University Transportation Centers

29th Annual Outstanding Student of the Year Awards

Transportation Research Board

99th Annual Meeting

Marriott Marquis

Washington, DC

January 11, 2020

U.S. Department of Transportation
Office of the Assistant Secretary for Research and Technology

WELCOME

Welcome to the 29th Annual University Transportation Centers (UTC) Program's Outstanding Student of the Year Awards ceremony, sponsored by the U.S. Department of Transportation (U.S. DOT) and administered by the Office of the Assistant Secretary for Research and Technology (OST-R).

Each year at the annual winter meeting of the Transportation Research Board, the U.S. DOT honors outstanding students from participating UTCs for their achievements and promise for future contributions to the transportation field. Students of the Year are selected based on their accomplishments in such areas as technical merit and research, academic performance, professionalism, and leadership.

OST-R administers the UTC Program with funding from the Federal Highway Administration.

University Transportation Centers Program

During the past few years, the U.S. DOT has launched several new initiatives designed to set transportation in motion toward a more connected, accessible, and sustainable future. Under the management of the U.S. DOT's Office of the Assistant Secretary for Research and Technology (OST-R), the University Transportation Centers (UTC) Program continues to bolster those efforts through advancing research on topics such as connected vehicles, pedestrian and cyclist safety, freight performance measures, and emissions reduction technologies.

Since its beginning, the mission of the UTC Program has been to focus on the development of advanced U.S. technology and expertise in transportation through education, research, and technology transfer at universities nationwide. The UTC Program was created by Section 314 of the Surface Transportation and Uniform Relocation Assistance Act of 1987, 49 U.S.C. §5317, with the primary purpose of conducting research.

The Intermodal Surface Transportation Equity Act (ISTEA) of 1991 reauthorized the UTC Program through fiscal year (FY) 1997, and expanded its mission to include education and technology transfer. In addition to the 10 Regional Centers, ISTEA created 3 "National" Centers and 6 University Research Institutes at universities named in ISTEA. This expansion led the U.S. DOT to adopt a strategic planning approach to program management based on a mission and set of goals that applied to all 13 centers and 6 institutes. The U.S. DOT extended the grants to the Regional Centers for three years, and announced its intention to reopen the program to competition, which occurred in 1994.

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) reauthorized the UTC Program for an additional 6 years and increased the total number of centers from the original 10 to 33. In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) increased the number of centers to 60. In addition to the 10 Regional Centers, which were competitively selected, 10 Tier-1 funded centers were also competitively selected. With the exception of the Title III centers, all of the UTCs are required to provide a 1-for-1 funding match.

The Surface Transportation Extension Act of 2011 (the Extension Act) gave discretion to redistribute the funds allocated to specific research projects and programs designated in SAFETEA-LU. In accordance with the Extension Act, the U.S. DOT competitively awarded grants to 22 UTCs in the amount of approximately $3.5 million each to 10 Tier-1 UTCs, two Tier-1 Transit-Focused UTCs, and 10 Regional UTCs. These grants were awarded in 2011, and FY 2012 funds were added following extension legislation.

In 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) continued the UTC program, authorizing the competitive selection of 35 UTCs to receive a total of $72.5 million in funding for each of FYs 2013 to 2014, with continued funding from extension acts through FY 2015. Following a competition in 2013, grants of approximately $3 million each were awarded to 5 National UTCs, $2.75 million each to 10 Regional UTCs, and $1.5 million each to 20 Tier-1 UTCs.

Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94), signed in December 2015, was the first federal law in over a decade to provide long-term funding for surface transportation infrastructure planning and investment. The FAST Act authorized $305 billion in spending from FYs 2016 through 2020 for the maintenance of existing and establishment of new initiatives in research, education and workforce development, and the facilitation of technology transfer. To fulfill the FAST Act federal mandate, U.S. DOT hosted a grant competition that resulted in the announcement of 32 new UTCs in December 2016. UTCs in Federal Regions 1, 2, and 3 were added in 2018, and two new National Centers focusing on congestion and infrastructure research were added in 2019.

University Transportation Centers Outstanding Students of the Year

Students are organized by primary mode of interest/study area.

MULTIMODAL	Matt Battifarano Carnegie Mellon University
	Calvin Clark Georgia Institute of Technology
	Matthew Wigginton Conway Arizona State University
	Rebecca Kiriazes Georgia Institute of Technology
	Cole Kopca University of Washington
	Mohammed Suyedur Luqman Rahman Texas Southern University
	Kaitlyn Schaffer Georgia Institute of Technology
	Jesse Simpson University of Memphis
	Logan Verkamp University of Arkansas
	Mary Wolfe University of North Carolina at Chapel Hill
PUBLIC TRANSIT	Kevin James Dennis University of South Florida
	Luke Hassall University of Pennsylvania
	Samuel Jensen University of Arizona
	Reza Nasouri University of Texas at San Antonio
	Hannah Younes University of Maryland, College Park
RAIL	Timothy Mast Virginia Tech

ROAD

Michelle Chang
University of Washington

John Joon Young Chung
University of Michigan

Alexander Curtis
New York University

Sue Dexter
University of Southern California

Ryan Fallica
San Jose State University

Larkin Folsom
North Carolina Agricultural and Technical State University

Ashton Krajnovich
Colorado School of Mines

Vanessa McEntee
University of Utah

Michael Moore
The University of Texas at Austin

Isa Musa
South Carolina State University

Alexandria Noble
Virginia Tech

Tristan Sayre
University of Alaska Fairbanks

Andrew Schanck
University of Maine

Brian Staes
University of South Florida

Francis Tainter
University of Massachusetts Amherst

Noah Thibodeaux
New Jersey Institute of Technology

Elisa Vasquez
University of Nebraska-Lincoln

Michelle Woody
University of Delaware

Matt Battifarano

Carnegie Mellon University

Mobility21, A National UTC for Improving Mobility of People and Goods

mbattifa@andrew.cmu.edu

Bio

Matt Battifarano worked for three years as a data scientist and software engineer for Bridj, a smart mobility start-up. Matt is currently a PhD student in the Mobility Data Analytics Center at Carnegie Mellon University where he studies network modeling of ride-hailing systems and connected and autonomous vehicles. During summer 2019, Matt interned on the strategy team at Uber's Advanced Technology Group, building a simulator to model Uber's autonomous vehicles. In 2018, Matt was selected as a Dwight David Eisenhower Transportation Research Fellow.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Machine Learning and PhD in Advanced Infrastructure Systems from Carnegie Mellon University, 2022.

Master's degree in Advanced Infrastructure Systems, 2019.

Bachelor's degree in Mathematics from the University of Chicago, 2012.

Preferred Career after Graduation

Matt will pursue a career in academia, the public sector, or the private sector.

Broad Research Interest Area

Transportation planning, transport policy, and intelligent transportation systems

Specific Research Area

Transportation network modeling

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

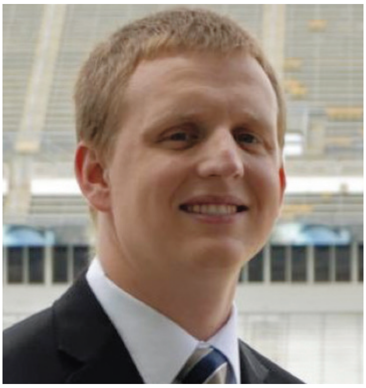
Matt published his first paper in *Transportation Research: Part C*. He also presented research at the 2019 Transportation Research Board (TRB) Annual Meeting and INFORMS 2019.

Thesis Title and Summary

"Socially Optimal Congestion Policy for Connected Fleets."

The continued growth of cities and widespread proliferation of connected and automated vehicle technology in the coming years are projected to decrease the costs of individual vehicle travel and worsen congestion. More efficient utilization of road networks is vital to protecting the economic and social vitality of cities. Using state-of-the-art transportation network models, this thesis will find optimal policies to align the private interests of new mobility providers with public good at the least cost to governments.

Calvin Clark



Georgia Institute of Technology

National Center for Sustainable Transportation

Cclark88@gatech.edu

Bio

Calvin Clark has been recognized as a recipient of the Georgia Institute of Technology (Georgia Tech) Presidential Fellowship, a two-time Eisenhower Fellow, and a three-time ARCS Foundation Scholar. His research currently includes studying user perceptions of bicycle infrastructure and the impact of infrastructure on bicycle trip making. This work includes major projects being funded by the National Cooperative Highway Research Program and Georgia DOT. In addition to research, he served as the vice president of outreach for the student chapter of ITE at Georgia Tech, and competed with the student traffic bowl team for three years.

Degree and Graduation Date (or Anticipated Date)

PhD in Transportation Systems Engineering from Georgia Tech, December 2019.

MS in Civil Engineering from Georgia Tech, 2018.

BS in Civil Engineering from Brigham Young University, 2015.

Preferred Career after Graduation

Calvin plans to pursue a career in academia after graduation.

Broad Research Interest Area

Transportation planning and infrastructure systems

Specific Research Area

Bicycle infrastructure

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

Calvin published an article in *Transportation Research Record*, and successfully defended his dissertation.

Thesis Title and Summary

“Bicycle Facility Preferences and Effects on Bicycle Trips.”

This thesis discusses the findings of focus groups and a survey deployed in six communities in Alabama and Tennessee, where cycling is not (yet) popular and/or widely adopted. Three of these communities, considered treatment sites, were in the process of adding major cycling facilities to their transportation systems. The other three communities were considered control sites, as no such plans were on the immediate horizon, thus creating a setting for a quasi-experimental design. Focus groups highlighted a number of issues related to perceived safety and personal comfort in using the new proposed infrastructure. Results from this study provide useful insights into ways to maximize the return on investments, and design bike infrastructure that can attract patronage and be most successful in areas lacking a substantial bicycling population.

Matthew Wigginton Conway

Arizona State University

Center for Teaching Old Models New Tricks (TOMNET)

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Bio

Matthew Wigginton Conway is a PhD student in Geography at Arizona State University. His research interests lie in urban transportation, specifically interactions between land use policy and transport outcomes. He holds a certificate in Transfer Studies from Foothill College, a bachelor's degree in Geography from the University of California, Santa Barbara, and a master's degree in Geography from Arizona State University. Prior to beginning graduate school, Matthew worked in transportation consulting, applying accessibility metrics to public transit systems in the U.S. and abroad.

Degree and Graduation Date (or Anticipated Date)

PhD in Geography from Arizona State University, May 2022.

Master's degree in Geography from Arizona State University, 2014.

Bachelor's degree in Geography from the University of California, Santa Barbara, 2012.

Preferred Career after Graduation

Matthew plans to pursue a career in academia after graduation.

Broad Research Interest Area

Transportation planning

Specific Research Area

Transportation accessibility and emerging mobility options

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

Matthew was first author of a highly cited paper published in *Urban Science*, that analyzed National Household Travel Survey data from 1995 to 2017 to identify trends in taxi use and the advent of ride-hailing.

Thesis Title and Summary

"The Effects of Relaxed Zoning Regulations on Travel Outcomes."

A number of cities and states, including California, Oregon, and Minneapolis, have recently or are considering loosening their residential zoning regulations to promote more housing construction and address the housing affordability crisis. This dissertation simulates the effects these policy changes will have on transport outcomes—will denser housing lead people to travel more sustainably, or will it simply increase traffic congestion?

Rebecca Kiriazes

Georgia Institute of Technology

Southeastern Transportation Research, Innovation, Development & Education Center

bkiriazes@gatech.edu

Bio

Rebecca Kiriazes is a second-year PhD student at Georgia Institute of Technology with Dr. Kari Watkins funded by the NSF Graduate Student Fellowship. Her research focus has been transit ridership and shared transportation. She received her bachelor's degree in Civil Engineering from the University of Florida as a Stamps Leadership Scholar while working with Dr. Lily Elefteriadou and Dr. Ruth Steiner. Rebecca has interned at the U.S. DOT Volpe Center, Kittelson and Associates, and TLP Engineering Consultants. In Atlanta, Rebecca leads Georgia Institute of Technology's Institute of Transportation Engineers as president, advocates for transit with the MARTA Army, and assists a Girl Scout troop.

Degree and Graduation Date (or Anticipated Date)

PhD at Georgia Institute of Technology, spring 2022.

Graduate degree from Georgia Institute of Technology.

Bachelor's degree in Civil Engineering from the University of Florida, 2018.

Preferred Career after Graduation

Rebecca plans to pursue a career in academia after graduation.

Broad Research Interest Area

Transportation planning

Specific Research Area

Multimodal/transit

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

Rebecca completed a graduate degree from the Georgia Institute of Technology with a 4.0 GPA, and is a student designee for the 2019 Dwight David Eisenhower Transportation Fellowship Program (DDETFP) Graduate Fellowship.

Thesis Title and Summary

"Facilitating a Future of Shared Transportation: Embracing Shared Usage of Vehicles Is Critical to Improving the Urban Transportation System."

This research will understand the willingness of users to participate in shared transportation modes and improve how system designs can better facilitate a sharing dynamic.

Cole Kopca

University of Washington

Pacific Northwest Transportation Consortium

ckopca@uw.edu

Bio

Cole Kopca is a PhD candidate in the School of Civil and Environmental Engineering at the University of Washington, and currently serves as a graduate research assistant in the Smart Transportation Applications & Research Laboratory. Cole is coauthor of one accepted peer reviewed journal article and two peer reviewed conference papers presented at international conferences. He has been recognized with several accolades, including the University of Washington Graduate School's Top Scholar Award, and was awarded second place for Best Poster at the Annual Region 10 Student Poster Competition by the Pacific Northwest Transportation Consortium.

Degree and Graduation Date (or Anticipated Date)

PhD in Transportation Engineering from the University of Washington, spring 2021.

Preferred Career after Graduation

Cole plans to pursue a career in academia after graduation.

Broad Research Interest Area

Transportation planning

Specific Research Area

New mobility solutions

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

Cole was the coauthor of a paper accepted for presentation by the Transportation Research Board for the 2020 Annual Meeting.

Thesis Title and Summary

"Exploring the Interactions of New Mobility Solutions Such as BikeShare/ScooterShare and Public Transit."

There are two dominant theories on the effect that bikeshare programs and scootershare programs have on public transit use. The first is that bikeshare and scootershare constitute an important first mile/last mile connection to transit access, thereby helping to increase transit ridership. The second is that bikeshare and scootershare trips are replacing transit trips, thereby reducing overall transit ridership. This work explores several methodologies to evaluate the effects of bikeshare and scootershare on public transit ridership.

Mohammed Suyedur Luqman Rahman

Texas Southern University

Center for Advanced Multimodal Mobility Solutions and Education

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Bio

Mohammed Suyedur Luqman Rahman is a graduate research assistant in the Department of Transportation Studies at Texas Southern University (TSU). He started his graduate studies in fall 2018, pursuing a master's degree in Transportation Planning and Management. Mohammed gained interest in the area of transportation when he pursued his undergraduate degree in Civil Engineering from 2013 to 2017. During his undergraduate studies, Mohammed was selected for the summer program on Construction Management and awarded a recognition certificate for supporting and participating in various events.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Transportation, Planning, and Management from Texas Southern University, August 2020.

Bachelor's degree in Civil Engineering from Texas Southern University, 2017.

Preferred Career after Graduation

Mohammed plans to pursue a career in the public sector after graduation.

Broad Research Interest Area

Transportation planning and traffic engineering

Specific Research Area

Enhancing multimodal mobility, traffic operations, and public transportation

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

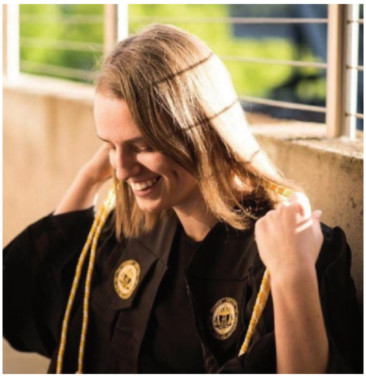
Mohammed became treasurer of the ITE student chapter at TSU in January 2019. In March, he was awarded the second prize of the Research Week at TSU. In June, he gave a presentation on multimodal transportation to high school students during the Summer Camp at TSU. He also received the Transportation Club of Houston Scholarship.

Thesis Title and Summary

"Impacts of Bicycling Corridor Improvements on Bike Shares in Large Cities."

This thesis identifies the impacts of bicycling corridor improvements along roadways and intersections on bike shares. The research provides an analysis of the effects of the corridor treatments and improvements, and it explores bicyclist behavior using data collected before and after bicycling corridor improvements.

Kaitlyn Schaffer



Georgia Institute of Technology

Center for Advancing Research in Transportation Emissions, Energy, and Health (CARTEEH)

Kschaffer6@gatech.edu

Bio

Kaitlyn Schaffer completed her Master's degree in Civil Engineering at Georgia Institute of Technology. Kaitlyn's interest in pursuing a graduate degree stemmed from her love of interdisciplinary learning, especially the intersection of transportation and public health. For the past three years, she has worked as a research assistant on transportation and air quality projects, currently working on two projects funded by CARTEEH.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Civil Engineering from Georgia Institute of Technology, December 2019.

Preferred Career after Graduation

Kaitlyn plans to pursue a career in the private sector at Kittelson and Associates, in the hope of making cities more walkable, bikeable, and healthier for all.

Broad Research Interest Area

Transportation planning

Specific Research Area

Pollutant exposure, health, transportation

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

Kaitlyn completed her graduate degree with a 4.0 GPA. She was also selected as a Student Designee for the 2019 Dwight David Eisenhower Transportation Fellowship Program (DETFP) Graduate Fellowship.

Thesis Title and Summary

"Pollutant Exposure Studies of Emerging Modes of Transportation."

The work presented in this thesis includes the experimental procedures and findings from two CARTEEH research projects, a paratransit exposure study and urban cyclist exposure study, accompanied by a literature review. The literature review consists of four main topics: (1) adverse health effects from particulate matter (PM) exposure, (2) factors that affect air quality and contribute to varying particulate concentrations, (3) methodologies for measuring human exposure to PM for different modes of transportation, and (4) an overview of low-cost air quality sensors. The findings from these initial experiments confirm the impact of transportation networks and the design of associated infrastructure on users' health. These studies are the initial step to characterizing the particulate matter exposure of paratransit and cycling in urban environments.

Jesse Simpson

University of Memphis

Freight Mobility Research Institute

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Bio

Jesse Simpson is a graduate research assistant and doctoral student at the University of Memphis. He is currently researching the adoption of innovations in organizations, focusing on the adoption of connected autonomous vehicles for freight organizations.

Degree and Graduation Date (or Anticipated Date)

PhD and certificate in Freight Transportation from the University of Memphis, fall 2020.

Master's degree in Transportation Engineering from the University of Memphis, 2018.

Bachelor's degree in Civil Engineering from the University of Memphis, 2016.

Preferred Career after Graduation

Jesse plans to pursue a career in academia after graduation.

Broad Research Interest Area

Freight

Specific Research Area

Technological innovations and their influence in transportation, primarily freight and passenger vehicles

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

Jesse was named as Herff Fellow in the College of Engineering at the University of Memphis. He also published a paper in *Research and Transportation Economics*, and presented two papers at the 2019 TRB Annual Meeting.

Thesis Title and Summary

"Adoption of Autonomous Trucks by Freight Organizations."

This thesis presents various models to estimate the future adoption of connected autonomous trucks (CATs) by freight transportation organizations. Bass models were developed for various freight transportation innovations, including improved tractor and trailer aerodynamics, and anti-idling technologies for trucks. The results include estimates of multiple scenarios of CAT adoption over time by freight organizations within the case study region of Shelby County, Tennessee, which provide a foundation for organizational innovation adoption research. Analyses suggest that the market penetration rate of CATs within 25 years varies from nearly universal adoption (i.e., more than 95 percent) to 20 percent or less, depending on the rate at which autonomous technology improves over time, changes in public opinion on autonomous technology, and the addition of external influencing factors such as price and marketing.

Logan Verkamp

University of Arkansas

Maritime Transportation Research and Education Center

ldverkam@email.uark.edu

Bio

An Arkansas native, Logan Verkamp graduated from the University of Arkansas at Fort Smith, receiving a bachelor's degree in Mechanical Engineering. He is currently pursuing a master's degree in Civil Engineering with a focus in Structural Engineering, while under the advisement of Dr. Gary Prinz.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Civil Engineering from the University of Arkansas, May 2020.

Bachelor's degree in Mechanical Engineering from the University of Arkansas.

Preferred Career after Graduation

Logan will pursue a career in the private sector after graduation.

Broad Research Interest Area

Infrastructure systems

Specific Research Area

Fatigue of steel components subject to multi-axial loading

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

Logan published a conference paper and presented at the 19th International Conference on New Trends in Fatigue and Fracture in Tuscon, Arizona.

Thesis Title and Summary

"Effective Fatigue Retrofit Strategies for Multi-axially Loaded Lock-gate Pintles."

The lock-gate pintle is a ball-and-socket joint that is crucial for proper gate operation, but is subject to frequent fatigue cracking. Fatigue crack repair within pintle locations is particularly challenging due to the complex multi-axial loading conditions (combined axial and torsional loads) that occur during gate opening and closing. This project investigates multi-axial stress demands within common pintle geometries during operation, and develops bonded fiber reinforced polymer (FRP) retrofits capable of controlling multi-mode fractures (fractures that originate from both tensile and shear stresses). Anticipated outcomes of the project include an implementable pintle fatigue retrofit strategy improving waterway infrastructure reliability.

Mary Wolfe

University of North Carolina at Chapel Hill

Collaborative Sciences Center for Road Safety

Mkwolfe@email.unc.edu

Bio

Mary Wolfe is in the final year of her doctoral program in City and Regional Planning at University of North Carolina (UNC) Chapel Hill. She holds a bachelor's degree in Environmental Studies from Temple University and a master's degree in Urban Geography from Utrecht University, where she was a Fulbright Scholar. Mary's research explores connections between the built environment and travel behavior, emphasizing transportation health implications. She studies transportation barriers to healthcare access, and the potential of shared mobility and microtransit to improve access to healthcare facilities for underserved populations. Her work applies system science perspectives to anticipate the interplay between technology and medical transport.

Degree and Graduation Date (or Anticipated Date)

PhD in City and Regional Planning from UNC Chapel Hill, May 2020.

Master's degree in Urban Geography from Utrecht University, 2012.

Bachelor's degree in Environmental Studies from Temple University, 2011.

Preferred Career after Graduation

Mary plans to pursue a career in academia after graduation.

Broad Research Interest Area

Transportation planning, transport policy, and infrastructure systems

Specific Research Area

Connections between the built environment and travel behavior, emphasizing transportation health implications

Primary Mode(s)

Multimodal

Top Accomplishment in 2019

Mary disseminated her research through three journal articles and a practitioner-focused webinar with 50 attendees. She also served as the Student Rep to the American Collegiate Schools of Planning (ACSP), which involved meeting bi-annually with the Governing Board and representing ACSP at annual European conferences.

Thesis Title and Summary

"Three Essays on Access to Healthcare."

Transport is a social determinant of health. The safety of the transport system combined with the access it provides to employment, physical activity, and medical care is essential to creating healthy lives and communities. This dissertation examines supply and demand for medical transport services and assesses how new modal options (e.g., Uber and Lyft) can provide systemic solutions to access barriers.

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Kevin James Dennis

University of South Florida

National Center for Transit Research

Kevin1995dennis@gmail.com

Bio

Kevin Dennis is a PhD candidate at the University of South Florida where he completed a bachelor's degree in Computer Science in 2018. Kevin's research interests include cyber-physical system security, with a recent focus on the security of intelligent transportation systems. In 2017, Kevin worked as an intern at LGS Innovations, where he researched vulnerabilities in programmable logic controllers and human-machine interface. Kevin currently serves as the vice president for the Whitehatters Computer Security Club at the University of South Florida, where he competes in nationwide security competitions and teaches new members during weekly meetings.

Degree and Graduation Date (or Anticipated Date)

PhD in Computer Science and Engineering from the University of South Florida, 2023.

Bachelor's degree in Computer Science from the University of South Florida, 2018.

Preferred Career after Graduation

Kevin plans to pursue a career in academia after graduation.

Broad Research Interest Area

Intelligent transportation systems

Specific Research Area

Cybersecurity

Primary Mode(s)

Public transit

Top Accomplishment in 2019

Kevin finalized and submitted the final report for his first Florida Department of Transportation research project.

Thesis Title and Summary

Not applicable.

Luke Hassall

University of Pennsylvania

Cooperative Mobility for Competitive Megaregions (CM2)

lbhassall@gmail.com

Bio

Originally from Auckland, New Zealand, Luke Hassall came to the United States to earn a bachelor's degree in Economics and Political Science from the University of Pennsylvania. Prior to returning to the University of Pennsylvania for his graduate degree, Luke worked for seven years in business knowledge and analytics for the Boston Consulting Group, Harvard Business School, and PricewaterhouseCoopers, with a focus on economic development and organizational design. While earning his master's degree, he worked with Professor Erick Guerra on a variety of transportation research projects, and also completed an internship with the City of Philadelphia's Office of Transportation, Infrastructure, and Sustainability.

Degree and Graduation Date (or Anticipated Date)

Master's degree in City Planning, with a concentration in Transportation and Infrastructure Planning, from the University of Pennsylvania, May 2020.

Bachelor's degree in Economics and Political Science from the University of Pennsylvania, 2011.

Preferred Career after Graduation

Luke plans to pursue a career in consulting or in the public sector, focusing on public transit planning, operations, and/or infrastructure.

Broad Research Interest Area

Transportation planning, transport policy, and infrastructure systems

Specific Research Area

Comparative rail tunnel costs, transit agency institutional design, bus network redesign

Primary Mode(s)

Public transit

Top Accomplishment in 2019

Luke helped write and edit a paper on comparative bicycle travel behavior in U.S. and Mexican metropolitan areas to be presented at Transportation Research Board (TRB) Annual Meeting, and submitted for publication to a peer-reviewed journal.

Thesis Title and Summary

"Congestion Pricing in New York."

This thesis is based on a CM2-supported Studio Project with a team of other Master of City Planning students to develop a policy plan for re-conceptualizing New York's impending congestion pricing program as a step toward a sustainable regional transportation system.

Samuel Jensen

University of Arizona

National Institute for Transportation and Communities

scjensen@email.arizona.edu

Bio

As a graduate student at the University of Arizona, Samuel Jensen has researched bus stop amenities and the impact they have on transit ridership. This summer, he participated in the Initiative for Bicycle and Pedestrian Innovation (IBPI) Comprehensive Bikeway Design Workshop in Portland, Oregon. Samuel is vice-chair of the Tucson Pedestrian Advisory Committee. His work experience includes managing a bike-coop, driving Metro Transit buses, and community organizing. He was an AmeriCorps member working in urban agriculture and bike advocacy. In 2007, Samuel co-founded the Milwaukee Transit Riders Union.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Urban Planning from the University of Arizona, May 2020.

Bachelor's degree in Urban Planning, with a minor in Technical Socio-Economic Planning, from Roskilde University Center in Denmark.

Preferred Career after Graduation

Samuel plans to pursue a career in the public sector after graduation.

Broad Research Interest Area

Transportation planning, transport policy

Specific Research Area

Bicycle and pedestrian planning and safety, and racial and social equity

Primary Mode(s)

Public Transit

Top Accomplishment in 2019

Samuel was lead researcher for a paper on bus stop amenities accepted for a poster session at the 2020 annual meeting of the Transportation Research Board.

Thesis Title and Summary

"An Inventory of Bus Stop Amenity Guidelines at U.S. Transit Agencies."

The quality of the amenities provided at bus stops can vary both between and within agencies due to budgetary constraints, local jurisdiction and neighborhood involvement, and the age of the stop. This paper examines the guidelines used by large transit agencies in the United States in deciding where to place bus stop amenities and identifies common criteria used in this decision-making process. The study shows that bus stop amenity guidelines are a common tool used at large transit agencies and that a number of criteria are named in the guidelines, often varying based on local level concerns—the most common being a ridership threshold. Finally, this paper identifies potential best practices in bus stop amenity placement policies.

Reza Nasouri

University of Texas at San Antonio

Transportation Consortium of South-Central States

Nasouri.reza@gmail.com

Bio

Reza Nasouri is a PhD candidate in Civil and Environmental Engineering at the University of Texas at San Antonio. His doctoral research investigates the mitigation of weldment cracking of highway steel structures due to the galvanizing process. He also serves as a lead researcher on a project investigating the behavior of coastal bridges under hurricane stresses. Reza has completed a master's degree in Geotechnical Engineering from the University of Texas at San Antonio, where his thesis evaluated the behavior of polymer-stabilized soils subjected to critical static and dynamic loads.

Degree and Graduation Date (or Anticipated Date)

PhD in Civil and Environmental Engineering from the University of Texas at San Antonio, December 2019.

Master's degree in Geotechnical Engineering from the University of Texas at San Antonio, 2015.

Preferred Career after Graduation

Reza plans to work in consulting after graduation.

Broad Research Interest Area

Infrastructure systems

Specific Research Area

Public transit infrastructure, sustainable energy, structural integrity assessment, and finite element analysis

Primary Mode(s)

Public transit

Top Accomplishment in 2019

Reza published five peer-reviewed articles in *Applied Energy*, the *Journal of Bridge Engineering*, and the *Journal of Materials in Civil Engineering*. He also assisted with writing two technical final reports for the Transportation Consortium of South-Central States.

Thesis Title and Summary

"Prognosis and Mitigation of Weldment Cracking in High-Mast Illumination Poles Due to Hot-Dip Galvanization."

Cracks that develop during galvanization of High-Mast Illumination Poles (HMIPs), often at the pole-to-base plate connection, are an important concern for highway officials. This study showed that geometric configurations, including plate-to-pole thickness ratio, pole shaft geometric shape, connection type, dipping speed, and preheating, have a significant effect on inducing cracks at the connections.

Hannah Younes

University of Maryland, College Park

Urban Mobility and Equity Center

hyounes@terpmail.umd.edu

Bio

Hannah Younes completed a bachelor's degree in Environmental Science and Policy in 2015 at the University of Maryland (UMD), College Park, and is currently a PhD student at UMD in the fields of Geographical Sciences and Civil Engineering. In 2016, Hannah helped the Maryland Transit Administration make public transportation more accessible by creating the General Transit Feed Specification for all of Maryland. Since 2017, she has been a research assistant at the Maryland Transportation Institute, where she has published research on low-carbon micromobility during transit disruptions and evacuation decisions among vulnerable communities in Florida during a hurricane.

Degree and Graduation Date (or Anticipated Date)

PhD in Geographical Sciences from the University of Maryland, College Park, May 2021.

Bachelor's degree in Environmental Science and Policy from the University of Maryland, College Park, 2015.

Preferred Career after Graduation

Hannah will pursue a career in academia after graduation.

Broad Research Interest Area

Transportation planning, transport policy, and infrastructure systems

Specific Research Area

Low-carbon mobility, modal shifts, and emerging modes of transportation

Primary Mode(s)

Public transit

Top Accomplishment in 2019

Hannah published work as lead author in the *Journal of Transport Geography*.

Thesis Title and Summary

"Shifting Toward Micromobility: Analyzing the Determinants of Usage of Shared Micromobility in the United States."

In recent years, shared micromobility has emerged as a new popular and sustainable mode of transportation. This dissertation focuses on filling the gap on temporal and spatial determinants of shared mobility. Weather factors, gas prices, and special calendar events are some of the temporal determinants analyzed. Spatial factors such as the built environment, land cover, and socio-economic variables are examined, and policy and planning recommendations will be made that promote a low-carbon and sustainable form of transportation.

Timothy Mast

Virginia Tech

Rail Transportation Engineering and Advance Maintenance (RailTEAM)

tmast@vt.edu

Bio

Timothy Mast is a graduate research assistant with the Center for Vehicle Systems and Safety at Virginia Tech, where he conducts research on the optical detection of Top-of-Rail Friction Modifiers (TORFM), a project supported by RailTEAM. Tim has a strong interest in locomotives, motive power, and controls and dynamic systems, particularly as it relates to railroad systems.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Mechanical Engineering from Virginia Tech, May 2020.

Bachelor's degree from Messiah College, 2017.

Preferred Career after Graduation

Tim will pursue a career in consulting or the private sector—particularly, in the rail industry.

Broad Research Interest Area

Infrastructure systems

Specific Research Area

Optical detection of TORFM

Primary Mode(s)

Rail, public transit, multimodal

Top Accomplishment in 2019

Tim successfully designed, fabricated, and commissioned a remote controlled rail vehicle test platform for performing lubricity measurements on a revenue service track. He performed field testing and analyzed the field data for his thesis project.

Thesis Title and Summary

"Practical Assessment of Laser-based Sensors for Qualitative Measurement of Top-of-Rail Friction Modifiers on Revenue Service Track."

Multiple optical sensors were evaluated in a laboratory environment to determine their ability to detect TORFM and their viability for conducting measurements in a field testing environment on a revenue service track. The sensors were carried on a moving platform, which allowed for continuous qualitative assessment of the amount of lubrication that is deposited on the rail at an applicator site and carried forward by the passing train wheels. Extensive laboratory and field testing of the lubricity measurement system has proven that it can be used by the railroads to accurately manage track lubrication. Effective track lubrication would have significant cost savings to U.S. railroads in reducing waste, increasing wheel-rail traction performance, and reducing wheel and rail wear.

Michelle Chang

University of Washington

Accelerated Bridge Construction UTC

Mchang30@uw.edu

Bio

Michelle Chang is a graduate student studying structural engineering at the University of Washington. She received her bachelor's degree in Civil Engineering with a joint focus on structures and architecture from Princeton University in 2016. From 2016 to 2018, Michelle worked as a project engineer for Kiewit at the Los Angeles Rams/Chargers Stadium, where she ran on-site precast concrete operations. She is working with Professors John Stanton and Marc Eberhard on the High-Speed Rail project.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Structural Engineering from the University of Washington, December 2020.

Bachelor's degree in Civil Engineering from Princeton University in 2016.

Preferred Career after Graduation

Michelle plans to pursue a career in academia after graduation.

Broad Research Interest Area

Infrastructure systems, intelligent transportation systems, and traffic engineering

Specific Research Area

Structural engineering

Primary Mode(s)

Road, rail, and public transit

Top Accomplishment in 2019

Michelle built a 95-meter pedestrian bridge in Eswatini, Africa, with a student team and local community members.

Thesis Title and Summary

"Reinforced Concrete Column-to-Shaft Connections in Seismic Regions."

Drilled shafts are often used to support reinforced concrete columns for both high-speed rail and highway bridges. In order to further understand the seismic performance of the column-to-shaft connections, large-scale experimental tests of these connections will be conducted. Different methodologies for designing the transition region will be evaluated. The findings of this research can be used in both precast and cast-in-place applications.

John Joon Young Chung

University of Michigan

Center for Connected and Automated Transportation (CCAT)

jjy@umich.edu

Bio

John Joon Young Chung completed a bachelor's degree in Electrical and Computer Engineering at Seoul National University and is currently a PhD student at the University of Michigan. John worked on ways to recover autonomous vehicles from failures by combining computer systems and remote collective human interventions. John's research has been presented at several Human-Computer Interaction (HCI) conferences.

Degree and Graduation Date (or Anticipated Date)

PhD in Computer Science Engineering from the University of Michigan, 2023.

Bachelor's degree in Electrical and Computer Engineering from Seoul National University.

Preferred Career after Graduation

John plans to pursue a career in academia after graduation.

Broad Research Interest Area

Intelligent transportation systems.

Specific Research Area

Recovering autonomous vehicle failure with collective human interventions

Primary Mode(s)

Road

Top Accomplishment in 2019

John received an Honorable Mention for his paper presented at CSCW 2019. He also published a workshop paper and poster to two other HCI conferences, CHI and UIST.

Thesis Title and Summary

"Improving and Scaffolding Machine Learning or AI Systems with Complex Human Inputs."

The thesis introduces ways to effectively and efficiently improve and scaffold machine learning or AI systems by eliciting complex human inputs, such as patterns and rules, instead of conveying human knowledge by annotating individual data instances.

Alexander Curtis

New York University

Connected Cities towards Smart Mobility and Resilient Transportation (C2SMART)

ac3652@nyu.edu

Bio

Alex Curtis is an experienced urban technologist with a track record of independent, self-directed work and professional service. He has worked as a data scientist for multiple levels of government, including the New York Metropolitan Transportation Authority and U.S. Department of Health and Human Services, as well as an independent urban design consultant. He is seeking to continue work at the intersection of technology and the transportation space, or technology and the urban planning/design/management space more broadly.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Transportation Planning and Engineering from New York University, December 2019.

Bachelor's degree in Philosophy from Columbia University.

Preferred Career after Graduation

Alex plans to work in consulting, the public sector, or the private sector after graduation.

Broad Research Interest Area

Transport policy and intelligent transportation systems

Specific Research Area

Reliability engineering, time series analysis, reliability analysis, condition-based maintenance, predictive maintenance, and event/log-based systems

Primary Mode(s)

Road

Top Accomplishment in 2019

As part of the 2019 Civic Digital Fellowship, Alex developed a prototype in Python, applying artificial intelligence and neuro-linguistic programming to mine written public comments on LD for key themes, recommendations, and sentiment analysis. He successfully pitched this pilot project to be further developed by GSA technologists.

Thesis Title and Summary

"Applications of Reliability Engineering Techniques for Vehicle System Maintenance Alternatives."

What is the best way to maintain a system to provide accurate and timely repair when needed? How do you monitor a system and determine what indicators you are looking for (like failure signatures or errors)? Can we generalize a system with vehicle repair order data as a use case, and, finally, can you scientifically assign maintenance tasks to vehicles in need of service that is more cost-effective, timely, and accurate than traditional maintenance types?

Sue Dexter

University of Southern California

Pacific Southwest Region UTC

shdexter@usc.edu

Bio

Sue Dexter is a PhD candidate in Urban Planning and Development at the University of Southern California and an Eno Fellow, studying land use and transportation with an emphasis on goods movement. She holds a master's degree from the London School of Economics in Operations Research with an emphasis on network optimization. Her interest in researching sustainable urban freight stems from her concern for the environment, numerous years working in logistics for Toyota, and living near the largest port complex in the United States. Sue is currently researching alternative fuel heavy-duty cargo vehicles.

Degree and Graduation Date (or Anticipated Date)

PhD in Urban Planning and Development from the University of Southern California, May 2021.

Master's degree in Operations and Research from the London School of Economics, 1987.

Preferred Career after Graduation

Sue plans to pursue a career either in academia or consulting. She aspires to work on freight infrastructure and policy.

Broad Research Interest Area

Freight

Specific Research Area

Sustainable urban freight, transportation planning and infrastructure, land use policy, environmental policy, climate change mitigation, and international development

Primary Mode(s)

Road

Top Accomplishment in 2019

Sue analyzed the potential of zero-emission trucks to substitute for conventional diesel trucks in drayage operations.

Thesis Title and Summary

"Life Cycle Comparisons Between Diesel and Alternative Fuel Heavy-Duty Trucks: How Much Better Are Battery-Electric or Hydrogen Fuel Cell Trucks for the Environment?"

The goal is to understand regional, state, and global emission impacts of new technologies, including production, operations, and end-of-life recycling. This dissertation will include a policy and market analysis of alternative fuel heavy-duty trucks for urban use with a specific emphasis on California.

Ryan Fallica

San Jose State University

Mineta Transportation Institute

rfallica@gmail.com

Bio

Ryan Fallica graduated from San Diego State University in 2017 with a bachelor's degree in Civil Engineering, and is currently a graduate student in San Jose State University's Transportation Management program. In January 2018, Ryan joined the Caltrans District 11 office in San Diego, California as an Assistant Resident Engineer. He currently oversees the construction of State Route 11, the final highway to be built in San Diego. Ryan is active in his community and works to tackle the issues of local housing insecurity and environmental sustainability.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Transportation Management from San Jose State University, fall 2020.

Bachelor's degree in Civil Engineering from San Diego State University, 2017.

Preferred Career after Graduation

Ryan plans to pursue a career in the public sector after graduation.

Broad Research Interest Area

Transport policy

Specific Research Area

The intersection of transportation and housing policy

Primary Mode(s)

Road

Top Accomplishment in 2019

Ryan received "A" grades in all of his Transportation Management classes.

Thesis Title and Summary

"VMT Analysis in California: SB 743 Implementation in Early Adopter Cities."

This study will evaluate the effectiveness of switching from Level of Service (LOS) to Vehicle Miles Traveled (VMT) as the metric for transportation impact analysis, looking at the impacts on time and support costs during the project development process. Ryan will explore the success of the new VMT metric in California cities that have already adopted the new analysis method, reviewing project documents and interviewing agency officials overseeing the transition.

Larkin Folsom

North Carolina Agricultural and Technical (A&T) State University

Center for Advanced Transportation Mobility

ldfolsom@aggies.ncat.edu

Bio

Larkin Folsom is a PhD student in Computational Science and Engineering at North Carolina A&T State University. His research focuses on information-theoretic, multi-agent route planning for various types of transportation systems. He is involved in four U.S. DOT sponsored UTC projects and one National Science Foundation project. In 2018, as an intern with NASA Jet Propulsion Laboratory, he applied his knowledge of transportation, physics, and aircraft systems to research cooperative multi-agent approaches to optimal route planning. In addition to his research activities, Larkin serves as a mentor to other graduate students by assisting them with transportation-related courses and research.

Degree and Graduation Date (or Anticipated Date)

PhD in Computational Science and Engineering from North Carolina A&T State University, May 2020.

Preferred Career after Graduation

Larkin will pursue a career in academia, consulting, the private sector, or the public sector after graduation.

Broad Research Interest Area

Transportation planning and intelligent transportation systems

Specific Research Area

Connected vehicles and unmanned aerial vehicles

Primary Mode(s)

Road and air

Top Accomplishment in 2019

Larkin helped write, publish, and present a paper at the International Conference on Applied Human Factors and Ergonomics in 2019.

Thesis Title and Summary

"Information-Theoretic Multi-Agent Route Planning in Uncertain Environments."

This research presents multi-agent approaches to routing in multiple environment types containing travel time uncertainty and spatiotemporal correlation. Agent travel time is minimized through balancing the trade-off between exploring regions of interest and exploiting the information gained. Autonomous and human agents are considered, with human agents operating under bounded rationality.

Ashton Krajnovich

Colorado School of Mines

UTC for Underground Transportation Infrastructure

akrajnov@mymail.mines.edu

Bio

Ashton Krajnovich is a PhD candidate in the Colorado School of Mines' department of Geological Engineering. Ashton's research involves the development of an adaptive geologic modeling workflow, which dynamically updates the understanding of geology as excavation progresses. His research has resulted in a partnership with Seequent, a leading developer in 3D geologic modeling software. Ashton received the first place award in the Geological Engineering Pre-Candidacy PhD category at the ConocoPhillips Research Fair in February 2019. In addition, Ashton was the recipient of the Lemke Scholarship Award from the Association of Environmental and Engineering Geologists 2019 Annual Meeting.

Degree and Graduation Date (or Anticipated Date)

PhD in Geological Engineering from the Colorado School of Mines, May 2020.

Bachelor's degree in Geophysical Engineering from the Colorado School of Mines, 2017.

Preferred Career after Graduation

Ashton plans to pursue a career in either academia or the private sector after graduation.

Broad Research Interest Area

Transportation planning and infrastructure systems

Specific Research Area

Geologic characterization for transportation tunnels, 3D geologic modeling, and uncertainty assessment

Primary Mode(s)

Road, rail, and public transit

Top Accomplishment in 2019

Ashton developed a novel workflow for implementing adaptive 3D geologic modeling for tunneling projects.

Thesis Title and Summary

"Adaptive and Predictive 3D Geologic Modeling for Hard Rock Tunneling."

During excavation of transportation tunnels, the actual geologic conditions in the subsurface are revealed, providing an opportunity to adapt and refine an initial, uncertain understanding of subsurface geology. 3D geologic modeling provides an integrated and intuitive format for predicting and communicating subsurface geology and, coupled with probabilistic techniques (Monte Carlo uncertainty analysis and Bayesian inference), can be dynamically updated as new information is collected from the tunnel excavation.

Vanessa McEntee

University of Utah

Mountain-Plains Consortium

Vanessa.mcentee@gmail.com

Bio

Vanessa McEntee worked on fiber reinforced polymer (FRP) related structural rehabilitation projects as an undergrad at the University of Utah where she is continuing her education in structural engineering as a graduate student. Vanessa was a construction engineering intern for roadway projects at the Utah Department of Transportation (UDOT) in 2015, and a roadway design intern at HDR, Inc., in 2016. She also mentored three undergraduate research assistants at the University of Utah.

Degree and Graduation Date (or Anticipated Date)

Master’s degree in Civil and Environmental Engineering from the University of Utah, May 2020.

Bachelor’s degree in Civil and Environmental Engineering from the University of Utah, 2016.

Preferred Career after Graduation

Vanessa plans to continue working in the private sector at Reaveley Engineers, where she primarily designs and retrofits commercial buildings, airports, and hospitals.

Broad Research Interest Area

Infrastructure systems

Specific Research Area

The repair and retrofit of concrete structures with FRP for increased community seismic resiliency.

Primary Mode(s)

Road

Top Accomplishment in 2019

Vanessa presented a poster at the Council of University Transportation Centers Spotlight conference, held at the United States Senate in May 2019. She also presented at the Engineering Mechanics Institute Conference in June 2019, and at the UDOT Annual Conference in November 2019.

Thesis Title and Summary

“Seismic Retrofit and Repair of Existing Bridge Wall Pier Using Conventional and CFRP Systems.”

The project tested three half-scale bridge wall piers to determine their seismic adequacy. One was in the as-built deficient condition, another was seismically retrofitted using carbon FRP (CFRP) composites, and the third included a CFRP repair of the damaged as-built wall pier after initial testing. Both the seismic retrofit and repair designs were successful in increasing the hysteretic energy dissipation and lateral load capacity of the wall piers.

Michael Moore

The University of Texas at Austin

Data-Supported Transportation Operations and Planning (D-STOP) Center

mikemoore119@gmail.com

Bio

Michael Moore completed a bachelor's degree in Civil Engineering in 2013 at Auburn University, and a master's degree in Civil Engineering at Auburn University in 2015. Michael is currently a PhD student at the University of Texas at Austin working on research into connected and automated vehicle (CAV) operation design domains, and the certification of CAVs. Michael worked for Thompson Engineering from 2015-2018 where he helped develop drainage and roadway design plans for state highways.

Degree and Graduation Date (or Anticipated Date)

PhD from the University of Texas at Austin, 2021.

Bachelor's and master's degrees in Civil Engineering from Auburn University in 2013 and 2015, respectively.

Preferred Career after Graduation

Michael plans to pursue a career in the public sector after graduation.

Broad Research Interest Area

Transportation planning, transport policy, and intelligent transportation systems

Specific Research Area

Connected and automated vehicles, emerging technology, and big data

Primary Mode(s)

Road

Top Accomplishment in 2019

Michael helped write and edit an article related to automated vehicle residential relocation impacts published in *Transportation Research: Part C*.

Thesis Title and Summary

"Operational Design Domains and Certification Programs for the Safe Integration of Connected and Autonomous Vehicles onto Public Roads."

This project assesses the effectiveness of Operational Design Domains (ODD) to regulate the operations of connected and autonomous vehicles within a blended environment of level 0-4 vehicles. The report then evaluates the performance of the ODD and uses that knowledge to inform the type and framework of a certification program to ensure the safe deployment of CAVs.

Isa Musa

South Carolina State University

Center for Connected Multimodal Mobility (C2M2)

isamusa700@gmail.com

Bios

Isa Musa is a second year graduate student in the Master of Science in Transportation program at South Carolina State University where he received his Bachelor of Science degree in Biology in 2018. Isa's research focuses on the trip generation of electric vehicle charging stations in Columbia, South Carolina. He has also conducted research related to the crash risk faced by pedestrians due to their distracted behavior. He served as a tutor and a mentor for students majoring in Science, Technology, Engineering, and Math (STEM) in 2019.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Transportation from South Carolina State University, May 2020.

Bachelor's degree in Biology from South Carolina State University, May 2018.

Preferred Career after Graduation

Isa plans to pursue a career in the public sector after graduation.

Broad Research Interest Area

Intelligent transportation systems, traffic engineering

Specific Research Area

Electric vehicles and pedestrian behavior in a connected vehicle environment

Primary Mode(s)

Road

Top Accomplishment in 2019

Isa worked with a team of scientists and engineers on a connected vehicle project at Clemson University in South Carolina. He also presented a poster on "Distracting Walking Countermeasures and Walking Behavior on Pedestrians" at the C2M2 Fall 2019 Conference in Clemson, South Carolina.

Thesis Title and Summary

"Trip Generation of Electric Vehicles Charging Stations in Columbia, South Carolina."

This study will produce trip rates for electric vehicle charging stations. As the market penetration for electric vehicles continues to expand, so will the need for charging stations. The number of trips generated per charging station is essential in determining the number of charging ports, parking ports, and other facilities at the charging station.

Alexandria Noble

Virginia Tech

Safety through Disruption (Safe-D) National UTC

anoble@vtti.vt.edu

Bio

Alexandria Noble is a PhD candidate in the Grado Department of Industrial and Systems Engineering at Virginia Tech. Alex has been a graduate researcher at the Virginia Tech Transportation Institute (VTTI) for six years, working to solve problems related to human factors and transportation safety. She has authored or co-authored over a dozen publications including scientific articles, technical reports, and a book chapter on driver training for driving automation systems.

Degree and Graduation Date (or Anticipated Date)

PhD in Industrial and Systems Engineering from Virginia Tech, spring 2020.

Master's degree in Civil Engineering from Virginia Tech, 2014.

Bachelor's degree in Civil Engineering from West Virginia University, 2013.

Preferred Career after Graduation

Alex plans to pursue a career in either academia or the public sector after graduation.

Broad Research Interest Area

Intelligent transportation systems

Specific Research Area

Driver behavior with emerging vehicle technologies

Primary Mode(s)

Road

Top Accomplishment in 2019

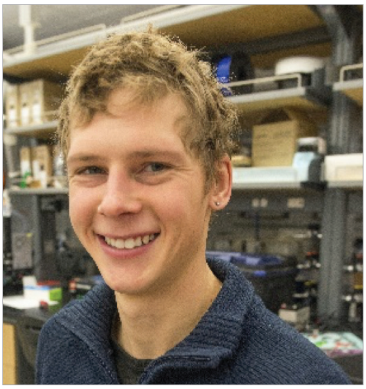
Alex won the Alphonse Chapanis and Surface Transportation Technical Group's Best Student Paper awards at the 63rd International Human Factors and Ergonomics Society Annual Meeting.

Thesis Title and Summary

"The More You Know: Driver Training and Behavioral Adaptation to Driving Automation Systems."

This dissertation uses driving data from both closed test track experiments and naturalistic driving studies to assess driver behavior during their early exposures with driving automation systems. This work seeks to understand if, when, and how driver behavior changes with increased exposure to driving automation systems. One of the goals of this dissertation is to produce guidelines for driver training with driving automation systems aimed at an evidence-based modification to current consumer education materials.

Tristan Sayre



University of Alaska Fairbanks

Center for Safety Equity in Transportation

tnsayre@alaska.edu

Bio

Tristan Sayre received his bachelor's degree in Civil Engineering in 2019 from the University of Alaska Fairbanks (UAF) and is currently a graduate student at UAF. Tristan is continuing research he began as an undergraduate student that seeks to quantify the spatial distribution of off-highway vehicle use and safety on public roads in Alaska and execute a pilot counting study to quantify rates of helmet use, passenger rates, and on-road use. Tristan also competes on the UAF Cross Country Ski and Running teams and coached local high school ski teams while on exchange at Boise State University in 2017.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Civil Engineering from University of Alaska Fairbanks, August 2020.

Bachelor's degree in Civil Engineering from University of Alaska Fairbanks, 2019.

Preferred Career after Graduation

Tristan plans to pursue a career in the public sector after graduation.

Broad Research Interest Area

Traffic engineering

Specific Research Area

Alternative forms of transportation, safety, and spatial analysis

Primary Mode(s)

Road and multimodal

Top Accomplishment in 2019

Tristan was the recipient of the 2019 Coral Sales Douglas P. Daniels Scholarship.

Thesis Title and Summary

"Quantifying Unlawful Use of Off-Highway Vehicles in Alaska."

Many households in Alaska maintain a certain level of mobility through the use of "non-traditional" forms of transportation such as off-highway vehicles (OHVs) and all-terrain vehicles (ATVs) as they are multi-purpose in nature. However, their use on roads and public facilities increases safety concerns due to the disparate capabilities with highway vehicles. To obtain a better understanding of OHV use on public facilities and related safety issues, a pilot counting study was conducted along with a media discourse analysis and a spatial analysis of OHV crashes and traumas.

Andrew Schanck

University of Maine

Transportation Infrastructure Durability Center

Andrew.schanck@maine.edu

Bio

Andrew Schanck received his bachelor's and master's degrees in Civil Engineering from the University of Maine in May 2017 and 2019, respectively. Throughout his academic career, Andrew has worked at the University of Maine's Advanced Structures and Composites Center in numerous roles and for a variety of research projects, including those associated with his research.

Degree and Graduation Date (or Anticipated Date)

PhD in Civil Engineering from the University of Maine, May 2021.

Master's degree in Civil Engineering from the University of Maine, 2019.

Bachelor's degree in Civil Engineering from the University of Maine, 2017.

Preferred Career after Graduation

Andrew plans to work as a consulting bridge engineer for either the rail or highway industries.

Broad Research Interest Area

Infrastructure systems and materials

Specific Research Area

Structural health monitoring, composite tub girder system, and live-load testing of bridges

Primary Mode(s)

Road, rail, and multimodal

Top Accomplishment in 2019

Andrew received his master's degree in Civil Engineering, and was the primary author for a peer-reviewed journal article that was accepted for publication.

Thesis Title and Summary

"Determination of Reinforced Concrete T-Beam and Fiber Reinforced Polymer Tub-Girder Bridge Live-Load Behavior through Live-Load Testing and Advanced Finite Element Analysis."

A sample of 10 reinforced concrete T-beam bridges in Maine were subjected to diagnostic live-load testing under very heavy load, and then analyzed using Proxy Finite Element Analysis, which can track their behavior, acting as a system, up to its ultimate flexural capacity. This combined investigation confirmed the overall conservatism of conventional analysis of these bridges, and revealed that they are likely to have adequate capacity for modern loading. The manufacture and construction of a novel-designed, fiber-reinforced, composite tub-girder bridge will be monitored, and the final bridge will be live-load tested. These observations and measurements, along with advanced numerical analysis, will help inform designers of these bridges' behaviors in the future.

Brian Staes

University of South Florida

Center for Transportation Equity, Decisions, and Dollars

brianstaes@mail.usf.edu

Bio

Brian Staes received his bachelor's degree in Civil Engineering in 2018 from Florida Gulf Coast University, and is currently a graduate research assistant at the Center for Urban Transportation Research (CUTR) under Dr. Robert Bertini. Brian has worked on several CUTR projects, ranging from transit system performance analyses to an evaluation of the stress imposed on Florida's roadways during hurricane evacuations. Brian has also served as a teaching assistant in several engineering courses, helping to train students on key civil engineering principles

Degree and Graduation Date (or Anticipated Date)

Master's degree in Transportation Engineering from the University of South Florida, summer 2020.

Bachelor's degree in Civil Engineering from Florida Gulf Coast University, 2018.

Preferred Career after Graduation

Brian plans to pursue a PhD.

Broad Research Interest Area

Transportation planning, infrastructure systems, and traffic engineering

Specific Research Area

Highway operations—specifically, as they relate to evacuation/disaster incidents

Primary Mode(s)

Road

Top Accomplishment in 2019

Brian competed in the 2019 National ITE Transportation Technology Tournament in Austin, Texas.

Thesis Title and Summary

Travel Time Optimization of Roadway Facilities During Large Scale Mass Evacuations."

By understanding the temporal dynamics of an evacuation, areas of highest risk can be evacuated first, and tracked through the roadway network, to which subsequent downstream areas can be evacuated sequentially to produce the most optimized travel times along the network.

Francis Tainter

University of Massachusetts Amherst

Safety Research Using Simulation (SAFER-SIM)

ftainter@umass.edu

Bio

Francis Tainter is a PhD candidate and graduate research assistant at the University of Massachusetts Amherst (UMass Amherst). He received his bachelor's and master's degrees in Civil Engineering from UMass Amherst in 2016 and 2018, respectively. His research focuses primarily in traffic operations and safety, with an additional emphasis in human factors. Francis has worked on various research projects focused on topics such as crash data linkage, traffic signal optimization, and automated vehicle integration.

Degree and Graduation Date (or Anticipated Date)

PhD in Civil and Environmental Engineering with a focus in transportation from UMass Amherst, May 2020.

Master's degree in Civil Engineering from UMass Amherst, 2018.

Bachelor's degree in Civil Engineering from UMass Amherst, 2016

Preferred Career after Graduation

Francis plans to pursue a career in either academia or the public sector after graduation.

Broad Research Interest Area

Infrastructure systems and traffic engineering

Specific Research Area

Transportation safety, traffic operations, and crash-prediction modeling

Primary Mode(s)

Road and multimodal

Top Accomplishment in 2019

Francis developed a successful research proposal for the Massachusetts DOT that was awarded funding. He also successfully completed the Providence Marathon.

Thesis Title and Summary

"Investigating the Safety Impacts of Left-Turn Infrastructure on the Vulnerable Driving Population."

This research will integrate statewide crash data to evaluate left-turn crash trends and report quality concerns. In order to assist policy and decision-making, these potential safety countermeasures will take into consideration factors of driver behavior variability and heterogeneity, specifically with statewide left-turn infrastructure.

Noah Thibodeaux

New Jersey Institute of Technology

Center for Infrastructure and Transportation (CAIT)

nt82@njit.edu

Bio

Noah Thibodeaux is a doctoral student who is interested in novel construction materials and their durability properties, and the cost utilization of these materials in various industries. Noah has been a student of the John A. Reif, Jr. Department of Civil and Environmental Engineering since his undergraduate years. He is devoted to furthering the understanding of concrete sustainability and durability both in the research community and in industry.

Degree and Graduation Date (or Anticipated Date)

PhD in Civil Engineering from the New Jersey Institute of Technology, spring 2021.

Preferred Career after Graduation

Noah plans to pursue a career in either academia or the private sector.

Broad Research Interest Area

Infrastructure systems and materials

Specific Research Area

Concrete materials

Primary Mode(s)

Road

Top Accomplishment in 2019

Noah developed a preliminary testing methodology for determining the rate of degradation of the bond zone between rapid repair cements and concrete substrate subjected to cyclic freezing and thawing. He also passed his dissertation proposal, and presented at the Research in Progress session at the 2019 American Concrete Institute (ACI) Convention and Exposition.

Thesis Title and Summary

"Freeze-Thaw Durability of the Bond Zone Between Cementitious Rapid Repair Materials and Concrete Substrate."

Rapid repair cements are important for extending the longevity of critical infrastructure while minimizing construction delays. Rapid repair systems are often used interchangeably by the end client. This can result in poor durability, early system failures, and extended maintenance needs. Understanding how each system performs and the environments each system is suited for will improve the durability and cost effectiveness of infrastructure repairs. The two main goals of this work were (1) to understand the rate and magnitude of freeze-thaw deterioration at the bond zone between ordinary portland cement concrete and repairs made with rapid repair cement systems; and (2) to develop a testing procedure to evaluate the bond performance of overlay and repair materials in freeze-thaw environments.

Elisa Vasquez

University of Nebraska-Lincoln

Mid-America Transportation Center (MATC)

Elisa.vasquez@huskers.unl.edu

Bio

Elisa Vasquez completed a bachelor's degree in Mechanical Engineering in 2018 with Cum Laude Honors at the University of Texas-Rio Grande Valley, and is currently a graduate student at the University of Nebraska-Lincoln. Elisa works at the Nebraska Transportation Center's Midwest Roadside Safety Facility as a graduate research assistant in the area of finite element analysis for crash testing analysis and in the modeling of a tank-trailer model for LS-DYNA simulation.

Degree and Graduation Date (or Anticipated Date)

Master's degree from the University of Nebraska-Lincoln, May 2020.

Bachelor's degree in Mechanical Engineering from the University of Texas-Rio Grande Valley, 2018.

Preferred Career after Graduation

Elisa plans to pursue a career in the private sector after graduation.

Broad Research Interest Area

Infrastructure systems

Specific Research Area

Finite element analysis

Primary Mode(s)

Road

Top Accomplishment in 2019

Elisa was awarded the Nebraska Engineering Recruitment Fellowship for two years (2018-2020) to attend graduate school at the University of Nebraska-Lincoln.

Thesis Title and Summary

"Investigation and Development of a MASH Test Level 6 Barrier, Phase II."

This effort will develop an accurate model of a MASH TL-6 vehicle for LS-DYNA simulations. A tank-trailer vehicle and fluid inside the tank will be simulated to analyze the sloshing behavior and to develop a new MASH TL-6 barrier.

Michelle Woody

University of Delaware

Center for Integrated Asset Management for Multi-Modal Transportation Infrastructure Systems

mwoody@udel.edu

Bio

Michelle Woody holds a bachelor's degree in Geography from the University of Mary Washington, which she received in 2012, and is now a graduate student in Disaster Science and Management at the University of Delaware. She is currently working on a project to develop training webinars for state DOTs and local government personnel to improve disaster debris management planning for hazards such as floods, tornadoes, or hurricanes. This work builds on Michelle's experience with emergency management consulting and industry trade associations. Michelle also serves as the vice president of the International Association of Emergency Managers Chapter at University of Delaware.

Degree and Graduation Date (or Anticipated Date)

Master's degree in Disaster Science and Management from the University of Delaware, May 2020.

Bachelor's degree in Geography from the University of Mary Washington, 2012.

Preferred Career after Graduation

Michelle plans to pursue a career in the public sector after graduation

Broad Research Interest Area

Infrastructure systems

Specific Research Area

Disaster recovery and mitigation

Primary Mode(s)

Road

Top Accomplishment in 2019

Michelle co-authored the article "A Research Agenda to Explore the Emergency Operations Center," which is under review by the *Journal of Emergency Management*.

Thesis Title and Summary

"Local Disaster Debris Management Planning Priorities: Qualitative Assessment of Plans from Virginia."

This research aims to better understand the quality of disaster debris plans. Plan goals, facts, and policies are evaluated by conducting a qualitative document analysis of debris management plans from urban localities in Virginia. The analysis of this study can be used to improve the debris planning process in the future.

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