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TRB's Joint-Subcommittee on Emergency Response AMR00(1)

# Emergency Responder Transportation Safety Research Summit 2023

November 1 & 2

Rutgers CAIT Auditorium  
100 Brett Road Piscataway NJ, 08854

## EMERGENCY RESPONDER TRANSPORTATION SAFETY RESEARCH SUMMIT 2023

Hosted by TRB's Joint-Subcommittee on Emergency Response AMR00(1) and the Rutgers University Center for Advanced Infrastructure and Transportation (CAIT), this inaugural two-day conference brings together leading experts in the field of transportation safety to discuss the latest research and best practices for emergency responders. To fully mobilize this subcommittee, professionals like you are critical partners. While you or your organization may not currently be among the 13,000 that attend the TRB Annual Meeting, your voice and participation in this subcommittee is an important avenue to elevate the priorities related to safety and efficacy of emergency response to new levels.

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### AGENDA

November 1<sup>st</sup>, 2023

- 12 - 1 pm      **Sign-in and Registration**  
Rutgers CAIT Auditorium, 100 Brett Rd. Piscataway NJ, 08854
- 1 - 2 pm      **Welcome Session and Opening Remarks**  
Scott Parr, PhD, PE, Chair, TRB AMR00(1) Joint Subcommittee on Emergency Response  
  
Patrick Szary, PhD, Associate Director, Rutgers CAIT  
  
Gamunu "Gam" Wijetung, Director, NHTSA Office of EMS
- 2 - 3:30 pm      **FHWA TIM Research and Programs for Responder Safety**  
Ekaraj Phomsavath, ITS Specialist, FHWA New Jersey Division  
  
Art O'Connor, PhD, PE, Senior ITS Engineer, FHWA New York Division  
  
Vaishali Shah, Director—Transportation Systems, AEM Corporation
- 3:30 - 4:45 pm      **Incident Management Tools and Vehicle Demonstrations**  
Demonstrations from NJDOT, HAAS Alerts, and J-Tech
- 4:45 - 5:30 pm      **Impacts of Emergency Vehicle Lighting and Markings on Responder Safety**  
John Bullough, PhD, Program Director, Light and Health Research Center, Icahan School Medicine at Mount Siani
- 6:30 - 7:30 pm      **HAASpitality Hour, hosted by HAAS Alerts**  
Join us for a "HAASpitality Hour" hosted by HAAS Alerts! Enjoy a light reception of appetizers, drinks, and more while networking with conference participants, connecting with presenters, and engaging with the event planners.

**Location:** The Heldrich Hotel & Conference Center | **Room:** The Johnson Room  
**Address:** 10 Livingston Ave, New Brunswick, NJ 08901

## DAY 2

November 2<sup>nd</sup>, 2023

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- 8 - 9 am      **Breakfast, Hosted by AutoReturn**  
Rutgers CAIT Auditorium, 100 Brett Rd. Piscataway NJ, 08854
- 9 - 10:45 am      **Incident Response Research and Project Highlights**  
*New Jersey's TIM Training and Move-Over Awareness Campaign*  
Presenter: Robert Burd, Manager | Deputy EMC, Office of Emergency Management, Security, and Response, New Jersey Department of Transportation
- Analysis of Impact of the Move Over Law in New York*  
Presenter: Yunpeng (Felix) Shi, EIT, PhD Candidate at SUNY, Buffalo
- Developing Automated Vehicles for First Responder Safety*  
Presenter: Jacob "Jake" Valente, PhD Candidate, Virginia Tech.
- Emergency Responder Safety Institute Resources and TIM Training*  
Presenter: Joe Kroboth, III, PE, SFPE, CFPS, Project Manager, Responder Safety Institute, Cumberland Valley Volunteer Firemen's Association
- 10:45 - 11 am      **Break**
- 11 am - 12 pm      **What is Keeping You Up at Night that Deserves Research Investment?**  
Lindsay Arnold, MPH, Researcher, AAA Foundation for Traffic Safety
- In this interactive session, we invite you to join a discussion on the future of transportation safety for our dedicated emergency responders. Participants will engage in small-group workshops to explore pressing challenges, evaluate existing safety countermeasures, and envision innovative solutions.
- 12 - 1 pm      **Research Poster Session and Lunch, Hosted by J-Tech LaneBlade**  
Join us across campus for boxed lunch and an illuminating poster session dedicated to the latest research and innovations in emergency responders' transportation and safety.
- Session Location:** Richard Weeks Hall of Engineering, Rm. 211
- 1 pm      **Adjourn**

*Learn about our presenters on next page*

## ABOUT OUR PRESENTERS

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**Scott Parr**, PhD, PE, Chair, TRB AMR00(1) Joint Subcommittee on Emergency Response

Dr. Scott Parr, Ph.D., P.E. is a professional engineer and associate professor at Embry-Riddle Aeronautical University in the Department of Civil Engineering. Dr. Parr co-founded and chairs the Joint-Subcommittee for Emergency Response, within the Transportation Research Board. He earned his Ph.D. in Civil Engineering from Louisiana State University specializing in Transportation Engineering and Emergency Management.

Dr. Parr has published dozens of articles in peer reviewed journals and has participated as an expert panelist at conferences and workshops around the world. He serves as a subject area expert for several journals such as the Transportation Research Record, Journal of Emergency Management, and American Society of Civil Engineer's Natural Hazards Review. Dr. Parr has led research collaborations with the United States Department of Transportation, Department of Homeland Security, U.S. Nuclear Regulatory Commission, and the Canadian Nuclear Safety Commission.

Prior to his appointment at Embry-Riddle, Dr. Parr was an assistant professor in the Department of Civil and Environmental Engineering at California State University, Fullerton as well as the Associate Director of Research at the Gulf Coast Center for Evacuation and Transportation Resiliency, a U.S. Department of Transportation sponsored University Transportation Center.

**Patrick Szary**, PhD, Associate Director, Rutgers CAIT

Dr. Patrick Szary is the associate director for the Center for Advanced Infrastructure and Transportation (CAIT) at Rutgers University. As PI/Co-PI he has generated more than \$75.2M in funding for the Center. Along with Director Ali Maher, Szary leads the development of CAIT's competitive proposals to maintain its USDOT-designated University Transportation Center (UTC) status.

He has been an integral part of CAIT since its inception in 1998 as a UTC Program funded by the USDOT. Building on the Center's experience as a Regional and National Center, Dr. Szary has adopted a far-reaching research vision that has been instrumental in making the Center a stable resource in the dynamic NY/NJ metropolitan area.

From improving the durability of infrastructure to developing the transportation workforce, Dr. Szary directs research topics and themes at CAIT to ensure research is aligned with national USDOT strategic goals as well as the needs of regional stakeholders.

**Gamunu "Gam" Wijetung**, Director, NHTSA Office of EMS

Gamunu "Gam" Wijetunge, serves as the National Highway Traffic Safety Administration (NHTSA) Director of the Office of EMS and has worked within NHTSA's Office of EMS for more than 20 years. Gam is also a volunteer paramedic, fire captain and the president of a volunteer rescue squad in Maryland. Within his director role Gam is also responsible for the National 911 Program housed within the Office of EMS.

For many years, Gam has been a leader within NHTSA's Office of EMS, an advocate for clinicians, and a trusted colleague for both Federal partners and Fire/EMS organizations. His commitment to collaboration within the EMS community may be best illustrated through his stewardship of EMS Agenda 2050, which sets a clear path for the continued improvement of people-centered EMS systems for the next 30 years.

Throughout his tenure at NHTSA, Gam has played an integral collaborative role in the development of EMS systems nationwide. These include leading efforts to develop evidence-based guidelines and tackle EMS system improvement issues, Address recruiting, retention, clinician safety and other EMS workforce topics, Improve national EMS preparedness through coordination with other federal agencies, and more.

**Ekaraj Phomsavath**, ITS Specialist, FHWA New Jersey Division

Mr. Phomsavath is the ITS Specialist for the USDOT – FHWA New Jersey Division Office. His current division office duties and responsibilities include providing guidance, federal oversight, and technical assistance in the planning, design, integration testing, and ITS deployment including the traffic operations programs, TSM&O-related Every Day Counts (EDC) initiatives, planning for operations, truck size & weight, and emergency management to the NJDOT, MPOs, and partner agencies.

In this capacity, he also assists the NJDOT in advancing their TSM&O programs in the areas of ITS deployment, crowdsourcing for operations, safety service patrol, traffic incident management, traffic operations center, and traveler information system.

He had previously served as a member of the USDOT's Superstorm Sandy Response/Recovery Team and Papal Visit Task Force.

**Art O'Connor**, PhD, PE, Senior ITS Engineer, FHWA New York Division

Mr. O'Connor has been with the FHWA for over 35 years. Art co-established the New York City Metropolitan Office in 1996-1997 and has spent over 26 years working very closely with all downstate metropolitan partner agencies in the advancement of a wide range of federally-funded ITS and operations programs and initiatives. He spent the previous 9 years in the FHWA Boston (Cambridge) office as a Highway Engineer in a variety of traffic engineering, safety, and ITS related positions. He also spent the previous 6 years as a Structural Engineer in private sector consultant and construction engineering firms with specialization in the nuclear power industry.

Art has served as an Adjunct Faculty Professor at Stony Brook University (Long Island, NY) and at his alma mater, Merrimack College (North Andover, Mass). Art holds a Ph.D. and Master of Science in Transportation Planning & Engineering from the New York University Tandon School of Engineering, a master's in business administration from Suffolk University (Boston, MA), and a Bachelor of Science in Civil Engineering from Merrimack College. He is a Registered Professional Engineer in multiple states. He is honored to serve on the ITS-NY Board of Directors and as President Emeritus of ITS-NY. He is also a member of both ASCE and ITE.

**Vaishali Shah**, Director—Transportation Systems, AEM Corporation

Ms. Shah is an innovative program manager, principal investigator (PI), and technical adviser, having contributed to multiple NCHRP, SHRP, FHWA, USDOT ITS JPO, and FAA efforts over her 30-year career. Vaishali engages national, state, and local stakeholders through workshops, focus groups, site visits, webinars, peer exchanges, assessments, and technical assistance to bring together disparate interests to prioritize and chart a successful path forward.

Vaishali also brings expertise in the development and use of simulation, modeling, and advanced analytics to improve decision-making. She helps agencies navigate the acquisition life cycle, focusing on concept of operations and the business case for complex transportation systems. She has led systems engineering, acquisition, and implementation for programs ranging from \$1M - \$400M.

Currently, Vaishali supports the FHWA Traffic Incident Management (TIM) Program Team and its Executive Leadership Group, Crash Responder Safety Week (CRSW), Every Day Counts Round Seven (EDC-7) Next Generation TIM: Technologies for Saving Lives, and communications activities. Vaishali holds a BS in Civil Engineering from the University of Maryland and MS in Transportation Engineering from the University of Texas at Austin.

**John Bullough**, PhD, Program Director, Light and Health Research Center, Icahn School Medicine at Mount Sinai

John Bullough, Ph.D. is a Program Director at the Light and Health Research Center, within the Department of Population Health Science and Policy, part of the Icahn School of Medicine at Mount Sinai. Prior to joining Mount Sinai in 2021, he was Director of Transportation and Safety Lighting Programs at the RPI Lighting Research Center.

John has managed research studies for the National Highway Traffic Safety Administration, the Federal Highway Administration, the Transportation Research Board, the National Institute for Occupational Safety and Health, and the New York and New Jersey Departments of Transportation. He has written or co-written about 500 articles and technical publications on lighting, human factors, and transportation safety. John is a Fellow of the Illuminating Engineering Society and served as a previous Chair of the TRB's Committee on Visibility.

**Robert Burd**, Manager | Deputy EMC, Office of Emergency Management, Security, and Response, New Jersey Department of Transportation

Robert M. Burd is the Manager of NJDOT's Office of Emergency Management, Security, and Response (OEMSR). He supervises the Emergency Management, Homeland Security, and Traffic Incident Management Programs for the Department.

Robert has been involved in large incidents and events to include Hurricane Sandy, Super Bowl 48, the Papal Visit to Philadelphia, the state government response to the COVID Pandemic, as well as many others. He represents the Department on the AASHTO Committee on Transportation System Security and Resilience. He has been with the Department since 2012.

Prior to his time at NJDOT, Robert retired from the Army / NJ Army National Guard as an active-duty officer. He held several positions including Scout Leader, Assistant Operations Officer, Logistics Officer, Troop Executive Officer, and Troop Commander. Robert deployed from 2008-2009 as Director of Logistics for Camp Bucca, Iraq.



**Yunpeng (Felix) Shi**, EIT, PhD Candidate at SUNY, Buffalo

Yunpeng (Felix) Shi is an enthusiastic Ph.D. Candidate specializing in Civil Engineering, with a particular focus on Transportation Engineering at the University at Buffalo, SUNY. Felix holds a master's degree in Civil Engineering from the same institution and completed his Bachelor's in the same field at the University of California, Irvine. Felix's research is centered on Intelligent Transportation Systems (ITS), specializing in autonomous and connected transportation, especially under challenging weather conditions. His research is conducted under the mentorship of Professor Adel Sadek. Over the years, he has been deeply involved in a range of projects, including assessing the safety and performance of self-driving shuttles, developing predictive models for US-Canada border crossing delays, and conducting detailed testing and analysis of LiDAR sensor performance.

Currently, Felix is actively engaged in the Buffalo NY ITS4US deployment project and is contributing to the development of the Incident Information Management System (IIMS), where he conducts traffic analysis and assesses performance using connected vehicle data.

**Jacob "Jake" Valente**, PhD Candidate, Virginia Tech.

Mr. Valente is a fifth-year biomedical engineering PhD candidate at Virginia Tech. Under the advisement of Dr. Miguel Perez at the Virginia Tech Transportation Institute (VTI), he conducts several different research inquiries centered around improving emergency response to motor vehicle collisions. His work includes analysis of driving behavior, emergency vehicle operations, the formation of an occupant injury triage system to evaluate crash victim conditions, and the research and development of automated vehicle practices and procedures.

**Joe Kroboth, III**, PE, SFPE, CFPS, Project Manager, Responder Safety Institute, Cumberland Valley Volunteer Firemen's Association

Mr. Kroboth currently holds the role of Project Manager at the Emergency Responder Safety Institute, where his responsibilities encompass the coordination of emergency responder training, research initiatives, and standards development. He boasts a long-standing commitment to this cause, having been a charter member of the Emergency Responder Safety Institute, as well as an emergency responder struck-by family survivor.

Chief Kroboth brings over four decades of experience in the Fire Service, having served as both a volunteer and career Fire Chief. Chief Kroboth has a noteworthy history of involvement in various roles within the field of Fire and Emergency Services. Notably, he has served as the Past President of the Cumberland Valley Volunteer Firemen's

Association, as Fire Chief of the Volunteer Fire Company of Halfway (Md), and as the Director of Fire and Emergency Services for Washington County (MD). His professional affiliations extend to the Society of Fire Protection Engineers, where he is a member, and his certification as a Fire Protection Specialist with the NFPA.

**Lindsay Arnold**, MPH, Researcher, AAA Foundation for Traffic Safety

Lindsay Arnold conducts and manages research on issues including substance-impaired driving and vulnerable road users at the AAA Foundation for Traffic Safety. Prior to joining the Foundation in 2012, she served as a public health fellow in the National Highway Traffic Safety Administration's Office of Behavioral Safety Research, and as a researcher at the University of California, Berkeley's Safe Transportation Research & Education Center.

Her research has been published in scientific journals including Accident Analysis & Prevention, American Journal of Epidemiology, and Journal of Safety Research. She is a member of the Transportation Research Board's Committee on Impairment in Transportation and serves as a reviewer for several journals.

Arnold holds a Road Safety Professional Level 1 (RSP1) certification and a master's degree in public health with a focus in epidemiology/biostatistics from the University of California, Berkeley.



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## ABOUT OUR SPONSORS

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### **Rutgers Center for Advanced Infrastructure and Transportation (CAIT)**

CAIT research focuses on preserving, rehabilitating, and improving infrastructure; boosting network resilience; reducing life-cycle costs; and increasing mobility and safety. Rutgers Center for Advanced Infrastructure and Transportation (CAIT) tackles some of the country's most pressing infrastructure challenges, especially those that are endemic in high-volume multimodal corridors like the Northeast. The bulk of our efforts fall within several broad areas: assessing and monitoring the health of bridges, roads, and pipelines; creating revolutionary technologies, materials, and tools; formulating strategies to prolong the service life of infrastructure; and training the current and future workforce. CAIT develops practical tools and processes that can be applied—not in theory, not on paper, not five years in the future—but as mainstream tools in the hands of transportation professionals solving real-world problems right now.

### **The Center for Advanced Transportation Mobility (CATM)**

The Center for Advanced Transportation Mobility (CATM) was established in 2016 through the University Transportation Center Program under the Fixing America's Surface Transportation (FAST) Act. CATM is a consortium consisting of three higher education institutions: North Carolina Agricultural and Technical State University (lead), Virginia Polytechnic Institute and State University and Embry-Riddle Aeronautical University – Daytona Beach. These three institutions collaborate on projects focused on identifying solutions to mobility concerns within two primary thematic areas: 1) Enabling safe and efficient mobility for vulnerable road users and 2) Optimizing mobility in emergency situations.

### **Embry-Riddle Aeronautical University, Multimodal Intelligent Transportation Systems Laboratory**

Transportation research into the safety, operations, design, planning, and maintenance issues involving our nation's infrastructure, with an emphasis on airports, is combined with classroom experience in the Multimodal Intelligent Transportation Laboratory. The lab features the latest methods of research in fields of data collection, traffic simulation, transportation safety, and advanced traffic signal timing management. In this space, Civil Engineering students can also study transportation modes, including aviation, highway, public transit, and pedestrian.

### **HAAS Alerts**

HAAS Alert's digital alerting solution Safety Cloud is a breakthrough evolution in emergency alerting, bringing critical real-time connectivity to roads and transforming emergency alerting for a new century. Emergency lights have been the primary tool used by emergency fleets and road operators to notify drivers since the early 20th century. As roads grew busier and car cabins became quieter over time, though, emergency lights have become less effective. Despite the passage of Move Over laws and responder safety strategies like traffic cones, signage, and blocker vehicles, a growing number of responders are injured or killed from passing vehicles every year.

### **J-Tech**

J-Tech is "Helping You Make Roads Safer Workplaces" through development of innovative highway safety equipment, and by being your solutions resource. J-Tech designs and manufactures crash trucks (attenuator trucks, TMAs), cone deployment trucks, and highway safety equipment such as our new LaneBlade® for road debris removal and hitch mounted safety baskets for work zone cone deployment. Our equipment is used by highway contractors, state Departments of Transportations, tollways, utilities, and traffic management companies across North America. We look forward to helping you make roads safer workplaces and safer traveling places.

### **AutoReturn**

AutoReturn is the nation's leading towing management systems provider. For over 15 years, we have worked with cities, counties, and states nationwide to manage transportation, storage, and return of a vehicle after local law enforcement orders a tow. Our technical solution automates communications among law enforcement, towers, and vehicle owners, for faster, safer vehicle removal from unauthorized parking areas and crash scenes. With AutoReturn, officers and other first responders are safer and have more time for higher-priority work because crash scenes get cleared quickly and secondary accidents decrease. AutoReturn enables the streamlined communications that make this a reality, decreasing incoming calls to dispatch centers and automating intelligent dispatch with both public and private tow fleets. AutoReturn has processed millions of police tows across the globe, and we have active customers in 12 of the top 20 most populous metropolitan regions in the United States. Learn more at [www.autoreturn.com](http://www.autoreturn.com).

# *Emergency Responder Transportation Safety Research Summit 2023*



Thank you to our sponsors!

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The inaugural Emergency Responder Transportation Safety Research Summit was organized and hosted by TRB's Joint-Subcommittee on Emergency Response AMR00(1) and the Rutgers University Center for Advanced Infrastructure and Transportation (CAIT).

To learn more about TRB's Joint-Subcommittee on Emergency Response and to get involved, please contact:

Dr. Scott Parr Ph.D., PE.  
Chair, TRB AMR00(1) Joint Subcommittee on Emergency Response

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