

Curriculum Vitae – Wenwu Tang

A. Name and Contact Information

Wenwu Tang
Assistant Professor | Department of Geography and Earth Sciences
Interim Executive Director | Center for Applied GIScience
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B. Education and Degrees

- 2008 **Ph.D.**, Department of Geography, University of Iowa, Iowa City, USA
Geographically-Aware Intelligent Agents
- 2001 **M.S.**, Department of Geography, Nanjing University, Nanjing, China
Open Web-based GIS
- 1998 **B.S.**, Department of Geography, East China Normal University, Shanghai, China
The Calculation of Shortest Paths in GIS
- 1998 **B.S. (Minor)**, International Trade, East China Normal University, Shanghai, China

C. Academic Positions Held

2012- present	Assistant Professor	Department of Geography and Earth Sciences (GES), University of North Carolina at Charlotte (UNCC)
2013-present	Interim Executive Director	Center for Applied GIScience, UNCC
2010-2012	Lecturer	GES, UNCC
2010-present	Director of Computing and Technology	Center for Applied GIScience, UNCC
2009-2010	Research Scientist	University of Illinois at Urbana-Champaign (UIUC)
2008-2010	Guest Researcher	National Center for Supercomputing Applications (NCSA), UIUC
2008-2009	Post-doc	Geography and NCSA, UIUC
2001-2008	Research Assistant	Department of Geography, University of Iowa
2006-2006	Teaching Assistant	Department of Geography, University of Iowa

D. Research and Creative Activity

Publication

Peer-reviewed Journal Articles (39)(Students were underlined)

- JA1. **Tang, W.**, Feng, W., Jia, M., Shi, J., Zuo, H., Stringer, C.E., and Trettin, C.C., accepted, A cyber-enabled spatial decision support system to inventory mangroves in Mozambique: Coupling scientific workflows with cloud computing. Submitted to *International Journal of Geographical Information Science*.

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- JA2. Hohl, A., Delmelle, E., and **Tang, W.**, Casas, I., in press, Accelerating the detection of space-time patterns of vector-borne diseases using parallel computing, *Spatial and Spatio-temporal Epidemiology*.
- JA3. **Tang, W.**, and Feng, W., in press (online available), Parallel map projection of vector-based big spatial data using general-purpose Graphics Processing Units, *Computers, Environment and Urban Systems*
- JA4. Niu, J., **Tang, W.**, Xu, F., Zhou, X., and Song, Y., 2016, Global research on artificial intelligence from 1990-2014: Spatially explicit bibliometric analysis, *ISPRS International Journal of Geo-Information*. 5(5): 66-66
- JA5. Zhang, Z., and **Tang, W.**, 2016, Analysis of spatial patterns of public attention on housing prices in Chinese cities: A Web search engine approach, *Applied Geography*, 70: 68-81
- JA6. **Tang, W.**, Feng, W., Jia, M., Shi, J., Zuo, H., and Trettin, C.C., 2016, Assessment of mangrove biomass and carbon in West Africa: A spatially explicit analytical framework. *Wetland Ecology and Management*. 24(2): 153-171
- JA7. Gong, J., Yang, J., and **Tang, W.**, 2015. Spatially Explicit Landscape-level Ecological Risks Induced by Land Use and Land Cover Change in a National Ecologically Representative Region in China, *International Journal of Environmental Research and Public Health*, 12(11): 14192-14215
- JA8. Hohl, A., Delmelle, E. M., and **Tang, W.**, 2015, Spatiotemporal domain decomposition for massive parallel computation of space-time kernel density, *ISPRS Annals of Photogrammetry. Remote Sensing and Spatial Information Science*, II-4/W2, 7-11.
- JA9. Stringer, E.C., Trettin, C.C., Zarnoch, S.J., and **Tang, W.**, 2015, Carbon stocks of intact mangroves in the Zambezi River Delta, Mozambique, *Forest Ecology and Management*. 354, 139-148.
- JA10. Zhang, Z, Tan, S., and **Tang, W.**, 2015, A GIS-based spatial analysis of housing price and road density in proximity to urban lakes in Wuhan City, China, *Chinese Geographical Science*, 25(6) pp. 775-790
- JA11. **Tang, W.**, Feng, W., and Jia, M., 2015, Massively parallel spatial point pattern analysis: Ripley's K function accelerated using Graphics Processing Units. *International Journal of Geographical Information Science*. 29(3): 412-439.
- JA12. Delmelle, E.M., Zhu, H., **Tang, W.**, and Casas, I., 2014, A web-based geospatial toolkit for the monitoring of dengue fever, *Applied Geography*, 52: 144-152.
- JA13. Delmelle, E., Dony, C., Casas, I., Jia, M., **Tang, W.**, 2014, Visualizing the impact of space-time uncertainties on Dengue Fever patterns. *International Journal of Geographical Information Science*. 28(5): 1107-1127
- JA14. **Tang, W.**, and Jia, M., 2014, Global sensitivity analysis of large agent-based modeling of spatial opinion exchange: A heterogeneous multi-GPU acceleration approach, *Annals of Association of American Geographers*. 104(3): 485-509
- JA15. Fagan, W. Lewis, M., Auger-Méthé, M. Avgar, T., Benhamou, S., Breed, G., LaDage, L., Schlaegel, U., **Tang, W.**, Papastamatiou, Y.; Forester, J.; Mueller, T., 2013, Spatial memory and animal movement, *Ecology Letters*. 16(10): 1316-1329

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- JA16. **Tang, W.**, 2013, Parallel construction of large circular cartograms using Graphics Processing Units, *International Journal of Geographical Information Science*, 27(11): 2182-2206.
- JA17. Shook, E., Wang, S., and **Tang, W.**, 2013, A communication framework for parallel spatially explicit agent-based models, *International Journal of Geographical Information Science*. 27(11): 2160-2181.
- JA18. Gong, Z., **Tang, W.**, Bennett, D.A., and Thill, J.C., 2013, Parallel agent-based simulation of individual-level spatial interactions within a multi-core computing environment. *International Journal of Geographical Information Science*, 27 (6): 1152-1170.
- JA19. Meentemeyer, R.K., **Tang, W.**, Dorning, M.A., Vogler, J.B., Cunniffe, N.J. and Shoemaker, D.A., 2013, FUTURES: Multi-level spatial modeling of per capita land consumption and fragmentation of human-modified landscapes, *The Annals of the Association of American Geographers*, 103 (4): 785-807.
- JA20. He, J., Liu, Y., Yu, Y., **Tang, W.**, and Liu, D., 2013, A counterfactual scenario simulation approach for assessing the impact of farmland preservation policies on urban sprawl and food security in a major grain-producing area of China, *Applied Geography*, 37, 127-138.
- JA21. **Tang, W.** and Bennett, D.A., 2012, Reprint of: Parallel agent-based modeling of spatial opinion diffusion accelerated using Graphics Processing Units, *Ecological Modelling* 229: 108-118.
- JA22. **Tang, W.** and Bennett, D.A., 2011, Parallel agent-based modeling of spatial opinion diffusion accelerated using Graphics Processing Units, *Ecological Modelling* 222: 3605-3615.
- JA23. **Tang, W.**, Wang, S., Bennett, D.A., and Liu, Y., 2011, Agent-based modeling within a cyberinfrastructure environment: A service-oriented computing approach, *International Journal of Geographical Information Science*. 25(9): 1323-1346.
- JA24. Bennett, D.A., **Tang, W.**, and Wang, S., 2011, Toward an understanding of provenance in complex land use dynamics. *Journal of Land Use Science*. 6(2): 211-230
- JA25. **Tang, W.**, Bennett, D.A., and Wang, S., 2011, A parallel agent-based model of land use opinions. *Journal of Land Use Science*, 6(2): 121-135
- JA26. **Tang, W.**, and Bennett, D.A., 2010, The explicit representation of context in agent-based modeling of complex adaptive spatial systems, *The Annals of the Association of American Geographers*, 100(5): 1128-1155.
- JA27. **Tang, W.**, and Bennett, D.A., 2010, Agent-based modeling of animal movement: A review. *Geography Compass*, 4(7): 682-700.
- JA28. **Tang, W.**, and Wang, S., 2009, HPABM: A hierarchical parallel simulation framework for spatially-explicit agent-based models, *Transactions in GIS* 13(3): 315-333.
- JA29. **Tang, W.**, Malanson, G.P., and Entwisle, B., 2009, Simulated village locations in Thailand: A multi-scale model including a neural network approach. *Landscape Ecology*, 24(4): 557-575.

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- JA30. **Tang, W.**, 2008, Simulating complex adaptive geographic systems: A geographically aware intelligent agent approach. *Cartography and Geographic Information Science*, 35(4): 239-263.
- JA31. Bennett, D.A., and **Tang, W.**, 2006, Modeling adaptive, spatially aware, and mobile agents: Elk migration in Yellowstone, *International Journal of Geographical Information Science*, 20(9): 1039-1066.
- JA32. Martini, I.P., Wang, Y., Zhu, D., Zhang, Y., and **Tang, W.**, 2004, Coastal sandy ridges and reefs of southern Hainan Island (China) developed during Quaternary sea-level variations, *Quaternaria Nova*, Vol. VIII: 277-296.
- JA33. Yin, Y., Zhu D.K., Martini, I.P., **Tang W.**, and Xu Y., 2004. Application of Ground-penetrating Radar for spit stratigraphic interpretation, Hainan Island, China. *Journal of Coastal Research*, 43: 179-201.
- JA34. Yin, Y., Zhu, D.K., **Tang, W.**, and Martini, P.I., 2002, The application of GPR to barrier-lagoon sedimentation study in Boao of Hainan Island, *Journal of Geographical Sciences*, 12(3): 313-320.
- JA35. Yin, Y., Zhu, D.K., **Tang, W.**, Ge, C., and Martini, I.P., 2002, On barrier-lagoon development and GPR application in Boao area, *ACTA Geographica Sinica*, 57(3): 301-309.
- JA36. Yin, Y., Zhu, D., Guan, H. **Tang, W.**, and Martini, I.P., 2002, Application of ground-penetrating radar to coastal bar studies in Boao in eastern Hainan Island of China, *Marine Geology & Quaternary Geology*, 3: 121-129 (in Chinese).
- JA37. Gao, Y., Xu, J., and **Tang, W.**, 2002, A new algorithm for generation of arc-arc topological relationship on the same vertices, *Journal of Computer Application and Research of China*, 19: 58-59 (in Chinese)
- JA38. **Tang, W.**, Zhu, D, Ge, C., Jiang, S., and Martini, I.P., 2001, The application of ground penetrating radar to the survey of the coast environment, *Marine Geology & Quaternary Geology*, 2: 102-108 (in Chinese).
- JA39. Wang, Y., Martini, I.P., Zhu, D., Zhang, Y., and **Tang, W.**, 2001, Coastal plain evolution in southern Hainan Island, China, *Chinese Science Bulletin*, 46 Supp., 90-96 (in Chinese).
- JA40. **Tang, W.**, Zhu, D.K., and Shi, X.D., 2000, Calculation of shortest paths using a modified Dijkstra algorithm in GIS, *Journal of Image and Graphics of China*, 5(12): 1019-1023 (in Chinese).

Peer-reviewed Book Chapters (7)

- BC1. **Tang, W.**, Feng, W., Deng, J., Jia, M., and Zuo, H., accepted, Cyberinfrastructure-enabled high performance and parallel computing and geocomputational modeling, edited by Dragicevic, S., and Thill, J-C., *Geocomputational Analysis and Modeling of Regional Systems*.
- BC2. **Tang, W.**, Feng, W., Zheng, M., and Shi, J., in press, Land cover classification of fine-resolution remote sensing data driven by cyber-enabled high-performance and parallel computing, *Remote Sensing Applications for Societal Benefits*, edited by Steve Walsh, Elsevier.

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- BC3. Gong, Z., **Tang, W.**, and Thill, J., accepted. A locality-aware approach to scalable parallel agent-based models of spatially heterogeneous interactions, *Proceedings of Geocomputation in 2015*, edited by Daniel Griffith, Yongwan Chun. Springer
- BC4. **Tang, W.**, in press, GPU computing, edited by Douglas Richardson, Noel Castree, Michael F. Goodchild, Audrey Kobayashi, Weidong Liu, and Richard A. Marston, *International Encyclopedia of Geography*. John Wiley & Sons
- BC5. Delmelle, E., Jia, M., Dony, C., Casas, I., **Tang, W.**, 2015, Space-time visualization of dengue fever outbreaks. *Spatial Analysis in Health Geography*, edited by Kanaroglou, P., Delmelle, E., Paez, A., Ashgate, Surrey, UK. pp. 85-100
- BC6. **Tang, W.**, 2013, Accelerating agent-based modeling using Graphics Processing Units, edited by Shi, X., Vlad, Yang, C., *Modern Accelerator Technologies for Geographic Information Science*, Springer, New York, pp. 113-129.
- BC7. Bennett, D.A., and **Tang, W.**, 2008. Mobile aware intelligent agents, In: *Understanding Dynamics of Geographic Domains*, edited by M. Yuan and K. Stewart. CRC Press/Taylor & Francis, Boca Raton, pp. 171-186.

Conference Proceedings (10)

- CP1. Hohl, A., Casas, I., Delmelle, E.M., Tang, W., 2016, Hybrid indexing for parallel analysis of spatiotemporal point patterns. *Proceedings of the Ninth International Conference on Geographic Information Science*, Montreal, Canada, September 27-30, 2016.
- CP2. Gong, Z., **Tang, W.**, Thill, J-C, 2015, A Locality-aware Approach to Scalable Parallel Agent-based Models of Spatially Heterogeneous Interactions, *Proceedings of Geocomputation 2015*.
- CP3. Gong, Z., **Tang, W.**, and Thill, J.C., 2012, Parallelization of ensemble neural networks for spatial land-use modeling, *Proceedings of ACM SIGSPATIAL IWGS Workshop*, p48-54.
- CP4. Bennett, D.A., Zeng, Y., Tang, W., Kling, C., Heriges, J., Evans, K., McGinnis, S., Gilbertz, S., McGinnis, D., Robbins, P., 2010, Capturing human/environment feedback processes in an agent-based model, *Proceedings of Sixth International Conference on Geographic Information Science*, Zurich, 14-17th September, 2010.
- CP5. Bennett, D. A., **Tang, W.**, and Mount, J., 2010, Cyberinfrastructure-enabled agent-based modeling of complex adaptive spatial systems, NSF TeraGrid Workshop on Cyber-GIS, Washington, DC, USA, February 2-3, 2010. Available at: http://www.cigi.illinois.edu/cybergis/docs/Bennett_Position_Paper.pdf
- CP6. Bennett, D. A., and **Tang, W.**, 2009, GAIA-RM: A Geographically Aware Intelligent Agents framework for Rangeland Management, *Geocomputation 2009*, Sydney, Australia, November 30th to December 2nd, 2009.
- CP7. **Tang, W.**, and Bennett, D.A., 2009, Parallel agent-based modelling of land-use opinion dynamics using Graphics Processing Units, *Geocomputation 2009*, Sydney, Australia, November 30th to December 2nd, 2009.
- CP8. Wang, S., Padmanabhan, A., Myers, J.D., **Tang, W.**, Liu, Y., 2008, Towards provenance-aware geographic information systems, *Proceedings of 16th ACM*

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SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2008), Irvine, California, USA.

- CP9. **Tang, W.**, 2007, Development of a spatially-explicit agent-based simulation package for modeling complex adaptive geographic systems. *Proceedings of the UCGIS Summer Assembly, 2007*, Yellowstone National Park, USA.
- CP10. Bennett, D.A., and **Tang, W.**, 2005, An agent-based simulation of Yellowstone's Northern Range elk herd: A cognitive approach, *Proceedings of Geocomputation International Conference 2005*, Ann Arbor, Michigan, USA (CD-ROM).

Non-refereed Publication

1. **Tang, W.**, Malanson, G.P., and Walsh, S.J., 2004, Model for land use changes in Thailand, *Asian Surveying and Mapping*, 2, 1-3.

Grants (about \$1.56M funded in total)

External (funded)

1. 2016-2016, **PI**, Electric Power Research Institute (EPRI), Atmospheric corrosion map, (\$16,000; Renewal expected) [PI: Wenwu Tang]
2. 2015-2020 **Co-PI**, U.S. Center for Disease Control and Prevention (CDC). *Healthy Wells* (through NC Gaston County Department of Health and Human Services). \$666,665 [PIs: G. Silverman, E. Delmelle, and W. Tang]
3. 2015-2020 **PI**, USDA Forest Services: *Development and Operation of a Web GIS-enabled Data Management System for the Santee Experimental Forest*. (\$101,662) [PIs: Wenwu Tang].
4. 2013-2016 **Co-PI**, U.S. Fish & Wildlife Service, South Atlantic Landscape Conservation Cooperative, *Smart-SLEUTH: Augmenting the SLEUTH urban growth model with new smart-growth scenario-building capabilities*, (\$294,154) [PIs: Ross Meentemeyer, Wenwu Tang, John Vogler, Douglas Shoemaker]
5. 2012-2015 **Co-PI**, North Carolina Department of Transportation, *Improvements to NCDOT's Lidar-based wetland prediction model*, (\$287,189), [PIs: Sheng-guo Wang, Shen-en Chen, and Wenwu Tang]
6. 2012-2014 **PI**, NC Forest Service, *Assessment of urban forests for water quality*, (\$101,520) [PIs: Wenwu Tang, Craig Allan, Sandra Clinton, Ross Meentemeyer]
7. 2011-2015 **PI**, USDA Forest Services: *Development and Operation of a Web GIS-enabled Data Management System for the Santee Experimental Forest*. (\$99,755) [PIs: Wenwu Tang].
8. 2008-2015 **Co-PI**, NSF TeraGrid Supercomputing Resource Award: *Extending and Sustaining GISolve as a GIScience Gateway Toolkit for Geographic Information Analysis*, [PI: Shaowen Wang (University of Illinois at Urbana-Champaign, UIUC); 20,000,000+ supercomputing service hours]

Internal (funded)

1. 2015-2016 **PI**, UNC Charlotte, Light rail mapping and spatial analysis for faculty/staff and students at UNC Charlotte. (\$12,000) [PIs: Wenwu Tang, Eric Delmelle, Elizabeth Delmelle].

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2. 2013-2014 **PI**, UNC Charlotte, Faculty Research Grant, *An advanced parallel spatial analysis framework for computationally intensive sensitivity analysis of spatial agent-based models*, (\$6,000)
3. 2011-2012 **PI**, UNC Charlotte, *Improving geographic knowledge discovery and spatial reasoning with mobile and Web-based Geographic Information Systems*, (\$11,852), [PIs: Eric Delmelle, Wenwu Tang, and Laurie Garo]

Patent

1. Wang, S., Bai, L., Deng, J., Jia, M., Weatherford, M., Paugh, L., **Tang, W.**, Chen, M., Chen, S., 2015, Wetland modeling and prediction. US Patent Number: 20140347673.

Invited Talks

1. **Tang, W.**, 2015, Large-scale parallel land change simulation, The Video and Image Analysis Lab (VIA lab), Department of Computer Science, the University of North Carolina at Charlotte. December 4th, 2015.
2. **Tang, W.**, 2015, Large-scale spatial analysis and modeling: A cyberinfrastructure-enabled approach, Wuhan University, Wuhan, China, July 27th, 2015.
3. **Tang, W.**, 2015, Cyberinfrastructure-enabled parallel spatiotemporal simulation: Big data and land change modeling, China University of Geosciences, Wuhan, China, July 30th, 2015.
4. **Tang, W.**, 2014, *The Use of CyberGIS for Large-Scale Spatial Problem-solving: Coupling Spatial and Computational Thinking*, China University of Geosciences, Beijing, China, December 26th, 2015.
5. **Tang, W.**, 2014, *Coupling spatiotemporal and computational thinking for big data analytics*, UNC Charlotte Big Data Workshop “A Conversation on Social Sciences and Data Sciences” organized by Project Mosaic and Data Science and Business Analytics Initiative, October 16th, 2014
6. **Tang, W.**, 2014, Panelist, *Symposium on Synergistic Advances of CyberGIS and Geography: Roles of CyberGIS and Geography for Turning Big Data to Rich Data and Knowledge*, *The 109th Annual Meeting of AAG*, April 4-8, 2014, Tampa, FL, USA.
7. **Tang, W.**, 2014, Discussant, Paper Session for *Spatiotemporal Thinking, Computing and Applications (STCA) Session: Visualization*. *The 109th Annual Meeting of AAG*, April 4-8, 2014, Tampa, FL, USA.
8. **Tang, W.**, 2013, Advanced spatial modeling using Graphics Processing Units, *Charlotte Metropolitan GIS User Group Meeting*, Charlotte, May 23rd, 2013.
9. **Tang, W.**, 2012, Cyberinfrastructure-enabled simulation of space-time movement phenomena: Elk migration in Yellowstone. *The Banff International Focused Research Group*, October 21-28, 2012, Banff, Canada.

Presentations (74) (Students were underlined)

1. **Tang, W.**, Feng, W., Zheng, M., and Shi, J., 2016, Large-scale agent-based modeling of urban growth: Spatiotemporal simulation driven by big data and cyberinfrastructure, International Conference on Geographies of Health and Living in Cities: Making Cities Healthy for All. Hongkong, China. June 21-24, 2016.

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2. **Shi, J., Tang, W., Feng, W., Zheng, M.,** Trettin, C.C., 2016, MangroveCarbon: A scientific workflow-driven GIS toolkit for the estimation of mangrove biomass and carbon stock, The 2016 ESRI Southeast User Conference, Charlotte, NC. May 2-4, 2016
3. **Tang, W., Feng, W., Zheng, M., Shi, J.,** 2016. Cyber-enabled model performance analysis of large-scale agent-based land change simulation. Annual Meeting of the Association of American Geographers, San Francisco, CA, USA. March 29-April 2, 2016.
4. **Feng, W., Tang, W., and Zheng, M.,** 2016, Explore urban sprawl with a cyberinfrastructure-enabled agent-based modeling: Local decision-making and its consequences. Annual Meeting of the Association of American Geographers, San Francisco, CA, USA. March 29-April 2, 2016.
5. **Shi, J., Feng, W., Tang, W., and Trettin, C.,** 2016, The estimation of global-level mangrove biomass and carbon: a high performance computing approach combined with Web GIS, Annual Meeting of the Association of American Geographers, San Francisco, CA, USA. March 29-April 2, 2016.
6. **Zheng, M., Tang, W., and Feng, W.** 2016. Automated selection of spatial models accelerated using cyber-enabled high-performance computing: a case study of High Rock Lake Watershed. Annual Meeting of the Association of American Geographers, San Francisco, CA, USA. March 29-April 2, 2016.
7. **Zuo, H., Wang, C., Tang, W., & Rorrer, A.** 2016. Investigations of neighborhood conditions under the context of the academic achievement gap. North Carolina Association for Research in Education (NCARE), Charlotte, NC.
8. **Hohl, A., Delmelle, E., and Tang, W.,** 2015, Spatiotemporal domain decomposition for massive parallel computation of space-time kernel density, The First International Symposium on Spatiotemporal Computing, July 13-15, 2015, George Mason University, Fairfax, Virginia, USA.
9. **Deng, J., Tang, W., Griffith, A., and Shi, J.,** 2015, A cyber-based framework for large-scale spatio-temporal analysis of landscape pattern change, The First International Symposium on Spatiotemporal Computing, July 13-15, 2015, George Mason University, Fairfax, Virginia, USA.
10. **Tang, W., Feng, W., Deng, J., and Jia, M.,** 2015, Parallel spatial simulation of urban agglomeration in North Carolina, USA, The 9th International Association of Landscape Ecology World Congress, July 5-10, 2015, Portland, Oregon, USA. [invited]
11. **Gong, Z., Tang, W., Thill, J-C,** 2015, A Locality-aware Approach to Scalable Parallel Agent-based Models of Spatially Heterogeneous Interactions, Geocomputation 2015.
12. **Griffith, A.D., Deng, J., and Tang, W.,** 2015, Spatial agent-based modeling of coastal land ownership changes in North Carolina and South Carolina, *The 110th Annual Meeting of AAG*, April 21-25, 2015, Chicago, IL, USA.
13. **Zheng, M., Deng, J., Feng, W., and Tang, W.,** 2015, Spatially explicit variation in land price: spatial hedonic modeling based on artificial neural networks, *The 110th Annual Meeting of AAG*, April 21-25, 2015, Chicago, IL, USA.
14. **Zuo, H., Tang, W., and Wang, C.,** 2015, Impact of neighborhood institutional resources on Middle School students' achievement, *The 110th Annual Meeting of AAG*, April 21-25, 2015, Chicago, IL, USA.

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15. Hohl, A., Delmelle, E., and **Tang, W.**, 2015, 3D domain decomposition for parallel processing of massive spatiotemporal geographic data, *The 110th Annual Meeting of AAG*, April 21-25, 2015, Chicago, IL, USA.
16. Deng, J., and **Tang, W.**, 2015, A cyber-enabled spatial data mining approach: An analysis of cause-effect relationships in land use systems, *The 110th Annual Meeting of AAG*, April 21-25, 2015, Chicago, IL, USA.
17. Feng, W., and **Tang, W.**, 2015, Parallel spatial autocorrelation analysis within a cyberinfrastructure environment, *The 110th Annual Meeting of AAG*, April 21-25, 2015, Chicago, IL, USA.
18. **Tang, W.**, Feng, W., Deng, J., and Jia, M., 2015, Cyber-enabled parallel spatial simulation of large-scale land change, *The 110th Annual Meeting of AAG*, April 21-25, 2015, Chicago, IL, USA.
19. Strict, C., Trettin, C.C., Tang, W., 2015, Carbon stocks of intact mangroves in the Zambezi River Delta, Mozambique, the 2015 Annual Meeting of Society of Wetland Scientists (SWS), Providence, Rhode Island, May 31st-June 4th, 2015
20. Gerow, T., **Tang, W.**, 2015, Assessment of forest cover in the High Rock Lake Watershed, *Water Resource Research Institute 2015 Annual Conference*, March 18-19, 2015, Raleigh, NC, USA.
21. Gerow, T., Jones, D., **Tang, W.**, 2015, Assessing the relationship between forests and water in the High Rock Lake Watershed of North Carolina, *The Fifth Interagency Conference on Research in the Watersheds*, March 2-6, 2015, Charleston, SC, USA.
22. **Tang, W.**, Feng, W., Harrison, C., Amatya, D., Arnold, J., Trettin, C.C., 2014, The development of an advanced Web GIS portal of Santee Experiment Forest, The 2014 South Carolina Water Resources Conference, October 14th, 2014, Clemson University,
23. **Tang, W.**, 2014, Massively parallel spatial point pattern analysis: Ripley's K function accelerated using general-purpose Graphics Processing Units, *The 109th Annual Meeting of AAG*, April 4-8, 2014, Tampa, FL, USA.
24. Feng, W., and **Tang, W.**, 2014, The use of heterogeneous high-performance computing for parallel map projection, *The 109th Annual Meeting of AAG*, April 4-8, 2014, Tampa, FL, USA.
25. Deng, J., and **Tang, W.**, 2014, Dynamic parallel implementation of Douglas-Peucker algorithm with GPGPUs, *The 109th Annual Meeting of AAG*, April 4-8, 2014, Tampa, FL, USA.
26. Jia, M., and **Tang, W.**, 2014, Spatiotemporal sensitivity analysis of an agent-based model of Artificial Anasazi, *The 109th Annual Meeting of AAG*, April 4-8, 2014, Tampa, FL, USA.
27. Gong, Z., Thill, J-C., **Tang, W.**, 2013, Computational performance, scalability and spatial heterogeneity in parallel agent-based modeling of spatial interaction, *60th North American Regional Science Council*, Atlanta, GA, November 13-16th, 2013.
28. **Tang, W.**, Feng, W., Deng, J., Jia, M., and Zuo, H., 2013, Cyberinfrastructure-enabled high performance and parallel computing and geocomputational modeling, *60th North American Regional Science Council*, Atlanta, GA, November 13-16th, 2013.
29. Deng, J., **Tang, W.**, Meentemeyer, R.K., Zheng, X., 2013, Automatic calibration of a multi-level land change model: A combined evolutionary optimization and high-performance computing approach, *The 108th Annual Meeting of AAG*, April 9-13, 2013, Los Angeles, CA, USA.

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30. Deng, J., **Tang, W.**, Meentemeyer, R.K., 2013, Comparison of land change models to simulate landscape fragmentation, *The 28th Annual US-IALE Symposium*, April 14-18, 2013, Austin, TX.
31. Feng, W., **Tang, W.**, Meentemeyer, R.K., 2013, Agent-based simulation of land competition between developers and conservationists: a cyberinfrastructure-enabled approach, *The 108th Annual Meeting of AAG*, April 9-13, 2013, Los Angeles, CA, USA.
32. Feng, W., **Tang, W.**, Meentemeyer, R.K., 2013, Spatially explicit simulation of land development coupled with smart growth and land conservation, *The 28th Annual US-IALE Symposium*, April 14-18, 2013, Austin, TX.
33. Gong, Z., Thill, J-C., **Tang, W.**, 2013, Multi-scale modeling of land-use change in a polycentric urban system: A cyber-enabled high-performance computing approach, *The 108th Annual Meeting of AAG*, April 9-13, 2013, Los Angeles, CA, USA.
34. Jia, M., **Tang, W.**, 2013, Comparative sensitivity analysis for spatial agent-based modeling, *The 108th Annual Meeting of AAG*, April 9-13, 2013, Los Angeles, CA, USA.
35. **Tang, W.**, Gong, Z., Feng, W., Meentemeyer, R.K., 2013, Parallel implementation of a spatially explicit multi-level simulation model of land development, *The 108th Annual Meeting of AAG*, April 9-13, 2013, Los Angeles, CA, USA.
36. **Tang, W.**, Jia, M., and Bennett, D.A., 2013, Sensitivity analysis of an intelligent agent-based simulation of elk migration: A cyberinfrastructure-enabled supercomputing approach, *The 28th Annual US-IALE Symposium*, April 14-18, 2013, Austin, TX.
37. Gong, Z., **Tang, W.**, and Thill, J.C., 2012, Parallelization of ensemble neural networks for spatial land-use modeling, *Proceedings of ACM SIGSPATIAL IWGS Workshop*.
38. **Tang, W.**, Jia, M., 2012, Sensitivity analysis of a parallel agent-based model of spatial opinion exchange: Accelerated using Graphics Processing Units, *International Conference on Space, Time, and CyberGIS*, August 6-9, Urbana, IL, USA.
39. **Tang, W.**, Bennett, D.A., and Gong, Z., 2012, Parallel agent-based simulation within heterogeneous many-core computing environments, *The 107th Annual Meeting of AAG*, February 24-28, 2012, New York, NY, USA.
40. Deng, J., **Tang, W.**, Feng, W., Meentemeyer, R.K., 2012, Automatic calibration of a spatial simulation of land development with a high-performance computing approach, *The 107th Annual Meeting of AAG*, February 24-28, 2012, New York, NY, USA.
41. Feng, W., **Tang, W.**, Deng, J., Vogler, J., and Meentemeyer, R.K., 2012, Spatial simulation of land development in a mountainous area within a cyberinfrastructure environment, *The 107th Annual Meeting of AAG*, February 24-28, 2012, New York, NY, USA.
42. Zhu, H., **Tang, W.**, and Delmelle, E., 2012, Design and implementation of a web based geospatial analysis toolkit—A case study in epidemiology, *The 107th Annual Meeting of AAG*, February 24-28, 2012, New York, NY, USA.
43. Bennett, D.A., **Tang, W.**, Xu, S., and Zeng, Y., 2011, The influence of population dynamics on consensus building and land use policies. *The 4th ICA Workshop on Geospatial Analysis and Modeling*, Simon Fraser University, Canada. August 10-12.
44. Gong, Z. **Tang, W.**, and Bennett, D.A., 2011, Development of a shared-memory parallel agent-based model of opinion exchange within a multi-core computing

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- environment. *The 4th ICA Workshop on Geospatial Analysis and Modeling*, Simon Fraser University, Canada. August 10-12.
45. **Tang, W.**, Shoemaker, D., Dorning, D., Vogler, J.B., and Meentemeyer, R., 2011 Spatiotemporal simulation of urban-rural interaction within a high-performance computing environment, *The 106th Annual Meeting of AAG, 2011*, Seattle, Washington, USA, April 12-16.
 46. Jia, M., Delmelle, E., and **Tang, W.**, 2011, Simulating individual parking behavior using spatially aware intelligent agents. *The 106th Annual Meeting of AAG, 2011*, , Seattle, Washington, USA, April 12-16.
 47. **Tang, W.**, Bennett, D.A., and Zeng, Y., 2010, Adaptive consensus formation: The case of land use regulation in Southwest Montana. The 57th Annual North American Meetings of the Regional Science Association International, Denver, CO, November 10-13, 2010.
 48. Padmanabhan, A., **Tang, W.**, and Wang, S., 2010, Agent-based modeling of agricultural land use on TeraGrid, The 5th Annual TeraGrid Conference, TG'10, Pittsburgh, PA, August 2-5, 2010.
 49. Shook, E., Wang, S., and **Tang, W.**, 2010, Toward a parallel spatially explicit agent-based modeling framework, The 5th Annual TeraGrid Conference, TG'10, Pittsburgh, PA, August 2-5, 2010.
 50. Bennett, D.A., and **Tang, W.**, 2010, Modeling the adaptive use of common-pool resources using geographically aware intelligent agents, *The 105th Annual Meeting of AAG, 2010*, Washington DC, USA, April 14-18, 2010.
 51. Shook, E., Wang, S., and **Tang, W.**, 2010, Examining the influence of spatial patterns on parallel agent-based modeling performance, *The 105th Annual Meeting of AAG, 2010*, Washington DC, USA, April 14-18, 2010.
 52. **Tang, W.**, Bennett, D.A., and Wang, S., 2010, Parallel agent-based modeling for large-scale geographic systems, *The 105th Annual Meeting of AAG, 2010*, Washington DC, USA, April 14-18, 2010.
 53. Bennett, D. A., **Tang, W.**, and Mount, J., 2010, Cyberinfrastructure-enabled agent-based modeling of complex adaptive spatial systems, NSF TeraGrid Workshop on Cyber-GIS, Washington, DC, USA, February 2-3, 2010.
 54. Bennett, D. A., and **Tang, W.**, 2009, GAIA-RM: A Geographically Aware Intelligent Agents framework for Rangeland Management, *Geocomputation 2009*, Sydney, Australia, November 30th to December 2nd, 2009.
 55. **Tang, W.**, and Bennett, D.A., 2009, Parallel agent-based modelling of land-use opinion dynamics using Graphics Processing Units, *Geocomputation 2009*, Sydney, Australia, November 30th to December 2nd, 2009.
 56. Bennett, D.A., and **Tang, W.** 2009, Modeling complex adaptive rangeland systems, *The 104th Annual Meeting of AAG, 2009*, Las Vegas, NV, USA.
 57. Shook, E., **Tang, W.**, and Wang, S., 2009, A parallel computing approach for spatially-explicit agent-based models, *The 104th Annual Meeting of AAG, 2009*, Las Vegas, NV, USA.
 58. **Tang, W.**, Bennett, D.A., and Wang, S., 2009, Cyberinfrastructure-enabled agent-based modeling, *The 104th Annual Meeting of AAG, 2009*, Las Vegas, NV, USA.
 59. Wang, S., **Tang, W.**, Bennett, D. A., and Padmanabhan, A., 2009, An Open Science Grid Approach to Understanding the Complexity of Coupled Human and Natural

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- Systems. *The 2009 Open Science Grid All Hands Meeting*, March 2-5, 2009, Baton Rouge, LA, USA
60. **Tang, W.**, Wang, S., Bennett, D.A. & Liu, Y., 2008. Design and implementation of a service-oriented agent-based simulation architecture. In: *Workshop of the Design of Service-Oriented Architecture (SOA) for Geospatial Science for 5th International Conference on Geographic Information Science*, Park City, Utah, USA.
 61. **Tang, W.** and Bennett, D.A., 2008, Modeling the adaptive behavior of individuals to capture the emergence of complex landscape patterns: An intelligent agent approach, *Annual Meeting of US-IALE, 2008*, Madison, WI, USA.
 62. **Tang, W.** and Bennett, D.A., 2008, A context-driven representation for spatiotemporally-explicit agent-based models, *The 103th Annual Meeting of AAG, 2008*, Boston, MA, USA.
 63. Bennett, D.A., and **Tang, W.**, 2008, The Provenance of Complexity, *The 103th Annual Meeting of AAG, 2008*, Boston, MA, USA.
 64. **Tang, W.** and Bennett, D.A., 2007, Agent-based modeling of adaptive spatial decision-making in complex geographical systems: A reinforcement learning approach, *The 102th Annual Meeting of AAG, 2007*, San Francisco, CA, USA.
 65. Bennett, D.A., McGinnis, D.L., and **Tang, W.**, 2006, The emergence of complex landscape dynamics, *Evolution, Emergence, Generation Workshop, European Conference on Complex System '06*, Oxford, UK.
 66. **Tang, W.** and Bennett, D.A., 2006, Simulating risk-avoidance behavior of elk in Northern Yellowstone Park by using evolutionary neural networks, *The 101th Annual Meeting of AAG, 2006*, Chicago, IL, USA.
 67. **Tang, W.** and Bennett, D.A., 2005, Identifying spatially-explicit migration patterns of elk using machine learning, *The 57th Meeting of the West Lakes Division, AAG, 2005*, The University of Iowa, Iowa City, IA, USA.
 68. Bennett, D.A., **Tang, W.**, and McGinnis, D., 2005, Modeling elk migration and trophic cascades in the Greater Yellowstone Ecosystem: An agent-based approach, *The Open Science Conference on Global Change in the Mountain Regions*, Perth, Scotland, UK.
 69. Bennett, D.A. and **Tang, W.**, 2005, Modeling complex trophic relations among elk, wolves, and humans in the Greater Yellowstone Ecosystem, *The 101th Annual Meeting of AAG, 2005*, Denver, CO, USA.
 70. **Tang, W.** and Bennett, D.A., 2005, Simulating adaptive winter migratory behaviors of elk in Northern Yellowstone National Park, *The 101th Annual Meeting of AAG, 2005*, Denver, CO, USA.
 71. **Tang, W.**, Malanson, G.P., and Walsh, S.J., 2004, Agent-based simulation of pattern formation of village territory in Thailand, *The 100th Annual Meeting of AAG, 2004*, Philadelphia, PA, USA.
 72. **Tang, W.**, Malanson, G.P., and Entwisle, B., 2003, Agent-based modeling of village location in Thailand, *The 99th Annual Meeting of AAG, 2003*, New Orleans, LA, USA.
 73. **Tang, W.** and Malanson, G.P., 2002, Habitat generalists and specialists in the competition-colonization model, *Annual Meeting of US-IALE, 2002*, Lincoln, NE, USA.
 74. Zhu, D.K., Martini, I.P., and **Tang, W.**, 2000, Coastal plain evolution indicated by barrier systems in southern Hainan Island, China, *Thematic Conference of International Association of Geomorphologists*, Nanjing, China, August 25-29, 2000.

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E. Teaching and Instructional Activities

Teaching Activities – (number of students)

2016 (Fall)	Instructor	<i>Web GIS</i> ** (19)	UNCC
2016 (Spring)	Instructor	<i>Spatial Statistics</i> ** (11)	UNCC
2015 (Fall)	Instructor	<i>Web GIS</i> * (15)	UNCC
2015 (Spring)	Instructor	<i>Spatial Statistics</i> ** (6)	UNCC
2014 (Fall)	Instructor	<i>CyberGIS and Big Data</i> ** (9)	UNCC
2014 (Spring)	Instructor	<i>Web GIS</i> * (5)	UNCC
2013 (Fall)	Instructor	<i>Agent-based Modeling of Complex Adaptive Spatial Systems</i> ** (7)	UNCC
2013 (Spring)	Instructor	<i>Internet GIS</i> * (6)	UNCC
2012 (Fall)	Instructor (co-teaching)	<i>Coupled Human and Natural Systems</i> ** (14)	UNCC
2012 (spring)	Instructor	<i>Web GIS</i> * (13)	UNCC
2011 (fall)	Instructor	<i>Agent-based Modeling of Complex Adaptive Spatial Systems</i> ** (5)	UNCC
2011 (spring)	Instructor	<i>Web-based GIS</i> * (12)	UNCC
2009 (fall)	Instructor	<i>Computer Cartography and Geovisualization</i> * (16)	UIUC
2010 (spring)	Guest Instructor	<i>Advanced GIS</i> *	UIUC
2008 (spring)	Guest Instructor	<i>Introduction to GIS</i> *	UIUC
2006 (fall)	Laboratory Instructor and Teaching Assistant	<i>GIS for Environmental Studies: Introduction</i> *** (28)	UIowa

UNCC: University of North Carolina at Charlotte; UIUC: University of Illinois at Urbana-Champaign; UIowa: University of Iowa

* Undergraduate and graduate course ** Graduate course *** Undergraduate only

Graduate Students, main advisor (4 Ph.D., 5 Master, 1 completed)

Wenpeng Feng (PhD)	Geography; Direction: CyberGIS and spatial simulation (<u>ABD; expected: December 2016</u>)
Adam Griffith (PhD)	Geography; Direction: Spatiotemporal Modeling (in progress)
Alex Hohl (PhD)	Geography; Direction: CyberGIS and Spatial Epidemiology (co-supervised with Dr. Eric Delmelle, in progress)
Minrui Zheng (PhD)	Geography; Direction: CyberGIS and Spatiotemporal Modeling (in progress)
Meijuan Jia (MA)	<i>Spatiotemporal sensitivity analysis of an agent-based model of Artificial Anasazi with parallel computing</i> (<u>completed in May, 2016</u>)

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Jiyang Shi (MA)	Geography; Direction: CyberGIS, Big Spatial Data (<u>Expected in December 2016</u>)
Huifang Zuo (MA)	Geography; Direction: GIS Applications in Education (<u>Expected in December 2016</u>)
Yu Lan (MA)	Geography; Direction: CyberGIS (expected in May 2018)
Michael Howe (MA)	Geography; Direction: CyberGIS (expected in May 2018)

Graduate Students, committee member (16: 6 Ph.D., 10 Master)

- 2016 Ran Tao (Ph.D., expected in May 2017)
- Yuhong Zhou (Ph.D., completed in May 2016)
- Michael Desjardins (MA, completed in May 2016)
- Allie Shoffner (MA; completed in May 2016)
- Huifang Zuo (Ph.D., in progress)
- 2015 Zhaoya Gong (PhD, completed in December 2015)
- Chengjun Lin (MA, completed in December 2015)
- Griffen Angel (MA, completed in May 2015)
- Kelly Brawn (MA, completed in August 2015)
- 2014 Mona Kashiha (PhD, completed in December 2014)
- Peter Sherman (MA, completed in May 2014)
- Derek Marsh (MA, completed in December 2014)
- 2013 Thil Hong Diep Dao (PhD, completed in December 2013)
- 2012 Min Chen (MA, completed in May 2012)
- 2011 Meng Jia (MA, completed in May 2011)
- Hongmei Zhu (MA, completed in May 2011)

Visiting Scholar Mentoring (16)

- Xiang Zhao (*Wuhan University, Wuhan*)
- Xiaoya Ma (*Wuhan University, Wuhan*)
- Jian Gong (*Associate Professor, China University of Geosciences, Wuhan*)
- Jing Deng (*Co-educating PhD student, China University of Geosciences, Beijing*)
- Yu He (*Lecturer, Three Gorge University, China*)
- Dianfeng Liu (*Associate Professor, Wuhan University, China*)
- Shenghua Liu (*Associate Professor, Wuhan University, China*)
- Jiqiang Niu (*Associate Professor, Xinyang Normal University, China*)
- Feng Xu (*Lecturer, Xinyang Normal University, China*)
- Junmei Zang (*Associate Professor, South China University of Technology, China*)
- Zhi Zhang (*Lecturer, China University of Geosciences, Wuhan*)
- Zuo Zhang (*Associate Professor, Hubei University*)
- Jun Zhang (*Wuhan University*)
- Xinqi Zheng (*Professor, China University of Geosciences, Beijing*)
- Jun Zhu (*Professor, Southwest Jiaotong University, China*)
- Qianting Zhu (*Lecturer, China Petroleum University*)

F. Professional Services/Leadership

Grant Review (9 proposals)

- 2015 US NSF Geography and Spatial Science (1 proposal)
- 2014 US NSF Geography and Spatial Science (1 proposal)
Canada Alberta Livestock and Meat Agency Ltd. (1 proposal)
- 2013 Technology Foundation STW, Netherland (1 proposal)
Research Council of Canada (1 proposal)
- 2012 Research Council of Canada (1 proposal)
- 2011 US NSF Geography and Spatial Science (2 proposals)
Research Council of Canada (1 proposal)

Manuscript Reviews since 2007 (number of reviews) (73 manuscripts; 27 journals)

International Journal of Geographical Information Science (19);
Computer, Environment, and Urban Systems (10); Geoinformatica (3); PLOS ONE (5);
International Journal of Digital Earth (1); International Journal of Geo-Information (4);
Chemosphere (1); International Journal of Strategic Property Management (1);
Method in Ecology and Evolution (2); Transactions in GIS (3 manuscripts);
Earth Science Informatics (1); Remote Sensing (1);
Journal of Computational and Graphical Statistics (1); Professional Geographer (1);
Automation in Construction (1); Ecological Modeling (5);
Landscape and Urban Planning (3); Marine Environmental Research (1);
IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (1)
Journal of Vegetation Science (1); Physical Geography (1);
Environmental Modelling & Software (1); Applied Geography (1)
International Journal of Applied Geospatial Research (1);
Area, Royal Geographical Society (1); Computers and Geosciences (1); Annals of the
Association of American Geographers (1)

Chapter/workshop Proceeding Review (31 manuscripts)

- 2016 The Third International Conference on CyberGIS and Geospatial Data Science (CyberGIS'16) (1 regular paper, 1 short paper)
- 2015 *The First International Workshop on Spatiotemporal Computing* (4 abstracts)
- 2014 Book chapter for *Geocomputational Analysis and Modeling of Regional Systems* (2 book chapter)
The 22nd International Conference on Geoinformatics (9 manuscripts)
- 2012 *The ACM SIGSPATIAL International Workshop on High Performance and Distributed GIS* (2 manuscripts)
2012 International Conference on GIScience (1 workshop proposal)
- 2011 *The ACM SIGSPATIAL International Workshop on High Performance and Distributed GIS* (3 manuscripts)
- 2010 *The ACM SIGSPATIAL International Workshop on High Performance and Distributed GIS* (2 manuscripts)
- 2009 *Advanced Geosimulation Models* (1 book chapter)
17th ACM SIGSPATIAL GIS 2009 (2 manuscripts)

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- 2008 *International Workshop on Grid Computing Environments* (<http://www.collab-ogce.org/gce08/>; 2 manuscripts) (external reviewer)
11th AGILE International Conference on Geographic Information Science (<http://www.agile2008.es/>; 1 manuscript) (external reviewer)

Book Review

- 2015 Book review of *GIS Algorithms* by Ningchuan Xiao, Sage Publishing

Professional Services

- 2016-2017 *Vice Chair*, Cyberinfrastructure Specialty Group of the Association of American Geographers
- 2016 *Organizer*, Paper session for “*Land Change Modeling and CyberGIS*” and “*Spatial Analysis and Modeling with High-performance Computing*”, Annual Meeting of the Association of American Geographers
- 2015-2016 *Organizer*, Panel session for *Robert Raskin CyberGIS Student Competition Finalist Oral Presentation*
- 2015 *Organizer*, Paper session for “*Land Change Modeling and CyberGIS*”, Annual Meeting of the Association of American Geographers
- 2015 *Programming Committee*, The 2016 International Conference on CyberGIS
- 2015 *Programming Committee*, The 1st International Workshop on Spatiotemporal Computing
- 2014-2016 *Board member*, Cyberinfrastructure Specialty Group of the Association of American Geographers
- 2014 *Panelist*, *Symposium on Synergistic Advances of CyberGIS and Geography: Roles of CyberGIS and Geography and Turning Big Data to Rich Data and Knowledge*, Annual Meeting of the Association of American Geographers, 2014.
- 2014 *Discussant*, *Spatiotemporal Thinking, Computing and Applications (STCA) Session: Visualization*, Annual Meeting of the Association of American Geographers, 2014.
- 2014 *Organizer and Chair*, *Symposium on Synergistic Advances of CyberGIS and Geography: Multi-scale Spatiotemporal Modeling and Simulation*. Annual Meeting of the Association of American Geographers, 2014.
- 2014 *Student Paper Competition Committee*, the 22nd International Conference on Geoinformatics
- 2010, 2013 *Chair*, Geocomputation Session, NARSC (North American Regional Science Council) Conferences.
- 2013-present *Director*, NVIDIA CUDA Research Center at the University of North Carolina at Charlotte
- 2013-present *Director*, Open-source Geospatial Laboratory at the University of North Carolina at Charlotte
- 2013-present *UNC-Charlotte Delegate*, UCGIS,
- 2010-present *Program committee member*, the ACM SIGSPATIAL International Workshop on High Performance and Distributed GIS (HPDGIS)
- 2010 *Judge*, City of Charlotte Business Intelligence Olympiad

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University, College and Departmental Services

- 2016-2017 *Faculty search committee (Lecturer in GIS)*, Department of Geography and Earth Sciences, UNCC
- 2015-2016 *Search committee chair for CAGIS Director of Research and Outreach*, Department of Geography and Earth Sciences, UNCC
- 2013-2014 *Faculty search committee (Hydrologist)*, Department of Geography and Earth Sciences, UNCC
- 2012 *Faculty search committee (Lecturer in GIS)*, Department of Geography and Earth Sciences, UNCC
- 2015-2017 *Faculty Advisory Committee*, Department of Geography and Earth Sciences, UNCC
- 2014-2015 *Working Group for Redefining the Role of CAGIS*, Department of Geography and Earth Sciences and Center for Applied GIScience (CAGIS), UNCC
- 2013-2015 *Graduate advisory committee*, Department of Geography and Earth Sciences, UNCC
- 2012 *Mentoring committee*, Department of Geography and Earth Sciences, UNCC
- 2010-present *Course development: Web GIS (GEOG4180/5180), Agent-based Modeling of Complex Adaptive Spatial Systems (GEOG6000/8000), Coupled Human and Natural Systems (GEOG6000/8000; with Dr. Ross Meentemeyer), CyberGIS and Big Data (GEOG6000/8000)*
- 2012-present *Mapping services: for Dr. Akinwumi Ogundiran (Africana Studies) and Dr. Edd Hauser (Center for Transportation Policy)*
- 2013-present *Organizer for CAGIS Seminar*
- 2010-present *Tour of CAGIS Facility*
- 2013-present *Development of Undergraduate and Graduate Certificate Programs in Geographic Information Science (with GIS faculty and Dr. Craig Allan)*
- Fall 2013 *Organizer for the event of GIS Institute to introduce University faculty and graduate students to GIS tools and resources (sponsors: the Digital Scholarship Lab, Center for Applied GIScience, the College of Liberal Arts & Sciences Office of Academic Technologies).*

G. Recognition and Awards

- 2012 NSF CyberGIS Junior Faculty Travel Award
- 2008 *NASA-MSU Professional Enhancement Awards* from Center for Systems Integration and Sustainability at Michigan State University
- 2008 Final list on William L. Garrison Award for Best Dissertation in Computational Geography.
- 2008 *Travel award from Center for Global and Regional Environmental Research* at the University of Iowa
- 2007 *Cartography and Geographic Information Science Best Paper Award* for papers presented at UCGIS Summer Assembly

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- 2007 *Travel award for student papers* presented at UCGIS Summer Assembly
- 2002 *Travel award from Graduate Senate* at the University of Iowa
- 2000 *First-ranked Student Scholarship* at Nanjing University
- 1996 *First-ranked Student Scholarship* at East China Normal University

H. Professional Memberships

Member, The Association of the American Geographers

*Member, United States Regional Association of the International Association for
Landscape Ecology (US-IALE)*