The Morgan State University National Center for Transportation Management, Research & Development Newsletter

The NTC Today

Fall 2020

Bike simulator opens new avenues of research into driver, cyclist behaviors

Participants in research at the Safety and Behavioral Analysis Center can pedal their way to a better understanding of how drivers and cyclists share the road with one another.

This summer, the SABA Center acquired a state-of-the-art bicycle simulator that can connect to the laboratory's two full-size driving simulators. The bike simulator software is made by FORUM8, a Japanese company that also made the driving simulators.

"This ability to connect our simulators is critical for studying what happens on shared roadways," said Dr. Mansoureh Jeihani, professor and director of the SABA Center and two transportation research centers, the National Transportation Center and the Urban Mobility & Equity Center.

The software, VR Design Studio, lets researchers create and edit realistic road networks – including traffic signals, traffic flow, trees, road signs, recognizable streetscapes, weather, and road alignments – and drivers and cyclists can choose different routes.

Replicating such conditions in simulators allows researchers to study behavior in situations that might be dangerous to attempt in the real world. Such study is needed; in 2018 traffic accidents resulted in 857 cyclists dying.

The simulators collect and record key data, such as speed, braking and deviation from the center of the lane. An eye-tracking system determines where a driver or cyclist is looking and for how long. The bike simulator faces a single computer screen that displays the same road network that appears on the driving simulator's three screens.

"Linking all of these different simulators in a shared network was a key part of our choosing this setup," Dr. Jeihani explains, "but especially important was the range of third-party software plug-ins that is supported by VR Design Studio. When we want to enhance traffic flow, we can seamlessly integrate that with the traffic micro-simulation software S-Paramics or Aimsun as well as the eye-tracking software."

The bike simulator and its software cost $15,000 and was funded by a $5,000 grant from the Provost's office and $10,000 from the Urban Mobility & Equity Center. However, its presence is expected to generate more research grants. Currently, UMEC is conducting two studies that will use the bike simulator, each funded by the USDOT for $120,000: Bicycle Longitudinal Motion Modeling, and EQUITABLE COMPLETE STREETS: Data and Methods for Optimal Design Implementation, Other agencies, such as the Maryland Highway Safety Office, also have expressed interest.

Of course, COVID-19 has put the brakes on all such studies, since the campus is closed. When the research labs reopen, the SABA Center will be ready for cyclists and drivers alike.•

A Message from the NTC Director

DR. MANSOUREH JEIHANI

When I began this job in January, I could not have envisioned that a pandemic would close the campus, and our personal and professional lives would change drastically. I suddenly found myself collaborating with colleagues through Zoom meetings while simultaneously helping my 7-year-old attend school online.

I won't lie: At times it's been hard to manage and balance work duties with the obligations of family who are home 24/7, but we have adapted, and I am grateful that the university continues to put our safety first.

There are some plusses, too; for example, we had more than 90 percent of the members of our advisory board attend the fall meeting since it was virtual. It's also been a creative period for developing research ideas.

Along with Morgan, the University of Maryland and Virginia Tech make up the Urban Mobility & Equity Center, which is administered through the NTC. Together we immediately began conducting COVID-related research to find how COVID is affecting transportation systems. Because COVID has disproportionately affected communities of color, determining whether systems are equitable is suddenly in the spotlight, but for us, equity has long been a part of our research mission. I think this exemplifies that the research we do is both current and critical.

We will continue to research not just COVID but other issues, such as equitable Complete Streets, equity in accessibility, and how different population groups will be affected by the coming revolution of connected and automated vehicles.

I do look forward to seeing everyone in person in the future, but until then, stay safe.

About the Center

The National Transportation Center (NTC) at Morgan State University is committed to transportation research and education that support the well-being and economic development of communities. It is home to the Urban Mobility & Equity Center, a Tier 1 University Transportation Center.

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MDOT/MSU interns finish despite COVID-19 restrictions

Congratulations to the 2019-2020 Maryland Department of Transportation/Morgan State University interns, who persevered through the pandemic to finish their year-long, paid internship with the various state agencies of MDOT.

Kehinde Adenuga, SHA
Samira Ahangari, MTA
Kehinde Ajayi, TSO
Tolulope Ajayi, MTA
Olalekan Asaolu, TSO
Michael Awotoye, MTA
Emmett Ayomanor, MDTA
Snehanshu Banerjee, MTA
Stefanie Carey, Stefanie TSO
Michael Cassell, TSO
Princess Cooper, MDTA
Olatunji Dipeolu, MTA
Princewill George, MTA
Miriam Hagan, MTA
Chinwe Ihuoma, MTA
Mofoluwake Mosaku, SHA
Chibuike Nosiri, MTA
Esther Ogulade, MTA
Olutayo Ojo, MTA
Kelechi Uradu, MAA
Samina Warner, SHA

At the helm: New dean Oscar Barton Jr. plots a course for School of Engineering

Dr. Oscar Barton Jr. started as the Dean of Engineering in August, and although the coronavirus has restricted on-campus activities, it hasn't limited his vision for research at Morgan.

A closed campus hampered his ability to familiarize himself with the research labs, but he's learning quickly. He cited cybersecurity and transportation as strengths, and he would like to build on and broaden the ongoing transportation research and role of the National Transportation Center.

"I do think the transportation center itself is a jewel," he said, adding he wants the NTC to contribute to the conversation nationwide and believes it will be an interface between technology and human consciousness, part of the discussion of ethics and morality in decision making.

He noted that overall the university needs to be examining the structure it uses as it builds its research enterprise.

"Morgan is going toward a Carnegie research classification of R1, which is a lofty ideal," Dr. Barton said. "One simple thing that aligns with other R1s is teaching load – ours is quite high for this institution that is on the brink of becoming an R1."

Another consideration is workload, not teaching load but the other activities, including research, that comprise the faculty workload. He is putting together a work group to determine the workload policy, and he also wants to examine the business of doing research, in areas such as enterprise and the administration of grants.

To achieve his vision, Dr. Barton outlined some specific first steps.

"One thing I'm planning to do is have our first School of Engineering retreat, and we will get a sense of the strengths of all the units and their goals."

To facilitate expanding research, he plans to create an external board, although he's not sure yet whether it will take the form of an advisory board or a leadership council.

"Morgan is one entity," he said, "to have tentacles out to the world we need to involve not only industry but corporations. We will have to define our mission and role with industry and that's where an external board will help."

One problem with academia is that "we solve problems at a glacial pace" while industry needs lightning-fast solutions. "That's tough because our missions are quite different. Industry wants to train students – train them to use equipment X, and our mission is to educate students; our role is to train them to design equipment X."

Dr. Barton worries that focusing on STEM alone blinds students to the possibilities of engineering.

"STEM are simply tools," he said. "Those are not the things that drive engineers – what does drive them is curiosity, passion and risk taking."

His own interest in engineering came from growing up in a military family of eight. His father served in World War II and Korea in the U.S. Army and Air Force corps.

"Each year my older brothers and I as kids built go-carts. We had no plans – we just put it together. If it didn't work, we tried something else until it did work. I was excited about engineering but I didn't know that's what it was."

That interest was cemented when he attended a U.S. Marine Corps science and engineering aeronautical program, and he chose to attend Tuskegee University.

"Ironically my first love was civil engineering but Tuskegee didn't have it, so I studied mechanical engineering which was the closest. When I finished my bachelor's I didn't know enough about 'why and how.' I was always asking professors more about why and how, and they would say 'that's not for this class.' " That propelled him to earn a master's degree in mechanical engineering from Tuskegee and a Ph.D. in applied mechanics from Howard University.

Dr. Barton plays piano and played drums, and his son also loved music and asked his father what to major in to study sound. He took his dad's advice and earned a degree in electrical engineering from the University of Maryland; he develops software and has composed music for prominent rappers as well as for a Madden football game. His middle child just completed her master's in health policy from George Mason University and is planning on law school, and his youngest daughter is a junior at the University of Maryland majoring in computer science.

As he settles in to Morgan, "I still have a lot to learn," Dr. Barton said. "There are certain things we have to look at if we are going to move the needle and I am looking forward to being a part of moving that needle."•

New Research Projects

EQUITABLE COMPLETE STREETS: Data and Methods for Optimal Design Implementation
Dr. Cinzia Cirillo (University of Maryland); ***Dr. Mansoureh Jeihani,*** *Dr. Paul Schonfeld (University of Maryland)*

Integrated Optimization of Vehicle Speed Control and Traffic Signal Timing: System Development and Testing
Dr. Hao Chen (Virgiia Tech), Dr. Hesham Rakha (Virginia Tech), ***Dr. Mansoureh Jeihani***

Bicyclist Longitudinal Motion Modeling
Dr. Hesham Rakha (Virginia Tech), Dr. Karim Fadhioun (Virginia Tech), ***Dr. Mansoureh Jeihani***

A Comparative Study of Pedestrian Crossing Behavior and Safety in Baltimore and Washington, D.C., Using Video Surveillance
Dr. Celeste Chavis, Dr. Kofi Nyarko, *Dr. Cinzia Cirillo (University of Maryland)*

Adoption and Diffusion of Electric Vehicles in Maryland
Dr. Cinzia Cirillo (University of Maryland)

Multi-depot and Multi-school bus Scheduling Problem with School Bell Time Optimization
Dr. Ali Haghani (University of Maryland)

The Effect of COVID-19 on Mobility and Equity: A Case Study on Transit Users in Baltimore, MD
Dr. Mansoureh Jeihani, Dr. Celeste Chavis

Estimating Traffic Stream Density Using Connected Vehicle Data
Dr. Hesham Rakha (Virginia Tech), Dr. Hossam Abdelghaffar (Virginia Tech)

A Study of the Impact of Ridesharing on Public Transit Ridership
Dr. Hesham Rakha (Virginia Tech), Dr. Jianhe Du (Virginia Tech)

Equity in Accessibility to Opportunities: Insights, Measures, and Solutions based on Mobile Device Location Data
Dr. Lei Zhang (University of Maryland)
Dr. Hyeon-Shic Shin

A Comprehensive Study on CMV Safety Using ITS in Work Zones on Freeways and Arterials
Dr. Mansoureh Jeihani

Development of a Maryland State Specific Preferred Crash Modification Factor (CMF) List
Dr. Young-Jae Lee, Dr. Hyoen-Shic Shin, *Dr. Seyedehsan Dadvar*

Drivers' Distraction Reduction using Automated Vehicle Technology.
Dr. Mansoureh Jeihani

Identifying the State-Specific Distracted Driving Target Group
Dr. Mansoureh Jeihani

Investigating the Effect of Connected Vehicles (CV) Route Guidance on Mobility and Equity
Dr. Mansoureh Jeihani*, Dr. Ali Haghani (University of Maryland)*

Ridesharing and Public Transit
Dr. Hesham Rakha (Virginia Tech), Dr. Jianhe Du (Virginia Tech)

Information about all of our projects and final reports for completed projects are on our website at www.morgan.edu/soe/ntc

Ongoing Research Projects

Shared Bus-Bike Lane Safety Analysis: Assessing Multimodal Access and Conflicts
***Dr. Celeste Chavis**, Dr. Cinzia Cirillo (University of Maryland)*

Developing and Testing an Advanced Hybrid Electric Vehicle Eco-Cooperative Adaptive Cruise Control System at Multiple Signalized Intersections
Dr. Hao Chen (Virginia Tech), Dr. Hesham Rakha (Virginia Tech), ***Dr. Mansoureh Jeihani***

E-Bikes' Effect on Mode and Route Choice: A Case Study of Richmond, VA, Bikeshare
***Dr. Celeste Chavis**, Dr. Vanessa Frias-Martinez (University of Maryland)*

Equity in Accessibility to Opportunities: Insights, Measures, and Solutions based on Mobile Device Location Data
Dr. Lei Zhang, University of Maryland

Investigating the Effect of Connected Vehicles (CV) Route Guidance on Mobility and Equity
***Dr. Mansoureh Jeihani**, Dr. Ali Haghani (University of Maryland)*

Developing Optimal Peer-to-Peer Ridesharing Strategies
Dr. Young-Jae Lee, Amirreza Nickkar

Demand Responsive Delivery of Food in Baltimore City Food Deserts
Dr. Hyeon-Shic Shin, Dr. Richard Pitts

How Mobility and Accessibility Affect Crime Rates: Insights from Mobile Device Location Data
Dr. Lei Zhang (University of Maryland)

2020 Completed Research Projects

Energy Efficient Transportation Modeling
Dr. Hesham Rakha (Virginia Tech)

"Hands on the Wheel, Eyes on the Road" Campaign
Dr. Mansoureh Jeihani

Understanding Access to Grocery Stores in Food Deserts in Baltimore City
Dr. Celeste Chavis, Anita Jones

Innovative Methods for Delivering Fresh Foods to Underserved Populations
***Dr. Hyeon-Shic Shin, Dr. Young-Jae Lee,** Dr. Paul Schonfeld (University of Maryland)*

Developing a Connected Vehicle Transit Signal Priority System
Dr. Kyoungho Ahn (Virginia Tech), Dr. Hesham Rakha (Virginia Tech), ***Dr. Young-Jae Lee***

Developing and Testing an ECO-Cooperative Adaptive Cruise Control System for Buses
Dr. Hesham Rakha (Virginia Tech), Hao Chen (Virginia Tech), ***Dr. Mansoureh Jeihani***

Managing the Impacts of Different CV/AV Penetration Rates on Recurrent Freeway Congestion From the Perspective of Traffic Management
Dr. Gang-Len Chang (University of Maryland)

Driver's Interactions with Advanced Vehicles in Various Traffic Mixes and Flows (autonomous and connected vehciles, (ACVs) electric vehicles (EVs) V2x, trucks bicycles and pedestrians) – Phase I: Driver Behavior Study and Parameter Estimation
Dr. Mansoureh Jeihani

Developing an Eco-Cooperative Adaptive Cruise Control System for Electric Vehicles
Dr. Hesham Rakha (Virginia Tech), Dr. Cinzia Cirillo (University of Maryland)

E^3: Evaluating Equity in Evacuation: A Practical Tool and Two Case Studies
Dr. Cinzia Cirillo (University of Maryland)

Improving Public School Bus Operations: Boston Case Study
Dr. Youssef Bichiou (Virginia Tech), Dr. Hesham Rakha (Virginia Tech), ***Dr. Young-Jae Lee***

Eco-CACC expands to more than cars

The concept of eco-cooperative adaptive cruise control (Eco-CACC) is straightforward – a car approaching an intersection gets recommendations from the traffic signal, including advice about what speed is needed to get through on the green light.

This reduces idling, emissions, and that dreaded should-I-or-shouldn't-I split-second decision about yellow lights. Vehicles that are slow to accelerate, like trucks and buses, can keep moving.

But what kind of information is needed for larger vehicles, and what about hybrid and electric vehicles? And what's the best way to give information to drivers?

Working cooperatively, researchers at the National Transportation Center and the Urban Mobility & Equity Center have tackled these questions with a series of research projects aimed at making Eco-CACC work for all vehicles.

For Eco-CACC to work with any vehicle, numerous calculations are needed to determine factors such as energy consumption, vehicle dynamics and approaches to intersections that may be uphill and downhill.

"The challenges associated with the development of an Eco-CACC system is that the data communicated to the vehicle is delayed because of communication and vehicle control latencies and also the vehicle interacts with other vehicles that may not receive that information and so computations have to be done continuously and fast," said Dr. Hesham Rakha, a professor of civil and environmental engineering at Virginia Tech and the associate director of UMEC. He became interested in such research "because of climate change and the havoc it is causing the world. Personally I believe climate change is the biggest challenge we are and will be facing. The wildfires in California and the storms on the East and Gulf coast are only going to get worse."

The first challenge was creating energy consumption models for light-duty vehicles, research done under an earlier university transportation center grant.

With recent grants from UMEC, researchers built on those results to create Eco-CACC systems for both diesel and hybrid-electric buses and battery-operated electric vehicles. Ongoing research focuses on smaller hybrid-electric vehicles.

Transit buses in Blacksburg, Virginia, where Virginia Tech is located, were test-driven on both local streets and a section with highway speeds, supplying data about fuel consumption and speed in real-world conditions. Electric vehicle data came from the Virginia Tech Comprehensive Power-based Electric Vehicle Energy Consumption Model.

Using such data, Eco-CACC systems compute the optimum vehicle speed profile from upstream to downstream of a signalized intersection. Taken into account is that vehicles may need to accelerate or decelerate to achieve the optimum speed, and the researchers developed algorithms for both cases.

The research into EVs started with a single intersection and then worked on multiple intersections, some of which might be congested.

"Most researchers have focused on developing energy-optimal solutions for a specific vehicle type, such as fuel-powered or electric-powered vehicles. We found that the optimal trajectory for each vehicle type is different from others," Dr. Hao Chen, a research associate at Virginia Tech Transportation Institute, said. "Considering most of vehicles on the road are not automated vehicles, we developed the Eco-CACC system with two modes – automated and manual modes for vehicles with or without an automated control system. Our case studies using simulation software and driving simulator demonstrated the developed system can help both automated and non-automated vehicles to pass signalized intersections with less energy consumption and delay."

Once models were developed that provided the necessary information about speed, then it was time to determine if drivers could properly follow guidance from the connected infrastructure and what method best delivers that guidance.

That research was conducted in the driving simulator in the Safety and Behavioral Analysis Center here at Morgan, which is under the direction of Dr. Mansoureh Jeihani, the director of the NTC and UMEC.

"The results also confirmed the effectiveness of eco speed control in emission reduction, by up to 20% reduction related to uphill scenarios and up to 7% in downhill scenarios," Dr. Jeihani said.

She found that the participants could follow the directions for recommended speed with several different types of display such as text (60%), voice (53%), and graphic/color (76%).

"Women and younger drivers complied with speed guidance less than male and older drivers," she noted.

The results of this research will help planners and policy makers determine how best to use this new technology and when and where to invest in the connected infrastructure that supports it. It will also help vehicle manufacturers market Eco-CACC systems, which likely will be part of a package of advanced vehicle-to-vehicle and vehicle-to-infrastructure communications.•

To read the full research reports, please visit

https://www.morgan.edu/school_of_engineering/research_centers/urban_mobility_and_equity_center/research/completed_research/eco-cooperative_adaptive_cruise_control.html

https://www.morgan.edu/school_of_engineering/research_centers/urban_mobility_and_equity_center/research/completed_research/eco-cacc_for_evs.html

What we've been up to recently

Publications and Presentations

The following papers were published in 2020:

- S. Ahangari, M. Jeihani, and D. Abdollah, Distracted Driving Prediction Model Using a Bayesian Network Approach, International Conference on Transportation Development 2020.
- S. Ahangari and M. Jeihani, Developing and Testing an Eco-Cooperative Adaptive Cruise Control System for Buses, International Conference on Transportation and Development
- Ahangari, S., Mansoureh, J., Salshour, B. and Ndegwa, M. A COMPREHENSIVE ANALYSIS OF DISTRACTED DRIVING USING A DRIVING SIMULATOR, International Journal for Traffic & Transport Engineering 10 (2)
- Khadem, N. K., Nickkar, A., & Shin, H. S. (2020, August). A Review of Different Charging Stations Optimal Localization Models and Analysis Functions for the Electric Vehicle Charging Infrastructure. In International Conference on Transportation and Development 2020 (pp. 262-276). Reston, VA: American Society of Civil Engineers.
- Nickkar, A., Khadem, N. K., & Shin, H. S. (2020, August). Willingness to Pay for Autonomous Vehicles: An Adaptive Choice-Based Conjoint Analysis Approach. In International Conference on Transportation and Development 2020 (pp. 1-14). Reston, VA: American Society of Civil Engineers.
- Banerjee, S., Jeihani, M., Khadem, N. K., & Kabir, M. M. (2020). Influence of red-light violation warning systems on driver behavior–a driving simulator study. Traffic injury prevention, 21(4), 265-271.
- Banerjee, S., Kabir, M. M., Khadem, N. K., & Chavis, C. (2020). Optimal locations for bikeshare stations: A new GIS based spatial approach. Transportation Research Interdisciplinary Perspectives, 100101.
- Lee, Young-Jae, Amirreza Nickkar, Seyedehsan Dadvar and Mana Meskar, "Impact of Automation on Demand Responsive Feeder Transit Network Design," International Journal of Urban Planning and Smart Cities, Volume 2, Issue 1, Article 3, 2021, Accepted
- Choi, Youngmin, Paul M. Schonfeld, Young-Jae Lee and Hyeon-Shic Shin, "Innovative Methods for Delivering Fresh Food to Underserved Populations," ASCE Journal of Transportation Engineering, Accepted

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Patents!

Dr. Young-Jae Lee has filed the paperwork for a utility patent for his algorithm.
He has submitted two more intellectual property disclosure forms.

Meanwhile the team of **Samira Ahangari, Dr. Mansoureh Jeihani and ZR Moghaddam** has begun the patent application process for System and Method for Generating Vehicle Speed Alerts
US Patent App. 16/923,224

Dr. Seyedehsan Dadvar is now a Transportation Research Engineer with Cyfor Technologies LLC which runs the Geometric Design Laboratory for FHWA; he started there July 27, 2020.

The Intelligent Transportation Society of Maryland awarded a scholarship to graduate student **Nashid Khadem.**

Continued from page 7

- Nickkar, Amirreza, Yazdizadeh, Ali, and Young-Jae Lee, "Investigating Factors that Contribute to Freeway Crash Severity Using Machine Learning," Advances in Transportation Studies, Vol 52 Section B, November 2020
- Dadvar, Seyedehsan, Young-Jae Lee and Hyeon-Shic Shin, "Integrated Highway Safety Information System (HSIS) Datasets by means of a Roadway Safety Data Integrator (RSDI) Tool," Data in Brief, August 2020
- Shin, Hyeon-Shic, Seyedehsan Dadvar, Shilpi Bharti and Young-Jae Lee, "Results and Lessons from Local Calibration Process of Highway Safety Manual for the State of Maryland: Freeway Segment, Speed-Changed Lanes and Ramp Terminals," Journal of Safety and Security, July 2020
- Nickkar, Amirreza, Hyeon-Shic Shin and Young-Jae Lee, "Willingness To Pay For Connected Vehicles: An Alternative-Specific Mixed Logit Regression Approach," Vol 10, Issue 2, PP 215-228, International Journal for Traffic and Transport Engineering, April 2020
- Dadvar, Seyedehsan, Young-Jae Lee, and Hyeon-Shic Shin, "Improving Crash Predictability of the Highway Safety Manual through Optimizing Local Calibration Process," Vol 136, Accident Analysis and Prevention, March 2020

Presentations in 2020

- Nickkar, Amirreza, Young-Jae Lee, and Mana Meskar, "Sensitivity Analysis for the Optimal Automated Demand Responsive Feeder Transit System," 17th International Conference on Automated People Movers and Automated Transit Systems (APM-ATS 2020), June 2020
- Dadvar, Seyedehsan, Celeste Chavis, Young-Jae Lee, "Classification and Analysis of Bicycle and Pedestrian Crashes in Washington, DC," ASCE ICTD 2020, Seattle, WA, May 2020
- Nickkar, Amirreza and Young-Jae Lee, "Resource-constrained Automated Demand Responsive Feeder Transit System Project Scheduling Using Metaheuristics," ASCE ICTD 2020, Seattle, WA, May 2020

Congratulations to UMEC researcher **Dr. Celeste Chavis**, the recipient of the 2020-2021 Iva G. Jones Medallion.
One of the highest honors granted to Morgan faculty, this award recognizes excellence across the areas of teaching, research, service, leadership and character.

Md Muhib Kabir put this pandemic time to good use; in September he successfully completed the 22.5-hour online course "Core Skills" organized by Aimsun.

Congratulations to **Dr. Young-Jae Lee**, who is now a full professor.

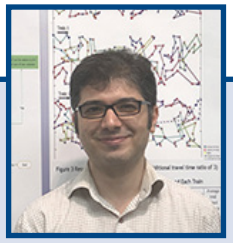
Paper Presentations Accepted for 2021 TRB Conference:

- Khadem, N.K., Jeihani, M., Abujana, J., & Kabir, M.M. (2020). Drivers' Reaction to Connected and Automated Vehicle Safety Applications in the Vicinity of a Work Zone: A Driving Simulator Study.
- Chavis, Celeste, Jones, Anita (2020). Understanding Access to Grocery Stores: A Data-Driven Food Desert Metric Using CHAID Decision Tree Analysis
- Chavis, Celeste, Cirillo, Cinzia. Multi-Modal Traffic Flow in Shared Bus-Bike Lanes: A Scoping Literature Review and Comparison with Baltimore SBBL Infrastructure

Dr. Mansoureh Jeihani was a presenter on April 8, 2020, in the Maryland Department of Transportation's Highway Safety Seminar Series. She presented her research into distracted and impaired driving, conducted as part of the UMEC project Investigating the Impact of Distracted Driving Among Different Socio-Demographic Groups, and discussed the use of technology in research, prevention and outreach.

Post-doc joins NTC and UMEC

Dr. Eazaz Sadeghvaziri is Postdoctoral Research Associate at the National Transportation Center (NTC) and the Urban Mobility & Equity Center (UMEC). He has almost 10 years of experience in the Transportation Engineering field and has conducted different research projects. His research interests include transportation planning, travel pattern analysis, driver behavior analysis, traffic simulation, and traffic safety. He earned his Bachelor of Science in Civil Engineering, his Master of Science in Civil Engineering (Transportation Planning), and his Ph.D. in Civil Engineering (Transportation Engineering). He is a paper reviewer for six different TRB committees and has reviewed, presented, and published many research papers. He has also worked as a transportation engineer in private companies. Having both academic and industry background, Dr. Sadeghvaziri continues his practical research and working with students and practicing engineers to broaden their knowledge.



Congratulations to grad student **Amirreza Nickkar**, who has been selected for the 2020 WDCSITE Scholarship Award.

Congrats to Dr. Young-Jae Lee, who is a guest editor for a special issue of the Journal of Advanced Transportation. The issue is Advanced Data Intelligence Theory and Practice in Transport; submissions are due by March 5 and the issue publishes in July 2021.

We have four webinars detailing research projects available on the UMEC YouTube channel.

https://www.youtube.com/watch?v=JfBq30ELEok

https://www.youtube.com/watch?v=HvvLzdqciQE

https://www.youtube.com/watch?v=nguYLA8XKZs

https://www.youtube.com/watch?v=MdHML76qadI

Making an impact behind the scenes

Dr. Celeste Chavis alerted Ellis Brown and the Food Resource Center to the opportunity for a grant. They applied, and Morgan was awarded $25,000 as the top winner in the Second Annual Ford HBC-You Mobility Challenge with a proposal to support the university Food Resource Center by connecting students to resources through its FRESHLY (Food Resources & Expanded Shuttle for Healthy Living Year-round) program. FRESHLY uses a student-built app that helps students navigate between meal planning and prep courses and trips to the grocery store and farmers' markets using university shuttles. Dr Chavis, who provided feedback for the grant application, will work with them on implementation.