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Professor of Civil Engineering and Department Chair
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(Revised October 17, 2017)

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EDUCATION

- Ph.D. Civil Engineering (*Transportation*), University of Central Florida, Orlando, Florida, August 1998
- M.S. Civil Engineering (*Transportation*), University of Central Florida, Orlando, Florida, May 1994.
- B.S. B.S. Civil Engineering, Cairo University, Egypt, 1987.

PROFESSIONAL REGISTRATION

PE License in Civil Engineering #38090 (Louisiana)

WORK EXPERIENCE

University of Alabama in Huntsville, College of Engineering. Professor and Department Chair (August 2017-present).

Louisiana State University, College of Engineering. Associate Dean for Academic Affairs and Director of the Engineering Science Program (July 2014-June 2016).

Louisiana State University, Dept. of Civil and Environmental Engineering, Baton Rouge, Louisiana. Undergraduate Program Coordinator (August 2007-July 2014)

Louisiana State University, Dept. of Civil and Environmental Engineering, Baton Rouge, Louisiana. Professor (August 2013-date), Associate professor (August 2007-August 2013), Assistant professor (August 2001-August 2007).

University of Central Florida, Orlando, Dept. of Civil and Environmental Engineering, Florida. Visiting Assistant Professor and Manager of the Intelligent Transportation Systems Lab. (August 1998-August 2001); Graduate Research Assistant (Jan 1992 to August 1998).

Cairo University, Dept. of Civil Engineering, Egypt. Teaching and research assistant, public works dept. (August 1987-Jan 1992).

Administrative and Leadership Achievements and Experience as Associate Dean

- Setting the scholarly and pedagogical tone through overseeing and directing the planning and implementation of the college's strategic initiatives for improving the quality of engineering education;
- Managing both undergraduate and graduate degree programs including ABET and SACS assessment and accreditation processes, as well as the authentication of the strategic planning for the degree programs;
- Overseeing the Office of Student Services, the Engineering Residential College, the Office of Diversity Programs, and the Chevron Center for Engineering Education;

- Supporting various initiatives to promote curriculum improvements and strengthening the core technical competencies;
- Fostering a conducive environment for students to leverage leadership and professional development, global awareness, community engagement, undergraduate research experience, communication and management skills, and entrepreneurial spirit;
- Establishing a new leadership academy sponsored by Chevron for undergraduate students with demonstrated leadership potential and high academic performance;
- Creating more engineering education opportunities for transfer students through development of articulation agreements with several community colleges and constituent campuses such as the new OneLSU initiative to be launched in Fall 2016 with LSU-Eunice, -Shreveport, and -Alexandria;
- Coordinating the execution of the international agreement with Sampoerna University in Jakarta, Indonesia, for four degree programs;
- Attending and speaking at major in-state and out-of-state college events with industry partners and donors;
- Expanding the Encounter Engineering community-building summer camp by 50% to accommodate the increase in freshmen enrollment and improve student retention;
- Promoting international engineering education experience and the study abroad program by joining the Global E3 consortium and working closely with the LSU International Programs Office;
- Developing the strategic initiatives and goals for engineering education in the new strategic plan of 2016-2020;
- Facilitating the execution of the joint five-year Industrial Engineering and Master of Business Administration program;
- Leveraging the Communication Across the Curriculum program through communication intensive courses;
- Forming a new advisory board of industry leaders for the Chevron Center of Engineering Education to provide guidance on developing a strategic plan for improving engineering education;
- Working closely with the Dean's Advisory Council and the Diversity Advisory Board;
- Engaging in all college- and university-level undergraduate and graduate recruitment events;
- Spearheading the strategic effort to create effective growth opportunities for the graduate programs ranging from recruiting highly-qualified domestic and international students to establishing new graduate degree programs, concentrations, and certificates;
- Leading a college-wide initiative to promote partnership of five graduate degree programs with the Shorelight Masters Accelerated Program;
- Managing the college-level graduate fellowships and enhancement funds, as well as teaching awards and summer school budget for the college;
- Overseeing the education budget and other resources for the college;
- Evaluating the proposals submitted to the student technology fee program for funding;
- Compiling and responding to the annual ASEE and US News and World Report surveys;

- Collaborating on several initiatives and projects with College Deans and Associate Deans, the Dean of the Graduate School, the Vice President for Research and Economic Development, the Director of the Office of Undergraduate Research, the Vice Provost for Academic Programs and Support Services, the Associate Vice President for Institutional Effectiveness and Academic Planning, and other administrators.

Research Experience

Transportation systems management and operations; intelligent transportation systems; freeway operations; connected and automated vehicles; managed lanes; traffic control; traffic flow modeling; work zones; information systems and technology; traffic safety; artificial intelligence and advanced computing; and human factors and driving behavior.

Funding Agencies

- Louisiana Transportation Research Center (LTRC)/Louisiana Department of Transportation and Development (DOTD)
- Gulf Coast Research Center for Evacuation and Transportation Resiliency/USDOT
- National University Transportation Center - University of Maryland/USDOT
- Louisiana Board of Regents
- National Science Foundation
- Florida Department of Transportation

FUNDED PROJECTS

Total funding = \$4,693,257.00 (\$1,067,758.00 Federal, \$3,625,499.00 State)

1. S. Ishak (PI) and O. Osman, "Development of Guidelines for Ramp Metering Implementation and Performance Evaluation on I-12", Louisiana Transportation Research Center, \$199,947 (2017-2019).
2. S. Ishak (PI) and O. Osman, "Performance Evaluation of Video Detection Systems for Turning Movement Counts at Signalized Intersections", Louisiana Transportation Research Center, \$132,492 (2017-2018).
3. Y. Zhu, S. Ishak (Co-PI), R. Kooima, "Highway Work Zone Construction Safety Research and Training: A Driving Simulator Study", Louisiana Transportation Research Center, \$280,859 (2016-2018).
4. S. Ishak (PI), "Exploring Naturalistic Driving Study (NDS) Data and Roadway Information Database (RID) for Emerging Applications in Traffic Safety", National Center for Intermodal Transportation for Economic Competitiveness, \$50,524 (2016).
5. S. Ishak (PI), "Endowed Superior Graduate Scholarships", Louisiana Board of Regents, \$600,000 (2016-2020).
6. S. Ishak (PI), "Development of a Test Bed for Connected Vehicles using LSU Driving Simulator", Louisiana Transportation Research Center, \$150,122 (2015-2017).
7. S. Ishak (PI), "Exploring Naturalistic Driving Data for Distracted Driving Measures", Louisiana Transportation Research Center, \$99,521 (2015-2017).
8. S. Ishak (PI) as of August 2014, GEM Engineering Fellowship.
9. S. Ishak (PI), BoR Fellowships (LEQSF - LOUISIANA EDUCATION QUALITY SUPPORT FUND), \$320,000, (2015-2020).

10. S. Ishak (PI), "Development of a Simulation Test Bed for Connected Vehicles using the LSU Driving Simulator", Gulf Coast Research Center for Evacuation and Transportation Resiliency, \$41,317, (2014-2015).
11. S. Ishak (PI), "Real Time Driver Information for Congestion Management", Louisiana Transportation Research Center, \$29,999, (2013-2014).
12. S. Ishak (PI), "Traffic Counting using Existing Video Detection Cameras", National Center for Intermodal Transportation for Economic Competitiveness/Louisiana Transportation Research Center, \$200,382, (2013-2015).
13. S. Ishak (PI), "Development of an Optimal Ramp Metering Control Strategy for I-12", National Center for Intermodal Transportation for Economic Competitiveness/Louisiana Transportation Research Center, \$178,003 (2013-2015).
14. Cai, S. (PI) and S. Ishak (Co-PI), "Assessment of Vehicle Performance in Harsh Environments using Driving Simulator and Numerical Simulations", Gulf Coast Research Center for Evacuation and Transportation Resiliency, \$25,000 (2013-2014).
15. S. Ishak (PI), "A Dynamic Feedback-Control Toll Pricing Methodology for Managed Lanes", Gulf Coast Research Center for Evacuation and Transportation Resiliency/USDOT, \$60,735 (1/2013-6/2013).
16. L. Ikuma (PI), F. Aghazadeh (Co-PI), and S. Ishak (Co-PI), "Effect of Changing Driving Conditions on Driver Behavior towards Design of a Safe and Efficient Traffic System", Gulf Coast Research Center for Evacuation and Transportation Resiliency/USDOT, \$89,802 (2012-2013).
17. S. Ishak (PI) and H. Shin (Co-PI), "History of Road Design Standards in Louisiana DOTD", Louisiana Transportation Research Center, \$149,999 (2012-2013).
18. S. Ishak (PI), "Distracted Driving and Associated Crash Risk", Gulf Coast Research Center for Evacuation and Transportation Resiliency/USDOT/ Louisiana Transportation Research Center, \$128,943 (2012-2013).
19. S. Ishak (PI), "Modeling the effect of gusty hurricane wind force on vehicles using LSU driving simulator", Louisiana Transportation Research Center, \$30,000 (2012-2013).
20. S. Ishak (PI), "Measuring Effectiveness of Ramp Metering Strategies on I-12", Louisiana Department of Transportation and Development / Louisiana Transportation Research Center, \$99,999 (2011-2012).
21. S. Ishak (Co-PI), "ITS Lab Support Proposal", Louisiana Department of Transportation and Development / Louisiana Transportation Research Center, \$93,163 (2010-2011).
22. S. Ishak (PI) and Xin Li (Co-PI), "Establishing an Intelligent Transportation Systems (ITS) Lab at LTRC (Phase II)", Louisiana Department of Transportation and Development / Louisiana Transportation Research Center, \$161,805 (2010-2014).
23. S. Ishak (PI), V. Dixit (Co-PI), and B. Wolshon (Co-PI). "A Driving Simulator to Study Human Behavior and Improve Traffic Operation and Safety in Louisiana," LA Board of Regents, \$182,060 (2010-2011).
24. S. Ishak (PI), "Resilient Transportation: An Integrated Corridor Management Approach," Gulf Coast Research Center for Evacuation and Transportation Resiliency/USDOT, \$37,023 (2009-2010).

25. S. Ishak (PI) and B. Wolshon (Co-PI), "Establishing an Intelligent Transportation Systems (ITS) Lab at LTRC," Louisiana Department of Transportation and Development / Louisiana Transportation Research Center, \$49,994 (2007-2008).
26. B. Wolshon (PI) and S. Ishak (Co-PI), "Safety and Operational Assessment of Unconventional Lane Merges in Freeway Work Zones", Louisiana Department of Transportation and Development / Louisiana Transportation Research Center, \$140,000 (2007-2000).
27. S. Ishak (PI) and Hak-Chul Shin (Co-PI), "Characterization and Development of Truck Load Spectra and Growth Factors for Current and Future Pavement Design Practices in Louisiana," Louisiana Department of Transportation and Development / Louisiana Transportation Research Center, \$119,986 (2007-2008).
28. S. Ishak (PI), "A Hybrid Stochastic Cell-Transmission Model for Operational Analysis of Large-Scale Traffic Networks," LSU Faculty Research Grant Program, \$10,000 (2006-2007).
29. S. Ishak (PI), B. Wolshon (Co-PI), and X. Sun (ULL) (Co-PI), "Evaluation of the Traffic Safety Benefits of a Lower Speed Limit and Restriction of Trucks to Use of Right Lane Only on I-10 Over the Atchafalaya Basin," Louisiana Department of Transportation and Development / Louisiana Transportation Research Center, \$330,013 (2004-2007).
30. S. Ishak, (PI), "Development of Optimal Downsampling Procedures for Microsimulation Modeling of Large-Scale Dynamic Traffic Networks," LSU Faculty Research Grant Program, \$10,000 (2004-2005).
31. S. Ishak (PI), "The Urban Data Warehousing/Data Mining (DW/DM) Component for ITS: Statewide Planning Phase," Louisiana Transportation Research Center through Tulane University, \$45,000 (2003-2005).
32. S. Ishak (PI), "Exploring New Traffic Characteristics and Performance Measures Using Feature Extraction and Texture Characterization of Spatiotemporal Traffic Contour Maps," National Science Foundation, \$111,299 (2003-2006).
33. C.G. Wilmot (PI), B. Wolshon (Co-PI), and S. Ishak (Co-PI), "Modeling Hurricane Evacuation Traffic," Louisiana Transportation Research Center, \$170,000 (2003-2004).
34. S. Ishak (PI), "Microscopic Simulation of Traffic using PARAMICS: A Case Study," LSU Council on Research, Summer Stipend Program, \$5,000, (2002).
35. S. Ishak (PI), "The Impact of Real-Time and Predictive Traffic Information on Travelers' Behavior in the I-4 Corridor," University of Central Florida / Florida DOT, \$49,392 (2001-2003).
36. H. Al-Deek (PI), and S. Ishak, "Development and Testing of Incident Detection Algorithms On I-4 Using AUTOSENSE III," Florida Department of Transportation, \$50,000 (1999-2001).
37. H. Al-Deek (PI), and S. Ishak, "Evaluation of TRANSIMS in Orlando," Center for Advanced Transportation Systems Simulation (CATSS) and Florida Department of Transportation, \$25,000 (2000-2001).
38. S. Ishak (PI), "Development and Maintenance of a Web Site for the Center for Advanced Transportation Systems Simulation: Phase I," Center for Advanced Transportation Systems Simulation (CATSS) and Florida Department of Transportation, \$35,000 (1999).
39. S. Ishak (PI), "Development and Maintenance of a Web Site for the Center for Advanced Transportation Systems Simulation: Phase II," Center for Advanced Transportation Systems Simulation (CATSS) and Florida Department of Transportation, \$35,000 (2000).

40. H. Al-Deek (PI), and S. Ishak, "A Short-Term Traffic Prediction Model Based on Time-Series Models," Florida Department of Transportation, \$100,000 (1998-2001).
41. H. Al-Deek (PI), and S. Ishak, "A New Incident Detection System on I-4 Using Fuzzy ART and Fuzzy ARTMAP," Florida Department of Transportation, \$100,000 (1998-2001).

INVITED TALKS

- Invited speaker for the PacTrans Regional Transportation Seminar at the University of Washington, December 2017.
- Invited keynote speaker at the 2016 5th International Conference on Traffic and Logistic Engineering (ICTLE), Dubai.
- Invited keynote speaker at the 2015 4th International Conference on Traffic and Logistic Engineering (ICTLE), Orlando, Florida.
- ASCE Transportation and Development Institute Seminar on past, current, and future of Intelligent Transportation Systems, Feb 17, 2016.

PEER-REVIEWED JOURNAL PUBLICATIONS

In Preparation

- Mousa, S. and S. Ishak (2017). An Extreme Gradient Boosting Algorithm for Freeway Short-Term Travel Time Prediction Using Basic Safety Messages of Connected Vehicles. To be submitted for publication in the Journal of Advanced Transportation.

In Review

- Ashley, G. N., O. A. Osman, S. Ishak, J. Codjoe, and B. Hasheminezhad (2017). Effect of Secondary Tasks and Driver Behavior on Crash/Near-Crash Risk: A Naturalistic Driving Study. Under review for publication in the Journal of Safety Research.
- Osman, O. A., Ishak, S, S. R. Mousa, S. Karbalaieali, and P. R. Bakhit. (2017). Comparative Performance Evaluation of Freeway Corridor Operation under Local and System Ramp Metering Strategies. Under review for publication in the Canadian Journal of Civil Engineering.
- Theriot, M. A., O. A. Osman, S. Ishak, C. Alecsandru, S. Mousa, and P. Bakhit (2017). Experimental Study of the Impact of Market Penetration on the Effectiveness of Blind Spot Alerts in Connected Vehicle Environments. Under review for publication in the Journal of Transportation Research Part F: Psychology and Behavior.

Accepted/Tentatively Accepted for Publication

- Mousa, S. R., P. R. Bakhit, O. A. Osman, and S. Ishak (2018). A Comparative Analysis for Tree-Based Ensemble Methods for Detecting Imminent Lane Change Maneuvers in Connected/Automated Vehicle Environments. Tentatively accepted for publication in Transportation Research Record: Journal of Transportation Research Board.
- Bakhit, P. R., B. Guo, and S. Ishak (2018). Crash and Near Crash Risk Assessment of Distracted Driving and Engagement in Secondary Tasks: A Naturalistic Driving Study. Tentatively accepted for publication and presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.

In Print

1. Wan, L., D. Cheng, R. Bian, S. Ishak and O. A. Osman (2017). Accounting for Travel Time Reliability, Trip Purpose and Departure Time Choice in an Agent-Based Dynamic Toll Pricing Methodology. IET Intelligent Transport Systems, DOI 10.1049/iet-its.2017.0004.
2. Ye, M., Osman, O. A., Ishak, S., & Hashemi, B. (2017). Detection of driver engagement in secondary tasks from observed naturalistic driving behavior. *Accident Analysis & Prevention*, 106, 385-391.
3. Bakhit P. R., O. A. Osman and S. Ishak (2017). Detecting Imminent Lane Change Maneuvers in Connected Vehicle Environments. Transportation Research Record: Journal of the Transportation Research Board, (2645), DOI 10.3141/2645-18.
4. Ye, M., O. A. Osman and S. Ishak (2017). Accounting for Driver Distraction and Socioeconomic Characteristics in a Crash Risk Index: A Naturalistic Driving Study. Transportation Research Record: Journal of the Transportation Research Board, (2659), DOI 10.3141/2659-22.
5. Ishak, S., S. Jenkins, Y. Qi, J. Codjoe, and O. A. Osman. Statistical Evaluation of Ramp Metering for a Dual Freeway Corridor. MedCrave Online Journal of Civil Engineering, Vol. 1, no. 1, 2016.
6. Mousa, S. R., J. Codjoe, O. A. Osman, S. Jenkins, P. R. Bakhit, S. Ishak., and J. Bonnette. Impact of Geometric, Traffic, and Environmental Conditions on Video Detection Performance: A Case Study in Baton Rouge Metropolitan Area. *Journal of Traffic and Logistics Engineering*, Vol. 4, No. 2, 2016. Pp. 160-166.
7. Osman, O. A., and Ishak, S. (2016). Genetic Algorithm–Based Approach for Optimal Deployment of Roadside Units in Connected and Automated Vehicle Environments. Transportation Research Record: Journal of the Transportation Research Board, (2595), 139-147.
8. Shakouri, M., Ikuma, L. H., Aghazadeh, F., and Ishak, S. (2016). Drivers' merging behavior data in highway work zones. Data in brief, 6, 829-832.
9. Cheng, D., & Ishak, S. (2015). Maximizing toll revenue and level of service on managed lanes with a dynamic feedback-control toll pricing strategy. Canadian Journal of Civil Engineering, 43(1), 18-27.
10. Osman, O., Codjoe, J., Ishak, S., Rodriguez, J., & Russell, M. (2015). "Long-term evaluation of the operational performance of fixed time ramp metering control strategy: a freeway corridor study." Canadian Journal of Civil Engineering 42(11): 910-918.
11. Osman, O. A., & Ishak, S. (2015). A network level connectivity robustness measure for connected vehicle environments. *Transportation Research Part C: Emerging Technologies*, 53, 48-58.
12. Osman, O. A., Codjoe, J., & Ishak, S. (2015). Impact of Time-to-Collision Information on Driving Behavior in Connected Vehicle Environments Using a Driving Simulator Test Bed. *Journal of Traffic and Logistics Engineering Vol. 3*(1).
13. Rodriguez, J. M., Codjoe, J., Osman, O., Ishak, S., & Wolshon, B. (2014). Experimental modeling of the effect of hurricane wind forces on driving behavior and vehicle performance. *Journal of emergency management (Weston, Mass.)*, 13(2), 159-172.

14. Thapa, R., Codjoe, J., Ishak, S., & McCarter, K. S. (2015). Post and During Event Effect of Cell Phone Talking and Texting on Driving Performance—A Driving Simulator Study. *Traffic injury prevention, 16*(5), 461-467.
15. Cheng, D., Li, W., & Ishak, S. (2014). Accounting for Travel Time Reliability and Trip Purpose in an Agent-Based Approach to Toll Pricing with Dynamic Feedback Control. *Transportation Research Record: Journal of the Transportation Research Board, 2470*(1), 131-141.
16. Qi, Y., & Ishak, S. (2014). A Hidden Markov Model for short-term prediction of traffic conditions on freeways. *Transportation Research Part C: Emerging Technologies, 43*, 95-111.
17. Shakouri, M., Ikuma, L. H., Aghazadeh, F., Punniaraj, K., & Ishak, S. (2014). Effects of work zone configurations and traffic density on performance variables and subjective workload. *Accident Analysis & Prevention, 71*, 166-176.
18. Qi, Y., & Ishak, S. (2013). Stochastic approach for short-term freeway traffic prediction during peak periods. *Intelligent Transportation Systems, IEEE Transactions on, 14*(2), 660-672.
19. Rayaprolu, P., Ishak, S., Qi, Y., & Wolshon, B. (2013). Operational assessment of joint and conventional lane merge configurations for freeway work zones. *Journal of Intelligent Transportation Systems, 17*(4), 255-267.
20. Alecsandru, C., Ishak, S., & Qi, Y. (2012). Passenger car equivalents of trucks on four-lane rural freeways under lane restriction and different traffic conditions. *Canadian Journal of Civil Engineering, 39*(10), 1145-1155.
21. Ishak, S., Qi, Y., & Rayaprolu, P. (2012). Safety evaluation of joint and conventional lane merge configurations for freeway work zones. *Traffic injury prevention, 13*(2), 199-208.
22. Qi, Y., Ishak, S., Wolshon, B., & Alecsandru, C. (2012). Traffic behavior and compliance to truck-restriction policies on four-lane rural freeways. *Journal of Transportation Safety & Security, 4*(2), 160-177.
23. Korkut, M., Ishak, S., & Wolshon, B. (2010). Freeway truck lane restriction and differential speed limits: crash analysis and traffic characteristics. *Transportation Research Record: Journal of the Transportation Research Board, (2194)*, 11-20.
24. Ishak, S., Shin, H. C., Sridhar, B., & Zhang, Z. (2010). Characterization and Development of Truck Axle Load Spectra for Implementation of New Pavement Design Practices in Louisiana. *Transportation Research Record: Journal of the Transportation Research Board, (2153)*, 121-129.
25. Ishak, S., Mamidala, C., & Qi, Y. (2010). Stochastic characteristics of freeway traffic speed during breakdown and recovery periods. *Transportation Research Record: Journal of the Transportation Research Board, (2178)*, 79-89.
26. Sun, X., Huang, B., Ishak, S., & Wolshon, B. (2009). Estimating the Safety Impact of Differential Speed Limit and Truck Lane Restriction on Interstate-10 through Atchafalaya Basin in Louisiana. *Journal of Transportation Safety & Security, 1*(3), 169-180.
27. Wolshon, B., Ishak, S., Qi, Y., Korkut, M., Sun, X., & Alecsandru, C. (2009). Trucker perceptions of lane restriction and differential speed limit policies on freeways. *Journal of Transportation Safety & Security, 1*(2), 101-120.
28. Ishak, S., Kondagari, S., & Alecsandru, C. (2008). Probabilistic data-driven approach for real-time screening of freeway traffic data. *Transportation Research Record: Journal of the Transportation Research Board*.

29. Alecsandru, C., Ishak, S., & Zhang, Y. (2007). An optimal downsampling procedure for microscopic simulation modeling of transportation networks: a proof-of-concept study. *Canadian Journal of Civil Engineering*, 34(1), 89-98.
30. Ishak, S., Alecsandru, C., & Seedah, D. (2006). Improvement and evaluation of cell-transmission model for operational analysis of traffic networks: freeway case study. *Transportation Research Record: Journal of the Transportation Research Board*, (1965), 171-182.
31. Ishak, S., Alecsandru, C., & Chakravarthy, S. (2006). Potential computational benefits of geometric, kinematic, and behavioral downsampling of microscopic traffic network simulation. *Journal of computing in civil engineering*, 20(6), 410-419.
32. Ishak, S., & Alecsandru, C. (2005). Analysis of freeway traffic incident conditions by using second-order spatiotemporal traffic performance measures. *Transportation Research Record: Journal of the Transportation Research Board*, (1925), 20-28.
33. Alecsandru, C., & Ishak, S. (2004). Hybrid model-based and memory-based traffic prediction system. *Transportation Research Record: Journal of the Transportation Research Board*, (1879), 59-70.
34. Ishak, S., & Alecsandru, C. (2004). Optimizing traffic prediction performance of neural networks under various topological, input, and traffic condition settings. *Journal of Transportation Engineering*, 130(4), 452-465.
35. Ishak, S. (2004). Exploring textural characteristics of spatiotemporal traffic contour maps. *Journal of transportation engineering*, 130(1), 122-131.
36. Ishak, S. (2003). Fuzzy-clustering approach to quantify uncertainties of freeway detector observations. *Transportation Research Record: Journal of the Transportation Research Board*, (1856), 6-15.
37. Ishak, S., & Al-Deek, H. (2003). Statistical evaluation of interstate 4 traffic prediction system. *Transportation Research Record: Journal of the Transportation Research Board*, (1856), 16-24.
38. Ishak, S. (2003). Deriving traffic-performance measures and levels of service from second-order statistical features of spatiotemporal traffic contour maps. *Transportation Research Record: Journal of the Transportation Research Board*, (1858), 148-157.
39. Ishak, S., Kotha, P., & Alecsandru, C. (2003). Optimization of dynamic neural network performance for short-term traffic prediction. *Transportation Research Record: Journal of the Transportation Research Board*, (1836), 45-56.
40. Ishak, S., & Al-Deek, H. (2002). Performance evaluation of short-term time-series traffic prediction model. *Journal of Transportation Engineering*, 128(6), 490-498.
41. Ishak, S., & Al-Deek, H. (1999). Performance of automatic ANN-based incident detection on freeways. *Journal of Transportation Engineering*, 125(4), 281-290.
42. Ishak, S., & Al-Deek, H. (1998). Fuzzy ART neural network model for automated detection of freeway incidents. *Transportation Research Record: Journal of the Transportation Research Board*, (1634), 56-63.
43. Al-Deek, H. M., Ishak, S. S., & Khan, A. A. (1996). Impact of freeway geometric and incident characteristics on incident detection. *Journal of transportation engineering*, 122(6), 440-446.

44. Al-Deek, H. M., Ishak, S. S., & Radwan, A. E. (1998). Impact of traffic diversion with ATIS on travelers' safety. *Computers and Industrial Engineering*, 34(2), 547-558.

Books and Monographs

- Artificial Intelligence in Transportation: Information for Application. Transportation Research Circular, Transportation Research Board, No. E-C113, Jan. 2007, ISSN 0097-8515.

Conference Proceedings and Presentations

1. Karbalaieali, S., O. A. Osman, and S. Ishak (2018). Evaluation of a Novel Model for Cooperative Merging of Connected Automated Vehicles onto Automated Highways. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
2. Osman, O. A., M. Hajjij, S. Karbalaieali, and S. Ishak (2018). A Bi-Level Methodology for Identification of Types of Secondary Task from Observed Driving Behavior Data: Application of Ensemble Tree Machine Learning Algorithms on SHRP2 NDS Data. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
3. Osman, O. A., M. Hajjij, S. Karbalaieali, and S. Ishak (2018). Crash and Near-Crash Prediction from Observed Vehicle Kinematics Data: A SHRP2 Naturalistic Driving Study. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
4. Mousa, S. R., P. R. Bakhit, O. A. Osman, and S. Ishak (2018). A Comparative Analysis for Tree-Based Ensemble Methods for Detecting Imminent Lane Change Maneuvers in Connected/Automated Vehicle Environments. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
5. Mousa, S. R., R. Mousa, S. Ishak, and O. A. Osman (2018). Developing a Framework of Eco-Driving Application for Semi-Actuated Signal Control Considering Queue Effects. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
6. Bakhit, P. R., O. A. Osman, and S. Ishak (2018). Quantifying Driver Eye Glance Behavior and Levels of Distracted Driving: A Naturalistic Driving Study. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
7. Mousa, S., P. Bakhit, and S. Ishak (2018). Advanced Machine Learning Tools for Identifying the Factors Contributing to Crash/Near-Crash Events: Naturalistic Driving Study Data. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
8. Mousa, S., R. Mousa, and S. Ishak (2018). A Deep-Reinforcement Learning Algorithm for Eco-Speed Control at Signalized Intersections with Prioritized Experience Replay, Target Network, and Double Learning. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
9. Bakhit, P. R., B. Guo, and S. Ishak (2018). Crash and Near Crash Risk Assessment of Distracted Driving and Engagement in Secondary Tasks: A Naturalistic Driving Study. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.

10. Mousa, S. and S. Ishak (2018). A Comprehensive Market Basket Analysis for Extracting Association Rules from the SHRP2 NDS data: Naturalistic Driving Study. Accepted for presentation in the 97th Annual Meeting of the Transportation Research Board, Washington, D.C.
11. Mousa, S. and S. Ishak (2017). Extracting Association Rules from the SHRP2 Naturalistic Driving Data: A Market Basket Analysis. In the 10th SHRP 2 Safety Data Symposium: From Analysis to Results, Transportation Research Board, Washington DC.
12. Osman, O. A., & Ishak, S. (2017, July). Prediction of Travel Time Estimation Accuracy in Connected Vehicle Environments. In *International Congress and Exhibition " Sustainable Civil Infrastructures: Innovative Infrastructure Geotechnology "* (pp. 72-87). Springer, Cham.
13. Ashley, G., O. Osman, S. Ishak, J. Codjoe, and B. Hashemi (2017). Effect of Secondary Tasks and Driver Behavior on Crash/Near-Crash Risk at intersections and non-intersections: A Naturalistic Driving Study. Presented at the 8th International Conference on Applied Human Factors and Ergonomics in Los Angeles, California.
14. Osman, O., S. Ishak, and M. Ye (2017). Crash Risk Analysis of Distracted Driving Behavior: Influence of Secondary Task Engagement and Driver Characteristics. Presented at the 9th International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design in Manchester Village, Vermont.
15. Osman, O., S. Ishak, and M. Ye (2017). Crash Risk Analysis of Distracted Driving Behavior: Influence of Secondary Task Engagement and Driver Characteristics. Presented at the 6th Naturalistic Driving Research Symposium in The Hague, Netherlands.
16. Osman, O., S. Ishak, and M. Ye (2017). Developing a Crash Risk Index and Detecting Driver's Engagement in Secondary Tasks from Driving Behavior Attributes and Socioeconomic Characteristics: A Naturalistic Driving Study. Presented at the 3rd Annual International Conference on Transportation in Athens, Greece.
17. Osman, O., S. Ishak, and M. Ye (2017). Crash Risk Analysis of Distracted Driving Behavior: Influence of Secondary Task Engagement and Driver Characteristics. Presented at the 5th Annual International Conference on Architecture and Civil Engineering in Singapore.
18. Jenkins, S., J. Codjoe, C. Alecsandru, and S. Ishak (2017). Exploration of the SHRP 2 Naturalistic Driving Study: Development of a Distracted Driving Prediction Model. *Advances in Human Aspects of Transportation*, pp.231-242. DOI: 10.1007/978-3-319-41682-3_20.
19. Ye, M., O. A. Osman and S. Ishak (2017). Accounting for Driver Distraction and Socioeconomic Characteristics in a Crash Risk Index: A Naturalistic Driving Study. In Transportation Research Board 96th Annual Meeting (17-06198).
20. Ye, M., O. A. Osman, S. Ishak, and B. Hasheminezhad (2017). An ANN Model for Detecting Secondary Tasks from Driving Behavior Attributes: A Naturalistic Driving Study. In Transportation Research Board 96th Annual Meeting (17-05057).
21. Mousa, S. and S. Ishak (2017). An Extreme Gradient Boosting Algorithm for Freeway Short-Term Travel Time Prediction Using Basic Safety Messages of Connected Vehicles. In Transportation Research Board 96th Annual Meeting (17-04695).
22. Bakhit P. R., O. A. Osman and S. Ishak (2017). Detecting Imminent Lane Change Maneuvers in Connected Vehicle Environments. In Transportation Research Board 96th Annual Meeting (17-04916).

23. Theriot, M. A., C. Alecsandru, O. A. Osman, and S. Ishak (2017). Impact of Connected-Vehicle Market Penetration on the Effectiveness of Blind Spot Warning Applications: A Driving Simulation Study. In Transportation Research Board 96th Annual Meeting (17-04930).
24. Ashley, G. N. M., O. A. Osman, S. Ishak, J. Codjoe, and B. Hasheminezhad (2017). Effect of Secondary Tasks and Driver Behavior on Crash/Near-Crash Risk: A Naturalistic Driving Study. In Transportation Research Board 96th Annual Meeting (17-04982).
25. Ye, M., Osman, O. & Ishak, S. (2016). ANN-Based Secondary Task Identification Model of Distracted Driving. Fifth International Symposium on Naturalistic Driving Research, VTTI, Blacksburg, VA.
26. Osman, O. A., Bakhit, P. R., & Ishak, S. (2016). Queue Estimation at Signalized Intersections Using Basic Safety Messages in Connected Vehicle Environments. In Transportation Research Board 95th Annual Meeting (No. 16-5826).
27. Jenkins, S., Codjoe, J., Alecsandru, C., & Ishak, S. (2016). Exploration of SHRP 2 NDS: Development of a Distracted Driving Prediction Model. In Transportation Research Board 95th Annual Meeting (No. 16-2922).
28. Osman, O. A., & Ishak, S. (2016). A GA-Based Approach for Optimal Deployment of Road Side Units in Connected/Automated Vehicle Environments. In Transportation Research Board 95th Annual Meeting (No. 16-6401).
29. Osman, O., J. Codjoe, and S. Ishak (2015). Impact of Time-to-Collision Information on Driving Behavior in Connected Vehicles Environments using a Driving Simulator Testbed, presented at the 4th International Conference on Traffic and Logistic Engineering, Orlando, Florida.
30. Osman, O. and S. Ishak (2015). Travel Time Estimation and Connectivity Robustness for Connected Vehicle Environments, Preprint CD-ROM of the 94th Annual Meeting of TRB, National Research Council, Washington D.C.
31. Thapa, R., J. Codjoe, S. Ishak and K. McCarter (2015). Investigating the Protracted Effect of Cell Phone Use on Distracted Driving, Preprint CD-ROM of the 94th Annual Meeting of TRB, National Research Council, Washington D.C.
32. Codjoe, J., K. McCarter, and S. Ishak (2015). A Multivariate Analysis of Distracted Driving, Preprint CD-ROM of the 94th Annual Meeting of TRB, National Research Council, Washington D.C.
33. Rodriguez, J., J. Codjoe, O. Osman, S. Ishak, and B. Wolshon (2014). Experimental Modeling of the Effect of Hurricane Wind Forces on Driving Behavior and Vehicle Performance, Preprint CD-ROM of the 93rd, Annual Meeting of TRB, National Research Council, Washington D.C.
34. Shakouri, M., K. Punniaraj, F. Aghazadeh, L. Ikuma, and S. Ishak (2014). Effects of Varying Work Zone Configuration, Distances between Traffic Signs and Individual Differences on Drivers' Perceived Workload, Preprint CD-ROM of the 93rd Annual Meeting of TRB, National Research Council, Washington D.C.
35. Osman, O. and S. Ishak (2014). Accounting for Traffic Density and Market Penetration in A newly developed Connectivity Robustness model for connected vehicles environments, Preprint CD-ROM of the 93rd Annual Meeting of TRB, National Research Council, Washington D.C.

36. Punniaraj, K., M. Shakouri, F. Aghazadeh, L. Ikuma, and S. Ishak (2014). Assessment of the impacts of merge configuration, traffic density and the distance between traffic signs near freeway work zones on drivers' response, Preprint CD-ROM of the 93rd Annual Meeting of TRB, National Research Council, Washington D.C.
37. Thapa, R., J. Codjoe, and S. Ishak (2014). Post and During Event Effect of Cell Phone Talking and Texting On Driving Performance - A Driving Simulator Study, Preprint CD-ROM of the 93rd Annual Meeting of TRB, National Research Council, Washington D.C.
38. Cheng, D., W. Li, and S. Ishak (2014). Accounting for Travel Time Reliability and Trip Purpose in an Agent-Based Dynamic Feedback-Control Toll Pricing Approach: A Case Study on the I-95 Managed Lanes Corridor, Preprint CD-ROM of the 93rd Annual Meeting of TRB, National Research Council, Washington D.C.
39. Cheng, D. and S. Ishak (2013). A Dynamic Feedback-Control Toll Pricing Methodology for Revenue Maximization: A Case Study on I-95 Managed Lanes, Preprint CD-ROM of the 92nd Annual Meeting of TRB, National Research Council, Washington D.C.
40. Dixit, V. and S. Ishak (2012) Behavioral Model for Stochastic Characteristics of Speed Transitions, Preprint CD-ROM of the 91st Annual Meeting of TRB, National Research Council, Washington D.C.
41. Qi, Y. and S. Ishak. (2011) Stochastic Characteristics of Freeway Traffic Speed and Application to Short-Term Speed Prediction, Preprint CD-ROM of the 90th Annual Meeting of TRB, National Research Council, Washington D.C.
42. Qi, Y. and S. Ishak. (2011) Application of Hidden Markov Models to Short-Term Speed Prediction during Peak Periods, Preprint CD-ROM of the 90th Annual Meeting of TRB, National Research Council, Washington D.C.
43. Korkut, M., S. Ishak, and B. Wolshon. (2010) Crash Analysis and Traffic Characteristics under Freeway Truck Lane Restriction and Differential Speed Limit Policies, Preprint CD-ROM of the 89th Annual Meeting of TRB, National Research Council, Washington D.C.
44. Rayaprolu, P., S. Ishak, and B. Wolshon. (2010) Operational Assessment of Joint and Conventional Lane Merge Configurations for Freeway Work Zones, Preprint CD-ROM of the 89th Annual Meeting of TRB, National Research Council, Washington D.C.
45. Ishak, S., H.C. Shin, B. Sridhar, and D. Zhang. (2010) Characterization and development of truck axle load spectra for future implementation of new pavement design practices in Louisiana, Preprint CD-ROM of the 89th Annual Meeting of TRB, National Research Council, Washington D.C.
46. Ishak, S., C. Mamidala, and Y. Qi. (2010) Stochastic Characteristics of Freeway Traffic Speed during Breakdown and Recovery Periods, Preprint CD-ROM of the 89th Annual Meeting of TRB, National Research Council, Washington D.C.
47. Alecsandru, C., S. Ishak, J. Stanley, and Y. Qi. (2010) Passenger car equivalents of trucks under lane restriction and differential speed limit policies on four-lane freeways, Preprint CD-ROM of the 89th Annual Meeting of TRB, National Research Council, Washington D.C.
48. Qi, Y., and S. Ishak. (2009) Effect of Truck Lane Restriction and Differential Speed Limit on Traffic Characteristics of Four Lane Rural Freeways, Presented at the 2nd International Symposium of Freeway and Tollway Operation, Honolulu, Hawaii.
49. Qi, Y., S. Ishak, B. Wolshon, C. Alecsandru, and X. Sun. (2009) Effect of Truck Lane Restriction and Differential Speed Limit on Traffic Characteristics of Four-Lane Rural

- Freeways, Preprint CD-ROM of the 88th Annual Meeting of TRB, National Research Council, Washington D.C.
50. Wolshon, B., S. Ishak, Y. Qi, M. Korkut, and C. Alecsandru. (2009) Trucker perceptions and Opinions of Lane Restriction and Differential Sped Limit Policies on Freeways, Preprint CD-ROM of the 88th Annual Meeting of TRB, National Research Council, Washington D.C.
 51. Alecsandru, C. and S. Ishak. (2007) Accounting for Random Driving Behavior and Nonlinearity of Backward Wave Speeds in the Cell Transmission Model, Preprint CD-ROM of the 86th Annual Meeting of TRB, National Research Council, Washington D.C.
 52. Ishak, S., S. Kondagari*, and C. Alecsandru*. (2007) A Probabilistic Data-Driven Approach for Real-Time Screening of Freeway Traffic Data, Preprint CD-ROM of the 86th Annual Meeting of TRB, National Research Council, Washington D.C.
 53. Ishak, S., C. Alecsandru*, and D. Seedah†. (2006) An Improved Cell-Transmission Model for Operational Analysis of Freeway Networks, 9th International ASCE Conference on Applications of Advanced Technology in Transportation.
 54. Ishak, S., C. Alecsandru*, and D. Seedah†. (2006) Improvement and Evaluation of the Cell-Transmission Model for Operational Analysis of Traffic Networks: A Freeway Case Study, Preprint CD-ROM of the 85th Annual Meeting of TRB, National Research Council, Washington D.C.
 55. Ishak, S., Y. Zhang*, and C. Alecsandru*. (2005) Development of Optimal Downsampling Procedures for Microsimulation Modeling of Transportation Networks: A Freeway Case Study, Preprint CD-ROM of the 84th Annual Meeting of TRB, National Research Council, Washington D.C.
 56. Ishak, S., and C. Alecsandru*. (2005) Analysis of Freeway Pre-Incident, Post-Incident, and Non-Incident Conditions Using Second-Order Spatio-Temporal Traffic Performance Measures, Preprint CD-ROM of the 84th Annual Meeting of TRB, National Research Council, Washington D.C.
 57. Ishak, S., S. Chakravarthy* and C. Alecsandru*. (2004) Performance versus Scalability of Microscopic Traffic Simulation Systems, Preprint CD-ROM of the 83rd Annual Meeting of TRB, National Research Council, Washington D.C.
 58. Alecsandru, C. * and S. Ishak. (2004) A Hybrid Model-Based and Memory-Based Traffic Prediction System, Preprint CD-ROM of the 83rd Annual Meeting of TRB, National Research Council, Washington D.C.
 59. Ishak, S. and C. Alecsandru*. (2003) Optimizing Traffic Prediction Performance of Neural Networks under Various Topological, Input, and Traffic Condition Settings, Preprint CD-ROM of the 82nd Annual Meeting of TRB, National Research Council, Washington D.C.
 60. Ishak, S., P. Kotha*, and C. Alecsandru*. (2003) Optimization of Dynamic Neural Networks Performance in Short-Term Traffic Prediction, Preprint CD-ROM of the 82nd Annual Meeting of TRB, National Research Council, Washington D.C.
 61. Ishak, S. (2003) Quantifying Uncertainties of Freeway Detector Observations using Fuzzy-Clustering Approach, Preprint CD-ROM of the 82nd Annual Meeting of TRB, National Research Council, Washington D.C.
 62. Ishak, S. (2003) Deriving Performance Measures and Level of Service from Second-Order Statistical Features of Spatiotemporal Traffic Contour Maps, Preprint CD-ROM of the 82nd Annual Meeting of TRB, National Research Council, Washington D.C.

63. Ishak, S. and H. Al-Deek. (2003) Statistical Evaluation of I-4 Traffic Prediction System, Preprint CD-ROM of the 82nd Annual Meeting of TRB, National Research Council, Washington D.C.
64. Ishak, S. and H. Al-Deek. (2002) Online Implementation of a Short-Term Traffic Prediction Model, 7th International ASCE Conference on Applications of Advanced Technology in Transportation (AATT) Proceedings, Boston, MA.
65. Ishak, S. and H. Al-Deek. (1999) Performance of Automatic ANN-Based Incident Detection on Freeways, Preprint CD-ROM of the 78th Annual Meeting of TRB, National Research Council, Washington D.C.
66. Ishak, S. and H. Al-Deek. (1998) Freeway Incident Detection Using Fuzzy ART, 5th International Conference on Applications of Advanced Technologies in Transportation Engineering, Newport Beach, CA.
67. Ishak, S. and H. Al-Deek. (1998) Applying Fuzzy ART to Freeway Incident Detection, Preprint CD-ROM of the 77th Annual Meeting of TRB, National Research Council, Washington D.C.
68. Ishak, S. and H. Al-Deek. (1996) Application of Artificial Neural Networks to Freeway Incident Detection, Proceedings for the Third Annual World Congress on Intelligent Transport Systems, Orlando, FL.
69. Al-Deek, H. and S. Ishak. (1996) Incident Detection on I-4, Proceedings of the 1st Transportation Specialty Conference of the Canadian Society for Civil Engineering, Volume III a, 355-368.
70. Al-Deek, H., S. Ishak and A.E. Radwan (1993) The Potential Impact of Advanced Traveler Information Systems (ATIS) on Accident Rates in an Urban Transportation Network, VNIS (Vehicle Navigation and Information Systems) Conference Proceedings.

Local and State Presentations

1. Ishak, S. (2016) Development of Optimal Ramp Metering Control Strategies for I-12 Corridor, presented at the Louisiana Transportation Research Conference, Baton Rouge.
2. Ishak, S. (2016) Traffic Counting using Existing Video Detection Cameras, presented at the Louisiana Transportation Research Conference, Baton Rouge.
3. Ishak, S. and J. Codjoe (2014) Distracted Driving and Associated Crash Risks, presented at the Transportation Safety Summit in Baton Rouge.
4. Ishak, S. (2012) Using Driving Simulators to Improve Highway Safety, presented at the Transportation Safety Summit in Baton Rouge.
5. Ishak, S. (2012) Effectiveness of Bluetooth data in measuring travel times on I-12, presented at the ITE meeting in Baton Rouge.
6. Ishak, S. (2011) Establishment of ITS Lab and Driving Simulator Facilities, presented at the LTRC Seminar Series on Congestion Management, Baton Rouge, LA.
7. Korkut, M., S. Ishak, and B. Wolshon. (2010) Crash Analysis and Traffic Characteristics under Freeway Truck Lane Restriction and Differential Speed Limit Policies, presented at the 2010 LTRC Seminar Series, Baton Rouge, LA.
8. Rayaprolu, P., S. Ishak, and B. Wolshon. (2010) Operational Assessment of Joint and Conventional Lane Merge Configurations for Freeway Work Zones, presented at the 2010 LTRC Seminar Series, Baton Rouge, LA.

9. Ishak, S., H.C. Shin, B. Sridhar, and D. Zhang. (2010) Characterization and development of truck axle load spectra for future implementation of new pavement design practices in Louisiana, presented at the 2010 LTRC Seminar Series, Baton Rouge, LA.
10. Ishak, S., C. Mamidala, and Y. Qi. (2010) Stochastic Characteristics of Freeway Traffic Speed during Breakdown and Recovery Periods, presented at the 2010 LTRC Seminar Series, Baton Rouge, LA.
11. Ishak, S. and H.C. Shin (2009) "Characterization and Development of Truck Load Spectra for Current and Future Pavement Design Practices in Louisiana," Presentation at the Louisiana Transportation Conference, Baton Rouge, LA.
12. Ishak, S. (2009) "Effect of Truck Lane Restriction and Differential Speed Limit on Traffic Characteristics of Four-Lane Rural Freeways," Presentation at the Louisiana Transportation Conference, Baton Rouge, LA.
13. Ishak, S., H. Al-Deek, and A. Abdel-Rahman. (2002) "Dissemination of Forecasted Traffic Information," Paper presented and published in the ITE Spring Conference and Exhibit Proceedings.
14. Ishak, S. (2002) "Transportation Data Warehousing and Mining System under LaTIS" Presentation at the Statewide Metropolitan Planning Council Conference, Baton Rouge, LA.
15. Ishak, S. (2002) "The Role of State-of-the-Art Microscopic Simulation Models in Supporting ATMIS Decisions" Presentation at the Statewide Metropolitan Planning Council Conference, Baton Rouge, LA.
16. Ishak, S. and H. Al-Deek. (2001) "The Impact of Real Time and Predictive Traffic Information on Travelers' Behavior in the I-4 Corridor," Presentation at the Florida Section of Institute of Transportation Engineers public meeting, Tampa, FL.

TEACHING AND STUDENT ADVISING

Courses Taught

- Computational Methods for Civil Engineers
- Principles of Traffic and Highway Engineering
- Traffic Flow Theory
- Traffic Operation and Control
- Artificial Intelligence Applications in Transportation
- Intelligent Transportation Systems
- Transportation Systems Analysis
- Connected and Automated Vehicles

Students Advised

- Committee Chair: 4 PhD completed, 25 MS completed, 3 PhD in progress, 2 MS in progress.
- Committee Member: 20 Ph.D. completed, 20 MS completed.

Committee Chair for Ph.D. students (Completed/In Progress)

1. Saleh Mousa (Estimated August 2018): "Machine Learning Tools for Optimization of Fuel Consumption at Signalized Intersection in Connected/Autonomous Vehicles Environment."
2. Peter Bakhit (Estimated August 2018): "Distracted Driving and Driver Inattention."

3. Sogand Karbalaieali (Estimated December 2018): "Automated Merging Control Algorithm: A Cooperative Merging on Automated Highway for Connected Automated Vehicles."
4. Osama Osman, Ph.D. Civil Engineering (December 2015): "Connected Vehicles Technology: User and System Performance Characteristics."
5. Julius Codjoe, Ph.D. Civil Engineering (December 2014): "The Effects of Concurrent Driving and In-Vehicle Tasks: A Multivariate Statistical Analysis of Driver Distraction in a High-Fidelity Driving Simulator."
6. Yan Qi, Ph.D. Civil Engineering (May 2010): "Probabilistic Models for Short-Term Traffic Conditions Prediction."
7. Ciprian Alecsandru, Ph.D. Civil Engineering (June 2006): "A Stochastic Mesoscopic Cell-Transmission Model for Large-Scale Traffic Networks."

Committee Chair for MS students (Completed)

1. Matthew Theriot, M.S. Civil Engineering (May 2017). "Impact of Connected Vehicle Market Penetration on the Effectiveness of Safety Applications: A Driving Simulator Study".
2. Mengqiu Ye, M.S. Civil Engineering (December 2016). "Driver Engagement in Secondary Tasks: Behavioral Analysis and Crash Risk Assessment".
3. Jennifer Bonnette, M.S. Civil Engineering (December 2015). "An Exploration of Recent Changes/Improvements to LA 42".
4. Melissa LeBas, M.S. Civil Engineering (December 2015). "A Comparative Analysis of Roundabouts and Traffic Signals through a Corridor".
5. Sydney Jenkins, M.S. Civil Engineering (December 2015). "Exploration of the SHRP 2 Naturalistic Driving Study: Development of a Distracted Driving Prediction Model".
6. Wan Li, M.S. Civil Engineering (August 2014). "Accounting for Travel Time Reliability, Trip Purpose, and Departure Time Choice in an Agent Based Dynamic Feedback-Control Toll Pricing Approach".
7. Raju Thapa, M.S. Civil Engineering (August 2014). "During and After Event Analysis of Cell Phone Talking and Texting – A Driving Simulator Study".
8. Marlene Russell, M.S. Civil Engineering (August 2014). "Travel Time Reliability and Level of Service".
9. Jose Rodriguez, M.S. Civil Engineering (May 2014). "Modeling the Effect of Gusty Hurricane Wind Force on Vehicles using the LSU Driving Simulation".
10. Danhong Cheng, M.S. Civil Engineering (December 2012). "A Dynamic Feedback-Control Toll Pricing Methodology: A Case Study on Interstate 95 Managed Lanes".
11. Rukmangadhar Neelam, M.S. Engineering Science (June 2010). "Online Exams".
12. Lavanya Ramavarapu, M.S. Engineering Science (December 2009). Project title: "MAN-TRAC: Performance Management Tracker"
13. Aditya Rajeshwarkar, M.S. Engineering Science (December 2009). "Communication Media"
14. Pradeep Rayaprolu, M.S. Civil Engineering (December 2009). "Operational and Safety Assessment of Joint and Conventional Lane Merge Configurations for Freeway Work Zones"
15. Murat Korkut, M.S. Civil Engineering (June 2009). "Freeway Crash and Lane Compliance Under Truck Lane Restriction and Differential Speed Limit"

16. Bharath Sridhar, M.S. Civil Engineering (December 2008). "Characterization and Development of Truck Load Spectra and Growth Factors for Current and Future Pavement Design Practices in Louisiana"
17. John Stanley, M.S. Civil Engineering (December 2008). "Passenger Car Equivalents of Trucks under Lane Restriction and Differential Speed Limit Policies on Four Lane Freeways"
18. Chaitanya Mamidala, M.S. Civil Engineering (December 2008). "Exploring Stochastic Characteristics of Freeway Traffic Breakdown and Recovery Conditions"
19. Yan Qi, M.S. Civil Engineering (June 2008). "Evaluation of the Traffic Safety Benefits of a Lower Speed Limit and Restriction of Trucks to Use of Right Lane Only on I-10 Over the Atchafalaya Basin"
20. Shourie Kondagari, M.S. Civil Engineering (May 2006). "A Probabilistic Approach for Modeling and Real-Time Filtering of Freeway Traffic Data."
21. Yan Zhang, M.S. Civil Engineering (May 2004). "Scalability of Car-Following and Lane-Changing Models in Microscopic Traffic Simulation Systems."
22. Prashanth Kotha, M.S. Civil Engineering (October 2003). "A Methodology for Deriving Performance Measures from Spatio-Temporal Traffic Contour Maps Using Digital Image Analysis Procedures."
23. Shaik Khassim, M.S. Engineering Science (October 2003). "Freeway Accident Analysis Using Second Order Statistics."
24. Srikanth Chakravarthy, M.S. Civil Engineering, (October 2003). "Exploring Geometric, Kinematic and Behavioral Scalability of Microscopic Traffic Simulation Systems."
25. Ciprian Alecsandru, M.S. Civil Engineering (May 2003). "A Hybrid Model-Based and Memory-Based Short-Term Traffic Prediction System."

PROFESSIONAL SERVICES

University Service

- Member, LSU Faculty Senate (2013-2016)
- Member, LSU Master Planning Committee (2015-2016)
- Member, Communication across the Curriculum Advisory Council (2014-2016)
- Selected LSU Fellow of the Southeastern Conference Leadership Development Program (2015-2016)
- Member, LSU Discover College Advisory Board (2014-2016)
- Director of Engineering Science Program (2014-2016)
- Undergraduate Programs Coordinator (2007-2014)
- Member of the Faculty Senate (2013-2016)
- Member of the Faculty Senate General Education Committee (2010-2014)
- Member of the college of engineering academic matters committee (2007-2016)
- Member of the college of engineering policy committee (2010-2014)
- Member of the college strategic plan on research (2011-2014)
- Member of the department undergraduate programs committee (2007-2014)

Advisory Boards, Commissions, or Agencies

- Member, Baton Rouge Community College Advisory Board (2014-2016)

- Member, Levee Board Nominating Committee (2014-2016)
- Member, Gulf Region Intelligent Transportation Society (GRITS) (2010-present)
- Member, American Society of Civil Engineering, Reston, VA
- Member, Institute of Transportation Engineering (ITE)

Professional Committees

- Chair, Transportation Research Board Committee on Advanced Computing and Artificial Intelligence ABJ70
- Member, NCHRP research panel 20-102 on Connected and Automated Vehicles Roadmap
- Associate Editor for the Canadian Journal of Civil Engineering
- Member, Editorial Board of the International Journal of Traffic and Transportation Engineering

Journals and Proposals Reviews

- Active reviewer for the following journals:
 - *Transportation Research Parts A, B, C, and F*
 - *Journal of Intelligent Transportation Systems*
 - *IET Intelligent Transport Systems*
 - *Journal of Accident Analysis and Prevention*
 - *IEEE Transactions on Intelligent Transportation Systems*
 - *Computer-Aided Civil and Infrastructure Engineering*
 - *ASCE Journal of Transportation Engineering*
 - *ASCE Journal of Urban Planning and Development*
 - *Journal of Transportation Research Record*
- Reviewer for the Infrastructure System Management and Hazard Response Program, Division of Civil and Mechanical Systems, National Science Foundation, 2003.

Student Organization

- Faculty advisor for the ITE (Institute of Transportation Engineers) student chapter, 2001-present.

Other Awards, Lectureships, Fellowships, or Prizes

- Research Achievement Award from CEE Department, 2015.
- Tiger Athletic Foundation Award, LSU, 2015.
- Service Award from CEE Department in 2011.
- Incentive Graduate Fellowship in 1998.
- ASCE Transportation Technical Group Scholarship in 1996.
- UCF-DSRT Graduate Enhancement Award in 1994 and 1995.
- Frank Hubbard Engineering Scholarship in 1993.
- Annual award of scholarship for outstanding undergraduate students, Cairo University, 1982-1987.