

Diansheng Guo

Associate Professor

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EDUCATION

- 2003 Ph.D., Department of Geography, Pennsylvania State University, USA
- 1999 M.S., Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, China
- 1996 B.S., Department of Urban and Environmental Sciences, Peking University, China

EMPLOYMENT POSITIONS

- 2009 - present Associate Professor, Department of Geography, University of South Carolina
- 2004 - 2009 Assistant Professor, Department of Geography, University of South Carolina
- 2003 - 2004 Postdoc, Geographic Visualization, Technology and Applications Center (GeoVISTA), Department of Geography, Pennsylvania State University
- 1999 - 2003 Research Assistant, Department of Geography, Pennsylvania State University

AWARDS AND HONORS

- 2013 Breakthrough Rising Star Award, Office of Research, University of South Carolina
- 2009 Service Award, International Association of Chinese Professionals in Geographic Information Sciences (CPGIS)
- 2008 National Science Foundation (NSF) CAREER Award
- 2007 Semifinalist, NSF Science & Engineering Visualization Challenge (Top 10 entries in the Information Graphics category)
- 2005 First Prize, IEEE Information Visualization Contest
- 2004 Intergraph-UCGIS Young Scholar Award
- 2003 Paper Award, UCGIS Summer Assembly
- 2002 First Place, Poster Competition, UCGIS Summer Assembly
- 2002 E. W. Miller Award, Department of Geography, Pennsylvania State University
- 1999 Presidential Award, Excellent Master Thesis, Chinese Academy of Sciences

REFEREED JOURNAL PUBLICATIONS (* denotes advisee)

- 2016 Gao, P., J. A. Kupfer, X. Zhu, and **D. Guo**. Quantifying Animal Trajectories Using Spatial Aggregation and Sequence Analysis – A Case Study of Differentiating Trajectories of Multiple Species, Geographic Analysis. DOI: 10.1111/gean.12098
- 2015 Huang, Y. *, **D. Guo**, Alice Kasakoff and Jack Grieve. “Understanding U.S. Regional Linguistic Variation with Twitter Data Analysis”, Computers, Environment, and Urban Systems doi:10.1016/j.compenvurbsys.2015.12.003

- 2015 Kang, C., Y. Liu, D. Guo and K. Qin. "A Generalized Radiation Model for Human Mobility: Spatial Scale, Searching Direction and Trip Constraint". PLoS ONE 10 (11): e0143500. doi:10.1371/journal.pone.0143500
- 2015 Gao, P., G. J. Carbone, and **D. Guo**. Assessment of NARCCAP Model in Simulating Rainfall Extremes Using a Spatially Constrained Regionalization Method, International Journal of Climatology, doi: 10.1002/joc.4500
- 2014 **Guo, D.** and X. Zhu*. "Origin-Destination Flow Data Smoothing and Mapping", IEEE Transactions on Visualization and Computer Graphics, 20(12), pp. 2043-2052.
- 2014 Zhu, X.* and **D. Guo**. "Mapping Large Spatial Flow Data with Hierarchical Clustering", Transactions in GIS, 18(3): 421–435.
- 2014 Chen, N., G. Tang, **D. Guo** and C. Chen. "Influence of DEM orientation on the error of slope calculation", Earth Science Informatics, 7(4), pp. 277-285
- 2014 **Guo, D.** and Chao Chen*. "Detecting Non-personal and Spam Users on Geo-Tagged Twitter Network", Transactions in GIS, 18(3): 370–384.
- 2014 Koylu C.*, **D. Guo** and A. Kasakoff. "Mapping Family Connectedness across Space and Time", Cartography and Geographic Information Science, 41 (1), pp. 14-65.
- 2013 Gao P., J.A. Kupfer, **D. Guo** and T. Lei. Identifying Functionally-Connected Habitat Compartments with a Novel Regionalization Technique. Landscape Ecology, Vol. 28, Pages 1949-1959.
- 2013 Koylu, C.* and **D. Guo**. "Smoothing Locational Measures in Spatial Networks", Computers, Environment and Urban Systems, Vol. 41, Pages 12-25.
- 2013 Gao P.*, **D. Guo**, K. Liao, J. J. Webb, and S. L. Cutter. "Early Detection of Terrorism Outbreaks Using Prospective Space-Time Scan Statistics", The Professional Geographer. Vol. 65, Issue 4, Pages 676-691.
- 2012 **Guo, D.**, X. Zhu, H. Jin, P. Gao and C. Andris (2012). "Discovering Spatial Patterns in Origin-Destination Mobility Data", Transactions in GIS, 16(3), 411-429.
- 2012 Wang, F., **D. Guo** and S. McLaffert. "Constructing Geographic Areas for Cancer Data Analysis: A Case Study on Late-stage Breast Cancer Risk in Illinois", Applied Geography, 35(1), 1-11.
- 2012 Kupfer J. A., P. Gao and **D. Guo**. "Regionalization of forest pattern metrics for the continental United States using contiguity constrained clustering and partitioning", Ecological Informatics. Vol. 9, 11-18.
- 2011 **Guo, D.** and H. Wang*. "Automatic Region Building for Spatial Analysis", Transactions in GIS, 15(s1), 29 - 45.
- 2011 **Guo, D.** and H. Jin*. "iRedistrict: Geovisual Analytics for Redistricting Optimization", Journal of Visual Languages and Computing, 22(4), 279-289.

- 2010 **Guo, D.**, S. Liu*, and H. Jin*. "A Graph-based Approach to Vehicle Trajectory Analysis", Journal of Location Based Service, 4(3), pages 183-199.
- 2010 **Guo, D.** "Local Entropy Map: A Non-Parametric Approach to Discover Spatially Varying Bivariate Relationships". International Journal of Geographical Information Science, 24(9), pages 1367-1389.
- 2009 **Guo, D.** "Flow Mapping and Multivariate Visualization of Large Spatial Interaction Data", IEEE Transactions on Visualization and Computer Graphics, 15(6), pp. 1041-1048.
- 2008 Liao, K.* and **D. Guo**. "A Clustering-Based Approach to a Capacitated Facility Location Problem". Transactions in GIS. 12(3), pp. 323–339.
- 2008 **Guo, D.** "Regionalization with Dynamically Constrained Agglomerative Clustering and Partitioning (REDCAP)". International Journal of Geographical Information Science. 22(7), pp. 801-823.
- 2008 Chen, J., A.M. MacEachren, and **D. Guo**. "Supporting the Process of Exploring and Interpreting Space-Time, Multivariate Patterns: The Visual Inquiry Toolkit ". Cartography and Geographic Information Science, 35(1), pp. 33-50.
- 2007 **Guo, D.** "Visual Analytics of Spatial Interaction Patterns for Pandemic Decision Support". International Journal of Geographical Information Science, 21(8), pp. 859-877.
- 2007 **Guo, D.**, K. Liao*, M. Morgan*. "Visualizing Patterns in a Global Terrorism Incident Database", Environment and Planning B: Planning and Design. 34, pp. 767-784.
- 2006 **Guo, D.** and M. Gahegan. "Spatial Ordering and Encoding for Geographic Data Mining and Visualization", Journal of Intelligent Information Systems, 27(3), pp. 243-266
- 2006 **Guo, D.**, J. Chen, A. M. MacEachren, and K. Liao. "A Visualization System for Spatio-Temporal and Multivariate Patterns (VIS-STAMP)", IEEE Transactions on Visualization and Computer Graphics, 12(6), pp. 1461-1474. (Featured on the cover)
- 2005 **Guo, D.**, M. Gahegan, A.M. MacEachren, and B. Zhou. "Multivariate Analysis and Geovisualization with an Integrated Geographic Knowledge Discovery Approach". Cartography and Geographic Information Science, 32(2), pp. 113-132. (Featured on the cover)
- 2003 **Guo, D.** "Coordinating Computational and Visualization Approaches for Interactive Feature Selection and Multivariate Clustering". Information Visualization, 2(4): 232-246.
- 2003 **Guo, D.**, D. Peuquet and M. Gahegan. "ICEAGE: Interactive Clustering and Exploration of Large and High-dimensional Geodata". GeoInformatica, 7(3): pp. 229-253.

Unrefereed Journal Publication

- 2009 **Guo, D.** and J. Mennis. “Spatial data mining and geographic knowledge discovery-An introduction”. *Computers, Environment and Urban Systems*, **33**(6), pp. 403-408. [A literature review and introduction to an edited special issue. Cited 119 times on Google Scholar by year 2015. An errata was published by the journal regarding the order of authors—I’m the first author in the correct version]

BOOK CHAPTERS OR EDITED BOOK (* denotes advisee)

- 2016 B. Warf, U. Kohl and **D. Guo** (eds.), *Encyclopedia of the Internet*, SAGE Publication. (In progress)
- 2015 **Guo, D.** (2015), “Exploratory Spatial Data Analysis”, *International Encyclopedia of Geography: People, the Earth, Environment, and Technology*. (Accepted April 2015)
- 2013 **Guo D.** and J. Wu*. “Understanding Spatiotemporal Patterns of Multiple Crime Types with a Geovisual Analytics Approach”, in *Crime Modeling and Mapping Using Geospatial Technologies*, ed. M. Leitner. 2013, pp. 367-385, Springer.
- 2012 Y. Leung, C. Zhou, B. Lees, **D. Guo** and C. Chen (eds.) *Proceedings of the First IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services (ICS DM 2011)*, IEEE Press.
- 2010 A. Croitoru, **D. Guo**, F. Wang, D. Wong, Agouris, P., and A. Stefanidis. "Geospatial Data Analysis and Information Extraction", In *Advanced GeoInformation Science*, edited by C. Yang, D. W. Wong, Q. Miao & R. Yang. CRC Press, pages 145 - 205.
- 2010 **Guo D.** “Spatial Data Mining”, In *Encyclopedia of Geography*, edited by Barney Warf, SAGE Publications.
- 2010 **Guo D.** “Geocoding”, In *Encyclopedia of Geography*, edited by Barney Warf, SAGE Publications.
- 2009 **Guo D.** “Multivariate Spatial Clustering and Geovisualization”, In *Geographic Data Mining and Knowledge Discovery (second edition)*, edited by H.J. Miller and J. Han, Taylor & Francis, pp. 325-345.

PEER-REVIEWED CONFERENCE PUBLICATIONS (* denotes advisee)

- 2015 **D. Guo**, A. Kasakoff, C. Koylu*, Y. Huang* and Jack Grieve. “Historical Population Informatics: Studying Migration using Big Data of Family Trees”. First International Workshop on Population Informatics for Big Data, in conjunction with the 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), August 10, 2015, Sydney, Australia.
- 2015 Y. Huang*, **D. Guo**, Alice Kasakoff, and Jack Grieve. “Understanding U.S. regional linguistic variation with Twitter data analysis”, International Conference

- on Location-based Social Media Data, March 13-14, 2015, Athens, GA, USA
- 2014 **Guo, D.** and X. Zhu*. “Origin-Destination Flow Data Smoothing and Mapping”, IEEE Information Visualization Conference (InfoVis), Nov. 9-14, Paris, France.
- 2014 **Guo, D.** and X. Zhu*. “Mapping Large Spatial Flow Data with Hierarchical Clustering”, Esri International User Conference (Esri UC), Session 1 on Advances in GIScience Research. July 16, 2014, San Diego, CA.
- 2014 **Guo, D.** and C. Chen*. “Detecting Non-personal and Spam Users on Geo-tagged Twitter Network”, Esri International User Conference (Esri UC), Session 2 on Advances in GIScience Research. July 16, 2014, San Diego, CA.
- 2013 Bras, H., A. Kasakoff, **D. Guo** and C. Koylu*. “Visualizing historical kinship networks using data from marriage registers: The Netherlands, 1830-1950”, The XXXIII Sunbelt Social Networks Conference, International Network for Social Network Analysis (INSNA). Hamburg, Germany. May 21-26.
- 2013 Leitner M. and **D. Guo**. “The Impact of Hurricanes on Crime Using a Data Mining and Visual Analytics Approach”, The 26th International Cartographic Conference, Dresden Germany. August 25 – 30, 2013
- 2012 **Guo, D.**, K. Liao* and H. Jin*. “Partitioning Geographically Embedded Complex Networks”, International Conference on Geographic Information Science (GIScience 2012), Columbus, Ohio. September 18-20. (Extended Abstract)
- 2009 **Guo, D.** (2009) “Greedy Optimization for Contiguity Constrained Hierarchical Clustering”. In Proceedings - IEEE International Conference on Data Mining Workshops, pp. 591-596, IEEE Press.
- 2009 Jin, H.* and **D. Guo** (2009). “Understanding Climate Change Patterns with Multivariate Geovisualization”. In Proceedings - IEEE International Conference on Data Mining Workshops, pp. 217-222, IEEE Press.
- 2008 **Guo, D.** (2008) “Multi-scale Flow Mapping of Large Spatial Interaction Data”, International Conference on Geographic Information Science (GIScience 2008), Park City, Utah. September 23-26.
- 2006 **Guo, D.** (2006) “Spatio-Temporal Visual Analytics for Pandemic Response and Decision Support”, Workshop on Visual Analytics & Spatial Decision Support, Münster, Germany. September 20.
- 2006 **Guo, D.** (2006) “Local Entropy Map: A Nonparametric Approach to Measure Spatially Varying Bivariate Relationships”, The Fourth International Conference on Geographic Information Science (GIScience 2006), Münster, Germany. September 20-23.
- 2006 **Guo, D.** (2006) “Mining and Visualizing Spatial Interaction Patterns for Pandemic Response”, Workshop on Spatial Data Mining, SIAM Conference on Data Mining, Bethesda, MD, USA. April 22.
- 2005 Chen, J., **Guo, D.**, and A. MacEachren (2005) “Space-Time-Attribute Analysis and Visualization of U.S. Company Data”. IEEE Symposium on Information

- Visualization (InfoVis 2005), Compendium Volume, Minneapolis, MN, Oct. 23-25. (2pp. on CD)
- 2004 **Guo, D.**, M. Gahegan, and A. MacEachren. (2004) “An Integrated Environment for High-Dimensional Geographic Data Mining”, The Third International Conference on Geographic Information Science, Adelphi, MD, USA, pp. 107-110.
- 2004 Ola, A., **D. Guo**, and J. Macgill. (2004) “Exploration of Semantic Uncertainty in Parameterized Land Use/Land Cover Classifications”, The Third International Conference on Geographic Information Science, Adelphi, MD, USA, pp. 5-8.
- 2003 **Guo, D.**, M. Gahegan, D. Peuquet and A. MacEachren. (2003) “Breaking Down Dimensionality: An Effective Feature Selection Method for High-dimensional Clustering”. The Third SIAM (Society for Industrial and Applied Mathematics) International Conference on Data Mining, Workshop on Clustering High Dimensional Data and its Applications, San Francisco, CA, pp. 29-42.
- 2003 MacEachren, A.M., X. Dai, F. Hardisty, **D. Guo** and G. Lengerich. (2003) “Exploring High-D Spaces with Multiform Matrices and Small Multiples”. IEEE Symposium on Information Visualization, Seattle, WA, pp. 31-38.
- 2003 **Guo, D.** (2003) “A Geographic Visual Query Composer (GVQC) for Accessing Federal Databases”. Proceeding, dg.o.2003, National Conference for Digital Government Research, Boston, MA, pp. 397-400.
- 2002 **Guo, D.**, D. Peuquet and M. Gahegan. (2002) “Opening the Black Box: Interactive Hierarchical Clustering for Multivariate Spatial Patterns”. The 10th ACM International Symposium on Advances in Geographic Information Systems, McLean, VA, pp. 131-136.
- 2002 Steiner, E., A. MacEachren and **D. Guo**. (2002) “Developing and Assessing Light-weight Data-driven Exploratory Geovisualization Tools for the Web”. Advances in Spatial Data Handling, Proceedings of the 10th International Symposium on Spatial Data Handling, ed. D. E. Richardson and P. v. Oosterom, Springer: pp. 487-500.
- 2002 **Guo, D.**, D. Peuquet, M. Gahegan and A. MacEachren. (2002) “Interactive Subspace Clustering for Mining High-Dimensional Spatial Patterns”. The Second International Conference on Geographic Information Science, Boulder, CO, pp. 60-63.
- 2001 MacEachren, A., F. Hardisty, M. Gahegan, M. Wheeler, X. Dai, **D. Guo** and M. Takatsuka. (2001) “Supporting Visual Integration and Analysis of Geospatially-referenced Statistics Through Web-deployable, Cross-platform Tools”. Proceeding, dg.o.2001, National Conference for Digital Government Research, Los Angeles, CA, pp.17-24.
- 2000 Peuquet, D. and **D. Guo**. (2000) “Mining Spatial Data Using An Interactive Rule-based Approach”. The First International Conference on Geographic Information

- Science, Savannah, GA , pp. 152-153.
- 2000 Mennis, J., D. Peuquet and **D. Guo**. (2000) “A Semantic GIS Database Model for the Exploration Of Spatio-Temporal Environmental Data”. The 4th International Conference on Integrating GIS and Environmental Modeling (GIS/EM4): Problems, Prospects, and Research Needs, Banff, Alberta, Canada.
- 1999 Zhang, J., **D. Guo** and Q. Wan. (1999) “Geospatial Data Mining and Knowledge Discovery using Decision Tree Algorithm-A Case Study of Soil Data Set of Yellow River Delta (YRD)”. Geoinformatics'99, Ann Arbor, MI.
- 1999 Wan, Q., C. Zhou and **D. Guo**. (1999) “Web-Based Distributed Collaborative Spatial Decision-Making System”. Towards Digital Earth—Proceedings of the International Symposium on Digital Earth. Beijing, Science Press.
- 1998 Zhang, J. and **D. Guo**. (1999) “A Preliminary Study on Geographical Data Sharing by WebGIS”. Geoinformatics'98, Beijing.

BOOK REVIEW

- 2005 **Guo D.** “GIS: A Computing Perspective” (Second Edition) by Michael F. Worboys and Matt Duckham”, Transactions in GIS, 9 (4): 632-634, 2005.

PRESENTATIONS (* denotes advisee)

- 2015 “Big Data Visualization and Analytics”, Invited Talk, Advanced Training Workshop on Cloud Computing and Big Data Technologies and Applications, China Ministry of National Human Resources and Social Security, October 19-23, 2015, Fuzhou, China
- 2015 “Historical Population Informatics: Studying Migration using Big Data of Family Trees”. First International Workshop on Population Informatics for Big Data, in conjunction with the 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), August 10, 2015, Sydney, Australia.
- 2015 “Understanding U.S. Regional Linguistic Variation with Twitter Data Analysis”, AAG Annual Meeting, April 21-25, 2015, Chicago, Illinois, USA. (co-author, presented by Yuan Huang*).
- 2015 “A spatio-temporal approach to extracting and visualizing topics from Twitter”, AAG Annual Meeting, April 21-25, 2015, Chicago, Illinois, USA. (co-author, presented by Caglar Koylu*).
- 2015 “Multi-scale Flow Mapping with Kernel Smoothing and Generalization”, AAG Annual Meeting, April 21-25, 2015, Chicago, Illinois, USA. (co-author, presented by Xi Zhu*).
- 2015 “Scan Statistics and Mapping of Big Mobility Data”, AAG Annual Meeting, April 21-25, 2015, Chicago, Illinois, USA.
- 2015 “Understanding U.S. regional linguistic variation with Twitter data analysis”,

- International Conference on Location-based Social Media Data, March 13-14, 2015, Athens, GA, USA (co-author, presented by Yuan Huang*)
- 2015 “Computational, Visual and Statistical Analysis of Geographic Mobility”, Colloquium Talk, Department of Geography, Pennsylvania State University, Feb. 28, 2015, State College, PA.
- 2014 “Origin-Destination Flow Data Smoothing and Generalization”, IEEE Information Visualization Conference (InfoVis), November 9-14, 2014, Paris, France.
- 2014 “Mapping Large Spatial Flow Data with Hierarchical Clustering”, Esri International User Conference (Esri UC), Session 1 on Advances in GIScience Research. July 16, 2014, San Diego, CA.
- 2014 “Detecting Non-personal and Spam Users on Geo-tagged Twitter Network”, Esri International User Conference (Esri UC), Session 2 on Advances in GIScience Research. July 16, 2014, San Diego, CA.
- 2014 “Computational Analysis, Visualization and Modeling of Geographic Mobility”, Class Presentation, Digital Humanities, July 25, 2014, University of South Carolina.
- 2014 “Computational Analysis, Visualization and Modeling of Geographic Mobility”, Colloquium Talk, Center of Remote Sensing Research, Peking University. June 20, 2014, Beijing, China
- 2014 “Spatio-temporal analysis of event - driven emotional fluctuation through Twitter Network”, AAG Annual Meeting, April 11, 2014, Tampa, Florida (co-author, presented by Chao Chen*)
- 2014 “Spatial and temporal patterns of topics on Twitter during social movements”, AAG Annual Meeting, Business Geography – Social Media, April 11, 2014, Tampa, Florida (co-author, presented by Caglar Koylu*)
- 2014 “Understanding geo-social network patterns from large ego-centric networks”, Geographic and Social Space, The XXXIV Sunbelt Social Networks Conference, International Network for Social Network Analysis (INSNA). St. Pete Beach, FL, USA. Feb 18-22 (co-author, presented by Caglar Koylu*)
- 2014 “Trees and Tweets and the 'Mobilities' Paradigm”, The Annual Meeting of the Social Science History Association, Toronto, Canada, November 8, 2014 (Alice Kasakoff, Diansheng Guo and Jack Grieve)
- 2014 “Big-data Dialectology: Analyzing Lexical Spread in a Multi-billion Word Corpus of American English”, ACL 2014, Flagstaff, Arizona, September 28, 2014. (Jack Grieve, Diansheng Guo, Alice Kasakoff, and Andrea Nini)
- 2013 “Visualizing witness relations across space and time: The Netherlands 1830-1950”, The Social Science History Association Annual Meeting, November 23, 2013, Chicago, Illinois (co-author, presented by Caglar Koylu*)
- 2013 “Mapping family connectedness across space and time”, The Social Science History Association Annual Meeting, November 23, 2013, Chicago, Illinois (co-

- author, presented by Caglar Koylu*)
- 2013 “Integrating Regionalization and Multilevel Analysis for Health Studies— Embracing the MAUP Opportunity”. AAG Annual Meeting, April 10, 2013, Los Angeles, California.
- 2013 “Implementing and evaluating a web-based flow mapping application”, AAG Annual Meeting, Cartography Specialty Group Student Honors Paper Competition, April 10, 2013, Los Angeles, California. (Co-author, presented by Caglar Koylu*)
- 2013 "Twitter Positivity Index", AAG Annual Meeting, April 10, 2013, Los Angeles, California. (Co-author, presented by Chao Chen*)
- 2013 "Spatial Interaction Modeling and Error Analysis of U.S. Migration", AAG Annual Meeting, April 10, 2013, Los Angeles, California. (Co-author, presented by Hu Wang*)
- 2013 "A generic approach to regionalization, redistricting, and partitioning", AAG Annual Meeting, April 10, 2013, Los Angeles, California. (Co-author, presented by Hai Jin*)
- 2012 “Computational Analysis and Visualization of Large Spatial Interaction Data”, Colloquium Talk, Department of Geography and Earth Sciences, University of North Carolina at Charlotte (UNCC). November 30, 2012.
- 2012 “Spatial Aggregation in Health Data Analysis: Challenges and Opportunities”, Colloquium Talk, Department of Epidemiology, School of Public Health, University of South Carolina. October 17, 2012
- 2012 “Mapping social relationships across space and time”, AutoCarto International Research Symposium, September 17, 2012 Columbus, Ohio (Co-authored with and Presented by C. Koylu*)
- 2012 “A visual analytics approach to animating dynamic spatial networks”, GIScience Workshop: GeoVisual Analytics, Time to Focus on Time. September 18, 2012 Columbus, Ohio (Co-authored with and Presented by C. Koylu*)
- 2012 “Neighborhood Effects on Health: Measurement and Analysis Challenges”, Society for Prevention Research (SPR) 20th Annual Conference, May 1, Washington DC.
- 2012 “Identifying Functionally-Connected Habitat Compartments with a Novel Regionalization Technique”, 27th Annual Symposium of the U.S. Regional Association of the International Association for Landscape Ecology, Newport, Rhode Island. April 8 – 12, 2012. (Co-author, presented by P. Gao)
- 2012 “Discovering Spatial Structures in Massive Trajectory Data”, 108th AAG Annual Meeting, New York, NY, February 24-28, 2012.
- 2012 “Smoothing Locational Measures in Spatial Interaction Networks”, 108th AAG Annual Meeting, New York, NY, February 24-28, 2012. (Presented by C. Koylu*, **Second-Place Winner of the GIS Specialty Group Honors Student Paper**)

Competition)

- 2012 “Spatial scan statistics with hierarchical regionalization”, 108th AAG Annual Meeting, New York, NY, February 24-28, 2012. (Co-authors: H. Wang* and D. Guo)
- 2012 “Investigate Spatio-Temporal and Multivariate Patterns of Crime in Philadelphia, PA”. 108th AAG Annual Meeting, New York, NY, February 24-28, 2012. (Co-authors: J. Wu* and D. Guo)
- 2011 “Geographical Visualization of Migration with Genealogical Data”, Workshop on the Intermediate Data Structure (IDS) for Historical Longitudinal Databases, in conjunction with The 36th Annual Meeting of the Social Science History Association, Boston, MA, November 2011. (Co-authors: D. Guo, A. B. Kasakoff, C. Koylu*, H. Jin*, M. J. DuBois and S. Feetham)
- 2011 “Automatic Region Building for Spatial Analysis”, ESRI International User Conference, San Diego, CA, July 11-15, 2011.
- 2011 “Spatio-Temporal Analysis and Visualization of Movements and Trajectories”, Plenary Talk, The 19th International Conference on Geoinformatics, Shanghai, China, June 24-26, 2011.
- 2011 “Generating Synthetic Benchmark Data for Evaluating Disease Mapping Approaches”, The 19th International Conference on Geoinformatics, Shanghai, China, June 24-26, 2011.
- 2011 “A New Method to Spatial Scan Statistics with Space Partitioning”, UCGIS Summer Assembly, Boulder, Colorado, June 22 – 23, 2011. (Co-authors: H. Wang* and D. Guo. H. Wang won the *Transactions in GIS Best Paper Award* at the UCGIS summer assembly. He was also given a *Travel Award* by UCGIS to present the paper at the assembly.)
- 2011 “Early Detection of Terrorism Clusters Using Space-Time Scan Statistics”, 107th AAG Annual Meeting, Seattle, WA, April 12-16, 2011. (Co-authors: P Gao*, D. Guo and K. Liao*)
- 2011 “A Fine Tuning Procedure for Multi-resolution Image Segmentation”, 107th AAG Annual Meeting, Seattle, WA, April 12-16, 2011. (Co-authors: H. Jin* and D. Guo)
- 2011 “iRedistrict: An Efficient and Effective System for Redistricting Optimization”, The 107th AAG Annual Meeting, Seattle, WA, April 12–16, 2011.
- 2010 “Computational and Visual Analysis of Spatial Interactions”, Colloquium Talk, Department of Geography, University of Georgia, Athens, GA, April 2, 2010.
- 2010 “A Non-Parametric Approach to Detecting Local Multivariate Relationship”, 106th AAG Annual Meeting, Washington, DC, April 14-18, 2010.
- 2010 “Using Centrality Measures to Discover Structural Characteristics of Migration Data”, 106th AAG Annual Meeting, Washington, DC, April 14-18, 2010. (Co-

- authored with and Presented by C. Koylu*)
- 2009 “Greedy Optimization for Contiguity Constrained Hierarchical Clustering”. IEEE International Conference on Data Mining, Miami, FL, USA. December 6-9.
- 2009 “Visual Analytics for Exploring Large Spatial Interaction Networks”, The 105th Annual Meeting, Association of American Geographers, Las Vegas, NV, March 22-27.
- 2008 “Multi-scale Flow Mapping of Large Spatial Interaction Data”, International Conference on Geographic Information Science (GIScience 2008), Park City, Utah. September 23-26.
- 2008 “REDCAP—A Toolkit for Multivariate Visualization and Regionalization”, The 104th Annual Meeting, Association of American Geographers, Boston, BA, April 15-19.
- 2008 “Visualizing Complex Spatial Interactions and Networks”, DoD/DHS Workshop on Social Science Modeling and Information Visualization, Arlington, VA, January 23-25.
- 2007 “Regionalization with Spatially Constrained Multivariate Clustering: Methodologies and Applications”, The 103rd Annual Meeting, Association of American Geographers, San Francisco, CA, April 17-21.
- 2006 “Spatio-Temporal Visual Analytics for Pandemic Response and Decision Support”, Workshop on Visual Analytics & Spatial Decision Support, Münster, Germany. September 20.
- 2006 “Local Entropy Map: A Nonparametric Approach to Measure Spatially Varying Bivariate Relationships”, The Fourth International Conference on Geographic Information Science (GIScience 2006), Münster, Germany. September 20-23.
- 2006 “Visual Analytics for Space-Time and Multivariate Patterns: Methodologies and Applications”, State Key Lab of Resources and Environmental Information System (LREIS), Chinese Academy of Sciences, June 2, Beijing, China.
- 2006 “Spatial Ordering for Geographic Data Mining and Visualization”, National Cancer Institute (NCI), U.S. National Institutes of Health (NIH), April 19, Rockville, MD.
- 2006 “Mining and Visualizing Spatial Interaction Patterns for Pandemic Response”, Workshop on Spatial Data Mining, SIAM Conference on Data Mining, April 22, Bethesda, MD, USA.
- 2006 “On the Ordering Problem in Spatial Data Mining and Geovisualization: Methods and Applications”, The 102nd Annual Meeting, Association of American Geographers, March 7-11, 2006, Chicago, IL.
- 2005 “Measuring Geographically Varying Bivariate Patterns”. Presented the Annual Meeting, Association of American Geographers, April 5-9, 2005, Denver, CO.
- 2005 “Unsupervised Feature Selection for Geovisualization and Spatial Data Mining”.

- Presented at the Auto Carto 2005, Las Vegas, NV, USA, March 21-23, 2005.
- 2004 “An Integrated Environment for High-Dimensional Geographic Data Mining”. Presented at the *Third International Conference on Geographic Information Science*, October 19-23, Adelphi, MD.
- 2004 “An Integrated Approach to Geographic Knowledge Discovery – Exploring Multivariate Spatial Patterns”. Presented the *100th Annual Meeting, Association of American Geographers*, March, Philadelphia, PA.
- 2003 “Choosing Attributes for Analysis: Effective and Efficient Feature Selection for Exploring High-Dimensional Data”. Presented at the Summer Assembly, University Consortium for Geographic Information Science, June 16-20, Pacific Grove, CA.
- 2003 “A Geographic Visual Query Composer (GVQC) for Accessing Federal Databases”. Presented at the *NSF's National Conference on Digital Government Research*, May 18-21, Boston, MA.
- 2003 “Breaking Down Dimensionality: An Effective Feature Selection Method for High-dimensional Clustering” (first author with M. Gahegan, D. Peuquet and A. MacEachren). Presented at the *Third SIAM International Conference on Data Mining*, May 1-3, San Francisco, CA.
- 2002 “Opening the Black Box: Interactive Hierarchical Clustering for Multivariate Spatial Patterns” (first author with D. Peuquet and M. Gahegan). Presented at the *10th ACM International Symposium on Advances in Geographic Information Systems*, Nov. 8-9, McLean, VA.
- 2003 “Interactive Subspace Clustering for Mining High-Dimensional Spatial Patterns” (first author with D. Peuquet, M. Gahegan and A. MacEachren). Presented at the *Second International Conference on Geographic Information Science*, Sept. 25-28, Boulder, CO.
- 2003 “Developing and Assessing Light-weight Data-driven Exploratory Geovisualization Tools for the Web” (third author with E. Steiner and A. MacEachren). Presented at the *10th International Symposium on Spatial Data Handling*, July 8-12, Ottawa, Canada.
- 2003 “Spatial Cluster Ordering for High-Dimensional Geographic Knowledge Discovery”. Presented at the Summer Assembly, University Consortium for Geographic Information Science (UCGIS), June 27-29, Athens, GA.
- 2003 “Towards A True Human-Machine Collaboration For Spatial Multivariate Clustering”. Presented at the *98th Annual Meeting, Association of American Geographers*, March 19-23, Los Angeles, CA.
- 2001 “Implementation and Comparison of Two Data Models for Managing Climatologic Data with Object-oriented Databases” (first author with D. Peuquet and J. Mennis). Presented at the *97th Annual Meeting, Association of American Geographers*, Feb. 27 – March 3, New York, NY .

- 2000 “Mining Spatial Data Using An Interactive Rule-based Approach” (coauthor with D. Peuquet and J. Mennis). Presented at the *First International Conference on Geographic Information Science*, Oct. 28-31, Savannah, GA.

PRESS HIGHLIGHTS

- 2014 The Heart of Dudeness. Big Think: Strange Maps <<http://bigthink.com/strange-maps/the-heart-of-dudeness>>. December 24, 2014.
- 2014 The Dude Map: How Americans Refer to Their Bros. <<http://qz.com/316906/the-dude-map-how-american-men-refer-to-their-bros/>> December 23, 2014.
- 2014 Linguistic Researchers Begin Hunt for the Next 'Selfie'. The Daily Telegraph <<http://www.telegraph.co.uk/technology/twitter/10672643/Linguistic-researchers-begin-hunt-for-the-next-selfie.html>>, March 3, 2014.

ADVISEE DISSERTATION

- 2014 Koylu, C. (December 2014). Understanding Geo-Social Network Patterns: Computation, Visualization, and Usability. (Doctoral dissertation, University of South Carolina)
[Dr. Koylu is a Tenure-Track Assistant Professor at the Department of Geography, University of Iowa]
- 2014 Wang, H. (December 2014). Pattern Extraction From Spatial Data - Statistical And Modeling Approaches. (Doctoral dissertation, University of South Carolina)
[Dr. Wang currently works as a data scientist at LinkedIn]
- 2011 Liao, K. (December 2010). Computational and Visual Analyses of Spatial Interactions: A Case Study of the County-to-County Migration in the US (Doctoral dissertation, University of South Carolina)
[Dr. Liao is a teaching faculty at the Department of History, Anthropology, & Philosophy, Georgia Regents University, Augusta, GA 30912]

WORKSHOP PARTICIPANTION

- 2012 The Urban Code: Big Urban Data. Sensable City Lab, MIT, Cambridge, MA. November 15-16, 2012
- 2011 The Future of Scientific Knowledge Discovery in Open Networked Environments: A National Symposium and Workshop. March 10-11, 2011 (Washington, DC).
- 2010 GeoVA(t) - Geospatial Visual Analytics: Focus on Time, Workshop held in conjunction with AGILE, May 10-11 2010 (Guimarães, Portugal).
- 2010 National Science Foundation TeraGrid Workshop on Cyber-GIS, February 2-3, 2010 (Washington, DC).
- 2009 Capturing Context: A Conference on Bridging Spatial & Network Analyses, June

- 12-13th, 2009 (Columbia University, New York, NY)
- 2008 DoD/DHS Workshop on Social Science Modeling and Information Visualization, Sponsored by Department of Defense and Department of Homeland Security, January 23-25, 2008 (Arlington, VA).
- 2005 NISS/SAMSI Workshop on Collaborations in the Mathematical Geosciences, Sponsored by NSF, October 6-7, 2005 (Research Triangle Park, NC).
- 2003 UCGIS Workshop on Geospatial Visualization and Knowledge Discovery, sponsored by the Advanced Research and Development Activity (ARDA) and the United States Geological Survey (USGS)., November 18 – 20, 2003 (Landsdowne, VA).

RESEARCH GRANTS

- 2014 – 2016 PI, “Trees and Tweets: Mining Billions to Understand Human Migration and Regional Linguistic Variation”, International Digging Into Data Challenge 2013 Award and 2014 National Leadership Grant, funded by the Institution of Institute of Museum and Library Services/NEH, \$125,000 (for the U.S. team) and £105,000 (for the U.K. collaborative team)
- 2015—2016 Co-PI, “Spatiotemporal Dynamics of Flood Impact by Integrating Satellite, VGI and Social Media Data: Rapid Assessment of the October Flood”, The Office of the Vice President for Research (USC), South Carolina Resilience to Extreme Storms: Research on Social, Environmental, and Health Dimensions of the October 2015 Catastrophic Flooding funding initiative. (Co-PIs: Drs. Z. Li, C. Wang, D. Guo, and C. Emrich) \$18,477.
- 2014—2016 PI, “Collecting and Geocoding Millions of Family Trees for Historical Migration Study”, Humanities Grant Program, Office of the Provost, University of South Carolina, \$18,270.
- 2014—2016 Project Consultant, “SBIR Phase II: Computing-Assisted Zoning Optimization and Services”, National Science Foundation (NSF) SBIR Award, \$1,000,000, with a subcontract to USC, \$72,500.
- 2014 – 2016 Co-PI, EPA Academic Partner Project, TRI University Challenge, “Developing Geovisualization Approaches to Analyzing Chemical Exposures, Population at Risk and Public Health Data” (Co-PIs: Dr. D. Guo and Dr. C. Emrich)
- 2013—2014 Project Consultant, “SBIR Phase I: Computing-Assisted Zoning Optimization and Service”, National Science Foundation (NSF) SBIR Award, \$150,000
- 2008 - 2014 PI, “Extracting and Understanding Complex Patterns in Spatial Interactions—A Computational-Visual Framework”, National Science Foundation (NSF) CAREER Award, \$406,350
- 2009 - 2010 Project Consultant, in collaboration with Rudy Rull (Northern California Cancer Center), Vivien Chen (Louisiana Tumor Registry), and Fahui Wang (Louisiana State University), “Constructing Geographic Areas in GIS for Cancer Data

Analysis,” SEER-RRSS program, National Cancer Institute (NCI), National Institutes of Health (NIH), \$3,500.

- 2005 - 2008 Co-PI, Center of Excellence for the Study of Terrorism and Responses to Terrorism (START), Department of Homeland Security. USC Research Team: S. Cutter (PI), W. Piegorsch, J. Rose, A. Bowman, M. Tompkins, D. Cowen, M. Hodgson, M. deCastro, D. Guo, and F. Hardisty, \$1,000,000.
- 2005 - 2006 PI, “Geo-Visual and Analytical Analysis of Cancer Data”, a subcontract from Pennsylvania State University to the University of South Carolina, funded by the National Cancer Institute (NCI), National Institute of Health (NIH), \$10,000
- 2005 - 2006 PI, “Discovering Patterns of Terrorism Incidents Across Time, Geography, and Multivariate Space”, funded by the Walker Institute of International and Area Studies, in conjunction with the Office of the Vice President for Research, University of South Carolina, \$4,000

Grant/Contract Proposals Submitted (Pending)

1. 2015. Co-PI. Exploring spatial patterns of school segregation and white flight in U.S. metropolitan areas and implications for school redistricting policies, National Science Foundation (NSF), \$285,540 (with subcontract of \$34,279 to USC), Pending
2. 2016. Co-PI (with colleagues from Arnold School of Health and Health Sciences South Carolina). “Evaluating Access to Care and Multiple Health System Use to Reduce Readmissions”, submitted to NIH as an R01 proposal on Feb. 05, 2016.

PATENTS:

United States Patent No. 8,990,207 (Filed June 2011 / Issued March 2015). “Optimization and Visual Controls for Regionalization”.

United States Patent (pending) 2013 US 20130218789 A1, “Systematic Approach to Enforcing Contiguity Constraint in Trajectory-based Methods for Combinatorial Optimization”.

PROFESSIONAL SERVICE

Editorial Board

The Professional Geographer (2011 – present)

Transactions in GIS (2012 – present)

Cartography and Geographical Information Science (2013 – 2015)

Guest Editor

Computers, Environment and Urban Systems, 33(6), 2009

A special issue on “Spatial Data Mining: Methods and Applications”

Reviewer/Panelist for Agencies (year [times])

National Science Foundation (NSF)

(2015[1], 2014[3], 2013[2], 2011[2], 2010 [1], 2009 [2], 2008 [1])

NSF Geography and Spatial Science (GSS) Program

NSF Information Integration and Informatics (III) Program

NSF Geoinformatics Program

NSF Resilient Interdependent Infrastructure Processes and Systems (RIPS)

NSF Big Data Science & Engineering (BIGDATA)

NSF Big Data for Disaster Research (BDD)

National Institute of Health (NIH)

(2014[1], 2007 [1])

National Natural Science Foundation of China (NSFC)

(2015[4])

Research Council for Natural Sciences and Engineering, Academy of Finland

(2007 [1])

Reviewer for Journals (year [times])

Int. J. of Geographical Information Science (IJGIS) 2015[2], 2014[3], 2013[2], 2012[3], 2011[2], 2010[4], 2009[1], 2008[3], 2007[1], 2006[4], 2005[1]

Cartography and Geographic Information Science (CaGIS) 2015[1], 2014[1], 2013[1], 2010[2], 2009[1]

Transactions in GIS 2015[1], 2014[2], 2013[3], 2012[3], 2011[2]

Annals of the Association of American Geographers 2015[1], 2014[1], 2013[1], 2009[1]

Computers, Environment and Urban Systems 2015[1], 2014[1], 2013[3], 2012[2], 2009[3], 2006[2]

Journal of Visual Languages and Computing 2015[1], 2010[1]

Information Visualization 2015[1], 2008[2], 2007[1], 2005[1]

PLOS ONE 2015[1], 2013[1]

The Professional Geographer 2015[1], 2013[1], 2011[1], 2007[1]

Geographical Analysis 2011[1], 2010[1]

Annals of GIS 2010[1]

Cartographica 2011[1]

Cartographic Journal 2008[2]

Environment and Planning B 2010[1], 2007[1]

Urban Studies	2006[1]
Urban Geography	2010[1]
Remote Sensing of Environment	2010[1]
Journal of Photogrammetry and Remote Sensing	2005[1], 2004[1]
GIScience and Remote Sensing	2006[1]
IEEE Transactions on Knowledge and Data Engineering	2013[1], 2010[1], 2009[1], 2006[1]
IEEE Transactions on Pattern Analysis and Machine Intelligence	2008[1], 2007[1], 2006[1]
IEEE Transactions on Visualization and Computer Graphics	2012[2], 2006[2], 2005[1]
IEEE Computer Graphics and Applications	2005[1]
GeoInformatica	2012 [2], 2010[1], 2009[1], 2007[1]
Hydrology	2014[1]

Reviewer for Books

Monograph, *Data Representations, Transformations, and Statistics for Visual Reasoning*, by Ross Maciejewski, Purdue University. Synthesis Lectures on Sample Series, Morgan & Claypool Publishers. 2013

Edited Book, *Crime Modeling and Mapping Using Geospatial Technologies*, edited by Michael Leitner, Springer. 2013

Program Committee Chair

- 2015 Program Committee Chair, The Second IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services (ICS DM), July 8-10, 2015, Fuzhou, China.
- 2012 Program Committee Co-Chair, The 20th International Conference on GeoInformatics, June 15-17, 2012, Hong Kong, China.
- 2011 Program Committee Chair, IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services (ICS DM), June 29–July 1, 2011, Fuzhou, China.

Program Committee Member

- 2016 GIScience 2016: The Ninth International Conference on Geographic Information Science, September 27 – 30, 2016, Montreal, Canada.
- 2016 The 17th International Symposium on Spatial Data Handling (SDH), August 18-20, 2016, Beijing, China.
- 2015 IEEE Conference on Visual Analytics Science and Technology (VAST 2015), Chicago,

- IL, USA. (October 23-28, 2015)
- 2014 The 9th International Workshop on Spatial and Spatiotemporal Data Mining (In conjunction with IEEE ICDM), Shenzhen, China. (December 14, 2014)
- 2014 The Eighth International Conference on Geographic Information Science (GIScience 2014), Vienna, Austria (September 23-26)
- 2014 The 2014 AutoCarto International Symposium on Automated Cartography (AutoCarto 2014), Pittsburg, PA, USA (October 6-8, 2014)
- 2013 The 21th International Conference on GeoInformatics, Kaifeng, Henan, China. (June 15-17, 2013)
- 2013 The 12nd International Conference of GeoComputation (GeoComputation'2013) Wuhan, China (May 23 – 25, 2013)
- 2012 IEEE International Conference on Data Mining (ICDM'12), Brussels, Belgium (December 10 - 13, 2012)
- 2012 IEEE Conference on Visual Analytics Science and Technology (VAST 2012), Seattle, WA, USA. (October 23-28, 2011)
- 2012 The Seventh International Conference on Geographic Information Science (GIScience), Columbus, Ohio, USA. (Sept. 18 – 21, 2012)
- 2012 The 16th International Conference on Information Visualization (IV12), Montpellier, France. (July 10-13, 2012)
- 2012 The 16th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), Kuala Lumpur, Malaysia. (May 29 - June 1, 2012)
- 2011 IEEE International Conference on Data Mining (ICDM'11), Vancouver, Canada. (December 11-14, 2011)
- 2011 IEEE Conference on Visual Analytics Science and Technology (VAST 2011), Providence, RI, USA. (October 23-28, 2011)
- 2011 International Symposium on Spatial-Temporal Analysis and Data Mining, UCL, London, UK (July 18-20, 2011).
- 2011 The 19th International Conference on GeoInformatics, Shanghai, China. (June 24-26, 2011)
- 2011 The 5th International Association for China Planning (IACP) Annual Conference, Beijing, China. (June 17-19, 2011)
- 2011 EuroVA 2011: The Second International Workshop on Visual Analytics, Bergen, Norway. (May 31, 2011)
- 2011 GeoViz Hamburg 2011: Linking Geovisualization with Spatial Analysis and Modeling, Hamburg, Germany. (March 10-11, 2011)
- 2010 IEEE Conference on Visual Analytics Science and Technology (VAST 2010), Salt Lake City, Utah, USA. (October 24-29, 2010)
- 2010 The 14th International Conference on Information Visualization (IV10), London, UK.

- (July 26-29, 2010)
- 2009 International Workshop on Spatial and Spatio-temporal Data Mining (In conjunction with IEEE ICDM), Miami, FL, USA. (December 5, 2009)
- 2009 Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-09), Bangkok, Thailand. (April 27-30, 2009)
- 2008 IEEE International Conference on Data Mining (ICDM), Pisa, Italy. (Dec. 15-19, 2008)
- 2007 International Workshop on Spatial and Spatio-temporal Data Mining (In conjunction with IEEE ICDM), Omaha, NE, USA. (October 28, 2007)
- 2007 The 5th International Conference on Coordinated & Multiple Views in Exploratory Visualization (CMV07), Zurich, Switzerland. (July, 2007)
- 2006 The 4th International Conference on Coordinated & Multiple Views in Exploratory Visualization (CMV06), London, UK. (July, 2006)
- 2005 The 9th International Conference on Information Visualization (IV05), London, UK. (July, 2005)
- 2004 The 8th International Conference on Information Visualization (IV04), London, UK (July, 2004)

Conference Special Sessions Organizer

- 2016 Spatial Data Mining and Big Data Analytics, 112th AAG Annual Meeting, San Francisco, CA, March 29 – April 2, 2016
- 2015 Spatial Data Mining and Big Data Analytics, 111th AAG Annual Meeting, Chicago, IL, April 21-25, 2015.
- 2013 Spatio-Temporal Data Mining and Visual Analytics, 109th AAG Annual Meeting, Los Angeles, April 9-13, 2013.
- 2012 Spatio-Temporal Data Mining and Visual Analytics, 108th AAG Annual Meeting, New York, NY, February 24-28, 2012.
- 2010 Spatial Data Mining and Exploratory Data Analysis, 106th AAG Annual Meeting, April 14-18, 2010, Washington, DC.
- 2009 Spatial Data Mining and Exploratory Data Analysis, 105th AAG Annual Meeting, March 22-27, 2009, Las Vegas, NV.
- 2008 Spatial Data Mining and Exploratory Data Analysis, 104th AAG Annual Meeting, April 15-19, 2008, Boston, MA.
- 2007 Spatial Data Mining and Exploratory Data Analysis, 103th AAG Annual Meeting, April 17-21, 2007, San Francisco, CA.
- 2006 Spatial Data Mining and Exploratory Data Analysis, 102th AAG Annual Meeting, March 7-11, 2006, Chicago, IL.

SOCIETY MEMBERSHIP AND SERVICE

Association of American Geographers (AAG) (Member since 2000)

- 2015 – present Chair, Geographical Information Science and Systems (GISS) Specialty Group, Association of American Geographers (AAG)
- 2014 – 2015 Vice Chair, AAG Geographical Information Science and Systems (GISS) Specialty Group, Association of American Geographers (AAG)
- 2013 – 2015 Garrison Award Committee, Association of American Geographers (AAG)
- 2005 – present Member, South East Division of AAG (SEDAAG)
- 2007 – 2008 South Carolina State Representative, South East Division of AAG (SEDAAG)

International Association of Chinese Professionals in Geographic Information Sciences (CPGIS) (Member since 2000)

- 2012 – 2013 Chair of Board of Directors, CPGIS
- 2011 – 2012 President, CPGIS
- 2010 – 2011 President-Elect, CPGIS
- 2009 – 2010 Vice President, Treasurer, CPGIS
- 2008 – 2009 Vice President, CPGIS
- 2007 – 2008 Membership Committee, CPGIS

University Consortium of Geographical Information Science (UCGIS)

- 2009 – 2013 Communications Chair, UCGIS
- 2009 – present USC delegate, UCGIS

IEEE Computer Society

- 2004 – present Member, IEEE Computer Society

GRADUATE STUDENT ADVISING

Chaired Dissertation/Thesis Committees

- 2014—present Yuqin Jiang (M.S., continuing)
- 2014—present Xi Zhu (Ph.D, continuing)
- 2013—present Yuan Huang (Ph.D., continuing)
- 2008—present Hai Jin (Ph.D., to complete in 2015)
- 2010—2014 Hu Wang (Ph.D., completed)
- 2008—2014 Caglar Koylu (Ph.D., completed)
- 2012 – 2014 Chao Chen (Ph.D., transferred)

2006 – 2011 Ke Liao (Ph.D., completed)

Membership on Dissertation Committees

2013 – present Suzanne Abbey (Ph.D., Public Health)
 2012 – present Kyle Buck (Ph.D., continuing)
 2010 – 2014 Shufan Liu (Ph.D., graduated Dec. 2014)
 2011 – 2014 JeanMarie Hendrickson (Ph.D. Statistics, completed)
 2011 – 2013 Leanne Sulewski (Ph.D., completed)
 2009 – 2013 Peng Gao (Ph.D., completed)
 2008 – 2012 Chris Burton (Ph.D., completed)
 2010 – 2012 Chang Yi (Ph.D., completed)
 2006 – 2008 Kevin Borden (Ph.D., completed)
 2005 – 2008 Mathew Schmittlein (Ph.D., completed)
 2004 – 2008 Zhongwu Wang (Ph.D., completed)

Membership on Thesis Committees

2012 – 2013 Michael DuBois (M.S., completed)
 2009 – 2011 Stephen Feetham (M.S., completed)
 2008 – 2010 Jiang Wu (M.S., Completed)
 2008 – 2010 Jiayu Wang (M.S., completed)
 2006 – 2009 Michael Morgan (M.S., completed)
 2006 – 2008 Clio Andris (M.S., completed)
 2006 – 2008 Shoumik Rahman (M.S., Department of Health Sciences)
 2005 – 2006 Linna Li (M.S., completed)
 2004 – 2005 Chris Saylor (M.S., completed)

DEPARTMENT / COLLEGE / UNIVERSITY SERVICE

2008 – present Chair, Computer Policy Committee, Department of Geography
 2009 – present USC Delegate to the UCGIS
 2014—2015 Curriculum Committee, Department of Geography
 2013—2016 Curriculum Committee, College of Arts and Sciences, USC
 2009 – 2014 Admission Committee, Department of Geography, USC
 2005 – 2010 Undergraduate Advisor, Department of Geography, USC
 2004 – 2010 Awards and Scholarships Committee, Department of Geography, USC
 2005 – 2007 United Way Ambassador, Department of Geography, USC
 2005 – 2007 Graduate Day Judge, University of South Carolina