

## JAN-MOU LI, PH. D.

Energy and Transportation Division 865-946-1461  
Oak Ridge National Laboratory [lij3@ornl.gov](mailto:lij3@ornl.gov)  
2360 Cherahala Blvd. Knoxville, TN 37932 [https://www.researchgate.net/profile/Jan\\_Mou\\_Li](https://www.researchgate.net/profile/Jan_Mou_Li)

### EMPLOYMENT

- 8/2010 - present Research Staff, *Oak Ridge National Laboratory*
- Principal Investigator, “*Advanced Mechanical Energy Storage Technology Analysis*,” sponsored by Department of Energy, October 2014 – June 2015.
  - Principal Investigator, “*Data capability of integrated WMN with DSRC in Chattanooga*,” sponsored by Department of Energy, Department of Transportation, and City of Chattanooga, March 2014 - September 2014.
  - Principal Investigator, “*Transportation Electrification in Dense Urban Area*,” sponsored by Department of Energy, October 2013 – September 2014.
  - Principal Investigator, “*Behavioral Driver Model and Analysis*,” sponsored by Department of Energy, October 2012 – September 2013.
  - Co-PI and tasks lead of travel demand analysis, “*Feasibility Study of In-motion Wireless Power Transfer*,” sponsored by Department of Energy, October 2012 – September 2013.
  - Tasks lead of data modeling, “*Freight Analysis Framework*,” sponsored by US DOT, 2010 – present.
  - Tasks lead of data modeling and visualization, “*Visualization of National Household Travel Survey*,” sponsored by US DOT, August 2010 – January 2012.
  - Tasks lead of GIS-based web application design and development, “*ORNLRREADY*,” sponsored by Laboratory Shift Superintendent at the Oak Ridge Nation Laboratory, August 2010 – September 2012.
  - Tasks lead of GIS-based web application design and development, “*RailReady*,” sponsored by Department of Homeland Security, August 2010 – December 2011.
- 12/2014 - present Joint Faculty Assistant Professor, *University of Tennessee*
- Proposal lead, “*Pilot Deployment of Connected Vehicle Environment (PDCVE) In Chattanooga, Tennessee: Maximizing Mobility & Minimizing Environmental Impact for Economic Growth*,” in response to a Broad Agency Announcement (No. DTFH6115R00003) of U.S. Department of Transportation for the connected vehicle pilot deployment. It is an effort comprising four universities, three shippers, four carriers, four vendors, and local as well as state agencies. The proposal had been submitted through the University on March 25, 2015.

9/2009 – 8/2010 Department of Civil & Environmental Engineering, The University of Tennessee,

- POSTDOCTORAL RESEARCH ASSOCIATE* Knoxville, TN.  
 ○ To conduct research projects with senior research staffs at ORNL.
- 8/2007 – 6/2009 National Institute for Advanced Transportation Technology (NIATT), University of Idaho, Moscow, ID.  
*POSTDOCTORAL RESEARCH FELLOW*  
 ○ To conduct the NGSIM research project  
 ○ To document research for publication in archival journals  
 ○ To initiate new research projects  
 ○ To supervise student research assistants  
 ○ To plan the course of Fundamentals of Transportation Engineering in Spring 2008  
 ○ Lab instructor for the class of Traffic Systems Design  
 ○ Was recommended to offer Statics and Dynamics in Fall 2008  
 ○ Was recommended to offer Intersection Traffic Operations in Spring 2009
- 1/2005-5/2007 Office of Information Technology, the University of Tennessee, Knoxville, TN.  
*GRADUATE ASSISTANT*  
 ○ To monitor PC lab environment providing first level assistance to users in the startup of systems, applications and error-recovery processes
- 6/2004-8/2007 Department of Civil & Environmental Engineering, University of Tennessee, Knoxville, TN.  
*Graduate Research Assistant*  
 ○ Traffic operation analysis at signalized intersections  
 ○ Evacuation strategy planning for the Knoxville county  
 ○ Truck Plate Recognition for an efficient weigh station operation
- 6/2004-1/2007 Center for Transportation Research, Oak Ridge National Laboratory, Knoxville, TN.  
*Graduate Research Assistant*  
 ○ Technical support in data mining and information analysis  
 ○ To draft the project “Google for Highway Best Practices” with Topic Map technique (XTM) and it was granted.
- 8/2004-6/2005 Department of Civil & Environmental Engineering, University of Tennessee, Knoxville, TN.  
*Teaching Assistant*  
 CE440 - CE System Design & Management
- 5/2004-3/2005 Department of Electrical and Computer Engineering, University of Tennessee, Knoxville, TN  
*Visiting Scholar*  
 Research Topic: *Reliability analysis of the integrated information and communication subsystem in an intelligent transportation system.*  
 Advisor: Dr. Way Kuo
- 7/2002-6/2004 Department of Management and Information, National Open University, Taichung, Taiwan.  
*Course Planning Committee*  
 Course: Forecasting Information Technologies in 21 Century
- 7/1997-6/2005 Department of Management and Information, National Open University, Taichung, Taiwan.  
*Adjunct Instructor*  
 Courses Offered: Calculus, Technology Management, Forecasting Information Technologies in 21 Century.
- 7/1999-6/2004 Department of Management Information Systems, The Central Taiwan University of Science and Technology, Taichung, Taiwan.  
*Adjunct Instructor*  
 Courses Offered: Introduction to Computer Science, Applications with Computer Software, Windows Programming – Visual Basic etc.

## EDUCATION

- Ph.D. Civil and Environmental Engineering*  
 The University of Tennessee, Knoxville, TN, December, 2007  
 Dissertation: *Evaluation of Impacts on Delay, Cycle-Length Optimization, Control Types, and Peak-Hour Factor with the Randomness of Traffic.*  
 Advisor: Dr. Lee D. Han
- Ph.D. Transportation Technology and Management*

National Chiao Tung University, Taiwan, July, 2010  
Dissertation: Multi-Dimensional Preference Analyses for the Diverse Usage in M-Commerce.  
Advisor: Dr. Shang-Hsing Hsieh

- M.S. Technology Management*  
National Chiao Tung University, Hsinchu, Taiwan, June 1994  
Thesis: *A Market-Oriented Decision Model for Introducing Innovative Technologies in Contemporary Taiwanese Bio-Tech Industry (in Traditional Chinese).*
- B.Sc. Oceanography*  
National Taiwan Ocean University, Kellung, Taiwan, January 1992.

## **PROFESSIONAL MEMBERSHIPS**

- Member,* Society of Automotive Engineers (SAE), 2013 – present
- Member,* Institute of Transportation Engineers (ITE), 2005 – present
- Member,* Chinese Sinica in Management of Technology, Taiwan, 1997 – present

## **PROFESSIONAL ACTIVITIES**

- Technical Chair,* Automobile Electronics Activity, Society of Automotive Engineers, 2015 – present
- Expert panelist,* Transit Cooperative Research Program, Transportation Research Board of The National Academies, 2013 – present
- Organizer,* Session of Intelligent Transportation Systems - Safer, Smarter, Faster, SAE World Congress & Exhibition, 2013 – present
- Committee Research Coordinator,* Urban Transportation Data and Information Systems Committee, Transportation Research Board of The National Academies, 2011 – present
- Member,* Urban Transportation Data and Information Systems Committee, Transportation Research Board of The National Academies, 4/15/2011 - 4/14/2014.
- Panel Session Organizer and Chair,* Session of Advanced Wireless Infrastructure for ITS, Annual Meeting of the ITS Tennessee, 2012.

### *Paper reviewer*

The annual meeting program of Transportation Research Board in the National Academies

Transportation Research Record: Journal of the Transportation Research Board

Proceedings of the ICE - Transport

The European Journal of Operational Research (EJOR)

Journal of Internet Technology (JIT)

Canadian Journal of Civil Engineering

IET Intelligent Transport Systems

Simulation: Transactions of the Society for Modeling and Simulation International

## MENTORING ACTIVITIES

**Syndney Jenkins, M.S.**, Louisiana State University, GEM Fellowship, Summer, 2015.

**Syndney Jenkins, M.S.**, Louisiana State University, GEM Fellowship, Summer, 2014.

## CERTIFICATION

*Engineer in Training (EIT) in Transportation*, Idaho Board of Professional Engineers & Professional Land Surveyors, 2008.

*Certificated University Lecture*, Department of Education, Taiwan, 1998.

## AWARDS RECEIVED

AAAS/Science Program for Excellence in Science, 2006.

Graduate Students Study Abroad Program (GSSAP), funded by Taiwanese National Science Council for 2004 to 2005

## REFEREED JOURNAL PAPERS

- [1] Miller, J.M., Jones, P.T., **Li, J.-M.**, Onar, O.C., "ORNL Experience and Challenges Facing Dynamic Wireless Power Charging of EV's", IEEE Circuits and Systems Magazine 01/2015; 15(2):40-53. DOI:10.1109/MCAS.2015.2419012.
- [2] **Li, J.-M.** and Smith, D., "Modeling the Impact of Road Grade and Curvature on Truck Driving for Vehicle Simulation," SAE Technical Paper 2014-01-0879, 2014, doi:10.4271/2014-01-0879.
- [3] Lin, Z., **Li, J.-M.**, and Dong, J., "Dynamic Wireless Power Transfer: Potential Impact on Plug-in Electric Vehicle Adoption," SAE Technical Paper 2014-01-1965, 2014, doi:10.4271/2014-01-1965.
- [4] **Li, J.-M.**, Han, L. D., and Chen, C-H., Impact of Data Resolution on Peak Hour Factor Estimation for Transportation Decisions, Central European Journal of Engineering, 3(4), p. 738-745, 2013, DOI: 10.2478/s13531-013-0121-x.
- [5] **Li, J.-M.** and Gao, Z., "Exploring the Impact of Speed Synchronization through Connected Vehicle Technology on Fleet-Level Fuel Economy," SAE Int. J. Passeng. Cars – Electron. Electr. Syst. 6(1):2013, DOI:10.4271/2013-01-0617.
- [6] **LI, J.-M.**, Hsieh, S-H., and Lee, T-R. (2011) Validation for the Diversity of Usage in M-Commerce among Countries by ICOMP. Journal of Internet Technology, 12(1) pp.13-23. [SCI/EI]
- [7] Han, L. D., **LI, J.-M.**, and Urbanik, T. (2009) Impacts of Inter-Cycle Demand Fluctuations on Delay. Journal of Transportation Engineering, Vol. 135, No. 5, pp. 288-296. [SCIE]
- [8] KYTE, M., ABDEL-RAHIM, A., DIXON, M., **LI, J.-M.**, AND STRONG, D. (2009) VALIDATING THE INCREMENTAL QUEUE ACCUMULATION METHOD FOR LEFT TURN DELAY ESTIMATION. TRANSPORTATION RESEARCH RECORD, NO. 2130, PP. 42-51. [SCI/SCIE].
- [9] Chen, C-H., Chien, T-U., Yang, W-C., **LI, J.-M.**, and Wen, C-Y. (2008) "Surveillance Systems with Automatic Restoration of Linear Motion and Out-of-Focus Blurred Images," Innovative

Computing, Information and Control Express Letters, Vol. 2, No. 4, pp. 409-414.

- [10] Han, L. D., **LI, J.-M.**, and Urbanik, T. (2008) "Control-Type Selection at Isolated Intersections Based on Control Delay under Various Demand Levels," *Transportation Research Record*, No. 2071, pp. 109-116, December 2008. [SCI/SCIE].
- [11] Han, L. D., and **LI, J.-M.** (2007) "Short or Long ... Which is Better? Probabilistic Approach towards Cycle Length Optimization," *Transportation Research Record*, Issue 2035, pp. 150-157, December 2007. [SCI/SCIE].
- [12] Lee, T-R., **LI, J.-M.** (2006) Key factors in forming an e-marketplace: An empirical analysis. *Electronic Commerce Research and Applications*, 5 (2) 105-116. (SSCI, SCIE,CC/ECT,CC/SBS).
- [13] Lee, T-R., **LI, J.-M.**, Simons, J., Lee, C-H. S. (2006) Comparing usage of mobile commerce in Taiwan, USA and Germany, *International Journal of Services Technology and Management (IJSTM)*, 7 (3) 284 – 296.

## REFEREED CONFERENCE PAPERS

- [1] **Li, J.-M.**, Onar, O.C., Starke, M.R. and Jones, P.T. (2014) Coupling Electric Vehicles and Power Grid through Charging-In-Motion and Connected Vehicle Technology, *IEEE International Electric Vehicle Conference 2014*, Florence, Italy, December 17-19, 2014, paper number: 14M-0227.
- [2] **Li, J.-M.**, and Smith, D. (2014) Modeling the Impact of Road Grade and Curvature on Truck Driving for Vehicle Simulation, *SAE 2014 World Congress & Exhibition*, Detroit, Michigan, April 8-10, 2014, paper number: 14M-0227.
- [3] Lin, Z., and **Li, J.-M.** (2014) Dynamic Wireless Charging: Potential Impact on Plug-in Electric Vehicle Adoption, *SAE 2014 World Congress & Exhibition*, Detroit, Michigan, April 8-10, 2014, paper number: 14SDP-0023.
- [4] **Li, J.-M.**, Lin, Z., LaClair, T., Davidson, D., Xu, A., Guensler, R. L., Rodgers, M. O., Lee, D.-Y (2014) Evaluation of GHG Emission across Transit Bus Technologies with Real-World Driving Schedules. *Transportation Research Board, 93rd Annual Meeting*, January 12-16, 2014, Washington, D.C., paper number: 14-0680.
- [5] **Li, J.-M.**, Gao, Z. (2013) Exploring The Impact Of Speed Synchronization Through Connected Vehicle Technology On Fuel Economy For Vehicle Architectures, *SAE 2013 World Congress & Exhibition*, Detroit, Michigan, April 16-18, 2013, paper number: 13AE-0147.
- [6] Chen, C.-H., Chang, C., **Li, J.-M.**, Allen, J., Huang, X., Zheng, G., Iftekharruddin, K. M. (2012) Vehicle segmentation and recognition for estimating exhaust emissions based on automated video traffic systems, *The Fourth International Forum on Systems and Mechatronics*, Virginia Beach, Virginia, August 6 through August 09, 2012, pp.147-154.
- [7] **Li, J.-M.** and Chen, C.-H. (2011) Queue Warning with Integration of Passive Sensory Systems, 2011 *Future of Instrumentation International Workshop (FIIW 2011)*, Oak Ridge, Tennessee, November 07, 2011.
- [8] Sprung, M. J., Southworth, F., Davidson, D., Hwang, H., Peterson, B. E., Chin, S., Vogt, D. P., and **Li, J.-M.** (2011) Overview of the FAF3 Freight Flow Matrix Construction Process, in *Commodity Flow Survey Workshop*, November 16, 2010, Washington D. C., *Transportation Research Board E-Circular*, E-C158.
- [9] Han, L. D and **Li, J.-M.** (2010) Control-Type Planning at Isolated Intersections for Smaller

Communities. Transportation Research Board, 88th Annual Meeting, January 10-14, 2010, Washington, D.C., paper number: 10-3849.

- [10] Kyte, M., Abdel-Rahim, A., Dixon, M., **Li, J.-M.**, and Urbanik, T. Listening To What the Queue Is Saying: Further Implications for Signal Timing. Submitted for Presentation and Publication to Transportation Research Board, 88th Annual Meeting, January 11-15, 2009, Washington, D.C.
- [11] **Li, J.-M.**, Chen, C-H., Hsieh, S-H., Yang, W-C., and Wen, C-Y., (2008) Preparedness for Post-Disaster Internet Traffic Management. The 6th IEEE International Conference on Intelligence and Security Informatics (ISI 2008), Taiwan, June 2008.
- [12] Han, L. D., **Li, J.-M.**, and Urbanik, T. (2008) Control Type Selection at Isolated Intersections Based on Control Delay Under Various Demand Levels (08-2271), 87th Annual Meeting of Transportation Research Board (TRB) of the National Academics, Washington, D.C.
- [13] Hsieh, S-H., **Li, J.-M.**, and Chen, C-H. (2007) Effectiveness of Dimension Reduction in Traffic Estimation with Neural Network. The 8th Asia Pacific Industrial Engineering & Management System (APIEMS 2008), Taiwan, December 2007.
- [14] Han, L. D., and **Li, J.-M.** (2007) Short or Long--Which Is Better? Probabilistic Approach to Cycle-Length Optimization (07-2427), 86th Annual Meeting of Transportation Research Board (TRB) of the National Academics, Washington, D.C.
- [15] Lee, T-R., **Li, J.-M.**, Lin, J-H., and Kang, T-H. (2004) An Easy Way to Get Forecasting Parameters In A Quick-Response Decision Support System, Fifth Annual Global Information Technology Management Association (GITMA) World Conference, San Diego, CA.
- [16] Lee, T-R., **Li, J.-M.**, Kang, T-H., and Lin, J-H. (2004) Forecast Daily Prices of Agricultural Products with Grey Theory, The 2nd International Contemporary Marketing Academic Conference, Taichung, Taiwan. (in Traditional Chinese)
- [17] Lee, T-R., **Li, J.-M.**, Kang, T-H., and Lin, J-H. (2004) The Impact of Auction Time on the Prices in Auction Markets of Agricultural Products, The 2nd International Contemporary Marketing Academic Conference, Taichung, Taiwan. (in Traditional Chinese)
- [18] Hsieh, S-H. and **Li, J.-M.** (2003) A GIM Algorithm for Finding the SUE of the Logit-based Stochastic Traffic Assignment Problem, 50th Annual North American Meetings of the Regional Science Association International, Philadelphia, PA.

## SELECTED INVITED PRESENTATIONS

**Li, J.-M.**, and Jenkins, S. "Mesoscopic Power Demand Modeling for Transportation Electrification in an Urban Environment," SAE 2015 World Congress & Exhibition, Detroit, Michigan, April 21-23, 2015, paper number: 15SDP-0035.

**Li, J.-M.**, Van Winkle, J. and Meyer, S. "Big Data Informatics - Intelligent Transportation Systems with the Chattanooga Wireless Mesh Network," Transportation Science Seminar Series at Oak Ridge National Laboratory, Oak Ridge, Tennessee, January 10, 2014.

**Li, J.-M.** "Toward More Realistic Estimation of Energy Consumption with General Transit Feed Specification and National Elevation Data Set," GIS in Transit Conference, Washington D.C., October 16-17, 2013.

**Li, J.-M.** "A Need of Big Data Informatics: Analysis of Drivers' Reaction to Operation of Traffic Signal," in the workshop of "Big Data Informatics: Innovations in Mining Structured and Unstructured Information for Mobility Decision Making," TRB 92<sup>nd</sup> annual meeting, Washington D.C., January 13, 2013.

## OTHER TECHNICAL PUBLICATIONS

- [1] Hwang, H., Wilson, D. W., Chin, S., **Li, J.-M.** (2011) Final Report: Development of Risk Assessment Tools for Virtual Alabama, ORNL Technical Report.

## TEXTBOOKS AND TUTORIALS

- [1] Lee, T-R., Xie, M-H., He, J-D., Koh, S. C. L., Yu, Q-M., and **Li, J.-M.** (2007) Internet marketing & e-commerce. Taichung, Taiwan: Tsang-Hai Book Publishing Co. (in Traditional Chinese)
- [2] Yuan, C-C., **Li, J.-M.**, Kang, T-H. (2006) Management of technology. Taipei, Taiwan: Yeh Yeh Book Gallery (in Traditional Chinese)
- [3] Yuan, C-C., **Li, J.-M.**, Kang, T-H., Chang, J-Q., Lin, F-Q. (2004) Forecasting Information Technologies in 21 Century, Taipei, Taiwan: National Open University. (in Traditional Chinese)
- [4] **Li, J.-M.** (2001) Implementations of DHTML. Beijing: China Railway Publishing House,. (in Simplified Chinese)
- [5] **Li, J.-M.** (1999) Implementations of DHTML. Taipei, Taiwan: DrMaster. (in Traditional Chinese)
- [6] **Li, J.-M.** (1998) Implementations of Active Server Pages. Taipei, Taiwan: DrMaster. (in Traditional Chinese).

## REFERENCES

Available upon request.