FENGXIANG QIAO, Ph.D.

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Education/Training

The Hong Kong University of Science and Technology Civil Engineering		Ph.D.	1997-2000
Southeast University	Mechanical Engineering	M. S.	1985-1988
Nanjing Institute of Technology	Automatic Control	B. Eng.	1981-1985

Professional Appointments

Texas Southern University

Associate Professor	Department of Transportation Studies	2011 – Present
Affiliated Professor	Department of Environment and Interdisciplinary Science	2012-present
Assistant Professor	Department of Transportation Studies	2005-2011
Post-doctor and Research Assistant Professor	Department of Transportation Studies	2000-2005

The Hong Kong University of Science and Technology, Hong Kong

Research Assistant	Department of Civil Engineering	1997-2000

Southeast University

Assistant Professor	Department of Transportation	1988 - 1997

Five Recent Publications

- Qiao, F., J. Jia, L. Yu, Q. Li, and D. Zai. RFID-Based Drivers Smart Assistance System to Enhance Safety and Reduce Emissions in Work Zone. Publication in the Journal of Transportation Research Record, Transportation Research Board of the National Academies, 2014.
- Qiao, F., R. Ge, and L. Yu. Fuzzy Evaluation of Contra-flow Evacuation Plans in Texas Medical Center, in Applications of Soft Computing, Editors: Avineri, E.; Köppen, M.; Dahal, K.; Sunitiyoso, Y.; Roy, R. Publisher: Springer, ISBN (PDF): 9783540880790. Paperback - Feb 3, 2009
- Qiao, F. and L. Yu. Collection and Evaluation of On-Road Emission and Activity Data in Houston. In Transportation Research Record: Journal of Transportation Research Board series, No. 1941, TRB, National Research Council, pp. 60-71, 2005.
- Yu. L., F. Qiao, J. Liu. VMT Model for Mobile Emission Estimation. Journal of Environmental Protection in Transportation, v. 26, n. 1. February, 2005. pp. 7-9, 22. 2005.
- Yu, L., F. Qiao, and Y. Zhang. Improved Framework and Systematic Calibration for Left-Turn Change Intervals. Transportation Research Record: Journal of Transportation Research Board series, No. 1925, Transportation Research Record, National Research Council, pp. 112-122, 2005.

Other Recent Publications

- Yu, L., X. Zhang, F. Qiao, and Y. Qi. Genetic Algorithm-based Approach for the Development of Driving Schedules for Evaluating Greenhouse Gas Emissions from Light-Duty Vehicles. Transportation Research Record: Journal of Transportation Research Board, No. 2191. Transportation Research Board of the National Academies, Washington, D.C., 2010, pp. 166-173.
- Yu, L., Z. Wang, F. Qiao, and Y. Qi. Vehicle Emission Characteristics-based Approach to the Development and Evaluation of Driving Cycles for Classified Roads. Transportation Research Record: Journal of the Transportation Research Board No. 2058, pp 58-67. TRB, National Research Council, 2008.
- Zhu, Q., F. Qiao, and L. Yu. Toll Roads Distribution in The United States, Journal of Systemics, Cybernetics and Informatics (JSCI). v. 8, n. 4, 2010. pp. 76-79.
- Godazi. K., R. Goodwin, F. Qiao, A. Miller. Exposing Minority Students to Transportation and STEM-related Careers through Summer Education Programs. Publication in Transportation Research Record: Journal of Transportation Research Record, No. 2328, pp. 16-24, 2013.
- Qiao, F., H. Liu, and L. Yu. Incorporating Wavelet Decomposition Technique to Compress TransGuide ITS Data. Transportation Research Record: Journal of Transportation Research Board series, No. 1968, National Research Council, pp 63-74, 2006.
- Yu, L. and F. Qiao. Collection and Evaluation of On-Road Vehicle Emission and Activity Data. Research Report, Houston Advanced Research Center. April 2004.
- Yu, L., F. Qiao, G. Li and H. Oey. Forecasting Traffic Characteristics for Air Quality Analyses. Report Number TX-02/4142-9, Texas Department of Transportation, 2002.

Selected Funded Projects by Federal and Non-Federal Agencies

- PI: Buffer Zones/Infill Development – Environmental and Public Health Effects of Traffic Congestion and Increased Vehicle Emissions Triggered by Infill Development, (TxDOT 14-3, $ $ 131,205.00 with University of Texas Health Science Center. TSU lead).
- CO-PI at TSU (PI: Lei Yu): Tier One National University Transportation Center, TransLIVE, Transportation for Livability by Integrating Vehicles and Environment (U.S. DOT, $3,500,000, 2012-2013, Five-Institutional Consortium, #KLK900-SB-003, TSU Budget: $600,000).
- PI: Assessment of Drivers' Workload for Freeway Sign Design, (Southwest Region Transportation Research Center Project, 2010-2011, $30,000)
- PI: Using RFID Technique for Smart Guide Signing at Unsignalized Intersections, (Texas Southern University Seed Grant, 2011-2012, $ 8,500.00)
- PI: Driver Understanding of Congestion-Based Pricing Messages (TxDOT 0-6173, $328,641, 2008-2010).
- PI: Computer Simulation-Based Algorithm For Optimizing Evacuation Plans in Major Trip Generator (Southwest Region Transportation Research Center Project, SWUTC, 2006-2007, $20,852)
- PI: Using GPS and ITS Data to Calibrate the Micro Simulation Model VISSIM (SWUTC, 2005-2006, $34,700)
- PI: ITS Data Compression by Using Advanced Signal Processing Techniques (SWUTC, 2004-2005, $55,200)

Synergistic Activities

- One of pioneers in applying the advanced portable emission measurement systems (PEMS) to the research on the relationships between transportation and emissions. On-road emissions were tested and evaluated in freeway system and residential area in Houston and research findings were published in Journals and conference proceedings
- Develop a short range wireless communication system to enhance the air quality and safety in work zone areas and in intersections (signalized and stop sign controlled). A paper summarized this product won the Best Technical Paper Award in the 20th Intelligent Transportation Society World Congress in Tokyo, Japan, October, 2013.
- Using microscope computer simulation for transportation evacuation in small and dense area, and developed the wavelet-based Intelligent Transportation System (ITS) data aggregation and compression methodologies
- Actively involved a lot of world class professional activities as: (1) the editor of The Open Transportation Journal; (2) the member of American Society of Civil Engineers (ASCE), Member of Transportation Research Board (TRB), and member of Technical Advisory Panel (TAP) of Texas Department of Transportation (TxDOT); (3) the reviewer for Journal of the Air & Waste Management Association (A&WMA), Journal of Transportation Research Record, ASCE Journal of Transportation Engineering, Institution of Engineering and Technology (IET) Intelligent Transport Systems, Computer-Aided Civil and Infrastructure Engineering, and many professional conferences

Collaborators and Other Affiliations

- **Collaborators:** Dr. Lei Yu (Professor of Texas Southern University; Dr. Sia Ardekani (Professor of University of Texas at Arlington); Dr. Susan Chrysler, Scientist of Texas Transportation Institute); Dr. Nadeem Chaudhary (Research Engineer of Texas A&M University); Dr. Yi Ping (Associate Professor, Akron University); Dr. Zong Z. Tian, Assistant Professor of University of Nevada at Reno); Dr. Xiubin Wang, Assistant Professor of University of Wisconsin at Superior); Dr. Hai Yang (Professor, The Hong Kong University of Science and Technology); Dr. William Lam (The Hong Kong Polytechnic University)

- **Graduate Advisors and Postdoctoral Sponsor:** Ren Huang, M.S. Advisor, Southeast University; Dr. Hai Yang, Ph.D. Advisor, The Hong Kong University of Science and Technology; Dr. Lei Yu, Postdoctoral Sponsor: Texas Southern University

- **Thesis Ph.D. Student Advisor:** Po-Hsien Kuo (2013 – present), Bo Wei (2013 – present)

- **Thesis Graduate Advisor (thesis-track Masters' students at Texas Southern University):** Ling Liu (2013 – present), Qing Li (2013-presnt), Larry Hill (2013 – present), Xiaobing Wang (2012-presnt), Keziah Hill (2012 – present), Po-Hsien Kuo (2009 - 2013), Ying Li (2008 – 2013), Rong Zhang (2007 – 2010), Yan Zeng (2007 – 2009), Lijin Ma (2006 – 2009), Hui Wang (2006 – 2009), Ruixin Ge (2006 – 2008), Kenneth Brown (2005 – 2006), Hao Liu (2004 – 2009)