

CURRICULUM VITAE

SHAOWEN WANG

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RESEARCH AND TEACHING INTERESTS

- Geographic information science and systems (GIS)
- Advanced cyberinfrastructure and cyberGIS
- Complex environmental and geospatial problems
- Computational and data sciences
- High-performance and distributed computing
- Spatial analysis and modeling

EDUCATION

Ph.D. The University of Iowa, Iowa City, Iowa, USA, 2004
Geography (Geographic Information Science)

M.C.S. The University of Iowa, Iowa City, Iowa, USA, 2002
Computer Science (Systems and Networks)

M.S. Peking University, Beijing, China, 1998
Geography (Geographic Information Systems and Remote Sensing)

B.S. Tianjin University, Tianjin, China, 1995
Computer Engineering (Transportation Information Systems)

AWARDS AND HONORS

2021 Getis-Ord Lecture in Spatial Analysis, the 60th Anniversary Meeting of the
Western Regional Science Association

2020-21 Fellow of the Big Ten Academic Alliance (BTAA) Academic Leadership
Program

2019 Borchert Lecture, the University of Minnesota

2019 Teacher Ranked as Excellent, Center for Teaching Excellence, UIUC

- 2019 Gerard Rushton Fellow, Department of Geographical and Sustainability Sciences, the University of Iowa
- 2018-21 Richard and Margaret Romano Professorial Scholar, College of Liberal Arts and Sciences, UIUC
- 2016 Disparate Data Challenge Award (Stage One: \$10,000; Stage Two: University Team Award) of the National Geospatial-Intelligence Agency (NGA), with Nathan Casler, Yizhao Gao, Hao Hu, Yan Y. Liu, Johnathan Rush, Kiumars Soltani, Jeffrey Terstriep, and Dandong Yin
- 2016 Best Paper Award (Software and Software Environments), with Hao Hu (Lead Author and Graduate Advisee), Xingchen Hong, Jeff Terstriep, Yan Y. Liu, Michael P. Finn, Johnathan Rush, and Jeffrey Wendel, *the 5th Annual Conference on Extreme Science and Engineering Discovery Environment (XSEDE'16)*
- 2013-16 Centennial Scholar, College of Liberal Arts and Sciences, UIUC
- 2012 Teacher Ranked as Excellent, Center for Teaching Excellence, UIUC
- 2011-12 Helen Corley Petit Scholar, College of Liberal Arts and Sciences, UIUC
- 2011 Best Research Poster Award, with Yanli Zhao (Lead Author and Graduate Advisee), Anand Padmanabhan, and Yan Liu, *the 5th National Science Foundation (NSF) TeraGrid Annual Conference*
- 2009, 2010 Teacher Ranked as Excellent, Center for Teaching Excellence, UIUC
- 2009 NSF CAREER Award
- 2009 Delegate Invited by the U.S. National Academy of Sciences, China-U.S. Roundtable on Scientific Data Cooperation
- 2007 National Center for Supercomputing Applications (NCSA) Fellowship, NSF
- 2007 Innovations in Instructional Computing Award, the University of Iowa, Iowa City, Iowa, USA
- 2006 Visiting (to Lund University) Scholarship, the NSF Office of International Science and Engineering
- 2006 Improving Our Workplace Award (IOWA), the University of Iowa, Iowa City, Iowa, USA
- 2002 Travel Scholarship, Global Grid Forum
- 2002 Esri Scholarship

PROFESSIONAL APPOINTMENTS

ADMINISTRATIVE

- 2017-present **Department Head**
Department of Geography and Geographic Information Science, UIUC

- 2013-present **Founding Director**
 CyberGIS Center for Advanced Digital and Spatial Studies, UIUC
<http://cybergis.illinois.edu/>)
- 2014-17 **Lead**
 Earth and Environment Theme, NCSA, UIUC
- 2010-17 **Associate Director for CyberGIS**
 NCSA

ACADEMIC

- 2020-present **Faculty Affiliate**
 Discovery Partners Institute, the University of Illinois
- 2013-present **Full Professor (with tenure)**
 Department of Geography and Geographic Information Science, UIUC
- 2013-present **Faculty Affiliate**
 School of Information Sciences (Previously Graduate School of Library and Information Science), UIUC
- 2012-present **Faculty Affiliate**
 Department of Urban and Regional Planning, UIUC
- 2011-present **Faculty Affiliate**
 Department of Computer Science, UIUC
- 2008-present **Faculty Affiliate**
 Computational Science and Engineering Graduate Program
<http://www.cse.illinois.edu/>), UIUC
- 2007-present **Founding Director**
 CyberInfrastructure and Geospatial Information Laboratory (CIGI), UIUC
<http://cigi.illinois.edu/>)
- 2008-20 **Lead of Spatial Informatics Track**
 Illinois Informatics Institute (<https://www.informatics.illinois.edu/>), UIUC
- 2014-19 **Research Faculty Affiliate**
 Center of Excellence for Geospatial Information Science, U.S. Geological Survey (USGS)
- 2007-10 **Senior Research Scientist**
 Research, Development, Consultation, and Management: Geospatial Cyberinfrastructure, NCSA, UIUC
- 2010-13 **Associate Professor (with tenure)**
 Department of Geography and Geographic Information Science, UIUC
- 2007-10 **Assistant Professor (tenure-track)**
 Department of Geography, UIUC
- 2005-07 **Research Scientist** (the Highest Rank of Research Staff at the University of Iowa)

- Research, Development, Consultation, and Management: Computational Grids and Cyberinfrastructure, Academic Technologies – Research Services of Information Technology Services, the University of Iowa
- 2004-07 **Adjunct Assistant Professor**
Department of Geography, the University of Iowa
- 2003-07 **Founding Manager**
Grid Research and education group @ ioWa (GROW), Academic Technologies – Research Services of Information Technology Services, the University of Iowa
- 2002-05 **Assistant Research Scientist**
Research, Development, Consultation, and Management: Computational Grids and their Applications in Scientific, Engineering, and Medical Research and Education, Academic Technologies – Research Services of Information Technology Services, the University of Iowa
- 2002 **Research Assistant**
Participated in the USDA (U.S. Department of Agriculture) Funded Research Project: Uncertainty Visualization in Water Quality Protection, Department of Geography, the University of Iowa
- 2001-02 **Research Assistant**
Research and Development: Computer-Aided Design and Scientific Visualization, Academic Technologies – Research Services of Information Technology Services, the University of Iowa
- 1999-2001 **Research Assistant**
Research and Development: High-Performance Computing and Scientific Visualization, Advanced Research Computing Services (ARCS), the University of Iowa
- 1998-99 **Research Assistant**
Research and Development: GIS-Based Climatological Modeling, Department of Geography, the University of Iowa
- 1995-98 **Research Assistant**
Research and Development: Object-Oriented GIS, Institute of Environmental Engineering, Peking University, Beijing, China
- 1992-94 **Research Assistant**
Research and Development: Object-Oriented Methodology and Computer-Aided Design, Department of Computer Engineering, Tianjin University, Tianjin, China

EXTRAMURAL RESEARCH FUNDING

SUMMARY (funding received from the U.S. NSF, Centers for Disease Control and Prevention (CDC), Department of Energy (DOE), Environmental Protection Agency (EPA), National Aeronautics and Space Administration (NASA), National Institutes of Health

(NIH), USDA, USGS, and industry): Principal Investigator (PI) for more than \$15 million competitive research grants; co-PI, investigator, and senior personnel for contributing to sponsored research with tens of millions of U.S. dollars; and PI for tens of millions of normalized computing hours of NSF supercomputing resources.

SELECTED GRANTS AWARDED BY U.S. FEDERAL AGENCIES

- 2020-23 **Co-PI, USDA: DATAg: Scalable Real-time Satellite-based Crop Yield Forecasting Framework via Deep Learning (\$496,973)**, with PI: Chunyuan Diao
- 2019-23 **Co-Investigator, NIH R01: Development and Validation of Regional Models of HIV Vulnerabilities and Solutions (\$2,493,185)**, with PIs: Dolores Albarracin and Sally Chan
- 2018-23 **Co-PI, NSF CNH-L: Coupled dynamics of tourism and mosquito-borne disease transmission in the Americas (\$1,576,788)**, with PI: Allison Gardner, and Co-PIs: Brian F. Allan and Sandra De Urioste-Stone
- 2018-21 **Co-PI, Belmont Forum Collaborative Research Food-Water-Energy Nexus: Intelligent Urban Metabolic Systems for Green Cities of Tomorrow: An FEW Nexus-based Approach (\$750,000)**, with PI: Luis Rodriguez and Co-PI: Yanfeng Ouyang
- 2017-21 **PI, NSF: Collaborative Research: SI2-SSI: Cyberinfrastructure for Advancing Hydrologic Knowledge through Collaborative Integration of Data Science, Modeling and Analysis (\$699,999)**
- 2017-21 **PI, NSF: SI2-S2I2 Conceptualization: Geospatial Software Institute (\$599,997)**
- 2016-20 **Senior Personnel, NSF: INFEWS/T4: The INFEWS-ER: A Virtual Resource Center Enabling Graduate Innovations at the Nexus of Food, Energy, and Water Systems^[17] (\$1 million)**, with PI: Luis Rodriguez
- 2016-19 **Co-PI, NSF: Collaborative Research: Developing and Deploying SKOPE: Synthesizing Knowledge of Past Environments (\$884,627)**, with PI: Bertram Ludäscher
- 2016-18 **Co-PI, NSF: Conference: Agent-Based Modeling 2017: Agent-Based Models in the Social, Human-Environment, and Life Sciences (\$94,996)**, with PI: Li An and Co-PIs: Piotr Jankowski, Steven Manson, and Billie Turner II
- 2016-19 **Co-PI, USDA: Using Precision Technology in On-farm Field Trials to Enable Data-Intensive Farm Management (\$4 million)**, with PI: David Bullock
- 2016-18 **Co-I, NASA: ACCESS to Terra Data Fusion Products (\$1 million)**, with PI: Larry Di Girolamo

- 2016 **Co-PI**, NSF: 2016 Software Infrastructure for Sustained Innovation (SI2) Principal Investigators Workshop (\$104,947), with PI: Francis Timmes and Co-PIs: Stanley Ahalt and Matthew Turk
- 2015-17 **PI**, NSF: CyberGIS Curriculum Workshop for Synthesizing Education Materials (\$49,987)
- 2015-16 **PI**, NSF: Interoperating CyberGIS and HydroShare for Integrated Food, Energy and Water Research (\$374,821), with Co-PI: David Tarboton
- 2014-17 **PI**, NSF MRI: Acquisition of a National CyberGIS Facility for Computing and Data-Intensive Geospatial Research and Education (\$2,553,335), with Co-PIs: Praveen Kumar, Carole Palmer, Robert Pennington, and E. Lynn Usery
- 2014-18 **PI**, NSF CIF21: DIBBs: Scalable Capabilities for Spatial Data Synthesis (\$1,499,998), with Co-PIs: Katarzyna Keahey and Anand Padmanabhan
- 2014-19 **PI**, USGS: CyberGIS Capabilities for the National Map (\$632,148)
- 2013-16 **PI**, EAGER: CISSDA: A Unified Cyberinfrastructure Framework for Scalable Spatiotemporal Data Analytics (\$300,000), with Co-PIs: Roy Campbell, Jiawei Han, Sara McLafferty, and Mei-Po Kwan
- 2012-14 **PI**, EPA: Next-Generation Resource Management Mapping Services (\$349,923)
- 2012-13 **PI**, NSF EAGER: Collaborative Research: EarthCube Interoperability Testbed – Assessing a Layered Architecture for Integration of Existing Capabilities (\$18,000)
- 2012-17 **PI** of the University of Illinois, The Open Science Grid: Distributed High Throughput Computing for the Nation’s Scientists, Researchers, Educators, and Students (\$855,000), a major U.S. national cyberinfrastructure project jointly funded by DOE and NSF
- 2010-16 **PI**, NSF SI2-SSI: CyberGIS Software Integration for Sustained Geospatial Innovation (\$4.43 million), with Co-PIs: Luc Anselin, Budhendra Bhaduri, Timothy Nyerges, and Nancy Wilkins-Diehr
- 2010-14 **Investigator**, NSF SDCI: Open Gateway Computing Environments – Tools for Cyberinfrastructure-Enabled Science and Education (\$225,000), a sub-award through Indiana University, PI: Marlon Pierce
- 2009-14 **PI**, NSF CAREER: Formalizing and Resolving Computational Intensity of Spatial Analysis to Establish a Cyber-GIS Framework (\$470,000)
- 2008-09 **Investigator and Technical Director**, CDC: Global Malaria Map Application (\$50,000)
- 2007-11 **Investigator**, Development and Operation of the TeraGrid GIScience Gateway (\$700,000), the NSF TeraGrid Science Gateway Program

- 2007-08 **Co-PI, NSF CSR-AES: Troubleshooting Large Scale Computing Grids with Machine Learning Techniques (\$29,999)**, with Nitesh Chawla (PI), and other Co-PIs: Xiaohui Song and Douglas Thain
- 2006-12 **PI of the University of Iowa, UIUC, and National Center for Supercomputing Applications, Sustaining and Extending the Open Science Grid – Improving the Reliability of Distributed Systems (\$1.3 million)**
- 2006-07 **Co-PI and Technical Director, Building and Sustaining Information Provider Solutions for Production Grids (\$105,000)**, DOE and NSF Joint Data Grid Program, with Yasar Onel (PI)
- 2005-06 **PI, The Open Science Grid Generic Information Provider (\$100,000)**, a sub-award through the University of Florida NSF-ITR (Information Technology Research) Project: international Virtual Data Grid Laboratory for Data-Intensive Science (iVDGL), PI: Paul Avery
- 2005 **Co-PI and Technical Director, Interoperability of the Open Science Grid and Large Hadron Collider Computing Grid (\$115,000)**, DOE and NSF Joint Data Grid Program, with Yasar Onel (PI)

SELECTED SUPERCOMPUTING RESOURCE AWARDS BY NSF

- 2019-21 **Co-PI, Powering the HydroShare Science Gateway (650,000 SUs)** (Service Units) – one service unit equivalent to one normalized computing hour), with PI: David Tarboton
- 2017-19 **PI, Interoperating CyberGIS and HydroShare for Scalable Geospatial and Hydrologic Sciences (36,000 SUs)**, with Co-PI: David Tarboton
- 2013-14 **PI, Sustaining the CyberGIS Discovery Environment (9.35 million SUs)**, with Co-PIs: Yan Liu, Anand Padmanabhan, and Wenwu Tang
- 2013-14 **PI, An Extreme-Scale Computational Approach to Redistricting Optimization** (NSF Blue Waters Allocation Award – 600K node hours – approximately **9.6 million** normalized computing hours), with Co-PIs: Wendy K. Tam Cho and Yan Liu
- 2012-13 **PI, Extending the CyberGIS Discovery Environment (5.58 million SUs)**, with Co-PIs: Yan Liu, Anand Padmanabhan, and Wenwu Tang
- 2011-12 **PI, Establishing the CyberGIS Gateway (3.1 million SUs)**, with Co-PIs: Yan Liu, Anand Padmanabhan, and Wenwu Tang
- 2010-11 **PI, Expanding the TeraGrid GIScience Gateway (1.2 million SUs)**, with Co-PIs: Yan Liu, Anand Padmanabhan, and Wenwu Tang
- 2009-10 **PI, Extending the TeraGrid GIScience Gateway (625,500 SUs)**, with Co-PIs: Yan Liu and Wenwu Tang
- 2008-09 **PI, Sustaining the TeraGrid GIScience Gateway (310,500 SUs)**, with Wenwu Tang (Co-PI)

- 2007-08 **PI**, Extending and Sustaining GISolve as a GIScience Gateway Toolkit for Geographic Information Analysis (108,500 SUs), with Co-PIs: Marc P. Armstrong, Mary Kathryn Cowles, Brian J. Smith, and Jun Yan
- 2007-08 **Co-PI**, Parallelizing MCMC for Bayesian Spatiotemporal Geostatistical Models (30,000 SUs), with Marc P. Armstrong (Co-PI), Mary Kathryn Cowles (Co-PI), and Jun Yan (PI)
- 2006-07 **PI**, Developing GISolve as a GIScience Gateway Toolkit for Geographic Information Analysis (30,000 SUs), with Co-PIs: Marc P. Armstrong, Mary Kathryn Cowles, and Jun Yan
- 2005-06 **PI**, Prototyping an Interoperable Solution to Using the TeraGrid as a Resource on the Open Science Grid and Using the Open Science Grid as a Resource from the TeraGrid (30,000 SUs), with Co-PIs: Chris Baumbauer, Julian J. Bunn, Greg Cross, Vladimir Litvin, Fred C. Luehring, and Mike Shuey
- 2004-05 **Co-PI**, Spatial Statistics Middleware for Markov-chain-Monte-Carlo Bayesian Geostatistical Models (10,000 SUs), with Marc P. Armstrong (Co-PI), Mary Kathryn Cowles (PI), and Jun Yan (Co-PI)

SELECTED UNIVERSITY RESEARCH AND EDUCATION GRANTS

- 2021 **Co-PI**, RURAL: Resilient Urban-Rural Analysis for Livability (\$30,000), Institute for Sustainability, Energy, and Environment (iSEE), UIUC, with PI: Amy Ando
- 2019-22 **Co-PI**, Growth for the School of Earth, Society and Environment (\$1,488,106), Office of the Provost, UIUC, with PI: Robert M. Rauber and Co-PIs: Robert J. Trapp and Thomas M. Johnson
- 2018-20 **PI**, Creating Critical Mass of Big Data Sciences (\$60,000), Office of the Provost and Vice Chancellor for Academic Affairs, UIUC
- 2015-18 **Co-PI**, Engineering the Microbial and Stormwater Environment for Mosquito Control (\$350,000), Institute for Sustainability, Energy, and Environment (iSEE), UIUC, with PI: Brian F. Allan
- 2015-18 **Senior Personnel**, Interdependent Critical Infrastructure Systems for Synergized Utilization of Multiple Energy Sources toward Sustainable Vehicular Transportation (\$350,000), Institute for Sustainability, Energy, and Environment (iSEE), UIUC, with PI: Thomas Overbye
- 2013-17 **PI**, Establishing the CyberGIS Center for Advanced Digital and Spatial Studies (\$2.166 million), UIUC
- 2014-16 **Co-PI**, Detection of the Illicit Movement of Nuclear Materials with Big Data (\$150,000), UIUC, with Roy Campbell (Co-PI) and Clair Sullivan (PI)
- 2011 **PI**, Critical Spatial Thinking and the Future of Geographic Information Technologies – MillerComm Lecture by Michael F. Goodchild (\$3,200), the Center for Advanced Study at UIUC

- 2008 **PI** (Guest Lecturers: Dr. Jiawei Han and Dr. James Myers), Developing a New Informatics Course – Principles of GIS (\$11,046), the Illinois Informatics Institute at UIUC
- 2007 **Co-PI**, Developing a Curriculum for Statistical Analysis of Spatiotemporal Data Using Cyberinfrastructure (\$26,000), the University of Iowa Innovations in Instructional Computing Awards, with Marc P. Armstrong (Co-PI), and Mary Kathryn Cowles (PI), Brian J. Smith (Co-PI), and Jun Yan (Co-PI)
- 2005 **PI**, Prototyping, Testing, and Operating an Intra-campus Research Grid – HawkGrid: An Application-Driven Approach (\$45,608), the Mathematical & Physical Sciences Funding Program of the University of Iowa Internal Funding Initiative, with Terry A. Braun (Co-PI), Gregory R Carmichael (Co-PI), Boyd M. Knosp (Co-PI), Jun Ni (Co-PI), and Yasar Onel (Co-PI)
- 2003 **Co-PI**, Grid-based Spatial Statistics Middleware: Theory, Design, Implementation, and Evaluation (\$25,200), the Iowa Informatics Initiative (III) of the University of Iowa, with Marc P. Armstrong (PI), and Mary Kathryn Cowles (Co-PI)

CREATIVE WORKS

PATENT

- [1] **Wang, S.**, Liu, Y., Padmanabhan, A. High-Performance, Distributed, and Collaborative CyberGIS Platform, disclosure filed

SOFTWARE

- [2] GISolve Toolkit. Invented this first cyberGIS software and have been leading the research and development of the software. For more than fifteen years, GISolve has been deployed within multiple national and international cyberinfrastructure environments and used by numerous users from a broad range of fields (e.g., agriculture, biology, computer science, geography, hydrology, linguistics, public health, and statistics).
- [3] SimpleGrid Toolkit. Co-invented this software for learning and prototyping science and engineering gateways to advanced cyberinfrastructure, co-led the research and development of the software, and taught tutorials for hundreds of users at a variety of prominent conferences and workshops.
- [4] The Open Science Grid Generic Information Provider. Led the research and development of this distributed information system software for cyberinfrastructure resource management through several projects funded by DOE and NSF. For more than ten years, the software was widely deployed and used for distributed scientific computing in the U.S. and multiple other countries, enabling scientists of many fields (e.g., biology, computer science, geospatial sciences, and physics) to tackle data-intensive and computational challenges.

SUPERCOMPUTER

- [5] ROGER (Resourcing Open Geospatial Education and Research). Led a multidisciplinary and multi-institution team to create and operate this first-ever cyberGIS supercomputer supported by an NSF Major Research Instrumentation grant. ROGER is also the first general-purpose supercomputer that seamlessly integrates high-performance computing with Graphic Processing Units (GPUs), data-intensive computing (based on Hadoop and Spark), and cloud computing (based on OpenStack), supporting researchers and educators to flexibly take advantage of one or multiple of these computing modalities all connected by a fast network and common storage backbone. ROGER has enabled broad and significant scientific advances in interdisciplinary, bio, engineering, geo, and social sciences.

VISUALIZATION

- [6] The Great Flood. Led the CIGI Laboratory to contribute geospatial data retrieval and analysis in a collaboration with NCSA's Advanced Visualization Laboratory to the creation of data-driven visualization of the Mississippi River Valley showing the extent of destructive 1927 floodwaters for the 75-minute multimedia work: "The Great Flood". The work features Grammy Award-winning guitarist and composer Bill Frisell performing original music with accompanying film and staging by Obie-winning experimental filmmaker Bill Morrison. It premiered in September 2011 at the University of Illinois Krannert Center for the Performing Arts.

PUBLICATIONS

JOURNALS

- [1] Xu, J., Gao, J., Holanda, H., Rodriguez, L., Caixeta-Filho, J. V., Zhong, R., Jiang, H., Li, H., Du, Z., Wang, X., **Wang, S.**, Ting, K. C., Ying, Y., and Lin, T. (2021) "Double Cropping and Cropland Expansion Boost Grain Production in Brazil". *Nature Food*, <https://doi.org/10.1038/s43016-021-00255-3>
- [2] Zhang, Z., Yin, D., Virrantaus, K., Ye, X., and **Wang, S.** (2021) "Modeling Human Activity Dynamics: An Object-class Oriented Space-time Composite Model Based on Social Media and Urban Infrastructure Data". *Computational Urban Science*, <https://doi.org/10.1007/s43762-021-00006-x>
- [3] Xu, Z., **Wang, S.**, Stanislawski, L. V., Jiang, Z., Jaroenchai, N., Sainju, A. M., Shavers, E., Usery, E. L., Chen, L., Li, Z., and Su, B. (2021) "An Attention U-Net Model for Detection of Fine-scale Hydrologic Streamlines". *Environmental Modelling and Software*, <https://doi.org/10.1016/j.envsoft.2021.104992>
- [4] Jiang, H., Hu, H., Li, B., Zhang, Z., **Wang, S.**, and Lin, T. (2021) "Understanding the Non-stationary Relationships between Corn Yields and Meteorology via a Spatiotemporally Varying Coefficient Model".

Agricultural and Forest Meteorology, <https://doi.org/10.1016/j.agrformet.2021.108340>

- [5] Chen, L., Xu, Z., Li, Q., Peng, J., **Wang, S.**, Li, H. (2021) “An Empirical Study of Adversarial Examples on Remote Sensing Image Scene Classification”. *IEEE Transactions on Geoscience and Remote Sensing*, <https://doi.org/10.1109/TGRS.2021.3051641>
- [6] Vandewalle, B., Barley, W. C., Padmanabhan, A., Katz, D. S., and **Wang, S.** (2020) “Understanding the Multifaceted Geospatial Software Ecosystem: A Survey Approach”. *International Journal of Geographical Information Science (IJGIS)*, <https://doi.org/10.1080/13658816.2020.1831514>
- [7] Calyam, P., Wilkins-Diehr, N., Miller, M., Brookes, E. H., Arora, R., Chourasia, A., Jennewein, D. M., Nandigam, V., Drew LaMar, M., Cleveland, S. B., Newman, G., **Wang, S.**, Zaslavsky, I., Cianfrocco, M. A., Ellett, K., Tarboton, D. G., Jeffery, K. G., Zhao, Z., González-Aranda, J., Perri, M. J., Tucker, G., Candela, L., Kiss, T., and Gesing, S. (2020) “Measuring Success for a Future Vision: Defining Impact in Science Gateways/Virtual Research Environments”. *Concurrency and Computation: Practice and Experience*, <https://doi.org/10.1002/cpe.6099>
- [8] Davis, A. and **Wang, S.** (2020) “A Concurrent Entity Component System for Geographical Wildlife Epidemiological Modeling”. *Geographical Analysis*, <http://dx.doi.org/10.1111/gean.12258>
- [9] Kang, J. Y., Michels, A., Lyu, F., Wang, S., Agbodo, N., Freeman, V. L., and **Wang, S.** (2020) “Rapidly Measuring Spatial Accessibility of COVID-19 Healthcare Resources: A Case Study of Illinois, USA”. *International Journal of Health Geographics*, 19, <https://doi.org/10.1186/s12942-020-00229-x>
- [10] Jiang, H., Hu, H., **Wang, S.**, Ying, Y., and Lin, T. (2020) “Understanding the Impact of Sub-Seasonal Meteorological Variability on Corn Yield in the U.S. Corn Belt”. *Science of the Total Environment*, <https://doi.org/10.1016/j.scitotenv.2020.138235>
- [11] Kang, J. Y., Aldstadt, J., Vandewalle, R., Yin, D., and **Wang, S.** (2020) “A CyberGIS Approach to Spatiotemporally Explicit Uncertainty and Global Sensitivity Analysis for Agent-based Modeling of Vector-borne Disease Transmission”. *Annals of the American Association of Geographers*, <https://doi.org/10.1080/24694452.2020.1723400>
- [12] Li, T., Stanislawski, L.V., Brockmeyer, T, **Wang, S.**, and Shavers, E. (2020) OpenCLC: An Open-Source Software Tool for Similarity Assessment of Linear Hydrographic Features. *SoftwareX*, [DOI:10.1016/j.softx.2020.100401](https://doi.org/10.1016/j.softx.2020.100401)
- [13] Cai, Y., Guan, K., Nafziger, E., Chowdhary, G., Peng, B., Jin, Z., **Wang, S.**, and Wang, S-B. (2020) “Detecting In-Season Crop Nitrogen Stress of Corn for Field Trials Using UAV- and CubeSat-Based Multispectral Sensing”. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, <https://doi.org/10.1109/JSTARS.2019.2953489>

- [14] Yin, D., **Wang, S.**, and Ouyang, Y. (2020) “ViCTS: A Novel Network Partition Algorithm for Scalable Agent-Based Modeling of Mass Evacuation”. *Computers, Environment and Urban Systems*, <https://doi.org/10.1016/j.compenvurbsys.2019.101452>
- [15] Li, T., Gao, Y., and **Wang, S.** (2020) “ESCIP: An Expansion-based Spatial Clustering Method for Inhomogeneous Point Processes”. *Annals of the Association of American Geographers*, 110(1): 59–276, <https://doi.org/10.1080/24694452.2019.1625747>
- [16] Jiang, H., Hu, H., Zhong, R., Xu, J., Xu, J., Huang, J., **Wang, S.**, Ying, Y., Lin, T. (2019) “A Deep Learning Approach to Conflating Heterogeneous Geospatial Data for Corn Yield Estimation: A Case Study of the U.S. Corn Belt at the County Level”. *Global Change Biology*, <https://doi.org/10.1111/gcb.14885>
- [17] Bandaragoda, C., Castronova, A., Istanbuluoglu, E., Strauch, R., Phuong, J., Adams, J., Gasparini, N., Barnhart, K., Hutton, E., Hobley, D., Lyons, N., Tucker, G., Tarboton, D. G., Isaszak, R., and **Wang, S.** (2019) “Enabling Collaborative Numerical Modeling in Earth Sciences Using Knowledge Infrastructure”. *Environmental Modelling and Software*, <https://doi.org/10.1016/j.envsoft.2019.03.020>
- [18] Jeong, M-H. Sullivan, C.J., Gao, Y., and **Wang, S.** (2019) “Robust Abnormality Detection Methods for Spatial Search of Radioactive Materials”. *Transactions in GIS*, <https://doi.org/10.1111/tgis.12533>
- [19] Cai, Y., Guan, K., Lobell, D., Potgieter, A. B, **Wang, S.**, Peng, J., Xu, T., Asseng, S., Zhang, Y., You, L., and Peng, B. (2019) “Integrating Satellite and Climate Data to Predict Wheat Yield in Australia Using Machine Learning Approaches”. *Agricultural and Forest Meteorology*, 274: 144-159
- [20] Shook, E., Bowlick, F., Kemp, K., Ahlqvist, O., Carbajales, P., DiBiase, D., Kim, E., Lathrop, S., Ricker, B., Rickles, P., Rush, J., Swift, J., and **Wang, S.** (2019) “Cyber Literacy for GIScience: Toward Formalizing Geospatial Computing Education”. *The Professional Geographer*, 71(2): 221-238
- [21] Zhang, Z., Hu, H., Yin, D., Kashem, S., Li, R., Cai, H., Perkins, D., and **Wang, S.** (2019) “A CyberGIS-enabled Multi-criteria Spatial Decision Support System: A Case Study on Flood Emergency Management”. *International Journal of Digital Earth*, 12(11): 1364-1381
- [22] Yin, D., Liu, Y., Hu, H., Terstriep, J., Hong, X., Padmanabhan, A., and **Wang, S.** (2018) “CyberGIS-Jupyter for Reproducible and Scalable Geospatial Analytics”. *Concurrency and Computation: Practice and Experience*, <https://doi.org/10.1002/cpe.5040>
- [23] Hu, H., Yin, D., Liu, Y. Y., Terstriep, J., Hong, X., Wendel, J., and **Wang, S.** (2018) “TopoLens: Building a CyberGIS Community Data Service for Enhancing the Usability of High-resolution National Topographic Datasets”. *Concurrency and Computation: Practice and Experience*, DOI: 10.1002/cpe.4682

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- [65] Shook, E., Tang, W., and **Wang, S.** “A Parallel Computing Approach for Spatially Explicit Agent-Based Models”. *The Association of American Geographers 105th Annual Meeting*, March 22-27, 2009, Las Vegas, Nevada, USA
- [66] Tang, W., Bennett, D. A., and **Wang, S.** “Cyberinfrastructure-Enabled Agent-Based Modeling of Geospatial Systems”. *The Association of American Geographers 105th Annual Meeting*, March 22-27, 2009, Las Vegas, Nevada, USA
- [67] **Wang, S.**, Tang, W., Bennett, D. A., and Padmanabhan, A. “An Open Science Grid Approach to Understanding the Complexity of Coupled Human and Natural Systems”. *The 2009 Open Science Grid All Hands Meeting*, March 2-5, 2009, Baton Rouge, Louisiana, USA
- [68] **Wang S.** “Bridging Cyberinfrastructure and GIScience – A Holistic Approach”. *Cyberinfrastructure for GIScience: A Workshop in Conjunction with GIScience 2008*, September 23, 2008, Park City, Utah, USA
- [69] **Wang, S.** “GISolve – Next Generation of Geographic Information Systems: A Cyberinfrastructure Approach”. *The 3rd NSF TeraGrid Annual Conference*. June 9-13, 2008, Las Vegas, Nevada, USA
- [70] **Wang, S.** “Cyberinfrastructure-Based Geographic Information Systems”. *The Association of American Geographers 104th Annual Meeting*, April 15-19, 2008, Boston, Massachusetts, USA
- [71] Shook, E., Liu, Y., and **Wang, S.** “A Publish/Subscribe Model for Integration of Cyberinfrastructure-Enabled Geospatial Services”. *The Association of*

American Geographers 104th Annual Meeting, April 15-19, 2008, Boston, Massachusetts, USA

- [72] **Wang, S.**, Liu, Y., Wilkins-Diehr, N., and Martin, S. “SimpleGrid Toolkit: Enabling Efficient Learning and Development of TeraGrid Science Gateway”. *The 3rd International Workshop on Grid Computing Environments*, November 11-12, 2007, Reno, Nevada, USA
- [73] Shook, E. (The Best Doctoral Student Presentation), **Wang, S.**, Zhu, X-G., and Liu, Y. “Synthesizing Spatial-Temporal Data to Enable Geospatial Analysis of Biomass-Based Bioenergy”. *AAG Westlake Annual Meeting*, November 8-10, 2007, Urbana, Illinois, USA
- [74] Shook, E., **Wang, S.**, Briggs, R., Padmanabhan, A., and Hansen, T. 2007. “Modular Information Provider: A Grid-Independent Approach”. *The 2nd NSF TeraGrid Annual Conference*. June 4-8, 2007, Madison, Wisconsin, USA
- [75] **Wang, S.** 2007. “Developing GISolve as a TeraGrid GIScience Gateway for Geographic Information Analysis”. *The Association of American Geographers 103rd Annual Meeting*, April 17-21, 2007, San Francisco, California, USA
- [76] **Wang, S.** 2006. “GISolve – TeraGrid GIScience Gateway”. *The 2006 ACM/IEEE Conference on Supercomputing (SC/06)*, November 11-17, 2006, Tampa, Florida, USA
- [77] **Wang, S.**, Shook, E., Padmanabhan, A., Briggs, R., and Likarish, P. 2006. “Open Science Grid Troubleshooting”. *The 2006 ACM/IEEE Conference on Supercomputing (SC/06)*, November 11-17, 2006, Tampa, Florida, USA
- [78] He, W., **Wang, S.**, Yan, J., Cowles, M. W., Armstrong, M. P. 2006. “Using PLAPACK and MPICH-G2 to Grid-Enable Bayesian Geostatistical Models”. *The 1st NSF TeraGrid Annual Conference*. June 12-15, 2006, Indianapolis, Indiana, USA
- [79] **Wang, S.**, Briggs, R., Armstrong, M. P., Ni, J. 2006. “A Fast Two-Dimensional Inverse Distance Weighted Interpolation Algorithm Based on a Dynamic Assessment of Nearest-Neighbor Information”. *The Association of American Geographers 102nd Annual Meeting*, March 7-11, 2006, Chicago, Illinois, USA
- [80] **Wang, S.**, Armstrong, M. P., Ni, J., Liu, Y. 2005. “GISolve: A Grid-based Problem-Solving Environment for Computationally Intensive Geographic Information Analysis”. *The Association of American Geographers 101st Annual Meeting*, April 5-9, 2005, Denver, Colorado, USA
- [81] Liu, Y., and **Wang, S.** 2004. “Grid Analysis Environment – A User Portal (GAE-UP)”. *The CMS UIowa Tier-2 Workshop*, July 22, 2004, Iowa City, Iowa, USA

- [82] **Wang, S.**, Cowles, M. K., and Armstrong, M. P. 2004. “Grid-based Spatial Statistics Middleware: The Case of the $G_i^*(d)$ Statistic”. *The Association of American Geographers 100th Annual Meeting*, March 14-19, 2004, Philadelphia, Pennsylvania, USA
- [83] **Wang, S.** 2003. “Grid-based Geo-middleware”. *The Association of American Geographers 99th Annual Meeting*, March 3-8, 2003, New Orleans, Louisiana, USA
- [84] Knosp, B. M., **Wang, S.**, and Ni, J. 2002. “Grid-based Volume Rendering”. *The 2002 ACM/IEEE Conference on Supercomputing (SC/02)*, November 16-22, 2002, Baltimore, Maryland, USA
- [85] Bennett, D. A., Brands, E., **Wang, S.**, and Huang, L. 2002. “Spatial Decision Support Systems for Performance-Based Monitoring Strategies”. *The American Water Resource Association (AWRA) 2002 Annual Conference*, November 3-7, 2002, Philadelphia, Pennsylvania, USA
- [86] **Wang, S.**, Huang, L, and Bennett, D. A. 2002. “Portrayal of Water Quality in Agroecosystems”. *The American Water Resource Association (AWRA) 2002 Annual Conference*, November 3-7, 2002, Philadelphia, Pennsylvania, USA
- [87] **Wang, S.**, and Armstrong, M. P. 2002. “Exploring Ecosystem Dynamics Using Teleimmersive Collaborative Spatial Decision Making (CSDM) Systems and Remote Sensing”. *The Association of American Geographers 98th Annual Meeting*, March 19-23, 2002, Los Angeles, California, USA
- [88] **Wang, S.**, and Armstrong, M. P. 2001. “Development and Evaluation of a Teleimmersion Framework for Collaborative Spatial Decision Making”. *The Association of American Geographers 97th Annual Meeting* March 1-5, 2001, New York City, New York, USA
- [89] **Wang, S.**, and Armstrong, M. P. 2000. “Evaluation of Metapopulation Dynamics Using Virtual Reality Based Evolutionary Computational Methods”. *The Association of American Geographers 96th Annual Meeting*, April 4-8, 2000, Pittsburgh, Pennsylvania, USA

TEACHING EXPERIENCE

- 2020 (Fall) GIS Professional Seminar (Co-Instructor)
Department of Geography and Geographic Information Science, UIUC
- 2020 (Spring) Advanced Geographic Information Systems – CyberGIS (Co-Instructor)
Department of Geography and Geographic Information Science, UIUC
- 2019-2020 Online Course: Foundations of CyberGIS and Geospatial Data Science (Co-Developer)
Department of Geography and Geographic Information Science, UIUC

- 2019 (Fall) Spatial Computing, Modeling, and Simulation (Co-Instructor)
Department of Geography and Geographic Information Science, UIUC
- 2019 (Spring) Principles of Geographic Information Systems
Department of Geography and Geographic Information Science and Illinois Informatics Institute, UIUC
- 2016 (Fall) Principles of Geographic Information Systems
Department of Geography and Geographic Information Science and Illinois Informatics Institute, UIUC
- 2015 (Spring) Advanced Digital and Spatial Studies
Department of Geography and Geographic Information Science, UIUC
- 2013 (Fall) Principles of Geographic Information Systems
Department of Geography and Geographic Information Science and Illinois Informatics Institute, UIUC
- 2013 (June) eSilk Road GIScience Summer School (Invited Lecturer)
Chinese Academy of Sciences, Suzhou, Jiangsu, China
- 2012 (Fall) Geographic Information Science – Advanced Topics
Department of Geography and Geographic Information Science, UIUC
- 2011-12 Online Course: Introduction to Geographic Information Systems
Department of Geography and Geographic Information Science, UIUC
- 2011 (Fall) Introduction to Geographic Information Systems
Department of Geography and School of Earth, Society, and Environment, UIUC
- 2011 (Spring) Principles of Geographic Information Systems
Department of Geography and Illinois Informatics Institute, UIUC
- Introduction to Geographic Information Systems
Department of Geography and School of Earth, Society, and Environment, UIUC
- 2010 (Spring) Principles of Geographic Information Systems
Department of Geography and Illinois Informatics Institute, UIUC
- Introduction to Geographic Information Systems
Department of Geography and School of Earth, Society, and Environment, UIUC
- 2009 (Fall) Geographic Information Science – Advanced Topics
Department of Geography, UIUC
- 2009 (Spring) Principles of Geographic Information Systems
Department of Geography and Illinois Informatics Institute, UIUC
- Introduction to Geographic Information Systems
Department of Geography and School of Earth, Society, and Environment, UIUC

- 2008 (Spring) Introduction to Geographic Information Systems
Department of Geography and School of Earth, Society, and Environment,
UIUC
- 2007 (Fall) Advanced Geographic Information Systems
Department of Geography, UIUC
- 2007 (Spring) Principles of Geographic Information Systems
Department of Geography, the University of Iowa
- 2006 (Spring) Foundations of Geographic Information Systems
Department of Geography, the University of Iowa
- 2005 (Spring) Principles of Geographic Information Systems
Department of Geography, the University of Iowa
- 2002 (Fall) World Cities (Invited Lecturer)
Department of Geography, the University of Iowa
- Object-Oriented Programming Languages – C++ (Invited Lecturer)
Department of Computer Science, the University of Iowa
- Short Course: Grid Computing – Theories and Practices
Information Technology Services, the University of Iowa
- 2000 (Spring) Computational Grids and Their Applications
Programming Languages and Advanced Topics of C Language
Information Technology Services, the University of Iowa

INVITED KEYNOTE/LECTURE/SEMINAR

- [1] “Extreme Digital Transformation in Spatial Analysis and Modeling”. *The 8th Getis-Ord Lecture in Spatial Analysis*, the 60th Anniversary Meeting of the Western Regional Science Association (WRSa), February 23, 2021
- [2] “CyberGIS – Retrospect and Prospect”. *Harold & Florence Mayer Lecture, Department of Geography, University of Wisconsin-Milwaukee*, Milwaukee, Wisconsin, USA, March 6, 2020
- [3] “Geospatial Discovery and Innovation in the Era of Artificial Intelligence and CyberGIS”. *Borchert Lecture, the University of Minnesota*, Minneapolis, Minnesota, USA, November 13, 2019
- [4] “Integrating CyberGIS-Jupyter, SUMMA, and XSEDE to Advance HydroShare”. *NSF HydroShare All Hands Meeting*, Provo, Utah, USA, July 31, 2019
- [5] “NSF SI2-S2I2 Conceptualization: Geospatial Software Institute (GSI) – Toward a Sustainable Social and Technical Ecosystem for Geospatial-inspired Discovery and Innovation”. *NSF Workshop on Geospatial Software: Strategic Plan and Governance of GSI*, Annapolis, Maryland, USA, July 15, 2019

- [6] “Frontiers in CyberGIS and Geospatial Data Science”. *AAG-UCGIS Summer School on Reproducible Problem Solving with CyberGIS and Geospatial Data Science*, Urbana, Illinois, USA, July 8, 2019
- [7] “CyberGIS and Machine Intelligence for Transforming Geospatial Discovery and Innovation”. Keynote Address at the *EarthCube 2019 Annual Meeting*, Denver, Colorado, USA, June 13, 2019
- [8] “Geospatial Discovery and Innovation in the Era of CyberGIS and Machine Intelligence”. *Gerard Rushton Fellowship Lecture, Department of Geographical and Sustainability Sciences, the University of Iowa*, Iowa City, Iowa, USA, March 29, 2019
- [9] “Exploring the Frontiers of CyberGIS and Geospatial Data Science”. *Distinguished Lecture in Geospatial Data Science, University of Delaware*, Newark, Delaware, USA, March 15, 2019
- [10] “Geospatial Discovery and Innovation in the Era of Big Data, CyberGIS, and Machine Intelligence”. *Geographic and Atmospheric Sciences Colloquium, Northern Illinois University*, DeKalb, Illinois, USA, November 30, 2018
- [11] “Geospatial Discovery and Innovation in the Era of CyberGIS and Machine Intelligence”. *United Nations World Geospatial Information Congress*, Deqing, Zhejiang, China, November 19, 2018
- [12] “Next Generation GIS – A CyberGIS Perspective”. *Center for Geographic Analysis, Harvard University*, Boston, Massachusetts, USA, October 11, 2018
- [13] “CyberGIS for Geospatial Discovery and Innovation”. *School of Civil and Environmental Engineering, the University of New South Wales*, Sydney, Australia, August 31, 2018
- [14] “CyberGIS for Urban Discovery and Innovation”. *Illinois Center for Urban Resilience and Environmental Sustainability – Planning Workshop*, Champaign, Illinois, USA, August 20, 2018
- [15] “CyberGIS for Geospatial Discovery and Innovation”. *ESALO-LOG, University of São Paulo*, Piracicaba, Brazil, August 15, 2018
- [16] “HydroShare Advanced Computing Capability: CyberGIS-Jupyter, Virtual ROGER, and XSEDE”. *NSF HydroShare All Hands Meeting*, Shepherdstown, West Virginia, USA, August 1, 2018
- [17] “CyberGIS for Advancing Cyberinfrastructure Education and Workforce Development”. *The 2018 Practice and Experience in Advanced Research Computing (PEARC'18)*, Pittsburgh, Pennsylvania, USA, July 24, 2018
- [18] “NSF SI2-S2I2 Conceptualization: Geospatial Software Institute (GSI)”. *The 2018 Practice and Experience in Advanced Research Computing (PEARC'18)*, Pittsburgh, Pennsylvania, USA, July 24, 2018
- [19] “NSF SI2-S2I2 Conceptualization: Geospatial Software Institute (GSI) – Fostering a High-Performance and Sustainable Geospatial Software

- Ecosystem”. NSF Workshop on Geospatial Software: Geospatial Use Cases and Core Technical Capabilities, Chicago, Illinois, USA, July 16, 2018
- [20] “CyberGIS for Geospatial Discovery and Innovation”. USGS Center of Excellence for Geospatial Information Science (CEGIS) Annual All-Hands Meeting, Rolla, Missouri, USA, June 27, 2018
- [21] “Conceptualizing a Geospatial Software Institute: Towards a Geospatial Software Ecosystem”. The 21st AGILE International Conference on Geographic Information Science, Lund, Sweden, June 13, 2018
- [22] “NSF SI2-S2I2 Conceptualization: Geospatial Software Institute: Towards a National Geospatial Software Ecosystem”. 2018 NSF Software Infrastructure for Sustained Innovation (SI2) Principal Investigator Workshop, Washington, DC, USA, May 1, 2018
- [23] “Conceptualizing a National Geospatial Software Institute”. NSF Workshop on Geospatial Software: Connecting Big Data with Geospatial Discovery and Innovation, Los Angeles, California, USA, January 29, 2018
- [24] “Data Science – Capture and Analysis – Frontiers in CyberGIS and Geospatial Data Science”. Fall Meeting of the Board on Earth Sciences and Resources, the National Academies of Sciences, Engineering, and Medicine, Washington, DC, USA, November 13, 2017
- [25] “CyberGIS and Geospatial Data Science for Enabling Data-Intensive Sciences”. School of Earth Sciences, Zhejiang University, Hangzhou, Zhejiang, China, November 8, 2017
- [26] “CyberGIS and Spatial Data Science for Transforming Geospatial Discovery and Innovation”. Department of Earth Sciences, University of Southern California, Los Angeles, California, USA, September 26, 2017
- [27] “Frontiers in CyberGIS and Geospatial Data Science”. College of Geosciences, Texas A&M University, College Station, Texas, USA, June 20, 2017
- [28] “Open CyberGIS for Computation- and Data-Intensive Geospatial Discovery and Innovation”. USGS Center of Excellence for Geospatial Information Science (CEGIS) Annual All-Hands Meeting, Rolla, Missouri, USA, June 14, 2017
- [29] “From CyberGIS to Spatial Data Science”. Department of Land Surveying and Geo-Informatics Distinguished Lecture, The Hong Kong Polytechnic University, Hong Kong, China, May 31, 2017
- [30] “Urban and Regional Planning with CyberGIS”. Department of Urban and Regional Planning Faculty Seminar Series, UIUC, Champaign, Illinois, USA, March 9, 2017
- [31] “Synergistically Advancing CyberGIS and Geospatial Data Science”. Geospatial Forum, Center for Geospatial Analytics, North Carolina State University, Raleigh, North Carolina, USA, March 2, 2017

- [32] “CyberGIS: What It Is, and What It Can Do for Data-Intensive Farm Management”. USDA Data-Intensive Farm Management Annual Project Meeting, Cedar Rapids, Iowa, USA, February 4, 2017
- [33] “Advancement in Geospatial Science and Technology”. Symposium on National Geospatial Science and Technology Development, Kolkata, India, January 27, 2017
- [34] “CyberGIS Frontiers – A U.S. Perspective”. The First Indo-US CyberGIS Workshop, Hyderabad, India, January 25, 2017
- [35] “Digital Cartography in the Era of Big Data and CyberGIS”. Digital Cartography Summit, Geospatial World Forum 2017, Hyderabad, India, January 24, 2017
- [36] “CyberGIS and Geospatial Data Science”. Central South University, Changsha, Hunan, China, November 22, 2016
- [37] “Big Data Science and CyberGIS for Transforming Geospatial Discovery and Innovation”. Department of Geography Distinguished Lecture, The University of Tennessee, Knoxville, Tennessee, USA, November 15, 2016
- [38] “Frontiers in CyberGIS and Geospatial Big Data”. Symposium on Frontiers in Big Data, Urbana, Illinois, USA, September 23, 2016
- [39] “CyberGIS and Geospatial Data Science for Transforming Digital Discovery and Innovation”. Keynote Address at the 3rd International Conference on CyberGIS and Geospatial Data Science (CyberGIS’16), Urbana, Illinois, USA, July 27, 2016
- [40] “CyberGIS and Geospatial Data Science for Enabling Data-Intensive Farm Management”. The Climate Cooperation, St. Louis, Missouri, USA, July 14, 2016
- [41] “Open CyberGIS Capabilities for Geospatial Discovery and Innovation in the Era of Big Compute and Data”. USGS Center of Excellence for Geospatial Information Science (CEGIS) Annual All-Hands Meeting, Rolla, Missouri, USA, June 29, 2016
- [42] “Big Data, CyberGIS, and Geospatial Data Science”. Keynote Address at the 19th AGILE International Conference on Geographic Information Science, Helsinki, Finland, June 16, 2016
- [43] “Open CyberGIS for Integrated Food, Energy, and Water Research”. NSF Workshop on Innovative Cyberinfrastructure for Integrated Food, Energy, and Water Research, Scottsdale, Arizona, USA, May 22, 2016
- [44] “Open CyberGIS in the Era of Big Compute and Data – ROGER Update”. NSF ROGER User Meeting, Urbana, Illinois, USA, May 12, 2016
- [45] “CyberGIS for Empowering the National Water Model”. Conversation about the National Water Model, Water Science and Technology Board and Board on Earth Sciences and Resources, the National Academies of Sciences, Engineering, and Medicine, Washington, DC, USA, March 23, 2016

- [46] “CyberGIS and Geospatial Data Science”. Department of Computer Science Yahoo-DAIS Seminar, UIUC, Urbana, Illinois, USA, March 15, 2016
- [47] “CyberGIS for Fostering Digital Geospatial Ecosystems”. NSF HydroShare All Hands Meeting, Chapel Hill, North Carolina, USA, March 7, 2016
- [48] “CyberGIS and Big Data Science for Geospatial Discovery and Innovation”. Department of Civil and Environmental Engineering Distinguished Seminar Series, Northeastern University, Boston, Massachusetts, USA, March 1, 2016
- [49] “Open CyberGIS Software for Geospatial Research and Education in the Big Data Era”. Keynote Address at the 2016 NSF Software Infrastructure for Sustained Innovation (SI2) Principal Investigator Workshop, Washington, DC, USA, February 17, 2016
- [50] “Big Data, CyberGIS, and Geospatial Discovery”. TTU Center for Geospatial Technology and the Department of Geosciences, Texas Tech University, Lubbock, Texas, USA, February 2, 2016
- [51] “CyberGIS and Geospatial Big Data”. School of Software Technology, Dalian University of Technology, Dalian, Liaoning, China, January 13, 2016
- [52] “CyberGIS for Geospatial Problem Solving and Decision Making in the Era of Big Data”. Nanjing University of Information Science and Technology, Nanjing, Jiangsu, China, November 3, 2015
- [53] “State of CyberGIS”. The 2015 NSF CyberGIS Project All Hands Meeting, Reston, Virginia, USA, September 15, 2015
- [54] “Synergistically Advancing CyberGIS and HydroInformatics in the Era of Big Compute and Data”. Keynote Address at the 3rd CUAHSI Conference on Hydroinformatics, Tuscaloosa, Alabama, USA, July 15, 2015
- [55] “From CyberGIS to Geospatial Data Science”. Keynote Address at the 23rd International Conference on GeoInformatics, Wuhan, Hubei, China, June 19, 2015
- [56] “CyberGIS-Health”. Keynote Address at the International Geospatial Health Workshop on "Strengthening the International Geo-eco Global Health Research Collaborations: Challenges and Opportunities", Wuhan, Hubei, China, June 17, 2015
- [57] “CyberGIS Capabilities for the National Map”. USGS Center of Excellence for Geospatial Information Science (CEGIS) Annual All-Hands Meeting, Rolla, Missouri, June 10, 2015
- [58] “Geospatial Discovery and Innovation in the Era of Big Data and Compute”. NRC's Board on Earth Sciences and Resources (BESR) Spring Meeting, Washington, DC, USA, April 29, 2015
- [59] “CyberGIS for Data-Rich Geographic Research and Education”. Department of Geography Colloquium, San Diego State University, San Diego, California, USA, March 27, 2015

- [60] “CyberGIS Transformation of Geospatial Discovery and Innovation in the Era of Big Compute and Data”. *Lyles School of Civil Engineering Colloquium, Purdue University*, West Lafayette, Indiana, USA, March 4, 2015
- [61] “CyberGIS for Empowering Geospatial Discovery and Innovation in the Era of Big Compute and Data”. *Shi Jian Lecture, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences*, Beijing, China, February 9, 2015
- [62] “CyberGIS-Enabled Geospatial Revolution in the Big Data Era”. *Keynote Lecture of the Geospatial Sciences, Applications and Technology Center (GeoSAT), Texas A&M University*, College Station, Texas, USA, February 3, 2015
- [63] “CyberGIS for Empowering Geospatial Discovery and Innovation in the Big Data Era”. *Prairie Research Institute Seminar, UIUC*, Champaign, Illinois, USA, January 30, 2015
- [64] “CyberGIS Workflow for Collaborative, Interactive, and Scalable Knowledge Discovery”. *NSF XSEDE Workflow Community Webinar Series*, January 30, 2015
- [65] “CyberGIS for Data-Rich Geospatial Discovery and Innovation”. *Xiangshan Science Conference on Scientific Big Data*, Beijing, China, October 23, 2014
- [66] “Next-Generation Geospatial Discovery and Innovation”. *Center for Earth System Science, Tsinghua University*, Beijing, China, September 25, 2014
- [67] “State of CyberGIS”. *The 2nd International Conference on CyberGIS and Geodesign (CyberGIS’14)*, Redlands, California, USA, August 19, 2014
- [68] “Why CyberGIS on XSEDE? as part of the Tutorial on Why XSEDE?” *The 2014 Annual Conference of NSF XSEDE*, Atlanta, GA, USA, July 13, 2014
- [69] “CyberGIS and High-Performance Computing: Getting Married”. Keynote Address at the *9th International Workshop of Geographical Information Science*, Beijing, China, June 22, 2014
- [70] “CyberGIS for Data-Intensive Health Research”. Keynote Address at the *First International Workshop on Fostering International Geospatial Health Research Collaborations: Challenges and Opportunities*, Hong Kong, China, June 17, 2014
- [71] “CyberGIS @ Scale”. *The 11th Workshop of the INRIA-Illinois-ANL Joint Laboratory on Petascale Computing, Sophia Antipolis, France, June 10, 2014*
- [72] “Research Frontiers of GIScience – CyberGIS”. *Summer Symposium of the University Consortium for Geographic Information Science*, Pasadena, California, USA, May 19, 2014

- [73] “Geospatial Analytics @ Scale”. Workshop on High Performance Computing and Geospatial Analytics, Argonne National Laboratory, Illinois, USA, April 28-29, 2014
- [74] “Synergistically Advancing CyberGIS and Data-Intensive Sciences”. Department of Agricultural and Biological Engineering Seminar, UIUC, Champaign, Illinois, USA, February 28, 2014
- [75] “CyberGIS Gateway for Data-Rich Geospatial Research and Education”. Supercomputing 2013 – San Diego Supercomputer Center Booth, Denver, Colorado, USA, November 20, 2013
- [76] “Advances in the Mapping Sciences: Towards a Spatially Enabled Society (joint talk with Dr. Michael Goodchild)”. National Academy of Sciences Board on Earth Sciences and Resources 25th Anniversary Meeting: Examining Current and Future Earth Science Issues for the Nation, Washington DC, USA, November 18, 2013
- [77] “CyberGIS for Fostering Geospatial Discovery and Innovation”. Keynote Address at iGIScience Symposium, Urbana, IL, October 4, 2013
- [78] “CyberGIS Center for Advanced Digital and Spatial Studies”. The 2nd NSF Workshop on Sustainable Funding and Business Models for Academic Cyberinfrastructure Facilities, Washington DC, USA, October 2, 2013
- [79] “State of CyberGIS”. The 2013 NSF CyberGIS Project All Hands Meeting, Seattle, Washington, USA, September 16, 2013
- [80] “Data-Intensive Geospatial Analytics”. The 2nd Chinese-American-German E-Science and Cyberinfrastructure Workshop (CHANGES), Chicago, Illinois, USA, September 11, 2013
- [81] “A CyberGIS Environment for Near-Real-Time Spatial Analysis of Social Media Data”. NSF-CDI Specialist Meeting: Knowledge Discovery in Cyberspace and Big Data, San Diego, California, August 7, 2013
- [82] “CyberGIS for Enabling Data-Intensive Geospatial Research and Education”. Keynote Address at the 2013 CUAHSI Conference on Hydroinformatics and Modeling, Logan, Utah, USA, July 18, 2013
- [83] “CyberGIS for Data-Intensive Research and Education”. Keynote Address at the Second Open Forum on Research Opportunities and Challenges of Geographic Information Science, Shanghai, China, June 24, 2013
- [84] “CyberGIS for Fostering Geospatial Discovery and Innovation”. Environmental Science Seminar Series, Argonne National Laboratory, Argonne, Illinois, USA, June 12, 2013
- [85] “Scalable Geocomputation Science”. Keynote Address at the 12th International Conference on GeoComputation, Wuhan, Hubei, China, May 24, 2013

- [86] “A CyberGIS Research Agenda”. *Clyde Kohn Colloquium, Department of Geography, the University of Iowa*, Iowa City, Iowa, USA, April 26, 2013
- [87] “CyberGIS and the Future of Geographic Information Technologies”. *Graduate School of Library and Information Science, UIUC*, Urbana, Illinois, USA, April 19, 2013
- [88] “Exploring the Frontiers of CyberGIS”. *Jack and Laura Dangermond Endowed Chair Colloquium, Department of Geography, University of California, Santa Barbara*, Santa Barbara, California, USA, February 26, 2013
- [89] “Synergistically Advancing CyberGIS and Data-Intensive Computational Geography”. *Department of Geography and Institute for CyberScience, the Pennsylvania State University*, University Park, Pennsylvania, USA, February 18, 2013
- [90] “From Computational Geography to CyberGIS: The Geospatial Dimensions of Extreme Digital Transformation”. *Department of Geography, The Ohio State University*, Columbus, Ohio, USA, February 1, 2013
- [91] “Defining the Field of CyberGIS”. *Department of Geography, The University of Kansas*, Lawrence, Kansas, USA, November 30, 2012
- [92] “An Integration Vision and Roadmap for CyberGIS”. *Department of Geography, The University of Utah*, Salt Lake City, Utah, USA, November 15, 2012
- [93] “Toward Synergistic Advancement of Cyberinfrastructure and GIScience”. *Center for Research Computing, The University of Notre Dame*, Notre Dame, Indiana, USA, October 24, 2012
- [94] “A CyberGIS Roadmap for Tackling Big Data Challenges”. *Illinois Informatics Institute, UIUC*, Urbana, Illinois, USA, September 27, 2012
- [95] “State of CyberGIS”. *The 1st International Conference on Space, Time, and CyberGIS (CyberGIS’12)*, Urbana, Illinois, USA, August 8, 2012
- [96] “CyberGIS Vision for Empowering Computational and Spatial Thinking in the Age of Big Data”. *Department of Urban and Regional Planning, UIUC*, Champaign, Illinois, USA, April 5, 2012
- [97] “A CyberGIS Framework for Fostering a New Wave of Geospatial Discovery and Innovation”. *Illinois State Geological Survey*, Champaign, Illinois, USA, April 2, 2012
- [98] “State of CyberGIS”. *Oak Ridge National Laboratory*, Oak Ridge, Tennessee, USA, September 29, 2011
- [99] “CyberGIS for Empowering Geospatial Sciences”. *Purdue University*, West Lafayette, Indiana, USA, September 27, 2011

- [100] “CyberGIS for Advancing On-demand Geospatial Visual Analytics”. Keynote Address at *the 2nd American-Chinese CyberInfrastructure and E-Science workShop (ACCESS)*, Xi’an, Shaanxi, China, August 15, 2011
- [101] “NSF SI2: CyberGIS Software Integration for Sustained Geospatial Innovation”. *Summer Assembly of the University Consortium for Geographic Information Science*, Boulder, Colorado, USA, June 22, 2011
- [102] “CyberGIS in Action”. *George Mason University*, Washington, DC, USA, March 23, 2011
- [103] “A CyberGIS Approach to Transforming Access and Analysis of Geospatial Information”. *The Workshop on Sustainable Human Settlements with Instant and Ubiquitous Access Technologies*, Urbana, Illinois, USA, March 11, 2011
- [104] “A CyberGIS Framework for Synergistic Advancement of Cyberinfrastructure, GIS, and Geospatial Sciences”. *Hydro-Systems Colloquium Series, Department of Civil and Environmental Engineering, UIUC*, Urbana, Illinois, USA, January 21, 2011
- [105] “GIS Future – A Cyberinfrastructure Perspective”. *Wuhan University*, Wuhan, Hubei, China, December 23, 2010
- [106] “CyberGIS for Geospatial Discovery and Innovation”. *Advisory Board Meeting of the National University Community Research Institute (NUCRI)*, San Diego, California, USA, November 8, 2010
- [107] “CyberGIS and Public Health”. *Chinese Center for Disease Control and Prevention (CDC)*, Beijing, China, October 21, 2010
- [108] “TeraGrid Broader Impacts – A Perspective from Science Gateways”. *NSF Broader Impacts for Research and Discovery Summit*, Washington, DC, USA, June 21-23, 2010
- [109] “GISolve 2.0: Geospatial Problem-Solving Environment 2.0 Based on Synthesizing Cyberinfrastructure and Web 2.0”. *UK e-Science Institute*, Edinburgh, UK, May 11, 2010
- [110] “GIS and Spatial Studies in Cyberinfrastructure Age”. *The Institute for Computing in Humanities, Arts, and Social Science (I-CHASS)*, Urbana, Illinois, USA, November 11, 2009
- [111] “Advancing GIS and Geospatial Sciences through Cyberinfrastructure”. *The 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2009)*, Seattle, Washington, USA, November 5, 2009
- [112] “Bridging Data Divides to Enable Global Geospatial Sciences – A Cyberinfrastructure Approach”. *The National Academy of Sciences 3rd China-U.S. Roundtable on Scientific Data Cooperation*, Qingdao, Shandong, China, March 23, 2009

- [113] “GIS: From Desktop and Internet to Cyberinfrastructure”. *The High-Performance Computing in the Humanities, Arts, and Social Science Workshop*, Urbana, Illinois, USA, July 31, 2008
- [114] “GIS, Cartography, and Geovisualization”. *The High-Performance Computing in the Humanities, Arts, and Social Science Workshop*, Urbana, Illinois, USA, July 31, 2008
- [115] “Next Generation of Geographic Information Systems – A Cyberinfrastructure Perspective”. *Peking University*, Beijing, China, January 7, 2009
- [116] “Cyberinfrastructure-Based Geographic Information Systems”. *The Institute of System Science, Chinese Academy of Sciences*, Beijing, China, December, 31, 2008
- [117] “Next Generation of Geographic Information Systems – A Cyberinfrastructure Perspective”. *Illinois State Water Survey*, Champaign, Illinois, USA, April 4, 2008
- [118] “Logging and Troubleshooting – An Open Science Grid Perspective”. *Open Science Grid All Hands Meeting*, Raleigh, North Carolina, USA, March 3, 2008
- [119] “Bridging Cyberinfrastructure and GIScience – A Holistic Approach”. *University Consortium for Geographic Information Science (UCGIS) Federal Agency and Department Briefing*, Washington, DC, USA, February 7, 2008
- [120] “GISolve: An Integrated e-Science Workbench for Geospatial Data Management and Problem Solving”. *The Computer Network Information Center, Chinese Academy of Sciences*, Beijing, China, December 20, 2007
- [121] “Cyberinfrastructure-based Geographic Information Systems”. *Tsinghua University*, Beijing, China, December 19, 2007
- [122] “Grid Interoperability”. *International ICFA Workshop on High-Energy Physics Networking, Grid and Digital Divide Issues for Global e-Science*, Mexico City, Mexico, October 26, 2007
- [123] “GISolve – TeraGrid GIScience Gateway”. *NSF Briefing*, Washington, DC, USA, May 24, 2007
- [124] “Grid Information Services – The State of the Art”. *The Open Science Grid Consortium Meeting*, Seattle, Washington, USA, August 23, 2006
- [125] “TeraGrid GIScience Gateway”. *The 1st NSF TeraGrid Annual Conference*, Indianapolis, Indiana, USA, June 12, 2006
- [126] “Using GISolve and GridShell to Demonstrate the Interoperability between The Open Science Grid and NSF TeraGrid”. *The Argonne National Laboratory Booth at the SC/05 Conference*, Seattle, Washington, USA, November 15, 2005

- [127] “Interoperability of The LHC Computing Grid and Open Science Grid”. *Fermi National Accelerator Laboratory Booth at the SC/05 Conference*, Seattle, Washington, USA, November 14, 2005
- [128] “Information Services Interoperability”. *The Open Science Grid Blueprint Meeting*, Buffalo, New York, USA, August 29, 2005
- [129] “Grid Computing – An Enabler for Computational Science Research and Education: Experience at the University of Iowa”. *Texas Advanced Computing Center Lecture Series*, the University of Texas at Austin, Austin, Texas, USA, May 23, 2005
- [130] “Building Shared Cyberinfrastructure through a Data Grid Approach”. *IHR – Hydro-science and Engineering Seminar Series*, the University of Iowa, Iowa City, Iowa, USA, October 23, 2004
- [131] “Building Collaborative Environments for Grid-Based Large Hadron Collider Data Analysis – Efforts at the University of Iowa”. *Workshop on Large Hadron Collider (LHC) Global Science – Developing Plans for Building the Environment for a Global Collaborative Science Community*, Lawrence Berkeley National Laboratory, Berkeley, California, USA, November 12, 2002

PROFESSIONAL SERVICES

ADVISORY

- 2020-22 **Member**
International Advisory Committee of the Smart Cities Research Institute (SCRI), The Hong Kong Polytechnic University
- 2019-20 **Member**
Steering Committee of the NSF Workshop on Future Directions for Cyberinfrastructure for Sustained Scientific Innovation (CSSI)
- 2019 **Member**
Advisory Board of the Location Powers: Data Science Summit at Google
- 2018-23 **Member**
Advisory Board of the NSF Project: Extensible Geospatial Data Framework towards FAIR (Findable, Accessible, Interoperable, Reusable) Science
- 2018-22 **Member**
Advisory Committee of the NSF Project: A Robust and Reliable Resource for Accessing, Sharing, and Analyzing Confidential Geospatial Research Data
- 2016-20 **Member**
External Advisory Board of the NSF ORIGIN (Origin Inference from Geospatial Isotope Networks) Project
- 2015-20 **Member**
Board on Earth Sciences and Resources, the U.S. National Academies of Sciences, Engineering, and Medicine

- 2014-19 **Member**
Steering Committee of the NSF Global Initiative to Enhance Collaborative Computing and Analysis Tools
- 2016-18 **Member**
NSF XSEDE Advisory Board
- 2016-17 **Member**
External Advisory Board of the Center for Robust Decision Making on Climate and Energy Policy, the University of Chicago
- 2015-16 **Member**
Committee on Models of the World, the U.S. National Academies
- 2015-16 **Member**
Advisory Board of the UCGIS Research Challenge Initiative
- 2015 **Member**
NSF Site Visit Team of Advanced Cyberinfrastructure Division and Directorate for Engineering
- 2015 **Member**
Advisory Board of the Center for Geospatial Sciences, Applications and Technology at Texas A&M University
- 2014 **Member**
External Advisory Committee of the Oak Ridge National Laboratory's Computing and Computational Sciences Directorate
- 2013 **Member**
Advisory Committee of the NSF CI-Water Project

CONFERENCES AND WORKSHOPS

- 2021 **Program Committee Member**
The 16th International Conference on GeoComputation (GeoComputation 2021), October 6 – 8, 2021, Virtual
- 2021 **Program Committee Member**
The 11th International Conference on Geographic Information Science, September 27 – 30, 2011, Poznań, Poland
- 2019 **Chair**
NSF Workshop on Conceptualizing a Geospatial Software Institute: Strategic Plan and Governance, July 14 – 16, 2019, Annapolis, Maryland, USA
- 2019 **Co-Organizer**
AAG-UCGIS Summer School on Reproducible Problem Solving with CyberGIS and Geospatial Data Science, July 8 – 13, 2019, Urbana, Illinois, USA
- 2019 **Co-Chair**
Symposium on Frontiers in Geospatial Data Science, the American Association of Geographers Annual Meeting, April 3 – 7, 2019, Washington, DC, USA

- 2018 **Co-Organizer**
GIS Day, November 14, 2018, Urbana, Illinois, USA
- 2018 **Co-Chair**
Workshop on Spatial Big Data and Machine Learning in GIScience at the 10th International Conference on Geographic Information Science, August 28, 2018, Melbourne, Australia
- 2018 **Program Committee Member**
The 10th International Conference on Geographic Information Science, August 28 – 31, 2018, Montreal, Canada
- 2018 **Chair**
NSF Workshop on Conceptualizing a Geospatial Software Institute: Geospatial Use Cases and Core Technical Capabilities, July 15 – 17, 2018, Chicago, Illinois, USA
- 2018 **Co-Organizer**
Symposium on CyberGIS and Spatial Data Science, the American Association of Geographers Annual Meeting, April 10 – 11, 2018, New Orleans, Louisiana, USA
- 2018 **Co-Organizer**
Symposium on New Horizons in Human Dynamics Research: Smart Cities and Urban Computing, the American Association of Geographers Annual Meeting, April 10, 2018, New Orleans, Louisiana, USA
- 2018 **Chair**
NSF Workshop on Conceptualizing a Geospatial Software Institute: Connecting Big Data with Geospatial Discovery and Innovation, January 28 – 30, 2018, Los Angeles, California, USA
- 2017 **Chair**
UCGIS Summer School on Collaborative Problem Solving with CyberGIS and Geospatial Data Science, May 15 – 20, 2017, Urbana, Illinois, USA
- 2017 **Co-Chair**
NSF Symposium on Agent-Based Models in the Social, Human-Environment, and Life Sciences (ABM 2017), April 20 – 22, 2017, San Diego, California, USA
- 2017 **Co-Organizer**
Symposium on Human Dynamics in Smart and Connected Communities: Smart Cities and Urban Computing, the American Association of Geographers Annual Meeting, April 5 – 6, 2017, Boston, Massachusetts, USA
- 2017 **Co-Organizer and Discussant**
Panel Session: CyberGIS Reflections from the Past and Projections for the Future, the American Association of Geographers Annual Meeting, April 5, 2017, Boston, Massachusetts, USA
- 2016 **Program Committee Member**
The 9th International Conference on Geographic Information Science, September 27 – 30, 2016, Montreal, Canada

- 2016 **Program Committee Member**
Workshop on Rethinking the *ABCs: Agent-Based Models and Complexity Science in the Age of Big Data, CyberGIS, and Sensor Networks*, September 27, 2016, Montreal, Canada
- 2016 **Chair**
The 3rd International Conference on CyberGIS and Geospatial Data Science (CyberGIS'16), July 26 – 28, 2016, Urbana, Illinois, USA
- 2016 **Chair**
NSF Workshop on Geospatial Data Science in the Era of Big Data and CyberGIS, July 25 – 26, 2016, Urbana, Illinois, USA
- 2016 **Co-Chair**
NSF Workshop on Innovative Cyberinfrastructure for Integrated Food, Energy, and Water Research, May 22 – 23, 2016, Scottsdale, Arizona, USA
- 2016 **Chair**
NSF CyberGIS Curriculum Workshop for Synthesizing Education Materials, April 2 – 3, 2016, San Francisco, California, USA
- 2016 **Organizer**
Paper Session: Smart City and Urban Research Frontiers of the Symposium on Human Dynamics Research, the Association of American Geographers 112nd Annual Meeting, March 29 – April 2, 2016, San Francisco, California, USA
- 2016 **Organizer**
Paper Session: Fusion of Geospatial Big Data, *the Association of American Geographers 112nd Annual Meeting*, March 29 – April 2, 2016, San Francisco, California, USA
- 2015 **Chair**
The 2015 NSF CyberGIS Project All Hands Meeting, September 14 – 16, 2015, Reston, Virginia, USA
- 2015 **Chair**
CyberGIS Day, August 27, 2015, Urbana, Illinois, USA
- 2015 **International Steering Committee Member**
The 23rd International Conference on GeoInformatics, June 19 – 21, 2015, Wuhan, Hubei, China
- 2015 **Scientific Advisory Committee Member**
The 13th International Conference on GeoComputation (GeoComputation 2015), May 20 – 23, 2015, Dallas, Texas, USA
- 2015 **Chair**
Symposium on CyberGIS for Fostering New Frontiers of Geographic Research and Education, the Association of American Geographers 111st Annual Meeting, April 21 – 25, 2015, Chicago, Illinois, USA

- 2014 **Co-Organizer**
Session on Computational Intelligence in Earth and Space Science, 2014 American Geophysical Union (AGU) Fall Meeting, December 15 – 19, San Francisco, California, USA
- 2014 **Program Committee Member**
The 7th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN) 2014, November 4, 2014, Dallas, Texas, USA
- 2014 **Program Committee Member**
The 8th International Conference on Geographic Information Science, September 23 – 26, 2014, Vienna, Austria
- 2014 **Program Committee Member**
The 3rd Chinese-American-German E-Science and Cyberinfrastructure Workshop (CHANGES), September 10 – 12, 2014, Beijing, China
- 2014 **Chair**
The 2nd International Conference on CyberGIS and Geodesign (CyberGIS'14), August 19 – 21, 2014, Redlands, California, USA
- 2014 **Program Committee Member**
NSF Workshop on Big Data and Urban Informatics, August 11 – 12, 2014, Chicago, Illinois, USA
- 2014 **Program Chair**
The 22nd International Conference on GeoInformatics, June 25 – 27, 2014, Kaohsiung, Taiwan
- 2014 **Chair**
Data @ Scale Theme, NSF Blue Waters Symposium on Petascale Science and Beyond, May 12 – 15, 2014, Champaign, Illinois, USA
- 2014 **Co-Organizer**
Workshop on High Performance Computing and Geospatial Analytics, April 28 – 29, 2014, Argonne National Laboratory, Illinois, USA
- 2014 **Chair**
Symposium on Synergistic Advances of CyberGIS and Geography, the Association of American Geographers 110th Annual Meeting, April 8 – 12, 2014, Tampa, Florida, USA
- 2013 **Program Committee Member**
The IEEE 9th International Conference on E-Science (e-Science), October 22 – 25, 2013, Beijing, China
- 2013 **Program Committee Member**
The IEEE International Conference on Big Data 2013 (IEEE BigData 2013), October 6 – 9, 2013, Silicon Valley, California, USA
- 2013 **Program Committee Member**
The 2nd Chinese-American-German E-Science and Cyberinfrastructure Workshop (CHANGES), September 10 – 12, 2013, Chicago, Illinois, USA

- 2013 **Co-Chair**
The 2013 NSF CyberGIS Project All Hands Meeting, September 15 – 17, 2013, Seattle, Washington, USA
- 2013 **Program Committee Member**
The 21st International Conference on GeoInformatics, June 20 – 22, 2013, Kaifeng, Henan, China
- 2013 **Program Committee Member**
The 12th International Conference on GeoComputation (GeoComputation 2013), May 23 – 25, 2013, Wuhan, Hubei, China
- 2013 **Chair and Organizer**
CyberGIS Symposium, the Association of American Geographers 109th Annual Meeting, April 9 – 13, 2013, Los Angeles, California, USA
- 2012 **Program Committee Member**
The 7th International Conference on Geographic Information Science, September 19 – 21, 2012, Columbus, Ohio, USA
- 2012 **Program Committee Member**
The 1st Chinese-American-German E-Science and Cyberinfrastructure Workshop (CHANGES), September 3 – 5, 2012, Jülich, Germany
- 2012 **Chair**
The 1st International Conference on Space, Time, and CyberGIS (CyberGIS'12), August 6 – 9, 2012, Urbana, Illinois, USA
- 2012 **Chair**
The Student Paper Competition of the 20th International Conference on GeoInformatics, June 15 – 17, 2012, Hong Kong, China
- 2012 **Program Committee Member**
The 8th IEEE International Conference on E-Science, October 8 – 12, 2012, Chicago, Illinois, USA
- 2012 **Chair and Organizer**
Six paper/panel sessions related to CyberGIS, the Association of American Geographers 108th Annual Meeting, February 24 – 28, 2012, New York City, New York, USA
- 2011 **General Chair**
The 2nd ACM SIGSPATIAL International Workshop on High Performance and Distributed Geographic Information Systems (HPDGIS 2011), November 1, 2011, Chicago, Illinois, USA
- 2011 **Program Committee Member**
The 19th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2011), November 1 – 4, 2011, Chicago, Illinois, USA

- 2011 **Program Co-Chair**
The 3rd American-Chinese CyberInfrastructure and E-Science workShop (ACCESS), August 15 – 17, 2011, Xi'an, Shaanxi, China
- 2011 **Chair**
The Student Paper Competition of the 19th International Conference on GeoInformatics, June 24 – 26, 2011, Shanghai, China
- 2011 **Chair and Organizer**
The Panel Session on Agency Perspectives on CyberGIS, the Association of American Geographers 107th Annual Meeting, April 12 – 16, 2011, Seattle, Washington, USA
- 2011 **Chair and Organizer**
The Panel Session on CyberGIS Research Agenda, the Association of American Geographers 107th Annual Meeting, April 12 – 16, 2011, Seattle, Washington, USA
- 2011 **Chair and Organizer**
The Panel Session on CyberGIS Trends, the Association of American Geographers 107th Annual Meeting, April 12 – 16, 2011, Seattle, Washington, USA
- 2011 **Co-Organizer**
The Workshop on Sustainable Human Settlements with Instant and Ubiquitous Access Technologies, March 11, 2011, Urbana, Illinois, USA
- 2011 **Co-Chair**
The NSF CyberGIS Requirements Workshop on Emergency Management, February 1 – 2, 2011, Washington, DC, USA
- 2010 **General Chair**
The 1st ACM SIGSPATIAL International Workshop on High Performance and Distributed Geographic Information Systems (HPDGIS 2010), November 2, 2010, San Jose, California, USA
- 2010 **Program Committee Member**
The 18th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2010), November 2 – 5, 2010, San Jose, California, USA
- 2010 **Program Co-Chair**
The 2nd American-Chinese CyberInfrastructure and E-Science workShop (ACCESS), August 10 – 12, 2010, Urbana, Illinois, USA
- 2010 **Chair**
The Session on High Performance Computing for Geographic Sciences, the Association of American Geographers 106th Annual Meeting, April 14 – 18, 2010, Washington, DC, USA
- 2010 **Chair**
NSF Workshop on Cyber-GIS, February 1 – 3, 2010, Washington, DC, USA

- 2009 **Program Committee Member**
The 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2009), November 4 – 6, 2009, Seattle, Washington, USA
- 2009 **Program Co-Chair**
The 1st American-Chinese CyberInfrastructure and E-Science workShop (ACCESS), September 7 – 9, 2009, Beijing, China
- 2009 **Funding Agency Liaison**
The 4th NSF TeraGrid Annual Conference, June 22 – 25, 2009, Arlington, Virginia, USA
- 2009 **Co-Chair**
The Session on High Performance Computing for Geospatial Science, the Association of American Geographers 105th Annual Meeting, March 22 – 27, 2009, Las Vegas, Nevada, USA
- 2008 **Program Committee Member**
The 4th International Workshop on Grid Computing Environments, November 16, 2008, Austin, Texas, USA
- 2008 **Chair**
The Cyberinfrastructure-Computational Session, the Association of American Geographers 104th Annual Meeting, April 15 – 19, 2008, Boston, Massachusetts, USA
- 2008 **Program Committee Member**
The 6th ACM/IEEE International Workshop on Challenges of Large Applications in Distributed Environments (CLADE 2008), June 23, 2008, Boston, Massachusetts, USA
- 2007 **Program Committee Member**
The 3rd International Workshop on Grid Computing Environments, November 11 – 12, 2007, Reno, Nevada, USA
- 2007 **Program Committee Member**
The Open Science Grid Consortium All Hands Meeting, March 5 – 7, 2007, San Diego, California, USA
- 2006 **Program Committee Member**
The 2nd International Workshop on Grid Computing Environments, November 12 – 13, 2006, Tampa, Florida, USA
- 2006 **Chair**
The 1st Open Science Grid Information Services Workshop, August 23, 2006, Seattle, Washington, USA
- 2006 **Planning Committee Member**
Pathway to SC|07 – The 1st Workshop on Computational Science Education Program within Supercomputing Conferences, July 27 – 31, 2006, Argonne National Laboratory, Chicago, Illinois, USA

- 2005 **Program Committee Member**
The 4th International Workshop on Grid and Cooperative Computing,
November 30 – December 3, 2005, Beijing, China
- 2005 **Moderator**
Paper Session on Representing Knowledge and Reasoning, Geocomputation
2005, August 1 – 3, 2005, Ann Arbor, Michigan, USA
- 2004 **Program Committee Member**
The 2004 International Conference on Parallel and Distributed Processing
Techniques and Applications (PDPTA'04), June 21 – 24, 2004, Las Vegas,
Nevada, USA
- 2003 **Program Committee Member**
The 2nd International Workshop on Grid and Cooperative Computing,
December 7 – 10, 2003, Shanghai, China

EXTERNAL REVIEWER FOR PROMOTION AND TENURE

- Arizona State University
- Brigham Young University
- George Mason University
- Kent State University
- National University of Singapore
- New Jersey Institute of Technology
- North Carolina State University
- Purdue University
- Stony Brook University
- Texas A&M University
- The City University of New York
- University at Buffalo, the State University of New York
- University of California, Merced
- University of Connecticut
- University of Denver
- University of Kansas
- University of Michigan
- University of Minnesota
- University of New Mexico
- University of South Carolina

- University of Texas at Austin
- University of Wisconsin – Milwaukee

JOURNAL EDITORIAL SERVICES

- 2012-present **Editorial Board Member**
International Journal of Geographical Information Science (Taylor & Francis)
- 2012-present **Editorial Board Member**
Transactions in GIS (Wiley)
- 2011-present **Action Editor**
GeoInformatica (Springer)
- 2015-17 **Associate Editor**
SoftwareX (Elsevier)
- 2014-17 **Editorial Board Member**
Annals of the Association of American Geographers (Routledge)
- 2011-13 **Guest Editor**
International Journal of Geographical Information Science (Taylor & Francis)
- 2011 **Guest Editor**
Conservation Biology (Wiley)
- 2009-11 **Co-Organizer** (with Dawn J. Wright)
Special Feature on Spatial Cyberinfrastructure, Proceedings of the National Academy of Sciences

JOURNAL REVIEWER

- Annals of the Association of American Geographers, Routledge
- Computers, Environment, and Urban Systems, Elsevier
- Computers and Geosciences, Elsevier
- Concurrency and Computation: Practice and Experience, Wiley
- Environmental Modeling and Software, Elsevier
- Future Generation Computer Systems, Elsevier
- Geographical Analysis, Wiley-Blackwell
- GeoInformatica, Springer
- Harvard Data Science Review
- IEEE Transactions on Geoscience and Remote Sensing, IEEE Geoscience and Remote Sensing Society
- International Journal of Digital Earth, Taylor & Francis
- International Journal of Disaster Risk Reduction, Elsevier
- International Journal of Geographical Information Science, Taylor & Francis
- Internet Computing, IEEE Computer Society
- Journal of Urban and Regional Information Systems Association, URISA
- Nature
- Proceedings of the National Academy of Sciences, National Academy of Sciences

- Progress in Physical Geography, SAGE
- Remote Sensing of Environment, Elsevier
- SoftwareX, Elsevier
- The Geographical Journal (Royal Geographical Society), Wiley
- The Journal of Supercomputing, Springer
- Transactions in GIS, Wiley

PROPOSAL PANELIST AND REVIEWER

- 2020-21 Department of Education
- 2008-present DOE
- 2007-present NSF
- 2007-09 NSF Supercomputing Allocation Board Member

SERVICE TO PROFESSIONAL ORGANIZATIONS

- 2015-17 UCGIS President-Elect (2015-16) and President (2016-17)
- 2014-15 Board Chair of the International Association of Chinese Professionals in Geographic Information Science (CPGIS)
- 2012-14 CPGIS President-Elect (2012-13) and President (2013-14)
- 2009-11 The Open Science Grid Consortium Councilor
- 2009-11 AAG CyberInfrastructure Specialty Group (CISG) Chair-Elect (2009-10) and Chair (2010-11)
- 2009-12 UCGIS Board of Directors
- 2008-09 AAG CISG Board of Directors
- 2006-07 The Open Science Grid Consortium Councilor

UNIVERSITY INTERNAL SERVICES

- 2020-21 **Member**
Task Force on Tuition Revenue Sharing Programs, College of Liberal Arts and Sciences, UIUC
- 2014-present **Member**
Advisory Committee for the Cline Center for Democracy, UIUC
- 2007-present **Lead Delegate**
University Consortium for Geographic Information Science, UIUC
- 2008-20 **Lead**
Spatial Informatics Track, Illinois Informatics Institute, UIUC
- 2016-17 **Chair**
Search Committee for an Assistant/Associate Professor Position in Remote Sensing, Department of Geography and Geographic Information Science, UIUC

- 2016 **Member**
Review committee for campus proposals responding to the NSF Partnerships for International Research and Education (PIRE) Program, UIUC
- 2015-16 **Member**
Promotion and Tenure Mentoring Committee for Tenure-Track Assistant Professor Rebecca Smith, Department of Pathobiology, College of Veterinary Medicine, UIUC
- 2015 **Member**
Review committee for campus proposals responding to the NSF Major Research Instrumentation Program, UIUC
- 2014-17 **Member**
Committee for Research and Education at NCSA (CREN), UIUC
- 2014 **Member**
Campus Task Force for Agricultural Big Data, UIUC
- 2013-14 **Chair**
Committee for Evaluating the 5-year Performance of the Department Head of Plant Biology, UIUC
- 2013-14 **Member**
Search Committee for an Assistant Professor Position, Department of Atmospheric Sciences, UIUC
- 2012-17 **Member**
Allocation Committee of the NSF Blue Waters Supercomputer, UIUC
- 2012-16 **Chair**
Promotion and Tenure Mentoring Committee for Tenure-Track Assistant Professor Jonathan Greenberg, Department of Geography and Geographic Information Science, UIUC
- 2012-15 **Member**
Information Technology Governance – Research Computing Committee, UIUC
- 2012-14 **Member**
Department Head Advisory Committee, Department of Geography and Geographic Information Science, UIUC
- 2012-14 **Member**
Courses and Curricula Committee, College of Liberal Arts and Sciences, UIUC
- 2012-13 **Member**
Search Committee for the Director of the National Center for Supercomputing Applications, UIUC
- 2011 **Invited Participant**
Chancellor’s Visioning Illinois’ Retreat, December 14, 2011, UIUC

- 2011 **Chair**
Search Committee for a Lecturer Position in GIScience, Department of Geography, UIUC
- 2010-12 **Advisor**
Campus GIS Student Group, Illinois Informatics Institute, UIUC
- 2010-11 **Member**
Search Committee for an Assistant Professor Position in GIScience, Department of Geography, UIUC
- 2008-16 **Member**
Advisory Committee of the Institute for Computing in Humanities, Arts, and Social Science (I-CHASS), UIUC
- 2008-15 **Member**
Graduate Program Committee, Department of Geography, UIUC
- 2008-15 **Chair**
GIScience Program Committee, Department of Geography, UIUC
- 2008-13 **Member**
Advisory Committee of ESRI-GIS Development Center, UIUC
- 2008 **Member**
Search Committee for a Tenure-Track Assistant Professor Position in GIScience, Department of Geography, UIUC
- 2005-07 **Delegate**
The University of Iowa, the Coalition for Academic Scientific Computation

GRADUATE STUDENTS AND POSTDOCTORAL SCHOLARS ADVISED

POSTDOC

- 2021-present Dr. Furqan Baig (UIUC)
- 2019-present Dr. Shaohua Wang (UIUC)
- 2020 Dr. Su Yeon Han (UIUC), currently Teaching Assistant Professor at UIUC
- 2018-2020 Dr. Jeon-Young Kang (UIUC), currently Assistant Professor of Geography at Gongju National University
- 2018 Dr. Haozhi Pan (UIUC), co-advised with Dr. Brian Deal, currently Assistant Professor in the School of Design at Shanghai Jiao Tong University
- 2017-18 Dr. Mengyu Guo (UIUC), currently Research Scientist at Tsinghua University
- 2017-18 Dr. Zhe Zhang (UIUC), currently Assistant Professor of Geography at the Texas A&M University

- 2016-17 Dr. Bin Peng (UIUC), co-advised with Dr. Kaiyu Guan, currently Postdoctoral Research Associate at NCSA
- 2015-17 Dr. Aiman Soliman (UIUC), co-advised with Dr. Brian F. Allan, currently Research Scientist at NCSA
- 2014-16 Dr. Myeonghun Jeong (UIUC), currently Assistant Professor of Civil Engineering at Chosun University
- 2015-16 Dr. Ahmet A. Yildirim (UIUC), currently Senior Technical Staff at Oracle
- 2014-16 Dr. Junjun Yin (UIUC), currently Assistant Research Professor at the Pennsylvania State University
- 2013-16 Dr. Tao Lin (UIUC), co-advised with Dr. Luis F. Rodríguez, currently Assistant Professor in the College of Biosystems Engineering and Food Science at Zhejiang University
- 2015-16 Dr. Liujun Li (UIUC), co-advised with Dr. Lei Tian, currently Postdoctoral Research Associate at the Bio-Sensing and Instrumentation Laboratory at the University of Georgia
- 2014-15 Dr. Jing Gao (UIUC), currently Assistant Professor of Geospatial Data Science at the University of Delaware
- 2013-14 Dr. Myunghwa Hwang (UIUC), Associate Research Fellow, Korea Research Institute for Human Settlements
- 2011-13 Dr. Guofeng Cao (UIUC), currently Assistant Professor of Geography at the University of Colorado Boulder
- 2011-12 Dr. Kai Cao (UIUC), currently Assistant Professor of Information Systems at the Singapore Management University
- 2011-12 Dr. Liang Yu (UIUC), co-advised with Dr. Yong Liu, currently Senior Algorithm Advisor at Alibaba
- 2008-09 Dr. Wenwu Tang (UIUC), currently Associate Professor of Geography and Earth Sciences at the University of North Carolina at Charlotte
- 2006-07 Dr. Anand Padmanabhan (the University of Iowa), currently Research Associate Professor at UIUC

GRADUATE COMMITTEE CHAIR OR CO-CHAIR

- 2019-present Weiye Chen, M.S. student in geography and geographic information science (GIS), UIUC
- 2019-present Nattapon Jaroenchai, Ph.D. student in geography and GIS, UIUC
- 2019-present Benjamin T. Liebersohn, Ph.D. student in geography and GIS, UIUC
- 2019-present Alexander Michels, Ph.D. student in informatics, UIUC
- 2019-present Bin Su, M.S. student in geography and GIS, UIUC

- 2018-present Fangzheng Lu, Ph.D. student in geography and GIS, UIUC
- 2017-present Rebecca Vandewalle, Ph.D. student in geography and GIS, UIUC
- 2015-present Austin Davis, Ph.D. student in geography and GIS, UIUC
- 2016-20 Zewei Xu (currently Data Scientist at Microsoft), Ph.D. in geography and GIS, UIUC
- 2014-19 Yaping Cai (currently Postdoctoral Research Associate at UIUC), Ph.D. in geography and GIS, UIUC
- 2014-19 Dandong Yin (currently Software Engineer at Google, First Prize in Robert Raskin Student Competition 2018 at the American Association of Geographers Annual Meeting), Ph.D. in geography and GIS, UIUC
- 2012-18 Kiumars Soltani (currently Software Engineer at Verkada), Ph.D. in informatics, UIUC
- 2012-18 Yizhao Gao (currently Software Engineer at Google), Ph.D. in geography and GIS, UIUC
- 2012-18 Hao Hu (currently Software Engineer at Facebook), Ph.D. in geography and GIS, UIUC
- 2015-18 Ting Li (currently GIS Engineer at One Concern), M.S. in geography and GIS, UIUC
- 2013-17 Yan Liu (currently Computational Scientist at the Oak Ridge National Laboratory), Ph.D. in informatics, UIUC
- 2009-15 Zhenhua Zhang (currently Manager of Business Intelligence with Ctrip Inc.), Ph.D. in computer science, Chinese Academy of Sciences
- 2010-13 Babak Behzad (currently Software Engineer at Intellipulse), M.S. in computer science (co-chaired with Dr. Marc Snir), UIUC
- 2010-13 Dan Dong (currently GIS Data Engineer at Apple), M.S. in geography and GIS, UIUC
- 2009-13 Heejun Kim (currently Assistant Professor of Information Science at the University of North Texas), M.S. in geography and GIS, UIUC
- 2010-13 Eric Shook (William L. Garrison Award for Best Dissertation in Computational Geography (2014); currently Associate Professor of Geography, Environment and Society at the University of Minnesota, Twin Cities), Ph.D. in geography and GIS, UIUC
- 2009-13 Yanli Zhao (currently Senior Software Engineer at Facebook), M.S. in geography and GIS, UIUC
- 2010-12 Su Yeon Han (currently Teaching Assistant Professor at UIUC), M.S. in geography and GIS, UIUC
- 2008-10 Chris Korose (currently GIS Specialist at the Illinois State Geological Survey), M.S. in geography, UIUC

2003-06 Anand Padmanabhan (currently Research Associate Professor at UIUC),
Ph.D. in computer science, co-chaired with Dr. Sukumar Ghosh, the
University of Iowa

GRADUATE COMMITTEE MEMBER

2020-present Xueqing Deng, Ph.D. student in Electrical Engineering and Computer
Science, University of California, Merced

2019-present Si Chen, Ph.D. student in informatics, UIUC

2018-19 Jue Wang, Ph.D. in geography and GIS, UIUC

2017-19 Kangjae Lee, Ph.D. in informatics, UIUC

2012-17 Jin Xing, Ph.D. in geography, McGill University

2015-17 Haozhi Pan, Ph.D. in urban and regional planning, UIUC

2015-16 Courtney Reents, M.S. in geography and GIS, UIUC

2014-16 Tong Liu, Ph.D. in agricultural and biological engineering, UIUC

2013-16 Debsunder Dutta, Ph.D. in civil and environmental engineering, UIUC

2013-16 Phong Le, Ph.D. in civil and environmental engineering, UIUC

2014-16 Hao Yu, Ph.D. in civil and environmental engineering, UIUC

2013-15 Jay Laura, Ph.D. in geography, Arizona State University

2010-13 Tao Lin, Ph.D. in agricultural and biological engineering, UIUC

2010-12 Jihua Wang, Ph.D. in civil and environmental engineering, UIUC

2008-13 Sheng Ye, Ph.D. in geography and GIS, UIUC

2008-12 Imelda Moise, Ph.D. in geography, UIUC

2007-11 Lan Luo, Ph.D. in geography, UIUC

2015 Yi Zou, M.S. in geography, UIUC

2010-11 Greg Burton, M.S. in geography, UIUC

2010 William Meyer, M.S. in geography, UIUC

PROFESSIONAL MEMBERSHIPS

- American Association for the Advancement of Science (AAAS)
- American Association of Geographers (AAG)
- American Geophysical Union (AGU)
- Association for Computing Machinery (ACM)
- International Association of Chinese Professionals in Geographic Information
Science (CPGIS)