Ting Lei

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Education

Ph.D.	University of California, Santa Barbara	2010
	Geography	
M.S.	University of California, Santa Barbara	2007
	Computer Science	
M.E.	Wuhan Tech. University of Surveying and Mapping	2000
	Remote Sensing and Photogrammetry	
B.E.	Wuhan Tech. Geographic Information Systems	1997

Employment
2002 to present

- From Aug 2015 to present, Assistant Professor at the Department of Geography, University of Kansas.

- From Aug 2014 to June 2015, Associate Research Scientist at the School of Sustainable Engineering and the Built Environment.

- From Jan. 2014 to Aug. 2014, Postdoctoral research associate at the School of Geography and Development, University of Arizona.

- From April 2012 to Dec 2013, Postdoctoral research associate and lecturer at the Department of Geography, University of South Carolina.

- From Aug. 2011 to Mar. 2012, Postdoctoral research associate and lecturer at the Center for Spatial Analysis, University of Oklahoma. I developed a web application for analyzing tracks of GPS tracked inmates using Postgres SQL, ActionScript and PHP.

- From Sept. 2010 to Aug. 2011, Postdoctoral researcher on a Southern California Association of Governments (SCAG)-funded project for activity-based travel modeling. I developed a regional GIS-based bi-modal (pedestrian-transit) accessibility indicator.

See: http://www.geog.ucsb.edu/~tinglei/pdf/trb_lei_etal_2012_poster.pdf

- From Nov. 2002 to Dec. 2010, Graduate Research Associate (adviser: Dr. Richard Church) and Teaching Assistant/Associate with the Department of Geography, University of California, Santa Barbara. I worked in federal and state-funded projects on container logistics, GIS data conflation, public transit, traffic simulation, and mobility/accessibility.

- From 2006 to 2007, Graduate student in the Department of Computer Science, University of California, Santa Barbara.

- From 2006 to 2007, Research associate in the learning-based multimedia group of the Electrical and Computer Engineering department, UCSB. I developed a web application for a face/object recognition project.

1997 to 2002

- From 1997 to 2000, Graduate Researcher with the national key Laboratory of Information Engineering in Surveying Mapping and Remote Sensing, Wuhan University. I worked on GeoStar, a general purpose Geographic Information System. My master thesis (Advisor: Jianya Gong, Deren Li) addresses GPS vehicle navigation systems.

Teaching

Instructor:
- Geography 345-001 Interpretation of Aerial Photographs, University of South Carolina, Spring 2013
- GIS 4970/5970, Principles & Applications of GIS, University of Oklahoma, Fall 2011

- Geography 128, Analytical and Computer Cartography, UC Santa Barbara
- Geography 13, Introduction to Computing, UC Santa Barbara

Awards

2007 UCTC (University of California Transportation Center) Dissertation Research Grant

Publications (Peer-reviewed Journals)

T.L. Lei, R.L. Church, and Z. Lei. (2015) A unified approach for location-allocation analysis: integrating GIS, distributed computing and spatial optimization. *International Journal of Geographical Information Science*, (in press).

T. L. Lei*, and R. L. Church, (2015), On the Unified Dispersion Problem: Efficient Formulations and Exact Algorithms. *European Journal of Operational Research*, 241(3):622-630.

T.L. Lei* and R.L. Church, (2015), On the finite optimality set of the vector assignment *p*-median problem. *Geographical Analysis*, 47(2): 134-145.

T.L. Lei*, D. Tong and R.L. Church, (2014), Designing robust coverage systems: A maximal covering model with geographically varying failure probabilities. *Annals of the Association of American Geographers,* 104(5):922-938.

T. L. Lei* and R. L. Church, (2014), Vector Assignment Ordered Median Problem: a unified median problem. *International Regional Science Review*, 37(2): 194-224.

Z. Lei, M. Wang*, D. Li, and T.L. Lei, (2014), Stream Model based Ortho-Rectification in GPU Cluster Environment, *IEEE Transactions on Geoscience & Remote Sensing Letters,* 11(12): 2115-2119.

T.L. Lei* and D. Tong, (2013), Hedging against service disruptions: an expected median location problem with site-dependent failure probabilities, *Journal of Geographical Systems*, 15: 491-512

T. L. Lei, (2013), Identifying critical facilities in hub-and-spoke networks: A hub interdiction median problem. *Geographical Analysis*, 45 (2): 105-122.

T.L. Lei* and R.L. Church, (2013), A unified model for dispersing facilities. *Geographical Analysis*, 45(4): 401-418*.*

P. Gao*, J.A. Kupfer, D. Guo, and T. L. Lei, (2013), Identifying Functionally-Connected Habitat Compartments with a Novel Regionalization Technique. *Landscape Ecology* 28(10): 1949-1959.

T.L. Lei , Y. Chen and K.G. Goulias, (2012), Opportunity-based Dynamic Transit Accessibility in Southern California: Measurement, Findings, and a Comparison with Automobile Accessibility. *Transportation Research Record* 2276 (3): 26-37*.*

T.L. Lei and R.L. Church*, (2011), Locating short-term empty-container storage facilities to support port operations: A user optimal approach. *Transportation Research Part E*, *47*: 738-754.

T.L. Lei and R.L. Church, (2011), Constructs for multi-level closest assignment in location modeling, *International Regional Science Review*, *34(3)*: 339-367.

T.L. Lei and R.L. Church*, (2010), Mapping Transit-Based Access: Integrating GIS, Routes and Schedules, *International Journal of Geographic Information Science*, 24 (2): 283-304.

Chen, Y., Ravulaparthy, S., Deutsch, K., Dalal, P., Yoon, S. Y., Lei, T. L., et al. (2011), Development of opportunity-based accessibility indicators. *Transportation Research Record*

Guo, B., D. Li, T. Lei and M. Wang. (1999), Development of ITS and application of 3S in ITS, *Geo-Spatial Information Science* 2(1): 86-89.

Reports and Book Chapters

R.L. Church, V. Noronha, T. Lei, W. Corrigan, S. Burbidge, and J. Marston. Spatial and Temporal Utility Modeling to Increase Transit Ridership. *Final Report prepared for California Partners in Advanced Transit and Highways(PATH)*, 2005.

Conference Proceedings and Presentations

Ting Lei, On the Vulnerability of Minimax Networks: An Interdiction Center Problem, presented at the Annual meetings of Association of American Geographers, Tampa, FL, April 2014.

R.L. Church and T.L. Lei, a generalized structure for a p-median: merging the vector assignment and the ordered median problems, presented at Western Regional Science Association, Kauai, HI February 2012 (presented by co-author).

K.G. Goulias, C.R. Bhat, R.M. Pendyala, Y, Chen, R, Paleti, K.C. Konduri, T. Lei, D. Tang, S.Y. Yoon, G. Huang, and H. Hu, Simulator of Activities, Greenhouse Emissions, Networks, and Travel (SimAGENT) in Southern California, Paper presented at the 91st Annual Transportation Research Board Meeting, Washington D.C., January 23-27, 2011

R.L. Church and T. Lei, Optimizing the disruption of a median service system, Presented at the INFORMS Annual Meeting at Austin, Texas, Nov 2010.

T. Lei and R.L. Church, Reducing traffic in handling empty containers: a case study of the Los Angeles basin, Presented at the 3rd National Urban Freight Conference at Long beach, Oct. 2009

T. Lei and R.L. Church, Vector Assignment *r*-interdiction model, Presented at the AAG annual conference at Las Vegas, March 2009.

T. Lei and R.L. Church, Generalized Constraints for Closest Assignment in Location Modeling, 2009 INFORMS annual conference at San Diego, Nov 2009

T. Lei and R.L. Church, A new class of dispersion-based facility location models, Presented at the 56th Annual North American Meetings of the Regional Science Association at San Francisco, Nov 2009

R.L. Church and T. Lei, Minimizing the impact of port operations: a new location model for away-from-port container storage yards, *Presented at the 2008 NARSC Conference, Brooklyn, NY, Nov. 2008* (presented by co-author).

T. Lei, D. Li, and J. Gong, The Expression of Road Network for Vehicle Navigation, Proceedings of ISPRS 19 Congress , B4/2, 567-571, 2000

Referee Experience

International Journal of Geographic Information Science
Geographical Analysis
European Journal of Operational Research
Transportation Research, Part E
Transportation Research Letters
Networks and Spatial Economics
GeoJournal

Affiliations

Association of American Geographers
Institute for Operations Research and Management Sciences

Technical Skills

Programming Languages:
 C++/C, C++11, C# .NET, FORTRAN, Java, Lisp, Python, R, Matlab, HTML5, JavaScript

Software:
 ESRI ArcGIS, AutoCAD, ERDAS IMAGINE, Leica Photogrammetric Suite
 PostGIS, GeoServer, MapServer, OGR/GDAL

GIS Programming:
 Arc Objects, ArcPy, OGR/GDAL, wxWidgets
 OpenLayers, PostGIS, GeoServer, jQuery, AJAX

High performance computing:
 MPI, UPC, CUDA

Scientific Computing:
 GSL (GNU Scientific Library), Intel Open CV

Programming Environment:
 Win32 (COM, Visual Basic, VBA, MS Visual Studio); Eclipse; GNU toolchain (Linux)

Database:
 MySQL and PostgresSQL

Web development:
 PHP, Java, JavaScript, TCP/IP, Adobe Action Script 3, HTML5, CSS3

Optimization:
 IBM-ILOG CPLEX/OPL, LINGO/LINDO, AMPL, GNU GLPK