

CURRICULUM VITAE

Daoqin Tong
Associate Professor
School of Geographical Sciences & Urban Planning
Arizona State University

5524 COOR Hall
Phoenix, Arizona 85287

Chronology of Education

2007 Ph.D., Geography, The Ohio State University
2007 M.A.S. (Master of Applied Statistics), Statistics, The Ohio State University
2004 M.S., Civil Engineering, The Ohio State University
2001 B.S., Civil Engineering, University of Shanghai for Science & Technology, China

Chronology of Employment

2017- Associate Professor, Geographical Sciences & Urban Planning, Arizona State University
2013-2017 Associate Professor, Geography; Graduate Interdisciplinary Program (GIDP) in Statistics, University of Arizona
2007-2013 Assistant Professor, Geography; Graduate Interdisciplinary Program (GIDP) in Statistics, University of Arizona

Honors and Awards

2020: Geospatial Fellow supported by NSF, University of Illinois at Urbana-Champaign
2019: Knowledge Exchange for Resilience Fellow, Arizona State University
2016: Geoffrey J.D. Hewings Young Scholar Award, North American Regional Science Council (NARSC)
2016: Udall Center Fellow, University of Arizona
2016: IGU Travel Award, NSF AAG
2009: Association for Women Faculty Travel Award, University of Arizona
2006: Student Paper Award, University Consortium for Geographic Information Science Summer Assembly
2006: Best Student Paper Award, 19th Annual GIS for Transportation Symposium
2002-2003 University Fellowship, The Ohio State University

Publications/Creative Activity

A. Refereed Journal Articles (*lead authors are students/postdocs I supervised)

Crosson C., **D. Tong**, Y. Zhang, and Q. Zhong (2020) Rainwater as a renewable resource to achieve net zero urban water in water stressed cities. *Resources, Conservation & Recycling*. In press.

Mu W. and **D. Tong*** (2020) Distance in spatial analysis: Measurement, bias, and alternatives. *Geographical Analysis*. In press. <http://dx.doi.org/10.1111/gean.12254>

Bao K.Y., **D. Tong***, D. Plane, and S. Buechler (2020) Urban food accessibility and diversity: Exploring the role of small non-chain grocers. *Applied Geography*. In press. <https://doi.org/10.1016/j.apgeog.2020.102275>

Tong D., C. Crosson, Q. Zhong and Y. Zhang (2020) Optimize urban food production to address food deserts in regions with restricted water access. *Landscape and Urban Planning*. In press.

[10.1016/j.landurbplan.2020.103859](https://doi.org/10.1016/j.landurbplan.2020.103859)

Schaffer-Smith D., S. Myint, R. Muenich, **D. Tong**, and J. DeMeester (2020) Repeated hurricanes reveal risks and opportunities for social-ecological resilience to flooding and water quality problems. *Environmental Science & Technology* 54(12): 7194–7204

Mu W. and **D. Tong*** (2020) Mapping uncertain geographical attributes: Incorporating robustness into choropleth classification design. *International Journal of Geographical Information Science*. In press. <https://doi.org/10.1080/13658816.2020.1726921>

Zhong Q. and **D. Tong*** (2020) Spatial layout optimization for solar photovoltaic (PV) panel installation. *Renewable Energy* 150: 1-11

Mu W. and **D. Tong*** (2020) On solving large p -median problems. *Environment and Planning B*. In press. <https://doi.org/10.1177/2399808319892598>.

Ohri-Vachaspati P., R.S. DeWeese, F. Acciai, D. DeLia, D. Tulloch, **D. Tong**, C. Lorts and M. Yedidia (2019). Healthy food access in low-income high-minority communities: A longitudinal assessment - 2009 – 2017. *International Journal of Environmental Research and Public Health* 16(13): 2354

Thompson C.A., K. Saxberg, J. Lega, **D. Tong***, and H.E. Brown (2019) A cumulative gravity model for inter-urban spatial interaction at different scales. *Journal of Transport Geography* 79: 102461

Zhong Q., **D. Tong***, M. Kuby, F. Wu, J. Fowler and K. Bailey (2019) Locating alternative-fuel stations for maximizing coverage and ensuring sufficient spacing: A case study of CNG truck fueling. *Process Integration and Optimization for Sustainability* 3(4): 455-470

Wang Y., **D. Tong***, W. Li and Y. Liu (2019) Optimizing the spatial relocation of hospitals to reduce urban traffic congestion: A case study of Beijing. *Transactions in GIS* 23: 365-386

Mu W. and **D. Tong*** (2019) Choropleth mapping with uncertainty: A maximum likelihood based classification scheme. *Annals of the American Association of Geographers* 109(5): 1493-1510

Plane D., **D. Tong** and T. Lei (2019) Inter-person separation: A new objective standard for evaluating the spatial fairness of political redistricting plan. *Geographical Analysis* 51: 251-279

Padilla-Rodriguez M., S. Parker, D. Adams, T. Westerling, J. Puleo, A. Watson, S. Hill, M. Noon, R. Gaudin, J. Aaron, **D. Tong**, D. Roe, B. Knudsen, and G. Mouneimne (2018). The actin cytoskeletal architecture of estrogen receptor positive breast cancer cells suppresses invasion. *Nature Communications* 9(1) DOI: [10.1038/s41467-018-05367-2](https://doi.org/10.1038/s41467-018-05367-2).

Kuby M., Bailey K., F. Wei, J. Fowler, **D. Tong**, Q. Zhong, and W. Sheaffer (2018) Collaborative geodesign for alternative fuel station location using COLLABLOCATION software. *Transportation Research Board* 2672(24): 98-108

Mu W. and **D. Tong*** (2018) A Spatial-knowledge enhanced Teitz and Bart heuristic for solving the p -median problem. *Transactions in GIS* 22(2): 477-493

Tong D. and R. Wei (2017) Regional coverage maximization: Alternative geographical space abstraction and modeling. *Geographical Analysis* 49(2): 125-142

Mack E., **D. Tong** and K. Credit (2017) Gardening in the desert: A spatial optimization approach to locating gardens in rapidly expanding urban environments. *International Journal of Health Geographics* 16: 37

Brown H., W. Mu, M. Khan, C. Tsang, J. Liu and **Tong D.** (2017) Considering spatial scale in environmental risk mapping: A valley fever case study. *Journal of Public Health Research* 6(2): 886.

Wang K., Q. Guan, N. Chen, **D. Tong**, C. Hu, Y. Peng, X. Dong, and C. Yang (2017) Optimizing the configuration of precipitation stations in a space-ground integrated sensor network based on spatial-temporal coverage maximization. *Journal of Hydrology* 548: 625-640

Kong X., J. Zhang, Y. Wang, **D. Tong**, Y. Liu (2017) Investigating public facility characteristics from a perspective of spatial interaction: A case study of Beijing hospitals using taxi data. *International Journal of Geo-Information* 6(2): 38. doi:10.3390/ijgi6020038

Li R. and **D. Tong*** (2017) Accessibility maximization for facility siting: An incorporation of activity space and trip chaining. *Socio-Economic Planning Sciences* 60: 1-14

Li R. and **D. Tong*** (2017) Constructing human activity spaces: A new approach incorporating complex urban activity-travel. *Journal of Transport Geography* 56: 23-35

Bao Y. and **D. Tong*** (2017) The effects of spatial scale and aggregation on food access assessment: A case study of Tucson, Arizona. *The Professional Geographer* 69(3): 337-347

Wei R., **D. Tong**, and J. Phillips (2017) An integrated classification scheme for mapping estimates and errors of estimation from the American Community Survey. *Computers, Environment and Urban Systems* 63:95-103

Wang K., N. Chen, **D. Tong**, K. Wang, W. Wang and J. Gong (2016) Optimizing precipitation station location: a case study of the Jinsha River Basin. *International Journal of Geographical Information Science* 30(6): 1207-1227

Chi G., J.-C. Thill, **D. Tong**, L. Shi and Y. Liu (2016) Uncovering regional characteristics from mobile phone data: a network science approach. *Papers in Regional Science* 95(3): 613-632

Mack J. and **D. Tong*** (2015) Characterizing the spatial and temporal patterns of farmers' market visits. *Applied Geography* 63: 43-54

Wang K., N. Chen, **D. Tong**, K. Wang and J. Gong (2015) Optimizing the configuration of streamflow stations based on coverage maximization: A case study of the Jinsha River basin. *Journal of Hydrology* 527: 172-183

- Liu Y., **D. Tong** and X. Chen (2015) Measuring spatial autocorrelation of vectors. *Geographical Analysis* 47(3): 300-319
- Lei T., **D. Tong** and R.L. Church (2014) Designing robust coverage systems: A maximal covering model considering with geographically varying failure probabilities. *Annals of the American Association of Geographers* 104(5): 922-938
- Ren F., **D. Tong** and M.P. Kwan (2014) Evaluating demand for service in space and time. *The Geografiska Annaler: Series B, Human Geography* 96(4): 329-344
- Tong D.** and D. Plane (2014) New perspectives on delineation of metropolitan and micropolitan statistical areas. *Geographical Analysis* 46(3): 230-249
- Lee. S., **D. Tong*** and M. Hickman (2013) Generating route-level mutually exclusive service areas: comparative study of alternative methods. *Transportation Research Record* No. 2350: 37-46
- Tong D.**, W.H. Lin and A. Stein (2013) Integrating the direction effect of traffic into geostatistical approaches for travel time estimation on an urban transportation network. *International Journal of ITS Research* 11(3): 101-112
- Lei T. and **D. Tong** (2013) An expected median location problem with site dependent failure probabilities. *Journal of Geographical Systems* 15: 291-512
- Lee. S., M. Hickman and **D. Tong*** (2013) Development of a temporal and spatial linkage between transit demand and land use patterns. *Journal of Transport and Land Use* 6(2): 33-46
- Tong D.** and R.L. Church (2012) Aggregation in continuous space coverage modeling. *International Journal of Geographical Information Science* 26(5): 795-816
- Cunningham J.K., R. Callaghan, **D. Tong**, L.-M. Liu, H.-Y Li. and B. Lattyak (2012) Changing over-the-counter ephedrine and pseudoephedrine products to prescription only: impacts on methamphetamine clandestine laboratories. *Drug and Alcohol Dependence* 126(1-2): 55-64
- Lee. S., M. Hickman and **D. Tong** (2012) Stop aggregation model: development and application. *Transportation Research Record* 2276(3): 38-47
- Tong D.** and A.T. Murray (2012) Spatial optimization in geography. *Annals of the American Association of Geographers* 102(6): 1290-1309
- Tong D.** (2012) Regional coverage maximization: a new model to account implicitly for complementary coverage. *Geographical Analysis* 44(1): 1-14
- Kang C., X. Ma, **D. Tong** and Y. Liu (2012) Intra-urban human mobility patterns: an urban morphology perspective. *Physica A: Statistical Mechanics and its Applications* 391(4): 1702-1717
- Tong D.**, F. Ren and J. Mack (2012) Locating Farmers' Markets with an incorporation of spatio-temporal variation. *Socio-Economic Planning Sciences* 46(2): 149-156

Shillington L. and **D. Tong*** (2011) Maximizing wireless mesh network coverage. *International Regional Science Review* 34(4): 419-437

Lin W.H. and **D. Tong** (2011) Vehicle re-identification with dynamic time windows for vehicle passage time estimation. *IEEE Transactions on Intelligent Transportation Systems* 12(4): 1057 - 1063

Guo Q., W. Li, Y. Liu and **D. Tong** (2011) Predicting potential distributions of geographic events using one-class data: concepts and methods. *International Journal of Geographical Information Science* 25(10): 1697-1715

Tong D., W.H. Lin, J. Mack and D. Mueller (2010) Accessibility-based multi-criteria analysis for facility siting. *Transportation Research Record* 2174: 128-137

Murray A.T., **D. Tong** and K. Kim (2010) Enhancing classic coverage location models. *International Regional Science Review* 33(2): 115-133

Zhang B., F. Schwartz and **D. Tong** (2009) Application of artificial neural computation in Topex waveform data: a case study in water ratio regression. *International Journal of Software Science and Computational Intelligence* 1(3): 81-91

Tong D., A.T. Murray and N. Xiao (2009) Heuristic in spatial analysis: a genetic algorithm for coverage maximization. *Annals of the American Association of Geographers* 99(4): 1-14

Tong D. and A.T. Murray (2009) Maximizing coverage of spatial demand for service. *Papers in Regional Science* 88(1): 85-97

Murray A.T. and **D. Tong** (2009) GIS and spatial analysis in the media. *Applied Geography* 29: 250-259

Tong D., C.J. Merry and B. Coifman (2009) New perspectives on the use of GPS and GIS to support a highway performance study. *Transactions in GIS* 13(1): 69-85

Zhang B., F.W. Schwartz and **D. Tong** (2009) Landsat sub-pixel analysis in mapping the impact of climatic variability on Prairie Pothole changes. *Transactions in GIS* 3(2): 179-195

Tong D. and S. Dall'erba (2008) Spatial disparities in the Chinese ICT sector: a regional analysis. *Région et Développement* 28: 111-129

Murray A.T., T.C. Matisziw, H. Wei and **D. Tong** (2008) A geocomputational heuristic for coverage maximization in service facility siting. *Transactions in GIS* 12(6): 757-773

Murray A.T. and **D. Tong** (2007) Coverage optimization in continuous space facility siting. *International Journal of Geographical Information Science* 21:757-776

B. Electronic Publications, peer reviewed

Tong D. (2010). Point Pattern Analysis. *Sage Encyclopedia of Geography*

C. Book Chapters

Tong D. (2020) Location and service area problems. *The Geographic Information Science & Technology Body of Knowledge* (1st Quarter 2020 Edition), John P. Wilson (ed.). DOI: [10.22224/gistbok/2020.1.10](https://doi.org/10.22224/gistbok/2020.1.10)

Tong D., W. Mu, and C. Li (2019) Population characterization in location modeling: Alternatives, impacts, and insights. R. Frankline (ed.) *The Geographical Analysis of Population*. Springer

Tong D. and A.T. Murray (2017) Location analysis: Developments on the horizon. In R. Jackson and P. Schaeffer (eds.) *Regional Research Frontiers Vol 2*. pp:193-208. Springer International Publishing

Wu J., **D. Tong,** and K. Ryavec (2013) Spatial analysis and GIS modeling of regional religious systems in China: Conceptualization and initial experiments. In *Chinese History in Geographical Perspective*, edited by Du Y. and J. Kyong-McClain. Lanham: Lexington Books

Murray A.T., **D. Tong** and T.H. Grubestic (2012) Spatial optimization: expanding emergency services to address regional growth and development. *Studies in Applied Geography and Spatial Analysis: Addressing Real World Issues*. Edited by R. Stimson and K. Haynes

D. Peer-reviewed Proceedings

Hsieh P.-S., W.-H. Lin, M. Qi and **D. Tong** (2015) Investigating surrogate point-based modeling approach for covering continuous spatial demand. *2015 IEEE 18th International Conference on Intelligent Transportation Systems (ITSC): 2751-2756*. Gran Canaria, Spain. September 15-18, 2015

Lee, S. G., A. Khani, **D. Tong** and M. D. Hickman (2011) Aggregate level origin-destination estimation using smart card data and transit schedule. *Proceedings of the 52nd Annual Forum of the Transportation Research Forum*, Long Beach, CA, March 10-12, 2011

D. Tong and W. H. Lin (2010) New perspectives on using spatial models for travel time estimation. *Proceedings of 15th HKSTS International Conference 2: 815-822*

Robert D. and **D. Tong** (2009) Distance value model: geospatial implementation of environmental justice. *The Transportation Research Board (TRB) 88th Annual Meeting: 09-0181 (DVD)*

Robert D. and **D. Tong** (2009) Using model builder to measure environmental justice in transportation plans. *2009 ESRI International User Conference Proceedings*, San Diego, California. Available at <http://proceedings.esri.com/library/userconf/proc09/index.html>

Liu Y., M. Momayez and **D. Tong** (2009) Estimate soil moisture from remote sensing images through cokriging. *22nd Symposium on the Application of Geophysics to Engineering and Environmental Problems Proceedings*, Fort Worth, Texas, USA

Tong D. and A.T. Murray (2006) Geographic information science to enhance location coverage

modeling. *University Consortium for Geographic Information Science Summer Assembly*, 2006, online (<http://www.ucgis.org>)

E. Media/Project Report

Pfeiffer, Deirdre, Wangshu Mu, **D. Tong**, and Elizabeth Van Horn (2019) *Arizona Healthy Community Map Technical Report*. Tempe and Phoenix, AZ: ASU School of Geographical Sciences and Urban Planning and Vitaylst Health Foundation

Crosson C., **D. Tong**, Y. Zhang and Q. Zhong (2018) *Making Action Possible for Southern Arizona: Rainwater as potential resource for water independence in Tucson's communities*.

<https://mapazdashboard.arizona.edu/article/rainwater-potential-resource-water-independence-tucson's-communities>

Tong D., S Buechler and Y. Bao (2016) *Making Action Possible for Southern Arizona: A Comprehensive Food Access Analysis in Tucson*.

<http://mapazdashboard.arizona.edu/article/comprehensive-food-access-analysis-tucson>

Professional Service

A. National Committees

- 2020- Vice President (elected), Spatial Analysis and Modeling (SAM) Specialty Group, *American Association of Geographers*
- 2020- Nominating Committee Member (elected), *American Association of Geographers*
- 2020- Diversity Committee Co-Chair, *North American Regional Science Council*
- 2020- Councilor at large (elected), *North American Regional Science Council*
- 2019- Associate Editor, *Computers, Environment and Urban Systems*
- 2018- Associate Editor, *Annals of Regional Science*
- 2018-2020 Steve Fellowship Committee Member, *North American Regional Science Council*
- 2017 Chair, Graduate-Led Student Paper Competition, *North American Regional Science Council*
- 2017- Member of the Editorial Board of *International Regional Science Review*
- 2016- Member of the Editorial Board of *Geographical Analysis*
- 2016-2019 Member of the Board of Directors (elected), Spatial Analysis and Modeling (SAM) Specialty Group, *American Association of Geographers*
- 2016-2018 Member of the Board of Directors (elected), *The International Association of Chinese Professionals in Geographic Information Sciences*
- 2016- Member of the Board of Directors (elected), *The Western Regional Science Association*
- 2012-2014 Member of the Board of Directors (elected), *The International Association of Chinese Professionals in Geographic Information Sciences*
- 2012 Member, Student Paper Award Committee, Spatial Analysis and Modeling (SAM) Specialty Group Competition, *American Association of Geographers*

B. Review Service

- 2018 : Book reviewer, *Spatial Regression Models for Social Scientists* for Sage
- 2016 : Reviewer, NSF proposal, Methodology, Measurement, and Statistics (MMS) Program
- 2015 : Book proposal reviewer, *Theory and Methods for Large Spatial Data*, Wiley

- 2014 : Reviewer, Kazakhstan National Center of Science and Technology Proposal Evaluation
- 2013 : Book reviewer, *Best Practices in Logistical Regression*, SAGE
- 2012: Reviewer, NSF proposal, Methodology, Measurement, and Statistics (MMS) Program
- 2009: Guest Editor, *Région et Développement* (an international journal edited in France)
- 2008: Reviewer, NSF proposal, Geography & Spatial Sciences (GSS) Program
- 2007- Reviewer of papers submitted for the Annual Meeting of the Western Regional Science Association

C. Conference Sessions Organized/Chaired

- 2020: Spatial Optimization and Analysis I & II, session organizer and chair, 116th Annual Meeting of the American Association of Geographers
- 2019: Spatial Optimization and Analysis I, II & III, session organizer and chair, 115th Annual Meeting of the American Association of Geographers
- 2018: Spatial Optimization and Analysis I, II & III, session organizer and chair, 114th Annual Meeting of the American Association of Geographers
- 2018: Spatial Analysis and Modeling of Natural Disasters and Community Resilience I & II, session organizer and chair, 114th Annual Meeting of the American Association of Geographers
- 2017: Spatial Optimization and Analysis I & II, session organizer and chair, 113rd Annual Meeting of the American Association of Geographers
- 2016: Spatial Optimization and Analysis I, II & III, session organizer and chair, 112th Annual Meeting of the American Association of Geographers
- 2015: Spatial Optimization and Analysis I & II, session organizer and chair, 111th Annual Meeting of the American Association of Geographers
- 2015: Location Analysis and modeling, session chair, 62nd Annual North American Meetings of the Regional Science Association International
- 2014: Food and Agriculture I: International Cases, session chair, 2014 Annual Meeting of Association of Pacific Coast Geographers
- 2014: Spatial Optimization and Analysis I & II, session organizer and chair, 110th Annual Meeting of the American Association of Geographers
- 2013: Spatial Optimization and Analysis I & II, session organizer and chair, 109th Annual Meetings of the American Association of Geographers
- 2012: Spatial Optimization and Analysis I & II, session organizer and chair, 108th Annual Meetings of the American Association of Geographers
- 2011: Spatial Optimization and GIS I & II, session organizer and chair, 107th Annual Meetings of the American Association of Geographers
- 2010: Location and Spatial Modeling I & II, session chair, 57th Annual North American Meetings of the Regional Science Association International
- 2010: Transportation Application, session co-chair, 18th International Conference on Geoinformatics 2010
- 2010: Location and Spatial Analysis I & II, session organizer and chair, 106th Annual Meetings of the American Association of Geographers
- 2010: Transportation, session chair, Annual Meeting of the Western Regional Science Association
- 2009: Location and Spatial Analysis I & II, session organizer and chair, 105th Annual Meetings of the American Association of Geographers

2009: Traffic Management, session chair, 2009 INFORMS (Institute For Operations Research and the Management) Annual Meeting, San Diego, USA, October 11-14, 2009

D. Journal Reviews

Agriculture and Human Values
American Journal of Health Promotion
Annals of the American Association of Geographers
Annals of GIS
Annals of Regional Science
Applied Geography
Applied Mathematical Modeling
Cities
Cogent Geoscience
Computers and Operations Research
Computers, Environment and Urban Systems
Ecosystem Health and Sustainability
Environment and Planning B: Planning and Design
Environment Management
Environmental Research
European Journal of Operational Research
Food security
Geographical Analysis
Geoinformatics
Geojournal
Habitat International
IEEE Transactions on Intelligent Transportation Systems
International Journal of Applied Earth Observation and Geoinformation
International Journal of Applied Geospatial Research
International Journal of Digital Earth
International Journal of Geographical Information Science
International Regional Science Review
Journal of Algorithms and Optimization
Journal of Geographical Systems
Journal of Transport Geography
Landscape and Urban Planning
Letters in Spatial and Resource Sciences
Mathematical Problems in Engineering
Models and Technologies for Intelligent Transportation Systems
Networks and Spatial Economics
Papers in Regional Science
Région et Développement
PLOS ONE
Population Research and Policy Review
Proceedings of the National Academy of Sciences of the United States of America
Sensors
Soft Computing
Socio-Economic Planning Sciences

Spatial and Spatio-temporal Epidemiology
Spatial Statistics
Sustainability
The Professional Geographer
Transactions in GIS
Transportation Research Board
Urban Affairs Review
World Review of Intermodal Transportation Research

F. Professional Membership

American Association of Geographers
The Regional Science Association International
The Western Regional Science Association
Institute for Operations Research and the Management Sciences
International Association of Chinese Professionals in Geographic Information Sciences

Internal Services

Arizona State University

2020- Member, JEDI (Justice Equity Diversity and Inclusion) Committee, School of Geographical Sciences and Urban Planning
2018-2020 Member, Personnel Committee, School of Geographical Sciences and Urban Planning
2019 Chair, Diversity Committee, School of Geographical Sciences and Urban Planning
2018 Member, Geospatial Infrastructure Conference Committee
2017-2018 Co-Chair, SGSUP Colloquium Committee
2017-2018 Member, GIS Faculty Search Committee
2017- ASU Delegate, UCGIS

University of Arizona

2016-2017 Steering Committee member, Center for Regional Food Studies
2014-2017 Executive Committee member, Graduate Interdisciplinary Program in Remote Sensing & Spatial Analysis
2007-2017 Member, GIS Certificate Committee
2016-2017 Chair, School of Geography and Development Colloquium Committee
2014-2016 Chair, Faculty Annual Performance Review Committee
2013- Member, Faculty Annual Performance Review Committee
2013-2014 Chair, GIS sub-group curriculum committee
2014- Member, Graduate Committee
2012- Member, Undergraduate Committee
2009-2012 Member, Graduate Committee
2008-2011 Member, Jan Monk Distinguished Speaker Committee
2007-2009 Member, Department Committee on Instructional Technology

Grants

2020 “Enhancing Healthy Food Access in Food Deserts: An Integration of Data Analytics and Community Engagement”, PI, \$15,000, Knowledge Exchange for Resilience, Arizona State University

- 2019-2024 “Networked PalYnology Models of Pollen and Human Systems (NYMPHS)”, co-PI, \$6,500,000, Multidisciplinary University Research Initiative (MURI) by Department of Defense
- 2019-2021 “Consumer Attitudes and Behavioral Implications in the New Era of Shared Mobility” co-PI, \$69,324, TOMNET University Transportation Center
- 2019-2020 “Beyond Mapping: Community Specific Solutions to Food Insecurity”, co-PI, \$5000, Swette Center, Arizona State University,
- 2019 “Urban Transportation System Flood Vulnerability Assessment with Special Reference to Low-Income and Minority Neighborhoods”, co-PI, \$20,000, NITC University Transportation Center
- 2018 “Arizona Healthy Community Map”, co-PI, \$40,000, Vitalyst Health Foundation
- 2017-2018 “Arizona Tri-University Transportation Research Center pilot research portfolio” co-PI for “Project 6: Alternative fuels for the I-10 super corridor: Stage II”, \$30,000, Arizona Board of Regents Research Innovation Funds
- 2017 “Maricopa County Recorder Polling Place Optimization Tool”, PI, \$18,640, Arizona State University
- 2017 “A Comprehensive Analysis of Rainwater as Potential Resource in Tucson’s Communities”, Co-PI, \$7,500, Economic and Business Research Center, University of Arizona
- 2016-2017 “Greening the food deserts of Tucson, Arizona”, Co-PI, \$48,665, Agnese Nelms Haury Program in Environment and Social Justice
- 2016-2017 “Arizona Tri-University Transportation Research Center pilot research portfolio” co-PI for “Project 6: Alternative fuels for the I-10 super corridor”, \$40,000, Arizona Board of Regents Research Innovation Funds
- 2016-2017 “Unifying the principles for vector-borne disease spread: A network approach”, The Graduate/Undergraduate Team Interdisciplinary Research “Link” Award, Co-PI, \$29,019, Improving Health Initiative, University of Arizona
- 2016 “Characterization of regional networks for vector-borne disease spread”, Co-PI, \$9,000, Center for Insect Science, University of Arizona
- 2015 “Making Action Possible (MAP) Proposal: A Comprehensive Food Access Analysis in Tucson”, PI, \$7,500, Economic and Business Research Center, University of Arizona
- 2015-2018 “Quantification and Reduction of Spatial Scale Induced Uncertainty”, PI, \$149, 992, NSF Methodology, Measurement, and Statistics & Geography and Spatial Science programs (Award No. 1461390)

- 2015-2017 “Determining the optimal spatial configuration of public facility locations in reducing urban traffic congestion: A case study of Beijing”, PI, ¥200,000, Natural Science Foundation of China.
- 2014-2016 “The Geography of Food Access: Exploring the Socioeconomic and Spatio-temporal Dimensions”, PI, \$16,000, NSF Geography and Spatial Science DDRI (Award No. 1433681)
- 2009 “Maximizing the Participation in Farmers’ Markets”, PI, \$5,000, Social and Behavioral Sciences Research Institute, University of Arizona
- 2007 “Coverage optimization of emergency facilities location in Tucson, AZ”, co-PI, \$1,800, Social and Behavioral Sciences Research Institute, University of Arizona

Scholarly Presentations (invited)

- 2020: University of Texas, Austin
- 2019: Symposium in Honor of David A. Plane. School of Geography & Development, University of Arizona, Tucson, AZ
- 2017: Annual Conference of Special Libraries Association
- 2017: Hehai Univeristy, China
- 2017: Shangdong Normal University, China
- 2017: Nanjing Institute of Geography & Limnology, Chinese Academy of Sciences
- 2017: University of Illinois Urbana-Champaign
- 2017: Arizona State University
- 2017: University of Utah
- 2016: Arizona State University
- 2016: Heilongjiang Normal University, China
- 2015: University of Kansas
- 2013: Tongji University, China
- 2013: Peking University, China
- 2013: Renmin University, China
- 2012: Fudan University, China
- 2010: Tongji University, China
- 2010: University of Shanghai for Science and Technology, China
- 2010: Guangdong University, China
- 2010: Wuhan University, China
- 2010: Henan University, China
- 2008: Arizona State University

Conference Presentations (submitted)

Mu W. and D. Tong “Efficient Algorithms for Computing Area-based Distances” *66th Annual North American Meetings of the Regional Science Association International*, Pittsburgh, PA, November 13-16, 2019

Mu W. and D. Tong “A Choropleth Map Classification Scheme with Control of Robustness for Uncertain Geographical Attributes” *29th International Cartographic Conference*. Tokyo, Japan, July 15-20, 2019

Mu. W. and D. Tong “A new study for understanding the scale effect in the regression analysis of spatial data” *115th Annual Meeting of the American Association of Geographers*. Washington, DC, April 3-7, 2019

Zhang Y., D. Tong, and C. Crosson “Disparity in Rainwater Harvesting Rebate Adoption: A Case Study in Tucson” *115th Annual Meeting of the American Association of Geographers*. Washington, DC, April 3-7, 2019

Zhong Q. and D. Tong “Scenario planning for sustainable urban food production: A case study of Tucson communities” *115th Annual Meeting of the American Association of Geographers*. Washington, DC, April 3-7, 2019

Jin X. and D. Tong “Dockless bike sharing demand modeling: A case study in Beijing” *115th Annual Meeting of the American Association of Geographers*. Washington, DC, April 3-7, 2019

Tong D., Q. Zhong and C. Crosson “Optimize urban agriculture to address food deserts in semi-arid areas”. *2018 Institute for Operations Research and the Management Sciences Annual Meeting*, Phoenix, AZ, November 4-7, 2018

Mu. W. and D. Tong “A new hybrid heuristic for solving regionalization problems” *65th Annual North American Meetings of the Regional Science Association International*, San Antonio, TX, November 7-10, 2018

Tong D., Q. Zhong and C. Courtney “Integrating rainwater harvesting into urban food production” *65th Annual North American Meetings of the Regional Science Association International*, San Antonio, TX, November 7-10, 2018

Zhong Q., Y. Zhang, C. Crosson and D. Tong “Rainwater as Potential Resource for Water Independence in Tucson’s Communities” *114th Annual Meeting of the American Association of Geographers*. New Orleans, LA, April 10-14, 2018

Mu W. and D. Tong “Optimal zone design with genetic algorithm”. *114th Annual Meeting of the American Association of Geographers*. New Orleans, LA, April 10-14, 2018

Bao Y., D. Tong, D. Plane and S. Buechler “Food accessibility and food diversity: Exploring the role of small independent grocers”. *57th Annual Meeting of the Western Regional Science Association*, Pasadena, California, February 11-14, 2018

Tong D. and A. T. Murray “Location analysis: Developments on the horizon” *57th Annual Meeting of the Western Regional Science Association*, Pasadena, California, February 11-14, 2018

Mu W. and D. Tong “Choropleth Mapping with Uncertainty: A Maximum Likelihood based Classification Scheme” *64th Annual North American Meetings of the Regional Science Association International*, Vancouver, BC, Canada, November 8-11, 2017

- Tong D., Y. Bao and Tanoue K.L.H. “Food access mapping and policy implications”. *2017 Annual Conference of Special Libraries Association*. Phoenix, AZ, June 18-20, 2017
- Tanoue K.L.H. and D. Tong “Optimizing for SNAP-ED: A model for locating public assistance food retail”. *113rd Annual Meeting of the American Association of Geographers*. Boston, MA, April 5-9, 2017
- Zhong Q. and D. Tong “A maximal covering location model for solar photovoltaic (PV) panels installation”. *113rd Annual Meeting of the American Association of Geographers*. Boston, MA, April 5-9, 2017
- Mu W. and D. Tong “On solving large p -median problems” *63rd Annual North American Meetings of the Regional Science Association International*, Minneapolis, MN, November 9-12, 2016
- Tong D. and R. Li “Mapping complex urban activity spaces” *33rd International Geographical Congress*, Beijing, China, August 21-25, 2016
- Tong D. “Network-based modeling of vector-borne disease spread and mapping uncertainty” *Assessing Risk for Emerging Arboviral Disease* organized by Arizona Department of Health services in collaboration with International Society for Disease Surveillance. June 14-15, 2016. Phoenix, AZ
- Mu W. and D. Tong “On the optimal zoning design in multiple regression”, *112th Annual Meeting of the American Association of Geographers*, San Francisco, CA, March 29-April 2, 2016
- Tong D., H. Brown, J. Liu and W. Mu, “Spatial uncertainty in public health risk assessment: A case study of valley fever in Arizona”, *55th Annual Meeting of the Western Regional Science Association*, Hawaii, February 14-17, 2016
- Mu W., D. Tong and S. Dall’erba “A spatial econometric analysis of the distribution of farmers’ markets in the United States”, *62nd Annual North American Meetings of the Regional Science Association International*, Portland, OR, November 11– 14, 2015
- R. Wei and D. Tong “An integrated classification scheme for mapping estimates and errors of estimation from the American Community Survey”, *62nd Annual North American Meetings of the Regional Science Association International*, Portland, OR, November 11– 14, 2015
- Guo B., D. Tong, X. Jin, Y. Zhou “Optimal spatial allocation of water resources based on mixed integer programming method: A case study of Guanzhong Tableland in China”, *111th Annual Meeting of the American Association of Geographers*, Chicago, Illinois, April 21-25, 2015
- Mu W. and D. Tong “A spatial heuristic for the p -median problem”, *111th Annual Meeting of the American Association of Geographers*, Chicago, Illinois April 21-25, 2015
- Tong D. and R. Wei “Exploring alternative space abstraction schemes in regional coverage maximization” *54th Annual Meeting of the Western Regional Science Association*, Tucson, AZ, February 15-18, 2015
- Tong D., Y. Liu and X. Liu “Measuring spatial autocorrelation of vectors”, *61st Annual North*

American Meetings of the Regional Science Association International, Bethesda, Maryland, November 12– 15, 2014

Wei R and D. Tong “A comparative analysis of continuous space maximal coverage modeling approaches”, *110th Annual Meeting of the American Association of Geographers*, Tampa, April, 8-12, 2014

Bao Y., D. Tong, D.A. Plane “Measuring food accessibility and the role of independent stores in the greater Tucson area, Arizona”, *53rd Annual Meeting of the Western Regional Science Association*, San Diego, CA, February 15-18, 2014

Li R. and D. Tong “A stop sharing enabled school bus routing problem”, *53rd Annual Meeting of the Western Regional Science Association*, San Diego, CA, February 15-18, 2014

Tong D. and J. Mack “Characterizing the spatio-temporal patterns of farmers’ market visits”, *53rd Annual Meeting of the Western Regional Science Association*, San Diego, CA, February 15-18, 2014

Tong D. and T. Lei “Designing robust coverage systems: a maximal covering model with geographically varying failure probabilities”, *109th Annual Meeting of the American Association of Geographers*, Los Angeles, April, 9-13, 2013

Li R. and D. Tong “A new location model incorporating multi-stop and multi-purpose trip chains”, *109th Annual Meeting of the American Association of Geographers*, Los Angeles, April, 9-13, 2013

Tong D. and T. Lei “Delineation of spatially integrated regions: An inter-person distance approach”, *108th Annual Meeting of the American Association of Geographers*, New York, February 24-28, 2012

Tong D. and D. A. Plane “Delineation of spatially integrated regions: An inter-person distance approach”, *108th Annual Meeting of the American Association of Geographers*, New York, February 24-28, 2012

Li R. and D. Tong “Facility location: A p -median problem variant”, *108th Annual Meeting of the American Association of Geographers*, New York, February 24-28, 2012.

Tong D., F. Ren and M-P Kwan “Regional demand in facility location”, *51st Annual Meeting of the Western Regional Science Association*, Kauai, Hawaii, USA, February 8-11, 2012

Tong D. and D.A. Plane “New spatial optimization models for delineating metropolitan and micropolitan statistical areas”, *107th Annual Meeting of the American Association of Geographers*, Seattle, Washington, April 12-16, 2011

Mack J. and D. Tong “Space-time accessibility of farmers’ markets in Tucson, AZ”, *107th Annual Meeting of the American Association of Geographers*, Seattle, Washington, April 12-16, 2011

Tong D. “Evaluating point representation for coverage modeling in continuous space”, *58th Annual North American Meetings of the Regional Science Association International*. Denver, Colorado, November 10-13, 2010

Tong D. “Location analysis of farmers’ markets”, *2010 INFORMS (Institute for Operations Research and the Management Sciences) Annual Meeting*, Austin, Texas, November 7-10, 2010

Tong D. and D. Robert “Incorporating GIS-based environmental justice assessment in transportation planning”, *18th International Conference on Geoinformatics 2010*. Beijing, China, June 18-20, 2010

Tong D. “Locating farmers’ markets”, *106th Annual Meeting of the American Association of Geographers*, Washington D.C., USA, April 14-18, 2010

Tong D. and W. Lin “New perspectives on using spatial models for travel time estimation”, *49th Annual Meeting of the Western Regional Science Association*, Sedona, Arizona, USA, February 21-24, 2010

Tong D., W.H. Lin, J. Mack and D. Mueller (2010) “Accessibility-based multi-criteria analysis for facility siting”, *The Transportation Research Board 89th Annual Meeting*, Washington D.C., USA, January 10-14, 2010

Tong D. and W. Lin “A spatial statistical model for estimating area wide travel time with special consideration of traffic characteristics”, *56th North American Meeting of the Regional Science Association International*, San Francisco, California, USA, November 18-21, 2009

Tong D. and W. Lin “An enhanced geostatistical model for estimating travel time on an Urban Transportation Network”, *2009 INFORMS (Institute for Operations Research and the Management Sciences) Annual Meeting*, San Diego, San Francisco, USA, October 11-14, 2009

Robert D. and D. Tong “Using model builder to measure environmental justice in transportation plans”, *2009 ESRI International User Conference*, San Diego, California, USA, July 13-17, 2009

Tong D., W.H. Lin, J. Mack and D. Mueller (2010) “Accessibility-based multi-criteria analysis for facility siting”, *The Transportation Research Board 89th Annual Meeting*, Washington D.C., USA, January 10-14, 2010

Liu Y., M. Momayez and D. Tong “Estimate soil moisture from remote sensing images through cokriging”, *22nd Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP)*, Fort Worth, Texas, USA, March 29-April 2, 2009

Shillington L. and D. Tong “Wireless mesh network design for emergency medical services in Tucson”, *105th Annual Meeting of the American Association of Geographers*, Las Vegas, Nevada, USA, March 22-27, 2009

Tong D. and R. Done “Optimizing environmental justice in transportation planning”, *105th Annual Meeting of the American Association of Geographers*, Las Vegas, Nevada, USA, March 22-27, 2009

Tong D. “Implicitly accounting for complementary coverage in regional coverage maximization”, *48th Annual Meeting of the Western Regional Science Association*, Napa, California, USA, February 22-25, 2009

Done R. and D. Tong “Distance value model: Geospatial implementation of environmental justice”,

The Transportation Research Board 88th Annual Meeting, Washington D.C., USA, January 11-15, 2009

Tong D., H. Wei and A.T. Murray “An efficient vertex p -center problem solution”, *55th North American Meeting of the Regional Science Association International*, Brooklyn, NY, USA, November 19-22, 2008

Zhang B., F. Schwartz and D. Tong “Application of artificial neural computation in Topex waveform data: a case study in water ratio regression”, *The 7th International Conference on Cognitive Informatics 2008*, Stanford University, California, USA, August 14-16, 2008

Tong D., A.T. Murray, T. Grusbesic and S. Dall'erba “Coverage optimization for deploying a wireless mesh network”, *Internal Symposium on Locational Decisions XI*, Santa Barbara, California, USA, June 25-July 2, 2008

Tong D. “A new approach for regional coverage modeling”, *104th Annual Meeting of the American Association of Geographers*, Boston, Massachusetts, USA, April 15-19, 2008

Tong D., A.T. Murray and N. Xiao “Heuristics in facility location: a genetic algorithm for coverage maximization”, *47th Annual Meeting of the Western Regional Science Association*, Hawaii, February 17-20, 2008

Tong D. and A.T. Murray “Incorporating spatial information for solving a coverage maximization siting problem”, *54th North American Meeting of the Regional Science Association International*, Savannah, Georgia, USA, November 7-10, 2007

Murray A.T., T.C. Matisziw, D. Tong and H. Wei “GeoComputational approaches to coverage maximization in service facility siting”, *GeoComputation 2007*, NUI Maynooth, Ireland, September 3-5, 2007

Tong D. and A.T. Murray “Addressing region-wide coverage issues”, *103rd Annual Meeting of the Association of American Geographers*, San Francisco, California, USA, April 17-21, 2007

Tong D. and A.T. Murray “Spatial representation issues in maximizing regional coverage in the plane”, *53rd North American Meeting of the Regional Science Association International*, Toronto, Canada, November 16-18, 2006

Tong D. and A.T. Murray “Geographic information science to enhance location coverage modeling”, *University Consortium for Geographic Information Science Summer Assembly*, Vancouver, Washington, USA, June 28-July 1, 2006

Tong D., C.J. Merry and B. Coifman “Deriving transportation information from GPS probe vehicle data integrated with a GIS”, *GIS for Transportation Symposium*, Columbus, Ohio, USA, March 27-29, 2006

Tong D. and A.T. Murray “Siting facility in the plane: partial coverage approach”, *102nd Annual Meeting of the American Association of Geographers*, Chicago, Illinois, USA, March 7-11, 2006

Murray A.T. and D. Tong “Analyzing structure fires in Massachusetts: regional science and the media”, 45th Annual Meeting of the Western Regional Science Association, Santa Fe, New Mexico, February 22-25, 2006

Murray A.T. and D. Tong “Coverage in continuous space facility siting”, 52nd North American Meeting of the Regional Science Association International, Las Vegas, Nevada, USA, November 10-12, 2005

Murray A.T. and D. Tong “Threshold coverage optimization”, *Internal Symposium on Locational Decisions X*, Sevilla and Islantilla, Spain, June 2-8, 2005