PM | Lectern Session 2153

Towards Automated Field Ballast Condition Evaluation: Field Validation of the Ballast Scanning Vehicle Capabilities

Jiayi Luo, Kelin Ding, Haohang Huang, Issam Qamhia, Erol Tutumluer & John Hart, University of Illinois Urbana-Champaign

Hugh Thompson, Federal Railroad Administration (FRA)

Theodore Sussmann, OST-R/Volpe Center

Towards Automated Field Ballast Condition Evaluation: Development of I-BALLAST Image Analysis Software

Kelin Ding, Jiayi Luo, Haohang Huang, John Hart, Issam Qamhia & Erol Tutumluer, University of Illinois Urbana-Champaign

Hugh Thompson, Federal Railroad Administration (FRA)

Theodore Sussmann, OST-R/Volpe Center

Towards Large-Scale Simulation of Railroad Dynamics: Coupled Train-Track-DEM Model

Zhongyi Liu, Travis Shoemaker, Erol Tutumluer & Youssef Hashash, University of Illinois Urbana-Champaign

Recent Freight Rail Research

Monday 3:45 PM- 5:30 PM | Poster Session 2054 | Convention Center, TBD

Improving Short-Haul Intermodal Transit Times on Low-Density Rail Corridors with Platoons of Self-Propelled Autonomous Railcars (SPARCs)

Geordie Roscoe, University of Texas, Austin

Matthew Parkes, University of Illinois Urbana-Champaign

Tyler Dick, University of Texas, Austin

Railroad Infrastructure Research

Tuesday 8:00 AM- 9:45 AM | Poster Session 3060

Characterization of Degraded Ballast Strength: A Field Application of Ground Penetrating Radar and Dynamic Cone Penetration

Youngdae Kim, Robert Wiggins, Issam Qamhia & Erol Tutumluer, University of Illinois Urbana-Champaign

Yong-Hoon Byun, Kyungpook National University

Jeremy Beasley, ERDC: US Army Engineer Research and Development Center

Abby Cisko, U.S. Army Corps of Engineers (USACE)

Kevin (Hamed) Kashani, Loram Technologies Inc

Ryan Langlois & Michael Harrell, Applied Research Associates, Inc.

New Technology in Track Condition Assessment

Tuesday 10:15 AM- 12:00 PM | Lectern Session 3153

Marcus Dersch, University of Illinois Urbana-Champaign, presiding

Resilience in the Track Structure

Tuesday 1:30 PM- 3:15 PM | Lectern Session 3152

Stephen Wilk, Association of American Railroads, presiding

Arthur de O. Lima, University of Illinois Urbana-Champaign, presiding

Enhancing Railroad Turnout Performance Through Geometry and Elasticity Optimization

Jaek Lee, University of Illinois Urbana-Champaign

Schedule of Rail Committee Meetings with RailTEC Presiding

State Rail Transportation Programs, AR040(2), Joint Subcommittee of AR040, AR010, AR030

Tuesday 8:00 AM- 9:30 AM

Sean Pengelly, Lake State Railway, presiding

Rail Capacity, AR040(1), Joint Subcommittee of AR040, AR010, AR030, AP065, AT010

Tuesday 6:00 PM- 7:30 PM

Tyler Dick, University of Texas, Austin, presiding

Railroad Infrastructure Design and Maintenance Committee (AR050)

Monday 8:00 AM- 9:45 AM

Riley Edwards, University of Illinois, presiding

Theodore Sussmann, OST-R/Volpe Center, presiding

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!



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