SAFER-SIM

TRB 2018 Program

Tier 1 University Transportation Center

Promoting Safety

Transportation Research Board

97th Annual Meeting

January 7—11, 2018

Washington D.C.
This program organizes the sessions that include SAFER-SIM posters or presentations at the Transportation Research Board 97th Annual Meeting

**Consortium Members:**

University of Iowa  
University of Central Florida  
University of Massachusetts—Amherst  
University of Puerto Rico—Mayagüez  
University of Wisconsin—Madison
Workshop 144G

Sunday, January 7th | 9:00 AM—5:00 PM

Consumer Acceptance of Advanced Driver Assistance Systems and Highly Automated Vehicles (HF-G Ticket Required)

Daniel McGehee, University of Iowa, presiding
Ashley McDonald, University of Iowa, presiding

Sponsored by:
Standing Committee on Vehicle User Characteristics (AND10)

Lectern Session 228

Monday, January 8th | 8:00 AM—9:45 AM
Convention Center, Salon B

Innovative Methods Applied to Young Driver Research—Hybrid Session

SAFER-SIM Presentation:
Latent Hazard Anticipation in Young Drivers: A Review and Meta-Analysis of Training Studies
(18-02056)

Siby Samuel, University of Massachusetts—Amherst
James Unverricht, Old Dominion University
Yusuke Yamani, Old Dominion University
Innovative Methods Applied to Young Driver Research—Hybrid Session

**SAFER-SIM Presentation:**

*Virtual Reality Headset Training: Can It Be Used to Improve Young Drivers’ Latent Hazard Anticipation and Mitigation Skills (18-01500)*

Ravi Agrawal, University of Massachusetts—Amherst
Donald Fisher, OST-R/Volpe Center
Michael Knodler, University of Massachusetts—Amherst
Siby Samuel, University of Massachusetts—Amherst

Factors That Determine Safe and Unsafe Driver Behaviors

**SAFER-SIM Presentation:**

*Evaluation of Downstream Merge Behaviors Resulting from Driver Lane Choice: A Driving Simulator Study (18-03610)*

Francis Tainter, University of Massachusetts—Amherst
Alyssa Ryan, University of Massachusetts—Amherst
Cole Fitzpatrick, University of Massachusetts—Amherst
Michael Knodler, University of Massachusetts—Amherst
Analyzing the Effectiveness of Congestion Pricing and Managed Lanes

SAFER-SIM Poster:
Access Design Safety Analysis for Managed Lanes Including Accessibility Level and Weaving Length (18-00860)

Moatz Saad, University of Central Florida
Mohamed Abdel-Aty, University of Central Florida
Jaeyoung Lee, University of Central Florida
Ling Wang, University of Central Florida

Advanced Analysis to Improve Nonmotorized Transportation Safety

SAFER-SIM Poster:
Enhancing Nonmotorized Safety by Simulating Nonmotorized Exposure Using a Transportation Planning Approach (18-06103)

Shamsunnahar Yasmin, University of Central Florida
Tanmoy Bhowmik, University of Central Florida
Moshiur Rahman, University of Central Florida
Naveen Eluru, University of Central Florida
User Information Needs for Connected Vehicle Environments and Automation

SAFER-SIM Presentation:
Effects of Connected-Vehicle Warning Systems on Rear-End Crash Avoidance Behavior Under Fog Conditions (18-01064)

Yina Wu, University of Central Florida
Mohamed Abdel-Aty, University of Central Florida
Juneyoung Park, Hanyang University
Jia Zheng Zhu, University of Central Florida

Freeway and Interchange Design Decision-Making Approaches

SAFER-SIM Presentation:
Safety Impact of Weaving Distance on Freeway Facilities with Managed Lanes Using Both Microscopic Traffic and Driving Simulation (18-03175)
Qing Cai, University of Central Florida
Moatz Saad, University of Central Florida
Mohamed Abdel-Aty, University of Central Florida
Jinghui Yuan, University of Central Florida
Jaeyoung Lee, University of Central Florida
The Search for a Better Way, Part 1: Exploring New Data and New Applications of Data in Highway Safety

SAFER-SIM Poster:
Safety Analytics for Integrating Crash Frequency and Real-Time Risk Modeling for Expressways (18-00800)

Ling Wang, University of Central Florida
Mohamed Abdel-Aty, University of Central Florida
Jaeyoung Lee, University of Central Florida

Geometric Design Research and Graduate Student Poster Session

SAFER-SIM Poster:
Evaluation and Safety Analysis of a Two-Way Left-Turn Lane in the PR-107 Using a Driving Simulator
(P18-20969)

Ricardo Garcia Rosario, University of Puerto Rico—Mayaguez
Didier Valdes, , University of Puerto Rico—Mayaguez
Traffic Control Devices

**SAFER-SIM Poster:**
*Evaluating Countermeasures to Improve Pedestrian and Bicycle Safety* (18-04701)

Ibrahim Alsghan, University of Wisconsin—Madison
Madhav Chitturi, University of Wisconsin—Madison
Kelvin Santiago-Chapparo, University of Wisconsin—Madison
Andrea Bill, University of Wisconsin—Madison
David Noyce, University of Wisconsin—Madison

Bicycle/Pedestrian Safety: Simulator Studies

**SAFER-SIM Presentation:**
*Pedestrian Road Crossing at Night in an Immersive Simulator* (18-01218)

Lakshmi Subramanian, University of Iowa
Elizabeth O’Neal, University of Iowa
Sophia Mallaro, University of Iowa
Breanna Williams, University of Iowa
Jodie Plumert, University of Iowa
Joe Kearney, University of Iowa
Connected and Automated Vehicle Systems in Complex Transportation Systems

SAFER-SIM Presentation:

*Understanding the Highway Safety Benefits of Different Approaches of Connected Vehicles in Reduced-Visibility Conditions* (18-00846)

Md Sharikur Rahman, University of Central Florida
Mohamed Abdel-Aty, University of Central Florida
Ling Wang, University of Central Florida
Jaeyoung Lee, University of Central Florida

A Collection of Roundabout Topics: Safety, Design, and Operations

SAFER-SIM Poster:

*Investigating Driver Yielding Behavior at Roundabout Approaches* (18-02764)

Beau Burdett, University of Wisconsin—Madison
Ibrahim Alsghan, University of Wisconsin—Madison
Madhav Chitturi, University of Wisconsin—Madison
Andrea Bill, University of Wisconsin—Madison
David Noyce, University of Wisconsin—Madison
Evaluating Driving Simulators and Advanced Driver Assistance Systems

**SAFER-SIM Poster:**

*Investigation of Time and Speed Perception Using a Driving Simulator*  
*(18-01281)*

Andronikos Keklikoglou, University of Massachusetts—Amherst  
Cole Fitzpatrick, University of Massachusetts—Amherst  
Michael Knodler, University of Massachusetts—Amherst

**SAFER-SIM Poster:**

*Vehicle-to-Pedestrian (V2P) Communications Technology: Do Cell Phone Warnings Improve Road-Crossing Safety for Texting Pedestrians?*  
*(18-01425)*

Pooya Rahimian, University of Iowa  
Elizabeth O’Neal, University of Iowa  
Shiwen Zhou, University of Iowa  
Junghum Paul Yon, University of Iowa  
Luke Franzen, University of Iowa  
Jodie Plumert, University of Iowa  
Joe Kearney, University of Iowa
Cycling Safety and Comfort

SAFER-SIM Poster:
A Comparative Safety Analysis of Bicycle Infrastructure Treatments at Intersections (18-05896)

Nicholas Fournier, University of Massachusetts—Amherst
Eleni Christofa, University of Massachusetts—Amherst
Aikaterini Deliali, National Technical University of Athens
Michael Knodler, University of Massachusetts—Amherst

Human Factors Potpourri: Driver Health, State, and Interactions with Technology and the Environment

SAFER-SIM Presentation:
Demographic Observations in Conditionally Automated Driving in a Simulator (18-05595)

Chris Schwarz, University of Iowa
John Gaspar, University of Iowa
Timothy Brown, University of Iowa
Drivers’ Behavior as a Function of Their Characteristics and the Driving Environment

SAFER-SIM Presentation:
Operational and Safety Performance of Signage and Pavement Markings Managed Lane Using a Driving Simulator (18-06230)

Bryan Ruiz-Cruz, University of Puerto Rico—Mayaguez
Johnathan Ruiz Gonzalez, University of Puerto Rico—Mayaguez
Ricardo Garcia Rosario, University of Puerto Rico—Mayaguez
Enid Colon Torres, University of Puerto Rico—Mayaguez
Didier Valdes, University of Puerto Rico—Mayaguez
Benjamin Colucci, University of Puerto Rico—Mayaguez