



Council of University
Transportation Centers



2024 CUTC SUMMER MEETING

South Padre Island, Texas
June 10-12, 2024

The University of Texas
Rio Grande Valley™



utrgv.edu/railwaysafety 

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UTCRS ORGANIZING **COMMITTEE**



**Constantine
Tarawneh, Ph.D.**

UTCRS Director



**Heinrich
Foltz, Ph.D.**

UTCRS Deputy Director



**Manuela
Cantú**

UTCRS Program Coordinator



**Carlos
Peña-Caballero**

UTCRS Webmaster



**Gabriela
Cantú**

UTCRS Program Assistant





MESSAGE FROM THE DIRECTOR

Dear CUTC Members and Attendees,

On behalf of the University Transportation Center for Railway Safety (UTCRS) and The University of Texas Rio Grande Valley (UTRGV), it is my pleasure to welcome you to the CUTC 2024 Summer Meeting. We are honored to host this gathering of professionals, researchers, educators, and industry leaders.

The Council of University Transportation Centers (CUTC) has been a cornerstone in advancing transportation research, education, workforce development, and technology transfer since its establishment in 1979. By providing a forum for universities and centers to collaborate with government and industry, CUTC continues to play a vital role in ensuring the strength and innovation of the nation's transportation system. Our shared mission to promote university-led initiatives in these areas aligns perfectly with CUTC's vision of elevating university research and education to strengthen our transportation infrastructure.

At UTRGV, our commitment to transforming the Rio Grande Valley through innovative and accessible education is reflected in our rapid growth and achievements. As a Carnegie R2 research university, we are proud of our advancements in research, community engagement, and student success. Our recent accomplishments, such as being ranked the #1 university in Texas for lowest student debt upon graduation and the #3 fastest-growing doctoral public institution in the nation, demonstrate our dedication to excellence and accessibility in higher education.

Constantine M. Tarawneh, Ph.D.

Louis A Beecherl, Jr. Endowed Professor of Engineering
Director

University Transportation for Railway Safety (UTCRS)
NSF CREST Center for Multidisciplinary Research Excellence
in Cyber-Physical Infrastructure Systems (MECIS)

As a Carnegie Community Engaged institution, a key part of our mission is to serve our communities by facilitating access to higher education for the many historically underserved and socioeconomically disadvantaged students in the Rio Grande Valley. This commitment is reflected in our student population, which is 91% Hispanic, 94% from the region, 45% first generation, and 63% Pell grant recipients. These demographics are further supported by UTRGV's student success metrics (as of 2023), which include a student persistence rate of 79% for first-time, full-time degree-seeking students; over 95% course

completion at lower, upper, and graduate levels; and a 6-year graduation rate of 47% for first-time, full-time undergraduates. Reflecting our mission, UTRGV has seen great growth, breaking records in degrees awarded in 2022-23, the most in our school history with 7,146. Moreover, UTRGV is now the ninth-largest university in Texas with a fall enrollment of 31,931 students in 2023. Additionally, our research enterprise has nearly quadrupled to \$84.44 million over the past eight years, positioning UTRGV as a hub of innovation and discovery. In FY 2023, UTRGV's research expenditures

increased to \$42.2 million in restricted research, an annual increase of \$15 million from the previous year. This growth reflects our ongoing commitment to expanding our research portfolio and laying a solid foundation for achieving R1 and Emerging Research University status in the very near future.

UTCRS is dedicated to enhancing rail safety through cutting-edge research, education, workforce development, technology transfer, and comprehensive community engagement efforts. Our strategic goals focus on minimizing fatalities and injuries, enhancing highway-rail-grade crossing safety, improving material and system reliability, and innovating infrastructure and rolling stock monitoring technologies. Our interdisciplinary approach supports doctoral research across various fields, contributing to the development of advanced safety assessments.

We are pleased to host this year's meeting, which promises to be a dynamic and valuable experience. We aim to provide an environment conducive to meaningful discussions, networking, and collaboration. We extend our gratitude to our research partners, sponsors, and all attendees for their continued support and participation. Welcome to the CUTC 2024 Summer Meeting. We look forward to a productive and inspiring gathering in a relaxing atmosphere.

Sincerely,
Constantine Tarawneh, Ph.D.



UTCRS MISSION STATEMENT

The University Transportation Center for Railway Safety (UTCRS) is dedicated to developing knowledge, diverse human resources, and innovative technology to enhance the U.S. rail transportation industry's safety strategies. By leveraging partnerships and resources, the center aims for comprehensive programs in rail safety research, education, technology transfer, implementation, and workforce development. Reducing accidents, fatalities, and economic losses are key goals, alongside fostering new technology for safety improvements.



GENERAL INFORMATION

CU

Hotel

Hilton Garden Inn South Padre Island is the primary conference hotel for the 2024 CUTC Summer Meeting, offering beachfront access and amenities such as an on-site restaurant, pool, and fitness center. To contact this hotel, call (956) 761-8700. Sand Rose Beach Resort provides an additional 50 rooms and is located adjacent to the Hilton Garden Inn at 7000 Padre Blvd, South Padre Island, TX 78597. For more information, call (956) 772-7000.

Transportation

We will be offering scheduled shuttle services to and from the Hilton Garden Inn at South Padre Island for the duration of the CUTC Summer Meeting. Please refer to the shuttle schedules provided for specific departure times and pick-up locations. For any delays or rescheduling, additional times are available. We encourage you to reach out to the contacts listed on the shuttle schedule on page 7 for assistance.

Parking

Complimentary self-parking is available on-site at the Hilton Garden Inn for all attendees.

Registration

Participants can check in at the Hilton Garden Inn Main Lobby to attend the CUTC Summer Meeting during the following times: Monday, June 10, 2024, from Noon to 6:30 PM, and Tuesday, June 11, 2024, from 7:00 AM to Noon. Should you have any questions, require additional information, or need special accommodations, please contact Manuela Cantú or Gabriela Cantú. For their contact information, please refer to page 19.



Name Badges

Participants will be provided with a name badge at the registration counter, required for access to all CUTC Summer Meeting events, meals, receptions, and tours.

TC 2024

Meals

Participants will be provided with all meals during this event, along with coffee breaks each day, accommodating participants' dietary preferences. For specific mealtimes, please refer to the 'Schedule at a Glance' or the daily agenda page.

Meeting Venue

The 2024 CUTC Summer Meeting will be held at the Hilton Garden Inn SPI, located at 7010 Padre Blvd, South Padre Island, TX. Meetings will take place in the hotel's Grand Ballroom, which is equipped with the necessary audiovisual technology for our sessions.



Wi-Fi Access

The hotel venue provides complimentary Wi-Fi access to all participants. Guest Wi-Fi access is available at the UTRGV Brownsville campus; connect to the UTRGV-Guest network using the credentials which will be provided at the Closing Dinner at UTRGV Brownsville Campus on Wednesday, June 12, 2024.

Social Media

We invite you to share your experiences on social media and connect with fellow attendees by using the hashtag #CUTC2024 during the CUTC Summer Meeting.

What to do at SPI

South Padre Island is located at the southern tip of Texas and is suitable for visits throughout the year. The island offers activities such as dolphin watching, kiteboarding, diving, and eco-tours. For more information, visit www.sopadre.com/experiences/things-to-do or scan the QR code below.



LOCATION AND TOURS

Explore the sites and historical landmarks around the Rio Grande Valley as part of the CUTC 2024 Summer Meeting. Each tour offers an opportunity to see the region's developments and history, enhancing your experience at this year's gathering. Enjoy tours to SpaceX's launch site, the Port of Brownsville, and the UTRGV Brownsville campus, and discover the contributions these locations make to the fields of research, transportation, and education. Enjoy your stay at the Hilton Garden Inn, a beachfront hotel overlooking the Gulf of Mexico. Relax by the coast and take advantage of the oceanfront swimming pool with restaurant service.



Hilton Garden Inn Hotel

7010 Padre Blvd, South Padre Island, TX 78597

SpaceX



The SpaceX South Texas launch site, near Boca Chica Beach, is dedicated to developing and launching the Starship spacecraft and Super Heavy rocket. This commercial spaceport, known as Starbase, supports missions to Earth orbit, the Moon, Mars, and beyond.

Port of Brownsville



The Port of Brownsville, the only deepwater port on the U.S.-Mexico Border, spans 40,000 acres with 17 miles of waterfront access. It provides direct routes to non-congested international bridge crossings and rail connections.

UTRGV Brownsville Campus



The University of Texas Rio Grande Valley's Brownsville campus, located on historic Fort Brown land, is one of nine distinct sites of UTRGV spanning 200 miles in the Rio Grande Valley. This scenic campus hosts a vibrant academic community.

SCHEDULE AT A GLANCE

Monday, June 10, 2024

12:00 – 6:30 PM	Check-in for CUTC Summer Meeting at Hilton Garden Inn Main Lobby
6:30 – 8:30 PM	Welcome Reception Taquiza at Barry's Beach Bar in Hilton Garden Inn SPI Hotel

Tuesday, June 11, 2024

7:00 – 8:00 AM	Authentic Mexican Breakfast at the Hilton Garden Inn Grand Ballroom Foyer
8:00 – 8:30 AM	Welcome Remarks and General Information
8:30 – 9:25 AM	UTC Directors Meeting Part I
9:25 – 9:40 AM	Coffee Break
9:40 AM – 12:00 PM	UTC Directors Meeting Part II
12:00 – 1:00 PM	Lunch Keynote Speaker Mark Patterson, FRA
1:00 – 2:45 PM	CUTC Business Meeting
2:45 – 3:00 PM	Coffee Break
3:00 – 4:30 PM	CUTC Directors and Administrators Meeting Topic: Discuss Challenges, Opportunities, and Best Practices
4:30 – 5:30 PM	RTRC Meeting (Optional)
5:30 – 7:00 PM	Dinner at the Hilton Garden Inn SPI Hotel
7:00 PM	CUTC Executive Committee Meeting in the Grand Ballroom

Wednesday, June 12, 2024

7:00 – 8:00 AM	Continental Breakfast at the Hilton Garden Inn Grand Ballroom Foyer
8:00 – 9:45 AM	Panel Session Role of External Advisory Boards on UTCs
9:45 – 10:00 AM	Coffee Break
10:00 – 11:45 AM	Panel Session UTC Technology Transfer and Workforce Development
11:45 AM – 12:45 PM	Lunch Box
12:45 PM	Depart to tours from Hilton Garden Inn SPI
1:00 – 2:30 PM	SpaceX Tour
3:00 – 4:30 PM	Port of Brownsville Tour
6:00 – 8:30 PM	Closing Dinner at UTRGV Brownsville Campus Theme: Mexican Fiesta



SHUTTLE SCHEDULE

INFORM

ARRIVAL SHUTTLE SCHEDULE

MONDAY JUNE 10, 2024

BROWNSVILLE SOUTH PADRE ISLAND INTERNATIONAL AIRPORT

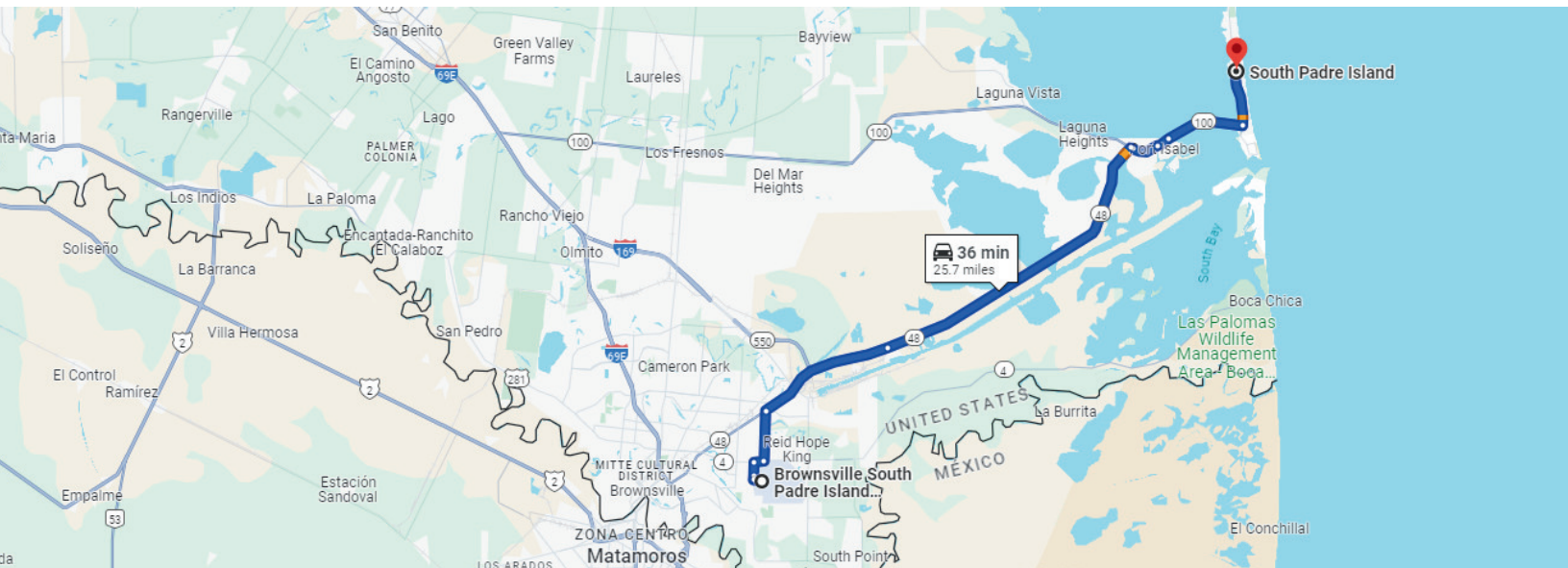
PICK UP	DEPART	DESTINATION	IN TRANSIT	ARRIVAL
12:00 PM	12:30 PM	Hilton Garden Inn	40 minutes	1:10 PM
2:30 PM	3:00 PM	Hilton Garden Inn	40 minutes	3:40 PM
5:00 PM	5:15 PM	Hilton Garden Inn	40 minutes	5:55 PM
7:30 PM	8:00 PM*	Hilton Garden Inn	40 minutes	8:40 PM

MONDAY JUNE 10, 2024

VALLEY INTERNATIONAL AIRPORT

PICK UP	DEPART	DESTINATION	IN TRANSIT	ARRIVAL
12:00 PM	12:30 PM	Hilton Garden Inn	60 minutes	1:30 PM
2:30 PM	3:00 PM	Hilton Garden Inn	60 minutes	4:00 PM
5:00 PM	5:15 PM	Hilton Garden Inn	60 minutes	6:15 PM
7:30 PM	8:00 PM*	Hilton Garden Inn	60 minutes	9:00 PM

Participants staying at the Sand Rose Beach Resort, next to the Hilton Garden Inn, will have access to transportation services.



ATION

DEPARTURE SHUTTLE SCHEDULE

THURSDAY JUNE 13, 2024

DEPARTING FROM THE HILTON GARDEN INN HOTEL AT SPI TO BROWNSVILLE AND HARLINGEN ON JUNE 13, 2024

PICK UP	DEPART	IN TRANSIT	ARRIVAL
6:00 AM	Brownsville SPI Airport (BRO)	40 minutes	6:40 AM
8:30 AM	Brownsville SPI Airport (BRO)	40 minutes	9:10 AM
11:30 AM*	Brownsville SPI Airport (BRO)	40 minutes	12:10 PM
6:00 AM	Valley International Airport (HRL)	60 minutes	7:00 AM
8:30 AM	Valley International Airport (HRL)	60 minutes	9:30 AM
11:30 AM*	Valley International Airport (HRL)	60 minutes	12:30 PM

In case of a delay or rescheduling, additional times are available. Please refer to the contact information below.

Constantine Tarawneh, Ph.D.

UTCRS Director

Office: (956) 665-2607

Mobile: (956) 867-5907

E-mail: constantine.tarawneh@utrgv.edu

E-mail: railwaysafety@utrgv.edu

Manuela Cantú

UTCRS Program Coordinator

Office: (956) 665-8878

Mobile: (956) 432-2407

E-mail: manuela.cantu@utrgv.edu

E-mail: railwaysafety@utrgv.edu

Gabriela Cantú

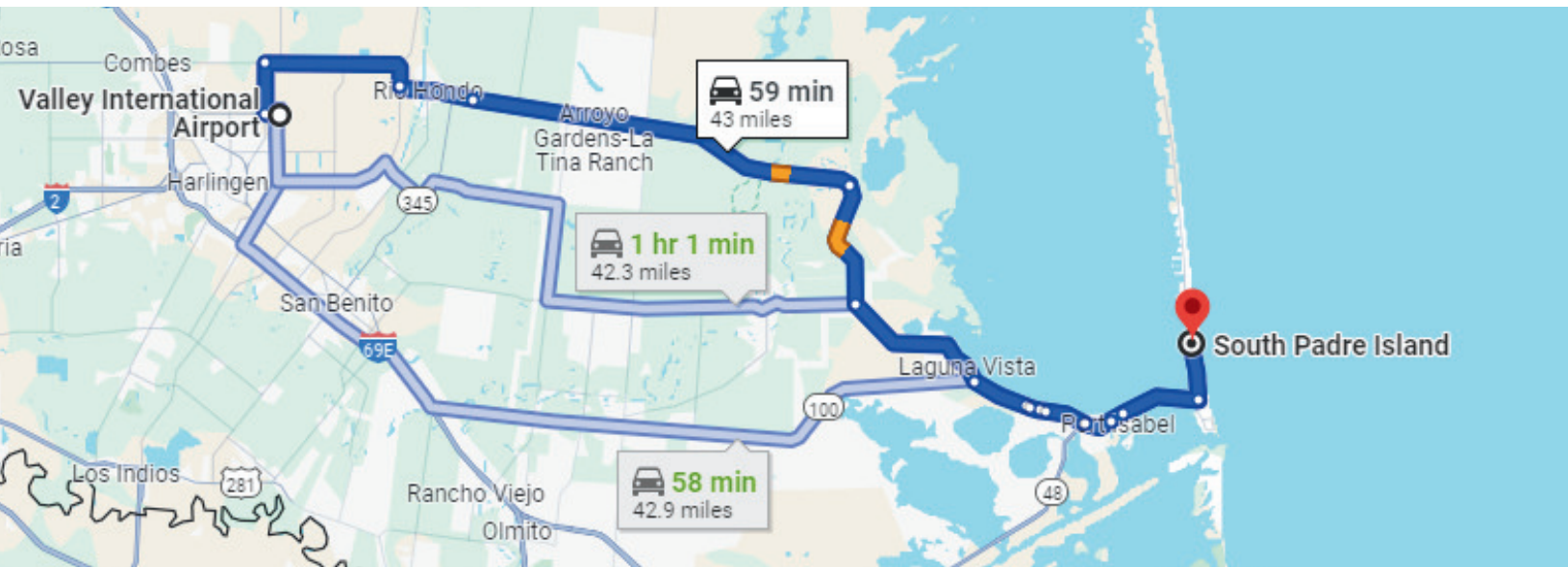
UTCRS Program Assistant

Office: (956) 665-3070

Mobile: (956) 429-7468

E-mail: gabriela.cantu@utrgv.edu

E-mail: railwaysafety@utrgv.edu



DAILY AGENDA

JUNE 10

Monday June 10 , 2024

TIME	EVENT DETAILS
12:00 - 6:30 PM	Check-in for CUTC Summer Meeting at Hilton Garden Inn Main Lobby
6:30 - 8:30 PM	Welcome Reception Taquiza at Barry's Beach Bar in Hilton Garden Inn SPI Hotel

Tuesday June 11, 2024

TIME	EVENT DETAILS
7:00 - 8:00 AM	Authentic Mexican Breakfast at the Hilton Garden Inn Grand Ballroom Foyer
8:00 - 8:30 AM	Welcome Remarks and General Information
8:30 - 8:40 AM	UTC Directors Meeting Introduction & Remarks Speaker: Caesar Singh, Director, University Grants Program Office of the Assistant Secretary for Research & Technology , U.S. Department of Transportation
8:30 - 8:40 AM	FRA's and UTC's Partnership in Workforce Development Speaker: Mark Patterson, Associate Administrator for Research, Data and Innovation Federal Railroad Administration, U.S. Department of Transportation
8:55 - 9:05 AM	Grants Update Speaker: Amy Stearns, UTC Grant Manager Office of the Assistant Secretary for Research & Technology U.S. Department of Transportation
9:05 - 9:25 AM	RiP/TRID Update and Training Announcements Speaker: Andrea Zachary, Indexing Manager National Academy of Sciences
9:25 - 9:40 AM	Coffee Break
9:40 - 11:10 AM	Panel on Lasting Effects of UTC Grants Speaker: Patrick Szary, Rutgers University Topic: Using the UTC grant as a launching pad to build a larger center Speaker: Tara Ramani, Texas A&M University (public health) Topic: Aligning transportation with another and non-traditional discipline Speaker: Yin Hai Wang, University of Washington Topic: Developing ongoing collaborations with and among state DOTs Q&A Session

Tuesday June 11, 2024

TIME	EVENT DETAILS
11:10 – 11:40 AM	UTC Relationships with Native-American Community Speakers: Aemal Khattak, University of Nebraska Denver Tolliver, North Dakota State University
11:40 AM – 12:00 PM	Future of Transportation Summit 2024 Updates UTC Summit 2024 Steering Committee Speaker: Raj Rajkumar & Team
12:00 – 1:00 PM	Lunch Keynote Speaker Speaker: Mark Patterson, Associate Administrator for Research, Data and Innovation Federal Railroad Administration, U.S. Department of Transportation
1:00 – 2:45 PM	CUTC Business Meeting
2:45 – 3:00 PM	Coffee Break
3:00 – 4:30 PM	CUTC Directors and Administrators Meeting Topic: Discuss Challenges, Opportunities, and Best Practices
4:30 – 5:30 PM	RTRC Meeting (Optional)
5:30 – 7:00 PM	Dinner Location: Hilton Garden Inn South Padre Island Hotel
7:00 PM	CUTC Executive Committee Meeting in the Grand Ballroom

Wednesday, June 12, 2024

TIME	EVENT DETAILS
7:00 - 8:00 AM	Continental Breakfast at the Hilton Garden Inn Grand Ballroom Foyer
8:00 - 9:45 AM	Panel Session Role of External Advisory Boards on UTCs
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11:45 AM - 12:45 PM	Lunch Box
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3:00 - 4:30 PM	Port of Brownsville Tour
6:00 - 8:30 PM	Closing Dinner at UTRGV Brownsville Campus Theme: Mexican Fiesta

CUTC 2024

KEYNOTE SPEAKER

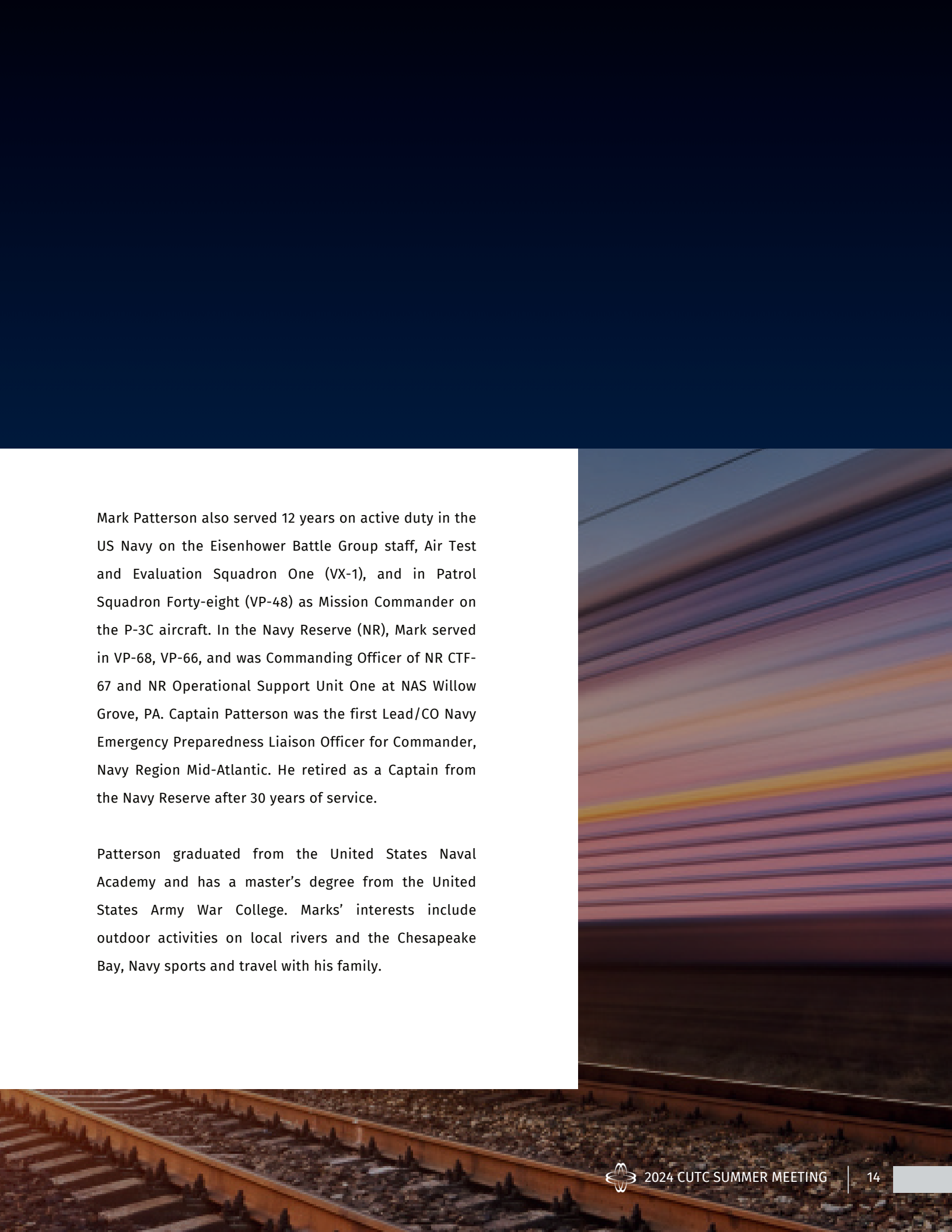


Mark Patterson

Associate Administrator
Office of Research, Data, and Innovation
Federal Railroad Administration (FRA)

Mark Patterson was named the Associate Administrator, Office of Research, Data, and Innovation at the Federal Railroad Administration in March 2023. From May 2020 to October 2022, Mark Patterson served as the Director, Office of Data Analysis and Program Support in the Office of Railroad Safety where he led five divisions. Patterson was responsible for developing, implementing, and managing data collection, analysis, planning, and evaluation processes for FRA's rail safety program; delivering inspector training through the Technical Training Standards Division; developing Audit Management standards and training; managing FRA's response to emergency situations and accident analysis-

with the Security, Preparedness and Accident Reporting and Analysis Division; and conducting Regulatory Impact Analysis for new rulemakings with the Economic Analysis Division. From Feb. 2016 to May 2020, Patterson was the Executive Officer for Safety Operations and responsible for managing programs on behalf of the Director, Regional Operations and the Associate Administrator for Railroad Safety. Prior to joining FRA's Office of Railroad Safety, he was the Special Assistant to the Administrator. Mark began his career at FRA in 2009 in the Office of Policy and Communications. Prior to joining FRA, Mark owned a communications and marketing firm in the Washington, D.C. metropolitan area.



Mark Patterson also served 12 years on active duty in the US Navy on the Eisenhower Battle Group staff, Air Test and Evaluation Squadron One (VX-1), and in Patrol Squadron Forty-eight (VP-48) as Mission Commander on the P-3C aircraft. In the Navy Reserve (NR), Mark served in VP-68, VP-66, and was Commanding Officer of NR CTF-67 and NR Operational Support Unit One at NAS Willow Grove, PA. Captain Patterson was the first Lead/CO Navy Emergency Preparedness Liaison Officer for Commander, Navy Region Mid-Atlantic. He retired as a Captain from the Navy Reserve after 30 years of service.

Patterson graduated from the United States Naval Academy and has a master's degree from the United States Army War College. Marks' interests include outdoor activities on local rivers and the Chesapeake Bay, Navy sports and travel with his family.



CUTC 2024 **SPEAKERS AND MODERATORS**



Caesar Singh

Director, University Transportation Centers Grants Program, U.S. Department of Transportation



Amy Stearns

Grants Manager, University Transportation Centers Grants Program, U.S. Department of Transportation



Robin Kline

Grants Specialist, University Transportation Centers Grants Program, U.S. Department of Transportation



Denise Dunn

Project Manager, University Transportation Centers Grants Program, U.S. Department of Transportation



Britain Bruner

Senior Transportation Specialist, University Transportation Centers Grants Program, U.S. Department of Transportation



Andrea Zachary

Indexing Manager, National Academy of Sciences



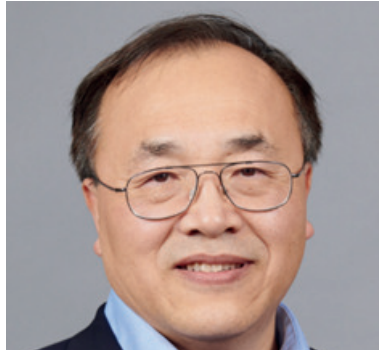
Tara Ramani

TTI Research Engineer, Division Head of the Environment Group, Texas A&M University



Aemal Khattak

Director, Mid-America Transportation Center, University of Nebraska-Lincoln



Yinhai Wang

Director, PacTrans and STAR Lab, University of Washington



Denver Tolliver

Director, Upper Great Plains Transportation Institute, North Dakota State University



Raj Rajkumar

Director, Safety21 USDOT National University Transportation Center, Carnegie Mellon University



Patrick Szary

Associate Director, Center for Advanced Infrastructure & Transportation, Rutgers University



Marwa Hassan

President-Elect CUTC, Director, Tran-SET Regional University Transportation Center, Louisiana State University



P.S. Sriraj

Outgoing President CUTC, Director, Urban Transportation Center, University of Illinois at Chicago



Traci Ulberg

Executive Director CUTC, CEO, Meetings Northwest, Inc.

ADVISORY BOARD PANEL SESSION



Heinrich Foltz, Ph.D.

UTCRS Deputy Director
Moderator

Dr. Foltz is a licensed Professional Engineer in the state of Texas and a Professor of Electrical and Computer Engineering at UTRGV. He has 30 years research experience in the areas of electromagnetics, antennas and propagation, and electronics for instrumentation, wireless, microwaves, and millimeter waves. Applications of the research include radio astronomy, remote sensing, broadband communications, testing of material properties, and sensors for transportation safety. He has seventeen years of experience conducting rail research. He serves as the deputy director at University Transportation Center for Railway Safety (UTCRS) at UTRGV.

Panelists



Kim Bowling

Director of Wayside Diagnostics
CSX Transportation



Amy Hamilton

Senior Manager
Trinity Industries, Engineering Department



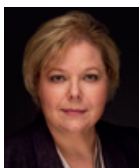
Gary Fry

Vice President
Fry Technical Services Inc.



Joey Rhine

Mechanical Subject Matter Expert
National Transportation Safety Board



Karen Carriere

Assistant Vice President
Technical Services, MxV Rail

WORKFORCE DEVELOPMENT AND TECHNOLOGY TRANSFER PANEL SESSION



Constantine Tarawneh, Ph.D.

UTCRS Director
Moderator

Dr. Tarawneh serves as the founding director of the University Transportation Center for Railway Safety (UTCRS), which was established in fall of 2013 under the 2013 MAP-21 USDOT UTC Competition. He has 21 years of experience performing rail transportation research with expertise in thermal and dynamic modeling of railroad mechanical components, rolling stock condition monitoring, and sensor technologies His record includes over 90 refereed publications, 5 patents, and over \$35 million in funding from federal, state, local, and private sources. He has mentored 56 master's students to completion and received 32 awards for his excellent contributions in research, teaching, and mentoring. He serves on a few Editorial Boards, is on the TRB Standing Committee on Railroad Operating Technologies (AR030), is one of four directors of the Research and Education Division (RED) within the American Road and Transportation Builders Association (ARTBA) and is a member of the Council of University Transportation Centers (CUTC) Executive Committee and its students' awards subcommittee.

Panelists



Kim Bowling

Director of Wayside Diagnostics
CSX Transportation



Amy Hamilton

Senior Manager
Trinity Industries, Engineering Department



Gary Fry

Vice President
Fry Technical Services Inc.



Joey Rhine

Mechanical Subject Matter Expert
National Transportation Safety Board (NTSB)



Mark Patterson

Associate Administrator
Office of Research, Data, and
Innovation, Federal Railroad
Administration (FRA)



Brent Wilson

Chief Technical Officer
Hum Industrial Technology



Beatriz Valenzuela

STEM/CTE Specialist
Hum Industrial Technology



Ryan Medlin

Assistant Director of Data Engineering
BNSF



CUTC 2024 PANEL

BIOGRAPHIES



Kim Bowling

Director

Wayside Diagnostics, CSX Transportation

Kim Bowling has been with CSX Transportation since 1991. She has worked her way around the Mechanical Operations group including stints in Locomotive Engineering, Car Engineering, Industrial Engineering, and AAR Services. For the last 10 years, she has focused on Wayside Detection development and integration. Her latest role in Advanced Engineering involves integrating the wayside detector data to reduce derailment risks and to move the company towards predictive maintenance. Kim is also the chairman of the AAR's Equipment Health Monitoring Committee (EHMC) and a member of the Asset Health Task Force (AHTF). She has degrees in Mechanical and Materials Engineering from Vanderbilt University and an MBA from University of Florida and has completed Six Sigma training.



Amy Hamilton

Senior Manager

Engineering Department, Trinity Industries

Amy Hamilton has worked at Trinity Industries since 2010. She is currently a Senior Manager with a focus on Reliability and Regulatory Compliance and represents Trinity on multiple committees and task forces to develop industry rules and regulations. Prior to assuming this role, she worked in New Car Engineering and served as the Director of Fleet Engineering and Reliability, supporting a fleet of 130,000 railcars. She actively participates with the AAR Tank Car Committee and the RSI Committee on Tank Cars Technical Sub-committee. She also serves as co-chair of the Women of Trinity employee resource group. Amy has a Bachelor's and Master's degree in Mechanical Engineering from Southern Methodist University. In addition to her role and activities at Trinity Industries, Amy currently serves on the Board of Trustees for Dallas Christian School and volunteers in several community organizations.



Gary Fry, Ph.D.

Vice President
Fry Technical Services Inc

Dr. Fry is the Vice President of Fry Technical Services, Inc. He has 30 years of experience in education, research, and consulting on the design and behavior of railway infrastructure, mechanical systems, and the fatigue and fracture behavior of structural metals and weldments. His research results have been incorporated into international codes of practice used in the design of structural components and systems including structural welds, railway and highway bridges, and high-rise commercial buildings in seismic zones. He has extensive experience performing dynamic testing of structural systems under live loading, including railway rolling stock, railroad track, and railway bridges under high-speed passenger trains and heavy-axle-load freight trains. His research, publications, and consulting have advanced the state of the art in structural health monitoring and impairment detection.

Joey Rhine

Mechanical Subject Matter Expert
National Transportation Safety Board
(NTSB)

Joey Rhine served 9 years in the US Navy, domestic and overseas. After military service he worked for Union Pacific railroad until 2007 where he worked as a Manager of Locomotive Maintenance in East L.A., CA. In 2007 he started his career with the Federal Railroad Administration as a safety inspector in Southern California where he enforced 49 CFR regulations and investigated railroad accidents. Starting in 2014 he began his career with the National Transportation Safety Board as a mechanical subject matter expert and as Investigator in Charge of multiple rail incidents.



CUTC 2024 PANEL

BIOGRAPHIES



Brent Wilson, Ph.D.

Chief Technology Officer (CTO)
Hum Industrial Technology

Dr. Wilson is the CTO of Hum Industrial Technology and has directed product research and metallurgical analyses for railroad applications for over 20 years. He has worked on improving product reliability and performance through technological advancements for multiple industries, including railroad, automotive, aerospace, military, and pipeline. He has authored and presented over 70 articles on industrial research, highlighting technical innovations in engineered products and performance. Wilson holds degrees in Mechanical Engineering and a Ph.D. in railroad bearing failure mitigation. He has conducted and funded research to advance the railroad industry across multiple universities and national laboratories. Dr. Wilson was a voting member of the AAR Technology Outreach Committee from 2008-2017.



Beatriz Valenzuela

STEM/CTE Specialist
GEAR UP, Region One ESC

Beatriz Valenzuela is currently a STEM and CTE Specialist for GEAR UP: Pathways to the Future! grant. She works closely and collaboratively with rural school districts to support their endeavor of further developing existing programs and establishing new programs that will elicit investment from businesses to elevate impoverished areas. For 19 years, she served as a teacher for the La Joya ISD School District where she was named Teacher of the Year for in 2007-2008, 2015-2016, 2018-2019, and 2021-2022. Ms. Valenzuela earned her Bachelor of Arts Degree from DePauw University in Greencastle, Indiana in 2003 and obtained her Masters Degree in Education with a focus in Curriculum and Instruction from UTRGV in 2018. As a first-generation college student herself, her goal is to help students navigate through the educational system and provide guidance and opportunities for success in their academic and post-secondary endeavors.



Ryan Medlin

**Assistant Director of Data
Engineering**
BNSF

Ryan Medlin is the Assistant Director of Data Engineering at BNSF, bringing over 12 years of experience in the field. Ryan has a bachelor's degree in organizational leadership and is pursuing a master's in data science. Ryan is passionate about leveraging data and exploring innovative approaches to enhance safety. He has a strong background in data engineering and specializes in designing and implementing scalable and efficient data pipelines. Ryan is driven by his commitment to optimizing business outcomes through data-driven decision-making.



Karen Carriere

Assistant Vice President
MxV Rail, Technical Services

Karen Carriere is the Assistant Vice President of Technical Services at MxV Rail, a role she has held since March 2022. With over two decades of experience in the rail industry. She previously served as the Executive Director of Technical Services at TTCI and has been integral in the company's efforts to enhance safety and operational efficiency through advanced technical solutions. Prior to joining MxV Rail, Karen spent 24 years at Wabtec Corporation, where she held various leadership positions, including Vice President of Technical Service. Karen also served as Regional Vice President of Sales at Wabtec Corporation, where she managed sales and support to major freight railroads and OEM car builders. Karen holds a Bachelor of Science in Engineering, Industrial Engineering with Distinction from the University of Manitoba.

SAVE THE DATE | CUTC SUMMER MEETING 2025

JUNE 24 - 26, 2025



CUTC Summer Meeting
June 24-26, 2025

Embassy Suites Northwest Arkansas
Airport Code: XNA



For additional information,
see martrec.uark.edu or
email martrec@uark.edu



UNIVERSITY OF
ARKANSAS

College of
Engineering

MarTREC
Maritime Transportation Research & Education Center



The University of Texas
Rio Grande Valley



Council of University
Transportation Centers