UFTI VISION STATEMENT

To conduct and foster impactful, cross-cutting, multimodal transportation research; to educate the next generation of transportation leaders; and to facilitate technology transfer.

UFTI MISSION STATEMENT

To lead the profession in shaping a better transportation future by functioning as a preeminent center of multidisciplinary transportation research, students’ top choice for transportation education, and a provider of state-of-the-art analysis and decision-support tools.
Dear friends and colleagues,

Advanced transportation technologies including the development of Autonomous and Connected Vehicles continue to disrupt the transportation system operations. This trend will only intensify as market penetration increases. At the UFTI we are working closely with the Florida Department of Transportation, the City of Gainesville and other partners to take advantage of these technologies in order to improve mobility and safety.

This past year we initiated I-STREET (http://www.transportation.institute.ufl.edu/research-2/istreet-about-us/), a real-world testbed which will develop, evaluate, and implement advanced transportation technologies at the University of Florida campus and the surrounding transportation network. Several projects related to I-STREET are now underway, ranging from signal control optimization with autonomous and connected vehicles to truck platooning, and from big data analytics and visualization to transit operations. As part of I-STREET, an autonomous shuttle will begin operations in April 2018, connecting the UF campus to downtown Gainesville. The UFTI will be evaluating the shuttle operations, and will work with the selected company in further research and development related to autonomous vehicle operations. In parallel to on-going projects, we have issued a Request for Information to identify industry partners interested in participating in I-STREET. Participation may involve a variety of potential activities, ranging from implementation and evaluation of existing technologies, to development of new applications and traffic management strategies. Stay tuned to learn more about our findings, opportunities for collaboration, and suggestions for improving the transportation system in your community.

As always, I look forward to hearing from you and collaborating on enhancing our transportation system and our research, education, and technology transfer programs.

Lily Elefteriadou, Ph.D.
Professor & UFTI Director
I-STREET is a collaboration between the FDOT, the CoG, and the University of Florida. The testbed will deploy and evaluate numerous advanced technologies, including connected and autonomous vehicles, smart devices, and sensors. It will also develop and apply novel applications to enhance mobility and safety. These technologies and their application will work within the existing network and will accommodate the presence of conventional vehicles.
Research Highlights

**Big Data Pilot for Transportation Applications**  
*Florida Department of Transportation*  
PI: Sanjay Ranka, Ph.D., Computer & Information Science & Engineering  
Co-PIs: Dr. Siva Srinivasan, Department of Civil & Coastal Engineering; and Dr. Ilir Bejleri, Department of Urban & Regional Planning

The purpose of this project is to demonstrate the usefulness and benefits of utilizing big data sets that are available along with data analytics to analyze, model and solve important challenges in traffic operations and transportation industry. This pilot project will apply the key steps of big data lifecycle processes and tools for the following five well defined use cases: 1) Pedestrian Fatalities, 2) Impact of Sun Rail on Regional Transportation, 3) Effectiveness of Road Ranger Patrols, 4) Assessing Public Perception of Central Florida Regional Transportation and 5) Evaluating the Effectiveness of Investments in Transportation.

**Data Management and Analytics for UF Smart Testbed**  
*Florida Department of Transportation*  
PI: Sanjay Ranka, Ph.D., Computer & Information Science & Engineering  
Co-PIs: Dr. Siva Srinivasan, Department of Civil & Coastal Engineering; and Dr. Ilir Bejleri, Department of Urban & Regional Planning

The University of Florida Transportation Institute (UFTI), the Florida Department of Transportation (FDOT) and the City of Gainesville (CoG) are coordinating the development of a smart testbed on the UF campus and adjoining city streets. The testbed is established to deploy and evaluate numerous advanced technologies including connected and autonomous vehicles, smart devices, and sensors, as well as to develop novel applications for their use. These technologies and their application will work within the existing network and will accommodate the presence of conventional vehicles. The goal of this project is to develop data management and analytics for this testbed.
Improved Analysis of Two-Lane Highway Capacity and Operational Performance

National Cooperative Highway Research Program (NCHRP Project 17-65)

PI: Scott Washburn, Ph.D., Department of Civil & Coastal Engineering

This project addressed gaps and limitations in the current two-lane highway analysis methodology for the Highway Capacity Manual, and identified various modern simulation tools that could be used for two-lane highway modeling. Highlights from this report include the following: the development of a more realistic speed-flow relationship; the introduction of a new service measure - follower density; the reduction of follower status threshold from 3.0 to 2.5 to better identify following status when headway and speed were considered for trailing vehicles; the abandonment of passenger car equivalents (PCE) use of percentage of heavy vehicle in the models for estimating follower density service measures; the inclusion of a quantitative adjustment based on posted speed limit for the estimation of base free-flow speed (BFFS); the development of a new function for estimating length of passing lanes value; and the development of a method for combining the analysis of multiple contiguous segments into a facility-level analysis. This project also introduced features to improve the ease of use of the methodology in the HCM such as elimination of tables requiring interpolation, treating trucks explicitly instead of through passenger car equivalent values, using a single service measure, and eliminating the PTSF measure. And finally, two modern simulation tools were identified that are capable of accurately modeling two-lane highways: SwashSim and TransModeler. The former simulation tool was used to generate the data for model development, while the latter tool was used to test the results of the former tool for a sampling of the experimental design scenarios. The results of the former tool for a sampling of the experimental design scenarios.
Research Highlights

**UFTI Awarded $14 Million Grant for the STRIDE Center**

*STRIDE Center (USDOT)*

PI: Lily Elefteriadou, Ph.D., Department of Civil & Coastal Engineering/ESSIE

The Southeastern Transportation Research, Innovation, Development and Education Center (STRIDE), led by the UFTI, was named the Region 4 (Southeast) University Transportation Center by the U.S. Department of Transportation, and provided with $14M in funding to develop novel strategies for reducing congestion over the next five years. The consortium consists of nine university partners in the region: Auburn University, The Citadel, Florida International University, Georgia Institute of Technology, Jackson State University, North Carolina State University, Tennessee Technological University, University of Alabama at Birmingham, and the University of North Carolina at Chapel Hill.

**Florida Driver Assistive Truck Platooning Analysis**

*Florida Department of Transportation*

PI: Carl Crane, Ph.D., Department of Mechanical and Aerospace Engineering

The objective of this study is to provide research that will assist the Florida Department of Transportation (FDOT) and Florida’s Turnpike Enterprises (FTE) in the development of an analysis of Driver Assistive Truck Platooning (DATP) in Florida and guidelines for implementation. The study will also provide coordination and communication, research, investigation, and reporting on DATP in support of legislative requirements. More specifically, the study will focus on those issues that are relevant to creating a Florida DATP policy. A significant amount of work has been conducted over the past few years regarding the underlying technologies associated with DATP and with the benefits to the trucking industry. This study will reference prior work but is not intended to repeat those prior analyses. Researchers will focus on investigating methods and measures for inclusion in the DATP pilot project so that FDOT can receive data necessary for: 1) informed planning and policy decisions regarding DATP; 2) studying DATP effects on transportation infrastructure; 3) studying use and safe operation of DATP, particularly in terms of how DATP may impact the traveling public.
UF SURF
The University of Florida launched Summer Undergraduate Research at Florida (SURF), a 10-week program that provides students who excel in their studies at their home institutions with the opportunity to work with premier faculty at UF on active research projects. Learn more about the SURF program here: www.eng.ufl.edu/graduate/campus-visits/summer-undergraduate-research-at-florida-surf/.

The following students were participants in this year's UF SURF program and worked with UFTI faculty:

Asean Davis, undergraduate in civil engineering at Jackson State University, studied with Dr. Scott Washburn on a project testing and verifying a two-lane highway analysis methodology which is under development for the Highway Capacity Manual. He worked with two traffic simulation programs, TransModeler and SwashSim, to prepare simulation input files, run simulations, and perform analysis of simulation outputs.

Jabari Wilson from the University of Alabama is an undergraduate in civil engineering. He worked with Dr. Lily Elefteriadou's Autonomous Vehicles at Intelligent Intersections and Advanced Networks (AVIAN) team, assisting in the testing of new algorithms developed to optimize connected and highly automated vehicle trajectories when approaching a signal.

Faculty and Student Awards

Sherrilene Classen, Ph.D.
Department of Occupational Therapy
Dean's Citation Paper Award, College of Public Health and Health Professions, University of Florida, Gainesville, FL
Barbara A. Rider Colloquium. Keynote Speaker. University of Western Michigan, Kalamazoo, MI

Ahmed Helmy, Ph.D
Department of Computer & Information Science & Engineering
Best Poster Award, IEEE International Conference on Computer Communications, for poster: En Route Towards Trace-based Simulation of Vehicular Mobility
2017 August, Wilhelm Scheer Honorary Fellow of TUM Institute for Advanced Study, Technical University of Munich (TUM), Germany
University Term Professor, August 2017–August 2019

Deja Jackson
Ph.D. Candidate, Department of Civil and Coastal Engineering
USDOT Certificate of Recognition for Contributions and Successful Completion of the 2016 Summer Transportation Internship Program for Diverse Groups
2016 Conference of Minority Transportation Officials (COMTO) WSP|Parsons

Brinckerhoff Women in Leadership Scholarship
2017 UF Office of Multicultural and Diversity Affairs Dr. J. Michael Rollo Diversity Impact Award
2017 Lifesavers Conference Traffic Safety Scholar Award

Kyle Riding, Ph.D.
Department of Civil and Coastal Engineering
2017 Best Student Paper, from TRB Standing Committee on Basic Research and Emerging Technologies Related to Concrete (AFN10), and 2017 Concrete Materials Section Best Paper Award, after further review by the committee chairs in the Concrete Materials Section (AFN00) for Paper: Risk of Thermal Cracking from Use of Lightweight Aggregate in Mass Concrete

Ruth Steiner, Ph.D.
Department of Urban and Regional Planning
University of Florida Research Professorship for 2017-2019

Don Watson
Ph.D. Candidate, Department of Civil and Coastal Engineering
Student of the Year 2017 Southeastern Transportation Research, Innovation, Development and Education Center (STRIDE)

Iva and Norman Tuckett Fellowship for the UFTI
The UFTI offered four fellowships through the Herbert Wertheim College of Engineering. Students from any department in the College were eligible. The following students were recipients of the Iva and Norman Tuckett Fellowship for the UFTI:

Josh Peeples
Department of Electrical and Computer Engineering

Gretchen Dietz
Department of Environmental Engineering Sciences

Reynerio Sanchez
Department of Industrial and Systems Engineering

Megan Voss
Department of Civil Engineering

Ahmed Helmy, Ph.D
Department of Computer & Information Science & Engineering
Best Poster Award, IEEE International Conference on Computer Communications, for poster: En Route Towards Trace-based Simulation of Vehicular Mobility
2017 August, Wilhelm Scheer Honorary Fellow of TUM Institute for Advanced Study, Technical University of Munich (TUM), Germany
University Term Professor, August 2017–August 2019

Don Watson
Ph.D. Candidate, Department of Civil and Coastal Engineering
Student of the Year 2017 Southeastern Transportation Research, Innovation, Development and Education Center (STRIDE)
UFTI STUDENT CHAPTERS

WTS Florida Gator Student Chapter

The WTS Florida Gator student chapter participated in various events this past year, ranging from technical transportation-related events and service to the community to career and leadership building activities. Events included: the UF Sustainable Transportation Fair, Eastside High School STEM careers event, a symposium on the “Old Florida Heritage Highway”, attending the Annual WTS International Conference in New York City, a mentoring event with the WTS Central Florida.

Staff and graduate students from the UFTI at the 2016 FSITE Summer Meeting in Daytona Beach City, Fla.

UF ITE Student Chapter

The ITE student chapter at the University of Florida held multiple events, seminars, and workshops this year including the FSITE Summer Meeting and 2016 Traffic Bowl, Transpo 2016, the UF Sustainability Transportation Fair, the “Internet of Things” Summit, and the Dedicated Short Range Communications (DSRC) workshop.

ALUMNI HIGHLIGHTS

Gaurav Sultania, M.S. (UF 2017)
Transportation Planner
PTV Group

“Being a part of UFTI and ITE, I got to network with many professionals in the industry and researchers from other universities. If you are interested to see how technology can affect daily life, transportation engineering is something to get excited about. Make the most of your time at school to grow intellectually and professionally.”

Ria Kontou, Ph.D. (UF 2016)
Postdoctoral Researcher
National Renewable Energy Laboratory

“I have been very fortunate to work under the advisement of preeminent UFTI faculty and collaborate with some of the sharpest students and staff as a PhD candidate at UF. Research work at UFTI aims at enabling efficient, safe, and sustainable transportation systems through partnerships within UF and other academic institutions, government and industry stakeholder’s connections, and community outreach. The UFTI collegiate environment prepared me to pursue my research career ambitions in the fields of transportation energy and planning.”

Clark Letter, Ph.D. (UF 2017)
I-STREET Testbed Manager
University of Florida Transportation Institute

“Working at the UFTI has been a great experience. I have had the opportunity to work on cutting edge technology and advance the transportation industry. In my role as I-STREET testbed manager, I have been able to collaborate with members of the City of Gainesville, State of Florida, University of Florida, and different industry partners.”

Kiarash Faribozi, M.S. (UF 2016)
Transportation Modeler
Stantec

“During my master’s program at UF, I gained knowledge and skills that serve as a great foundation for my career as a transportation modeler. I am always indebted to my professors and alumni at UF who helped me find my way to the transportation industry.”

Liteng Zha, Ph.D. (UF 2017)
Research Scientist
Last Mile Technology Team at Amazon

“My experience at UFTI is fun and inspiring. I enjoyed the annual BBQ and the invited talks.”
TECHNOLOGY TRANSFER

Transportation Technology Transfer (T2) Center: A Year in Review
This year, the T2 Center was awarded another year of funding for Florida’s Local Technical Assistance Program (LTAP). Additionally, the Center won three Federal Highway Administration (FHWA) Accelerating Safety Activity Program awards, and was one of the seven winners of UF-City of Gainesville’s Strategic Development Plan awards. The award will fund research to assess “Public Acceptance of Autonomous Vehicle (AV) Technology.”

The T2 Center increased grant funding by over 20%. With new resources, the Center was able to provide hundreds of hours of technical assistance to local government representatives. The T2 Center hosted 125 transportation training sessions to over 2,500 individuals across Florida, and expanded technical training opportunities to include topics such as Traffic Signal Systems, Florida Greenbook, and Manual on Uniform Traffic Control Devices. The T2 Center continues to house the statewide safety resource centers, including the Florida Pedestrian and Bicycling Safety Resource Center and the Florida Occupant Protection Resource Center. For more information about the T2 Center and the activities and projects housed at the Center, please visit https://www.techtransfer.ce.ufl.edu/t2ctt/default.asp.

McTrans Center: A Year in Review
The McTrans Center released a major upgrade to the Highway Capacity Software (HCS7) to implement the new Highway Capacity Manual 6th Edition (HCM6). While many new analysis features are included, alternative intersections, travel time reliability and managed lanes are probably the most significant. Most modules were rebuilt in a new underlying architecture to expand capabilities and improve user interfaces. New graphics were introduced for Signals results, Streets summaries, Alternative Intersections origin-destination mapping, Freeways facility diagrams, and Heat Map reports for Streets and Freeways. The Highway Safety Manual (HSM) procedures were implemented in a tool included within the HCS7 package.

McTrans presented over twenty webinar series and live training courses on these new HCM6 procedures and HCS7 applications. The webinars were each attended by national audiences, while the training courses were typically for state DOTs or professional organization regional, state, or local sections or chapters. McTrans participated in, and exhibited at, both the Institute of Transportation Engineers (ITE) and Transportation Research Board (TRB) Annual Meetings. McTrans developed software prototypes in parallel with the research process for projects on Alternative Intersections and Interchanges, Signal Timing Optimization for Emissions and Safety, and Freeway-Arterial Interchange Systems. For more information visit http://mctrans.ce.ufl.edu.
Full-Car Simulator Upgrade at the UFTI Creating Opportunities for Interdisciplinary Driving Research

The UFTI inaugurated the UF Driving Simulator on October 28, 2016. The driving simulator was enhanced with up-to-date technology to study human-vehicle interactions. Such studies aspire to keep people safe, improve their driving performance and quality of life, or help them adapt to new technology, e.g., advanced driver assistance systems such as automatic cruise control or collision avoidance systems.

WTS Transportation Symposium on “The Old Florida Heritage Highway”

The WTS Florida Gator Student Chapter hosted their annual Transportation Symposium on October 19, 2016. This year’s topic was the “Old Florida Heritage Highway.” The purpose of this event was to make the community aware of the state-designated scenic highway, its needs as related to resource protection and infrastructure improvements, and its Master Plan, including a discussion on protecting this corridor, its beauty, wildlife, and infrastructure. Panelists included Kathleen Pagan, AICP, Sr. Planner, Growth Management, Alachua County; Dr. James Perran Ross, President, Friends of Paynes Prairie; Steve Scanlan, PE, Operations Program Engineer (Gainesville), FDOT; and Dr. Ruth Steiner, Professor, Urban & Regional Planning, University of Florida.

Dr. Lily Elefteriadou Named Interim Chair for the UF Department of Industrial & Systems Engineering

Dr. Lily Elefteriadou, director of the UFTI, was named the Interim Chair of the Industrial and Systems Engineering (ISE) Department in the Herbert Wertheim College of Engineering. Dr. Elefteriadou oversees the ISE Department, which offers B.S., M.S., and Ph.D. degree programs and has an enrollment of about 560 full-time undergraduate students, 160 masters’ students, and 24 Ph.D. candidates.

UFTI Faculty Co-Authors Textbook Principles of Highway Engineering & Traffic Analysis, 6th Edition

The best-selling, newly updated Principles of Highway Engineering and Traffic Analysis, 6th Edition provides the depth of coverage necessary to solve the highway-related problems that are most likely to be encountered in engineering practice. The focus on highway transportation is appropriate in light of the dominance of the highway mode in the U.S. and available employment opportunities. The textbook is co-authored by Dr. Scott Washburn, a member of the transportation group at UFTI.

Faculty and Students Attend the 4th Annual Florida Automated Vehicles Summit

Faculty and students from the UFTI attended the 4th Annual Florida Automated Vehicles Summit in Tampa, FL, which was held November 29-30, 2016. With Florida as one of five states in the nation allowing the testing of automated vehicles on its roads, the state has been hosting this summit for the past four years to prepare for the eventual implementation and deployment of autonomous and connected vehicle technologies.
Highway Capacity & Quality of Service Committee Receives Blue Ribbon Award at TRB

The Highway Capacity & Quality of Service Committee received the Blue Ribbon Award for promoting and sponsoring transportation research. The committee promulgates a broad range of tools applied by practitioners, researchers, educators, and public policy makers. Dr. Elefteriadou of the UFTI is past chair of the committee.

Workshop on DSRC and Other Communication Options for Transportation Connectivity

The UFTI hosted a workshop on May 3, 2017, which focused on communications options for connected vehicles and connected infrastructure. Four invited experts presented and discussed various implementation and communication applications from around the world, providing their perspective on future trends for smart cities, IoT, and ITS. For more information, visit: http://www.transportation.institute.ufl.edu/2017/04/dsrc-and-other-communication-options-for-transportation-connectivity.

UFTI Participates in FDOT Research Program Peer Exchange

The UFTI participated in a peer exchange on April 25-27, 2017, in Tallahassee, FL, which provided a review of research, development, and technology programs at various state departments of transportation. Information gleaned from the peer exchange will also be taken into consideration for the UF Testbed for Advanced Transportation Technologies project.
UFTI IN THE NEWS

The UFTI was featured in the following news outlets, publications, and social media:

CBS-4 Gainesville
Florida High Tech Corridor Council
UF News
Gainesville Sun
The Alligator
The Tribune Content Agency
Government Technology
WUFT
Traffic Technology Today
ITS America Smart Brief
State University System of Florida Board of Governors
The Transportation Research Board
INTERNAL STEERING COMMITTEE

Lily Elefteriadou, Ph.D.
UFTI Director & Kisinger Campo Professor of Civil Engineering
Engineering School of Sustainable Infrastructure & Environment (ESSIE)

Jennifer Bridge, Ph.D.
Associate Professor
Civil Engineering/Engineering School of Sustainable Infrastructure & Environment (ESSIE)

Maria Cahill, AICP
Director
UFTI Technology Transfer Center (T2)

Carl Crane, Ph.D.
Professor
Mechanical & Aerospace Engineering

Evangelos Christou, Ph.D.
Associate Professor
Applied Physiology and Kinesiology

Myoseon Jang, Ph.D.
Associate Professor
Environmental Engineering Sciences

Sanjay Ranka, Ph.D.
Professor
Computer & Information Science & Engineering

Bill Sampson, P.E.
Director
McTrans

Siva Srinivasan, Ph.D.
Associate Professor
Civil Engineering/Engineering School of Sustainable Infrastructure & Environment (ESSIE)

Ruth Steiner, Ph.D.
Professor
Urban & Regional Planning

SUPPORT STAFF

Ines Aviles-Spadoni, M.S.
Coordinator, Research Programs
STRIDE Center

Jennifer Gomez
Administrative Assistant
UFTI

Elaine Khoo, B.S.
Marketing and Communications Coordinator
UFTI

Dona Moss
Grants Administrator
Department of Civil & Coastal Engineering/ESSIE

Regan Tillery
Grants Specialist
Department of Civil & Coastal Engineering/ESSIE
EXTERNAL ADVISORY BOARD

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UF College of Design, Construction & Planning

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Florida Department of Transportation

Milton Carrasco, P.Eng., M.Eng.
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Parsons Brinkerhoff, Inc.

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Ann Brach, Ph.D., P.E.
Director
Transportation Research Board, Technical Activities Division

Grady Carrick, Ph.D.
Principal
Enforcement Engineering, Inc.

Laura Kelley
Executive Director
Central Florida Expressway Authority

Debora M. Rivera, P.E.
Operations Manager
City of Gainesville

UFTI students utilize a drone to assist with testing at FDOT’s TERL facility.

UFTI students at the Engineering School of Sustainable Infrastructure & Environment (ESSIE) research showcase event.
UFTI CORE CENTERS

STRIDE
The Southeastern Transportation Research, Innovation, Development and Education (STRIDE) Center is a USDOT/RITA grant-funded, regional University Transportation Center (UTC) headquartered at the University of Florida that conducts transportation-related research in the areas of safety, livable communities, and economic competitiveness. Website: https://stride.ce.ufl.edu

McTrans
The McTrans Center at the University of Florida distributes and supports software programs for traffic engineering and transportation planning applications, including the Highway Capacity SoftwareTM (HCS 2010™), TSIS-CORSIM™ and TRANSYT-7F™, with training courses and the highest level of technical support provided for these packages. Website: http://mctrans.ce.ufl.edu/mct

Technology Transfer Center (T2)
As an umbrella organization for many national and state-based programs, T2 provides training, technical assistance, technology transfer services, and safety information to transportation, public works, and safety professionals as well as the general public. Website: https://www.techtransfer.ce.ufl.edu/t2ctt/default.asp

AFFILIATED CENTERS

Center for Health and the Built Environment
The Center for Health and the Built Environment is a research center focused on teaching, research, and service to address the relationship of the built environment to health outcomes, with special attention to vulnerable populations. (Director: Dr. Ruth Steiner, Urban & Regional Planning)

Center for Intelligent Machines and Robotics (CIMAR)
CIMAR is an interdisciplinary research center conducting research on autonomous ground vehicle navigation, screw theory as applied to position and force control of robotic manipulators, three dimensional geometry and kinematic analysis of robotic systems, real-time computer graphics simulation, hardware/software system development and integration. (Director: Dr. Carl Crane, Materials Science Engineering)

Digital Worlds Institute
The Digital Worlds Institute exists to nurture leading-edge research and education among the arts, communications, engineering and the sciences, focusing on advanced media systems and digital culture. (Representative: Dr. Angelos Barmoupits, Computer Science & Engineering)
Geo-Facilities Planning and Information Research Center (GeoPlan Center)
The UF GeoPlan Center works to support land use, transportation, and environmental planning in the Florida by providing geospatial and planning expertise, data, training, and education to the stakeholders involved in the planning process. The center is housed in the Department of Urban & Regional Planning. (Director: Dr. Alexis Thomas, Urban & Regional Planning)

Human-Experience Research Lab (HXRL)
The Human-Experience Research Lab (HXRL) is focused on designing, building, and evaluating computational technologies as they relate to the human condition and reflecting on how these technologies affect society. (Director: Dr. Juan Gilbert, Professor and Chair of the Computer & Information Science & Engineering Department)

Neuromuscular Physiology Lab
The lab’s mission is to better understand movement deficits and to develop rehabilitation protocols to enhance functional independence. (Director: Dr. Evangelos Christou, Professor, Department of Applied Physiology and Kinesiology)

Smart Infrastructure Management Laboratory
Research conducted in this lab is focused on advancing technological and analytical strategies to enable effective monitoring and management of civil infrastructure. (Director: Dr. Jennifer Bridge, Associate Professor, Department of Civil & Coastal Engineering)

University of Florida’s Institute for Mobility, Activity, and Participation (I-MAP)
I-MAP focuses on mobility and transportation throughout the lifespan. Mobility and transportation enable activity, facilitate participation in society, promote access to goods and services, and enhance quality of life. (Director: Dr. Sherrilene Classen, Professor and Chair, Department of Occupational Therapy)

Efficient Transportation Decision Making (ETDM)
ETDM process incorporates environmental considerations into transportation planning to inform project delivery. (Director: Dr. Alexis Thomas, Urban & Regional Planning)

Florida Traffic and Bicycle Safety Education Program (FTBSEP)
FTBSEP employs the diverse skills of a Regional Training Team composed of teachers and other professionals around the state to encourage walking and bicycling as healthy and environmentally responsible transportation choices. Program Director: Dr. Dan Connaughton, Professor and Associate Dean, Department of Tourism, Recreation & Sport Management)
SELECTED PROJECTS

Transportation Safety Center
Florida Department of Transportation
Maria Cahill, AICP & Dr. Siva Srinivasan, Civil & Coastal Engineering

Data Management and Analytics for UF Smart Testbed
Florida Department of Transportation
Dr. Siva Srinivasan & Dr. Sanjay Ranka, UFTI

Local Technical Assistance Program, 2016-2017
Florida Department of Transportation
Maria Cahill, AICP, UFTI T2 Center

Occupant Protection Resource Center, 2016-2017
Florida Department of Transportation
Maria Cahill, AICP, UFTI T2 Center

Florida Task Force on Occupant Protection, 2016-2017
Florida Department of Transportation
Maria Cahill, AICP, UFTI T2 Center

Florida Pedestrian & Bike Safety Resource Center, 2016-2017
Florida Department of Transportation
Maria Cahill, AICP, UFTI T2 Center

Safe Routes to School Technology Assistance, 2017
Florida Department of Transportation
Maria Cahill, AICP, UFTI T2 Center

Before and After Implementation Studies of Advanced Signal Technologies in Florida
Florida Department of Transportation
Dr. Lily Elefteriadou & Dr. Scott Washburn, Civil & Coastal Engineering

Evaluation of Arterial Corridor Improvements and Traffic Management Plans in Florida
Florida Department of Transportation
Dr. Lily Elefteriadou, Civil & Coastal Engineering

Development and Testing of Optimized Autonomous and Connected Vehicle Trajectories at Signalized Intersections
Florida Department of Transportation
Dr. Lily Elefteriadou, Civil & Coastal Engineering

Big Data Management Pilot
Florida Department of Transportation
Dr. Lily Elefteriadou and Dr. Siva Srinivasan, Civil & Coastal Engineering

Highway Capacity Methodologies for Corridors
National Cooperative Highway Research Program Transportation Research Board
Dr. Lily Eleferiadou, Civil & Coastal Engineering

UF Advanced Technologies Campus
Florida Department of Transportation
Dr. Lily Elefteriadou, UFTI

Southeastern Transportation Research, Innovation, Development & Education Center, 2017
US Department of Transportation/OST-R
Dr. Lily Eleferiadou, UFTI

The Use of Small, Unmanned Vehicles to Inspect Bridges
Florida Department of Transportation
Dr. Jennifer Bridge, Civil & Coastal Engineering

Loading on Coastal Bridges in Windstorms using Rapidly Deployable Sensor Network
National Science Foundation Career Award
Dr. Jennifer Bridge, Civil & Coastal Engineering

Sunshine Skyway Bridge Monitor Phase II
Florida Department of Transportation
Dr. Jennifer Bridge, Civil & Coastal Engineering
Florida Driver Assistive Truck Platooning Analysis
Florida Department of Transportation
Dr. Jennifer Bridge, Civil & Coastal Engineering, & Dr. Carl D. Crane, Mechanical and Aerospace Engineering

Improved Analysis of Two-Lane Highway Capacity and Operational Performance
National Academy of Sciences/USDOT
Dr. Scott Washburn, Civil & Coastal Engineering

Freight Mobility Research Institute
Florida Atlantic University
Dr. Scott Washburn, Civil & Coastal Engineering

LiDAR Sensor – Future Data Collection Process
Florida Department of Transportation
Dr. Carl D. Crane, Mechanical and Aerospace Engineering

Energy Aware Time Change Detection using Synthetic Aperture Radar on High-Performance Heterogeneous Architectures: A DDDAS Approach
Air Force Research Laboratory, AFOSR
Dr. Sanjay Ranka, Computer Information Science and Engineering

Traffic Signal Control with Connected and Autonomous Vehicles in the Traffic Stream
National Science Foundation
Dr. Lily Elefteriadou, Civil & Coastal Engineering

The University of Florida Autonomous Vehicles at Intelligent Intersections and Advanced Networks (AVIAN) team at the Traffic Engineering Research Lab (TERL) testing site in Jacksonville, FL.

Dr. Lily Elefteriadou and Matt Ubben, a member of the UFTI’s External Advisory Board, at Gator Day showcasing the Institute’s research, education and technology transfer activities. Gator Day is an annual event that brings together students, alumni, faculty, staff and administration from the University of Florida with the primary purpose of advocating for the University with legislators and other leaders in Florida.

The University of Florida Autonomous Vehicles at Intelligent Intersections and Advanced Networks (AVIAN) team at the Traffic Engineering Research Lab (TERL) testing site in Jacksonville, FL.


SELECTED PRESENTATIONS


Elefteriadou, L. “Transportation Research at the UFTI.” Presentation to the INFORMS UF Student Chapter, February 17, 2017, Gainesville, FL. Invited.


Steiner, R. (2016). “Emerging Transportation Options to Enhance Access for Older Adults.” Presented at the University of North Carolina, Chapel Hill, Department of City and Regional Planning Research Symposium, Nov., 2016, Chapel Hill, NC. Invited.


Yoon, S., Bejleri, I., and Steiner, R., (2016). “Spatial Clustering of Health Outcomes and Its Relation to Urban Form: Florida Case Study.” Presented at the 56th Annual Conference of the ACSP, Nov. 3-6, 2016, Portland, OR.