Guide to RailTEC Student, Faculty and Staff Presentations at TRB

Washington, D.C.
12-16 January 2020

RailTEC is proud to be represented throughout the Rail Section of the 2020 TRB Program. Below is a count of our presence in different aspects of the program.

26 Authors
15 U of I RailTEC
11 RailTEC Alumni

2 Session Chairs
2 U of I RailTEC

18 Committee Members
10 U of I RailTEC
8 RailTEC Alumni

3 Committee Meeting Chairs
2 U of I RailTEC
1 RailTEC Alumni

2 TRB Emeritus Members
Schedule of Rail Presentations & Posters by RailTEC Faculty & Students

Can This Train Go Any Faster? Achieving High(er)-Speed Rail Service Through Improvements to Existing Infrastructure, Part 1 (Part 2, Session 1084)
Sunday 9:00 AM- 12:00 PM
Workshop 1043 | Convention Center, 143C
  J. Riley Edwards, University of Illinois, presiding

Can This Train Go Any Faster?: Achieving High(er)-Speed Rail Service Through Improvements to Existing Infrastructure, Part 2 (Part 1, Session 1043)
Sunday 1:30 PM- 4:30 PM
Workshop 1084 | Convention Center, 143C
  Conrad Ruppert, HNTB Corporation, presiding

Optimizing Superelevation for Mixed Freight and Higher-Speed Passenger Trains
Tyler Dick, University of Illinois

Optimization of Track Components for Shared Corridor Use
J. Riley Edwards, University of Illinois

Deterioration Rate and Ride Quality of All Rail Crosstie Types
Monday 8:00 AM- 9:45 AM
Lectern Session 1131 | Convention Center, 144B

Deterioration of Concrete Crossties Considering the Role of Moisture and Track Support Conditions
Josué César Bastos, University of Illinois

Statistical Modeling of Highway-Rail Grade Crossing Data
Monday 8:00 AM- 9:45 AM
Lectern Session 1121 | Convention Center, 143C

Identifying Highway Rail Grade Crossings with Accidents in the Future: Improving Selections using Prediction Models
Jacob Mathew & Rahim Benekohal, University of Illinois

Railway Capacity and Performance - Hybrid Session
Monday 10:15 AM- 12:00 PM
Lectern Session 1196 | Convention Center, 150A
  Tyler Dick, University of Illinois
  Mohd Rapik Saat, Association of American Railroads (AAR)
Next Generation Train Control in North America: Evolution or Revolution?
Monday 3:45 PM- 5:30 PM
Lectern Session 1322 | Convention Center, 143C

Improving Railway Operational Efficiency with Moving Blocks, Train Fleeting, and Alternative Single-Track Configurations
Adrian Diaz de Rivera, Tyler Dick & Leonel Evans, University of Illinois

Rail Safety IDEA Program
Tuesday 8:00 AM- 9:45 AM
Poster Session 1428 | Convention Center, Hall A

Rail Safety IDEA 41: Vibration-based Longitudinal Rail Stress Estimation Exploiting Contactless Measurement and Machine Learning
John Popovics, University of Illinois

Passenger Rail Human Factors and Operational Safety
Tuesday 10:15 AM- 12:00 PM
Lectern Session 1471 | Convention Center, 144C
Chen-Yu Lin, University of Illinois, presiding

Effect of Automatic Train Protection Technologies on Railroad Accident Prevention
Chen-Yu Lin & Christopher Barkan, University of Illinois
Bryan Sooter, Engineering Systems, Inc.

Current Research in Railroad Track Structure System Design
Tuesday 10:15 AM- 12:00 PM
Poster Session 1499 | Convention Center, Hall A
J. Riley Edwards, University of Illinois, presiding

Effects of Mixed Traffic Patterns and Ballast Support Conditions on Track Performance Investigated through Discrete Element Modeling
Bin Feng, Zhongyi Liu & Erol Tutumluer, University of Illinois

Advances in Freight Rail Transportation
Tuesday 1:30 PM- 3:15 PM
Poster Session 1571 | Convention Center, Hall A

Machine Learning Analysis of Railroad Freight Train Derailment Severity
Brandon Wang, Jaemin Kim & Christopher Barkan, University of Illinois

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!

**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  
George Avery Grimes, Patriot Rail Company, presiding

**Railroad Track Structure System Design Committee, AR050**
Tuesday 1:30 PM - 3:15 PM  
Marriott Marquis, Archives (M4)  
J. 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, Treasury (M4)  
Tyler Dick, University of Illinois, presiding