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**

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**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*

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**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*

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**Advances in Railroad Track Infrastructure**
Monday 10:15 AM - 12:00 PM
Lectern Session 1204 | Convention Center, 144B

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**Mechanistic Investigation of Timber Crosstie Spike Failures in Elastic Fastening Systems**
*Thomas Roadcap & Marcus Dersch, University of Illinois*

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**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*

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**Railroad Track Maintenance Research**
Tuesday 10:15 AM - 12:00 PM
Poster Session 1502 | Convention Center, Hall A

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**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
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
  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

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