Research Assistantship (RA) opportunities available!

The University of Illinois at Urbana-Champaign
Department of Civil and Environmental Engineering

Rail Transportation and Engineering Center (RailTEC)

Advanced Track Engineering
- Integration of Railroad Vehicle-Track Interaction and Dynamics Models
- Development of Evaluation and Planning Models for Track Maintenance
- Innovations to Improve Track System Safety and Performance

Railway Track Components
- Mechanistic Design Approach for Crossties and Fastening Systems
- Failure Mode Analysis and Optimization of Components and Materials
- Modeling, Structural Analysis, and Structural Design of Railway Track Components

Safety & Risk
- Hazardous Materials Rail Transportation Risk Analysis
- Tank Car Safety Design Statistical Analysis and Optimization
- Train Accident Statistical Analysis & Big Data Analytics

Rail Network Capacity & Systems Analysis
- Capacity Models for Mixed-Use Freight and Passenger Rail Corridors
- Optimal Infrastructure Expansion Strategies for Increased Rail Capacity
- Network Effects and Interaction of Terminal and Mainline Delay

Rail Operational and Energy Efficiency
- Passenger Rail Energy Consumption and Emissions Relative to Competing Modes
- Economic and Operating Impacts of Implementing New Locomotive Technologies
- Optimization of Investments to Improve Passenger Rail Corridor Performance

High-Speed & Passenger Rail
- Illinois 220-mph HSR Feasibility Study
- Shared Passenger-Freight Rail Corridor Technical Challenges

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