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EDUCATION

George Mason University, Fairfax, VA, August 2010

Ph.D. in Earth System and Geoinformation Science.

Dissertation: *Automated Data Discovery, Reasoning and Ranking in Support of Building an Intelligent Geographic Search Engine.*

Institute of Remote Sensing Applications, Chinese Academy of Sciences, Beijing, China, July 2007

M.S. in Signal and Information Processing.

Thesis: *Interoperability-based Geographic Information Retrieval.*

Beijing Normal University, Beijing, China, July 2004

B.S. in Computer Science.

Thesis: *Constructing Interactive E-Government Platform Based on WebGIS.*

PROFESSIONAL EXPERIENCE

2025– present, Director, Spatial Analysis Research Center (SPARC), ASU.

- 2022-2024, Research Director, SPARC.
- 2017-present, Core faculty, SPARC.

2024, Visiting Scholar, Halicioglu Data Science Institute, University of California, San Diego.

2023, Max Kade Visiting Professor, Institute of Geography, Heidelberg University, Germany.

2021 –, Professor, School of Geographical Sciences and Urban Planning (SGSUP), ASU.

2017 – 2021, Associate Professor, SGSUP, ASU.

2012 – 2017, Assistant Professor, SGSUP, ASU.

2017 – present, Founding Director, Cyberinfrastructure and Computational Intelligence Lab (CICI), ASU.

2016 – present, Senior Sustainability Scientist, Julie Ann Wrigley Global Institute of Sustainability, ASU.

2016 – present, Graduate Faculty, Computer Science Program, School of Computing, Informatics, Decision Systems Engineering, ASU.

2019 – 2020, Guest Professor, (sabbatical to) Northeastern University, Shenyang, China.

2015 – present, Academic Affiliate, Center of Excellence for Geospatial Information Science (CEGIS), United States Geological Survey.

2015 – present, Honors Faculty, Barrett Honors College, Arizona State University.

2010 – 2012, Postdoc/Research Specialist, University of California, Santa Barbara (UCSB).
2009 – 2010, Research and Teaching Assistant, George Mason University.
2006 – 2009, Research Scholar, Center for Intelligent Spatial Computing, George Mason University.

HONORS, FELLOWSHIPS AND AWARDS

2026 UCGIS Research Award, University Consortium of Geographic Information Science.
- The Research Award recognizes an individual for "a particularly *outstanding* research contribution to geographic information science."

2025 AGU Open Science Recognition Prize, American Geophysical Union (AGU).
- Recognized as part of the Prithvi-Geospatial AI Foundation Model Team for "outstanding work in advancing Open Science related to Earth and space science and its impact globally."

2025 M. Lee Allison Award for Geoinformatics, Geological Society of America (GSA).
- "The M. Lee Allison Award for Outstanding Contributions to Geoinformatics and Data Science" recognizes "*distinguished* contributions to the geosciences through the application and promotion of geoinformatics."

2025 Distinguished Lecturer, AGU College of Fellows Distinguished Lecture Series (DLS), 2025–2026 cycle, American Geophysical Union (AGU).
- "The DLS provides a platform for *exceptional* Earth and space scientists to engage global audiences through virtual lectures and interactive Q&A sessions with students. Lectures address key scientific challenges and societal impact while remaining accessible to a broad audience."

2025 NASA Group Achievement Award, National Aeronautics and Space Administration (NASA).
- Received this award as the ASU lead on NASA's AI for Science Team for "developing AI foundational models that enhance scientific analysis, facilitate breakthrough discoveries, and exemplify collaborative innovation, setting new standards for transparency and scientific rigor in AI development."

2024 Greg Leptoukh Lecture Award, American Geophysical Union (AGU).
- "The Greg Leptoukh Lecture recognizes *significant* contributions to informatics, computational, or data sciences through research, education, and related activities."

2024 Winner (First cohort), ASU AI Innovation Challenge, ASU.

2023 Faculty Excellence Award (exceptional research contributions), School of Geographical Sciences and Urban Planning, ASU.

2023 Max Kade Visiting Professorship to Heidelberg University, Max Kade Foundation.

2023 Elected Fellow, University Consortium for Geographic Information Science (UCGIS).
- "The status of UCGIS Fellow is bestowed on the recipient who has had an *extraordinary* record of accomplishments in any of the spatial disciplines and communities of practice"

2023 Elected Fellow, American Association of Geographers (AAG).
- "The AAG Fellows is a recognition and service program that recognizes geographers who have made *significant* contributions to advancing geography."

2021- Elsevier Top 2% Scientists List, since 2021 (by Stanford University).

2021 **NSF Mid-Career Advancement Award** (inaugural), National Science Foundation (NSF).

2020 Global Young Scientist Award for Leading-edge Science and Technology (inaugural), World Geospatial Developer Conference (WGDC).
2019 Mentor, Women in Geospatial+ Mentorship Program, Women in Geospatial professional networking group.
2019 Invited Participant and Travel Award for Spatial Data Science Symposium, University of California, Santa Barbara (UCSB).
2019 I-LTER (International- Long Term Ecology Research) Travel Award, National Science Foundation (NSF).
2019 Emerging Scholar Award, Spatial Analysis and Modeling Specialty Group, American Association of Geographers (AAG).
2015 **NSF CAREER Award,** National Science Foundation (NSF)**.**
2014 CyberGIS Fellow, National Center for Supercomputing Applications (NCSA).
2012 1st Place, Best Poster Competition, CyberGIS 2012.
2012 NSF Travel Award to First International Conference of CyberGIS 2012.
2011 Outstanding PhD Graduate Award, George Mason University.
2010 Travel Grant, NSF Workshop "Working Towards a National Geoinformatics Community".
2010 Finalist, Honors Competition for Student Papers, GIS specialty group.
2009 Third Place, Student Best Paper Competition, CI specialty group, AAG annual meeting.
2008 Best Oral Presentation Award, GMU GIS day.
2006 Full Scholarship, OSG Summer Grid Workshop.
2004 Excellent League Member, Beijing Normal University.
2001-03 Academic Scholarship, Beijing Normal University.

RESEARCH GRANTS

Grant Summary:

Research funded by National Science Foundation (NSF), Google.org, National Aeronautics and Space Administration (NASA), NIH (National Institutes of Health), Engineer Research and Development Center (ERDC), U.S. Geological Survey (USGS), Open Geospatial Consortium (OGC), Arizona Board of Regent (ABOR), Central Arizona-Phoenix Long-Term Ecology Research Program (CAP-LTER), and Arizona State University (ASU). Total grants as key personnel since joining ASU in 2012: $34,686,694. Total grant as Principal Investigator (PI) or co-PI: $23,648,088. Total personal allocation: $6,904,536.

Awarded:

External

1. **ABOR** (**PI**: 2025-2028) AI Enabled Emergency Management and Preparedness. $1,741,062. (Y. Choi and H. Wei as Co-PIs; Shakarian as external advisor) (Li allocation: 50%)
2. **DOD/ERDC** (sole **PI**: 2025-2027) Artificial Intelligence Informed High-Resolution Fuel Mapping for Interior Alaska Military Lands to Support Wildfire Forecasting. $199,176.
3. **NASA** (sole **PI**: 2024-2026) Science-driven Advances of Geospatial AI Foundation Model for Earth Observation. $249,955.
4. **NIH R01** (**Co-I**, **ASU PI**: 2024-2028) Leveraging Extensive Social Determinants Data and Spatial

Data Science to Reduce HIV Incidence Across the United States Ending the HIV Epidemic Counties. $3,142,693. (Li allocation: $389,575)

5. **NSF** (**Senior Personnel**: 2024-2025) RCN: Co-creating Research for Just Arctic Future Infrastructure Transformations, Resilience, and Adaptation (CRAFT). $199,448. (V. Kuklina, PI)
6. **Google.org** (**Co-PI, ASU PI**: 2023-2026) Tracking Arctic Permafrost Thaw with GeoAI to Inform Climate Actions. $5,000,000. (A. Liljedahl, PI). (Li allocation: $850,962)
7. **NSF (Co-PI**: 2023-2025**)** POSE: Phase II: CONNECT: Consortium of Open-source plaNNing models for Next-generation Equitable and efficient Communities and Transportation. $1,500,000. (X. Zhou, PI) (Li allocation: 15%)
8. **NSF** (**PI**: 2023-2026) Collaborative Research: CyberTraining: Implementation: Medium: Cyber2A: CyberTraining on AI-driven Analytics for Next Generation Arctic Scientists. $1,000,000. (A. Liljedahl, M. Jones, K. McHenry, Co-PIs)
9. **NSF** (**Senior Personne**l: 2022-2024) PIPP Phase I: Computational Foundations for Bio-social Modeling of Unseen Pandemics. $897,531. (P. Turaga, PI)
10. **OGC** (sole **PI**: 2022-2023) Testbed-18 Initiative. OGC. $34,000.
11. **NSF** (sole **PI**: 2021-2026) MCA: Career Advancement in Polar Cyberinfrastructure: Permafrost Feature Mapping and Change Detection using Geospatial Artificial Intelligence and Remote Sensing. $359,841.
12. **OGC** (sole **PI**: 2021-2022) Testbed-17 Initiative. OGC. $40,000.
13. **NSF** (**Co-PI**: 2020-2025): Growing Convergence Research: Coevolution of Social and Physical Infrastructure and Improved Access to Clean Water in Informal Water Sharing Systems. $3,548,344. (A. Wutich, PI; S. Porter, P. Westerhoff, and J. Sabo, Co-PIs). (Li allocation: 14%)
14. **NSF** (**Co-PI, ASU PI**: 2020-2024): Convergence Accelerator- Harnessing the Data Revolution: A1: KnowWhereGraph: Enriching and Linking Cross-Domain Knowledge Graphs using Spatially-Explicit AI Technologies. $5,598,096. (K. Janowicz, PI; P. Hitzler, D. Rehberger, and M. Schildhauer, Co-PIs). (Li portion: $460,205)
15. **OGC** (sole **PI**: 2020-2021) Testbed-16 Initiative. OGC. $40,000.
16. **NSF** (**PI**: 2019-2023): GeoAI for Terrain Analysis: A Deep Learning Approach for Landform Detection. $400,000. (Co-PI: S.T. Arundel, USGS)
17. **NSF** (**Co-PI, ASU PI**: 2019-2021): Convergence Accelerator Pilot (RAISE): Open Knowledge Network for Spatial Decision Support. $999,574. (S. Gordon, PI; K. Reynolds, M. Flaxman, and X. Ye, Co-PIs)
18. **NSF** (**Co-PI, ASU PI**: 2019-2021): Convergence Accelerator Pilot (RAISE): Spatially-Explicit Models, Methods, and Services for Open Knowledge Networks. $999,739. (K. Janowicz, PI; P. Hitzler, D. Rehberger, and M. Schildhauer, Co-PIs)
19. **OGC** (sole **PI**: 2019-2020) Testbed-15 Initiative. OGC. $18,000.
20. **NSF** (**Senior Personnel**: 2018-2022). LTER: CAP IV - Investigating Urban Ecology and Sustainability Through the Lens of Urban Ecological Infrastructure. NSF. $4,526,934.
21. **OGC** (sole **PI**: 2018-2019) Testbed-14 Initiative. OGC. $45,000.
22. **OGC** (sole **PI**: 2017-2018) Testbed-13 Initiative. OGC. $25,000.
23. **NSF** (**Senior Personnel**: 2016-2018). LTER: CAP IV: Design with Nature: A Framework for Exploring Urban Ecology and Sustainability. $2,254,000.
24. **PLuS Alliance** (**co-I**: 2016-2017) Informed Urbanization – Understanding the Housing-Transport Nexus. 2016 PLuS Alliance Seed Grants program. $18,000.

25. **OGC** (sole **PI**: 2016-2017) Testbed-12 Initiative. OGC. $65,000.
26. **NSF** (sole **PI**: 2015-2020): PolarGlobe: Powering up Polar Cyberinfrastructure using M-Cube Visualization to Support Polar Climate Studies. $449,974.
27. **NSF** (sole **PI**: 2015-2022): **CAREER**: Cyber-Knowledge Infrastructure for Geospatial Data. $449,859.
28. **USGS** (sole **PI**: 2015-2019): Deep Learning from Multi-Source Geospatial Data to Support Terrain Feature Extraction. $295,000.
29. **OGC** (sole **PI**: 2015) Testbed-11 Initiative. OGC. $17,000.
30. **NSF** (**PI**: 2014-2016): Building a Polar Cyberinfrastructure Portal to Support Sustained Polar Sciences. NSF Polar CI program. $333,941. (Co-PI: C. Yang, GMU)
31. **OGC** (sole **PI**: 2013-2014) Testbed-10 Initiative. OGC. $17,500.

Internal

32. **ASU** (**Co-PI**: 2024-2025): Seeding System1-System2 Strengthening of AI with application to disaster decision support. ASU AI Seed Grant Challenge. (PI: P. Shakarian, Co-PIs: E. Chiou, C. Baral, Y. Yang). $750,000 (with initial funds of $150,000 in Y1). Note: This award was the only one funded out of 32 proposals submitted campus wide.
33. **ASU** (**PI**: 2024): AI-enhanced climate change awareness: Use-inspired research to expand the Arctic local event observer network. ASU. ChatGPT Enterprise License Access.
34. **ASU** (**Co-PI**: 2021-2022): Determining Traffic Load and Location Through Machine Vision with On-device Image Processing. Fulton Schools of Engineering (FSE) Strategic Interest Seed Funding Program. $25,000. (PI: Y. Yang, Co-PIs: D. Fan, M. Bajestani)
35. **CAP-LTER** Summer Funding (**PI**: 2015): Spatiotemporal Pattern Analysis and Visualization of Land Use Pattern Change in the Greater Phoenix Metropolitan Area. $14,130. (Co-PI: E.A. Wentz, ASU)
36. **ASU** (**PI**: 2014-2015): Development of Spatiotemporal Pattern Analysis Tool for Analyzing Urban Growth and its Land Use Changes. ASU CLAS Faculty Seed Grant Program. $32,897. (Co-PI: T.Y. Chen, ASU)

PUBLICATIONS (graduate student and postdoc co-authors are stared*, early career scholars and visiting students under my direct supervision at ASU are underlined, my graduate advisees* are stared and underlined. latest available impact factors [IF] are noted in brackets)

Articles in Peer-reviewed Journals

2026

135. Yang, Y., Agarwal, A., Bartkus, M., Rodenhizer, H., **Li, W.**, Lee, H.*, ... & Natali, S. Keeping pace with a changing planet: A human-in-the-loop framework for refining delineations of dynamic Earth features with the Segment Anything Model. *International Journal of Applied Earth Observation and Geoinformation*, https://doi.org/10.1016/j.jag.2026.105187. [IF: 8.6]
134. Zhu, R., Shimizu, C., Stephen, S., Fisher, C. K., Thelen, T., Currier, K. Janowicz, K., Hitzler, P., Schildhauer, M., **Li, W.**, ... & Zalewski, J. (2026). The KnowWhereGraph: A large-scale geo-knowledge graph for interdisciplinary knowledge discovery and geo-enrichment. *Transactions in GIS*, *30*(1), e70184. [IF: 2.3]
133. Knoblauch, S.*, Li, H., Biljecki, F., **Li, W.**, & Zipf, A. (2026). Urban AI for a sustainable built

environment: Progress and future directions. *Environment and Planning B: Urban Analytics and City Science*. Advance online publication. https://doi.org/10.1177/23998083261418565. [IF: 3.1]

132. **Li, W.**, Hsu, C.-Y., & Wang, S.* (2026). Adapting video foundation models for spatiotemporal wildfire forecasting via cross-modal progressive fine-tuning. *IEEE Transactions on Geoscience and Remote Sensing*. https://doi.org/10.1109/TGRS.2026.3652453. [IF: 8.6]
131. Zhou, X., Li, H.*, Shao, Z., **Li, W.**, & Yan, Z.* (2026). CartoSR: An attention-enhanced deep GANs for single map super-resolution reconstruction. *International Journal of Applied Earth Observation and Geoinformation*, 125, 105106. https://doi.org/10.1016/j.jag.2026.105106. [IF: 8.6]
130. Lee, H.*, & **Li, W.** (2026). A spatially masked adaptive gated network for multimodal post-flood water extent mapping using SAR and incomplete multispectral data. *ISPRS Journal of Photogrammetry and Remote Sensing*, 232, 492–508. https://doi.org/10.1016/j.isprsjprs.2025.12.023. [IF: 12.8]

2025

129. Perera, A. S.*, Fernandez, D., Witharana, C., Manos, E., Pimenta, M., Liljedahl, A. K., Nitze, I., Yang, Y., Nicholson, T., Hsu, C.-Y., **Li, W.**, & Grosse, G. (2025). Pan-Arctic permafrost landform and human-built infrastructure feature detection with vision transformers and location embeddings. IEEE *Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, https://doi.org/10.1109/JSTARS.2025.3648673. [IF: 4.7]
128. Szwarcman, D., Roy, S., Fraccaro, P., Gíslason, Þ. E., Blumenstiel, B., Ghosal, R., ... & Moreno, J. B. (2025). Prithvi-eo-2.0: A versatile multi-temporal foundation model for earth observation applications. *IEEE Transactions on Geoscience and Remote Sensing*. https://doi.org/10.1109/TGRS.2025.3642610. [IF: 8.6]
127. Li, Z., Ning, H., Gao, S., Janowicz, K., **Li, W.**, Arundel, S. T., ... & Hodgson, M. E. (2025). Giscience in the era of artificial intelligence: A research agenda towards autonomous gis. *Annals of GIS*, 1-35. https://doi.org/10.1080/19475683.2025.2552161. [IF: 3.3]
126. Wutich, A., Brewis, A., Thomson, P., Beresford, M., White, D. D., Castro-Diaz, L., Chowdhury, M. A., Díaz-Infante, D., Hossain, M. J., Jacob, C., Jankovic-Rankovic, J., Jepson, W., Jordão, C., **Li, W.**, Medina-Ramírez, O., Roque, A. D., Salcedo-Serrano, D., Sherrill, D., Stoler, J., Tian, Y., Voth-Gaeddert, L. E., Westerhoff, P., & Yerman, A., the Arizona Water for All Consortium. (2025). Ethical challenges of managed retreat from centralized water systems. *Human Organization*. https://doi.org/10.1080/00187259.2025.2499679. [IF: 0.6]
125. **Li, W.** (2025). Artificial intelligence in Earth science: A GeoAI perspective (invited commentary). *Journal of Geophysical Research: Machine Learning and Computation*. https://doi.org/10.1029/2025JH000691.
124. Webb, H., Fuchs, M., Abbott, B. W., Douglas, T., Elder, C., Ernakovich, J., Euskirchen, E., Göckede, M., Grosse, G., Hugelius, G., Jones, M., Koven, C., Kropp, H., Lathrop, E., **Li, W.**, Loranty, M., Natali, S., Schädel, C., Schuur, E., Sonnentag, O., Strauss, J., Virkkala, A.-M., & Turetsky, M. (2025). A review of abrupt permafrost thaw: Definitions, usage, and a proposed conceptual framework. *Current Climate Change Reports*, 11, 7 (2025), https://doi.org/10.1007/s40641-025-00204-3 [IF: 10.3]
123. Zhou, X., Wen, Y., Shao, Z., **Li, W.**, Hu, G., Xie, X., ... & Zhao, Q. (2025). Identifying the place without text annotations: an assembled neural network framework for content-based raster map

retrieval with cartographical morphological pattern. *Geo-spatial Information Science*. https://doi.org/10.1080/10095020.2025.2522146 [IF: 5.5]

122. Chen, X.*, **Li, W.**, Hsu, C.-Y., Arundel, S. T., & Higman, B. (2025). Harnessing geospatial artificial intelligence and deep learning for landslide inventory mapping: Advances, challenges, and emerging directions. *Remote Sensing*, 17(11), 1856. https://doi.org/10.3390/rs17111856. [IF: 4.2]
121. **Li, W.**, Hsu, C.-Y., Wang, S.*, Gu, Z., Yang, Y., Rogers, B. M., & Liljedahl, A. (2025). A multi-scale vision transformer-based multimodal GeoAI model for mapping Arctic permafrost thaw. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing,* 1–15. https://doi.org/10.1109/JSTARS.2025.3564310. [IF: 4.7]
120. Zhang, K., Cao, K., & **Li, W.** (2025). A knowledge graph-based approach for recognizing older adults' behavior in urban parks. *International Journal of Geographical Information Science*. https://doi.org/10.1080/13658816.2025.2499084. [IF: 4.3]
119. Ye, X., Yigitcanlar, T., Goodchild, M., Huang, X., **Li, W.**, Shaw, S. L., ... & Newman, G. (2025). Artificial intelligence in urban science: why does it matter? *Annals of GIS*. https://doi.org/10.1080/19475683.2025.2469110. [IF: 2.7]
118. Wang, S.*, **Li, W.**, & Hsu, C. Y. (2025). STEPNet: A spatial and temporal encoding pipeline to handle temporal heterogeneity in climate modeling using AI: a use case of sea ice forecasting. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 18(2025), 4921-4935. [IF: 4.7]

2024

117. C. Shimizu, Stephen, S., Barua, A., Cai, L., Christou, A., Currier, K., Dalal, A., Fisher, C. K., Hitzler, P., Janowicz, K., **Li, W.**, Liu, Z., Mahdavinejad, M. S., Mai, G., Rehberger, D., Schildhauer, M., Shi, M., Saki Norouzi, S., Tian, Y.*, Wang, S.*, Wang, Z., Zalewski, J., Zhou, L., & Zhu, R. (2024). The KnowWhereGraph ontology. *Journal of Web Semantics*, *100842*. https://doi.org/10.1016/j.websem.2024.100842. [IF: 2.1]
116. Tian, Y.*, **Li, W.**, Hu, L., Chen, X., Brook, M., Brubaker, M., ... & Liljedahl, A. K. (2024). Advancing Large Language Models for Spatiotemporal and Semantic Association Mining of Similar Environmental Events. *Transactions in GIS*. https://doi.org/10.1111/tgis.13282. [IF: 2.1]
115. Gu, Z., **Li, W.**, Zhou, B., Wang, Y., Chen, Y., Ye, S., ... & Kang, Y. (2024). GISphere Knowledge Graph for Geography Education: Recommending Graduate Geographic Information System/Science Programs. *Transactions in GIS*. https://doi.org/10.1111/tgis.13283. [IF: 2.1]
114. Zhou, X., Wen, Y., Shao, Z., **Li, W.**, Li, K., Li, H., ... & Yan, Z. (2024). CartoMark: a benchmark dataset for map pattern recognition and map content retrieval with machine intelligence. *Scientific Data*, *11*(1), 1205. [IF: 9.8]
113. Castro-Diaz, L., Roque, A., Wutich, A., Landes, L., **Li, W.**, Larson, R., ... & Hanemann, M. (2024). Participatory Convergence: Integrating Convergence and Participatory Action Research. *Minerva*, 1-21. [IF: 3.2]
112. Hu, L., **Li, W.**, Xu, J., & Zhu, Y. (2024). GeoEntity-type constrained knowledge graph embedding for predicting natural-language spatial relations. *International Journal of Geographical Information Science*, https://doi.org/10.1080/13658816.2024.2412731. [IF: 4.3]
111. **Li, W.**, Hsu, C. Y., & Tedesco, M. (2024). Advancing Arctic sea ice remote sensing with AI and deep learning: opportunities and challenges. *Remote Sensing*, *16*(20), 3764. https://doi.org/10.3390/rs16203764. [IF: 4.2]

110. **Li, W.** Arundel, S.T., Gao, S., Goodchild, M.F., Hu, Y., Wang, S., & Zipf, A. (2024). GeoAI for science and the science of GeoAI (invited article). *Journal of Spatial Information Sciences*, doi:10.5311/JOSIS.2024.29.349.
109. Hsu, C. Y., **Li, W.**, & Wang, S.* (2024). Geospatial foundation models for image analysis: evaluating and enhancing NASA-IBM Prithvi's domain adaptability. *International Journal of Geographical Information Science*, https://doi.org/10.1080/13658816.2024.2397441. [IF: 4.3]
108. **Li, W.**, Hsu, C. Y., Wang, S.*, & Kedron, P. (2024). GeoAI Reproducibility and Replicability: a computational and spatial perspective. *Annals of American Association of Geographers*. https://doi.org/10.1080/24694452.2024.2373787. [IF: 3.2]
107. Lee, H.*, & **Li, W.** (2024). Improving interpretability of deep active learning for flood inundation mapping through class ambiguity indices using multi-spectral satellite imagery. *Remote Sensing of Environment*, *309*, 114213. [IF: 13.5]
106. Goodchild, M. F., Connor, D., Fotheringham, A. S., Frazier, A., Kedron, P., **Li, W.**, & Tong, D. (2024). Digital twins in urban informatics. *Urban Informatics*, *3*(1), 1-9.
105. Cao, K., Zhou, C., Church, R., Li, X., & **Li, W.** (2024). Revisiting spatial optimization in the era of geospatial big data and GeoAI. *International Journal of Applied Earth Observation and Geoinformation*, *129*, 103832. [IF: 7.5]
104. **Li, W.**, Hsu, C. Y., Wang, S.*, Yang, Y., Lee, H.*, Liljedahl, A., ... & Solis, P. (2024). Segment Anything Model can not segment anything: assessing AI foundation model's generalizability in permafrost mapping. *Remote Sensing*, 16(5), 797. [IF: 5.0]
103. Hu, Y., Goodchild, M., Zhu, A. X., Yuan, M., Aydin, O., Bhaduri, B., Song, G. **Li, W.**, Lunga, D., & Newsam, S. (2024). A five-year milestone: reflections on advances and limitations in GeoAI research. *Annals of GIS*, https://doi.org/10.1080/19475683.2024.2309866. [IF: 5.0]
102. Nyerges, T., Gallo, J. A., Reynolds, K. M., Prager, S. D., Murphy, P. J., & **Li, W.** (2024). Framing VRRSability Relationships among Vulnerability, Risk, Resilience, and Sustainability for Improving Geo-Information Evaluations within Geodesign Decision Support. *ISPRS International Journal of Geo-Information*, *10*(3), 179. [IF: 3.4]

2023

101. Chen, M., Qian, Z., Boers, N., Jakeman, A. J., Kettner, A. J., Brandt, M., Kwan, M.P., Batty, M., **Li, W.** … & Lü, G. (2023). Iterative integration of deep learning in hybrid Earth surface system modelling. *Nature Reviews Earth & Environment*, 1-14. [IF: 42.1]
100. Tian, Y.*, **Li, W.**, Wang, S.*, & Gu, Z.* (2023). Semantic similarity measure of natural language text through machine learning and a keyword-aware cross-encoder-ranking summarizer—A case study using UCGIS GIS&T body of knowledge. *Transactions in GIS*. (in press) [IF: 2.568]
99. Wang, S.*, **Li, W.**, & Gu, Z.* (2023). GeoGraphViz: Geographically constrained 3D force-directed graph for knowledge graph visualization. *Transactions in GIS*. https://doi.org/10.1111/tgis.13053 [IF: 2.568]
98. Gu, Z. *, **Li, W.**, Hanemann, M., Tsai, Y., Wutich, A., Westerhoff, P., ... & Porter, S. (2023). Applying machine learning to understand water security and water access inequality in underserved colonia communities. *Computers, Environment and Urban Systems*, 102, 101969. [IF: 6.454]
97. Hsu, C. Y.*, & **Li, W.** (2023). Explainable GeoAI: can saliency maps help interpret artificial intelligence's learning process? An empirical study on natural feature detection. *International Journal of Geographical Information Science*, https://doi.org/10.1080/13658816.2023.2191256.

[IF: 5.152]

96. Gao, S., Hu, Y., **Li, W.**, & Zou, L. (2023). Special issue on geospatial artificial intelligence. *GeoInformatica*, https://doi.org/10.1007/s10707-023-00493-6. (editorial) [IF: 2.684]
95. **Li, W.**, Wang, S*., Chen, X*., Tian, Y.*, Gu, Z.*, Lopez-Carr, A., Schroeder, A., Currier, K.*, Schildhauer, M., Zhu, R.* (2023). GeoGraphVis: A knowledge graph and geovisualization empowered cyberinfrastructure to support disaster response and humanitarian aid. *ISPRS International Journal of Geo-Information*. 12(3):112. https://doi.org/10.3390/ijgi12030112. [IF: 3.099] (invited article)

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6. **W. Li** and C. Yang, 2010. Distributed geoinformation computing. Advanced Geoinformation Science, P. Yang. D. Wong, Q. Miao and R. Yang (Eds), CRC Press/Taylor and Francis, 83-92.
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2. Z. Li and **W. Li**, 2010. Geobrowser and spatial web portals. Advanced Geoinformation Science, P. Yang. D. Wong, Q. Miao and R. Yang (Eds), CRC Press/uTaylor and Francis, 234-239.
1. **W. Li**, P. Yang and B. Zhou, 2008. Internet-based spatial information retrieval. Encyclopedia of GIS 2008, 596-599.

Peer-reviewed Conference Papers

32. Fallah, F., Hsu, C.-Y., **Li, W.**, Liljedahl, A., & Yang, Y. (2026). Asynchronous remote sensing time-series fusion for cloud removal and anytime reconstruction. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops: The Second Workshop on Foundation and Large Vision Models in Remote Sensing (MORSE)*. https://arxiv.org/abs/2605.27726.
31. Hu, L., **Li, W.**, & Zhu, Y. (2024, October). Geometric Feature Enhanced Knowledge Graph Embedding and Spatial Reasoning. In *Proceedings of the 7th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery* (pp. 50-53).
30. Wang, S.*, & **Li, W.** (2024, October). Enhancing GeoAI and location encoding with spatial point pattern statistics: A Case Study of Terrain Feature Classification. In *Proceedings of the 7th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery* (pp. 75-78).
29. **Li, W.**, Lee, H.*, Wang, S.*, Hsu, C. Y., & Arundel, S. T. (2023, November). Assessment of a new GeoAI foundation model for flood inundation mapping. In *Proceedings of the 6th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery* (pp. 102-109).
28. Arundel, S. T., **Li, W.**, & Campbell, B. B. (2023, November). Reimagining standardization and geospatial interoperability in today's GeoAI culture. In *Proceedings of the 6th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery* (pp. 83-84).
27. Arundel, S. T., Sinha, G., **Li, W.**, Martin, D. P., McKeehan, K. G., & Thiem, P. T. (2023). Historical maps inform landform cognition in machine learning. Abstracts of the ICA, 6, 10.

26. **Li, W.**, Hsu, C. Y., Wang, S.*, Witharana, C., & Liljedahl, A. (2022, November). Real-time GeoAI for high-resolution mapping and segmentation of arctic permafrost features: the case of ice-wedge polygons. In *Proceedings of the 5th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery* (pp. 62-65).
25. Stephen, S.*, **Li**, **W.**, and Hahmann, T. (2021). Geo-situation for modeling causality of geo-events in knowledge graphs. *The 1st International Workshop on Methods, Models, and Resources for Geospatial Knowledge Graphs and GeoAI*. ACMGIS 2021. https://arxiv.org/abs/2206.13658
24. Tian, Y.*, and **Li, W.** (2021) GeoAI for knowledge graph construction: identifying causality between cascading events to support environmental resilience research. *The 1st International Workshop on Methods, Models, and Resources for Geospatial Knowledge Graphs and GeoAI*. ACMGIS 2021. (in press)
23. Hsu, C.* and **Li, W.** (2020). Leveraging temporal classification for weakly supervised object localization and detection. In: 2020 *British Machine Vision Conference (BMVC2020)*, https://www.bmvc2020-conference.com/assets/papers/0621.pdf
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20. **Li, W.**, Zhou, B., Hsu, C.Y.*, Li, Y., and Ren, F. (2017). Recognizing terrain features on terrestrial surface using a deep learning model: an example with crater detection. In: *Proceedings of the 1st Workshop on Artificial Intelligence and Deep Learning for Geographic Knowledge Discovery* (GeoAI '17). ACM, New York, NY, USA, 33-36. DOI: https://doi.org/10.1145/3149808.3149814
19. X. Li, **W. Li**, L. Anselin, S.J. Rey and J. Koschinsky, 2014. A Map-Reduce Algorithm to Create Contiguity Weights for Spatial Analysis of Big Data. BigSpatial 2014, pp 50-53.
18. **W. Li**, S.J. Rey, and L. Anselin, 2014. SAM: A Provenance Model for Spatial Analytical Methods. 8th International Conference on Geographic Information Science. Vienna, Austria. (extended abstract)
17. **W. Li**, E.A. Wentz, and J. Merson, 2014. Normalized moment of inertia to quantify space-time patterns of urban growth. 8th International Conference on Geographic Information Science. Vienna, Austria. (extended abstract)
16. Y. Gai, B. Zhou, Y. Sun, Y. Zhou, and **W. Li**, 2013. Study on extraction methods of ocean surface oil spill using HJ-CCD data. Advances in Intelligent Systems Research. doi:10.2991/rsete.2013.183.
15. Y. Sun, B. Zhou, Y. Gai, Y. Zhou, and **W. Li**, 2013. The extraction algorithm of ocean surface oil spill in gulf of mexico based on MODIS data. Advances in Intelligent Systems Research. doi:10.2991/rsete.2013.200.
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13. Y., Hu, **W. Li**, K. Janowicz, K. Deutsch, G. McKenzie, and K. Goulias (2012): Using spatial-temporal signatures to infer human activities from personal trajectories on location-enabled mobile devices. Extended Abstracts of the Seventh International Conference on Geographic Information Science.

12. K. Liu, C. Yang, **W. Li**, Z. Li, H. Wu, A. Rezgui and J. Xia, 2011. The GEOSS clearinghouse high performance search engine. The 19th International Conference on Geoinformatics, Shanghai, China.
11. **W. Li**, C. Yang and R. Raskin, 2010. Semantic registration for geoscientific data integration through ESIP semantic web testbed. *2010 IEEE International Geoscience and Remote Sensing Symposium (IGARSS10)*, Honolulu, HI.
10. **W. Li**, C. Yang and R. Raskin, 2009. A semantic meta-catalogue for intelligent geographic information discovery. In: *Proceedings of 17th International Conference on Geoinformatics*, Fairfax, VA, 1-5.
9. Z. Zhou, B. Zhou, **W. Li**, B. Griglak, C. Caiseda and Q. Huang, 2009. Evaluating query performance on object-relational spatial databases. In: *Proceedings of 2nd IEEE International Conference on Computer Science and Information Technology*, Beijing, China, 489-492.
8. **W. Li**, C. Yang and R. Raskin, 2008. A semantic enhanced model for searching in spatial web portals. In: *Association for the Advancement of Artificial Intelligence-Semantic Scientific Knowledge Integration AAAI/SSKI Spring Workshop*, Palo Alto, CA, 47-50.
7. **W. Li** and P. Yang, 2008. A Semantic Search Engine for Spatial Web Portal. In: *Proceedings of IEEE International Geosciences and Remote Sensing Symposium*, IGARSS08, Boston, US, II-1278- II-1281.
6. M. Bambacus, C. Yang, J. Evans, Z. Li, **W. Li** and Q. Huang, 2008. Sharing Earth science information to support the Global Earth Observing System of Systems (GEOSS). In: *Proceedings of IEEE International Geoscience and Remote Sensing Symposium (IGARSS08)*, Boston, US, I-141 – I-144.
5. C. Yang, **W. Li**, D. Xiao, R. Raskin and M. Bambacus, 2007. Earth information exchange-Sharing earth science information through interoperable approach and cyberinfrastructure. In: *Proceedings of SPIE - The International Society for Optical Engineering, v 6753, n PART 2, Geoinformatics 2007: Geospatial Information Science*, doi:10.1117/12.761878.
4. **W. Li**, B. Zhou. C. Yang. Y. Ren and L. Yuan, 2006. Design and implementation of an integrated WMS service portal. In: *2006 International Geoscience and Remote Sensing Symposium (IGARSS06)*, Denver, CO, 924-927.
3. L. Yuan, Q. Zhang, **W. Li** and L. Zhou, 2006. Debris flow hazard assessment based on support vector machine. In: *2006 International Geoscience and Remote Sensing Symposium (IGARSS06)*, Denver, CO, 4221-4224.
2. L. Yuan, Q. Zhang, **W. Li**, Q. Zhang and W. Jiang, 2006. DEM-based watershed topographic attributes extraction and analysis. In: *2006 International Geoscience and Remote Sensing Symposium (IGARSS06)*, Denver, CO, 2006, 911-913.
1. **W. Li**, B. Zhou and C. Yang, 2005. Constructing interactive E-Government platform based on J2EE, In: *Proceedings of China National Computer Conference*, Wuhan, Hubei, China, 2005, 147-148.

White paper/Engineering Report

1. **Li, W.**, and Wu, S., 2015. OGC Testbed-11 Catalogue Service and Discovery Engineering Report. OGC 15-056. https://portal.opengeospatial.org/files/?artifact_id=64382&version=1

SELECTED PRESENTATIONS

Summary: Delivered 100+ invited talks and guest lectures since 2007, including 10+ keynote or plenary speeches across multiple sectors -- government agencies (e.g., NASA, USGS), industry (e.g., Google), international organizations (e.g., AGU, GSA), and universities worldwide (e.g., Harvard University, Technological University of Munich, and National University of Singapore). Delivered 6 invited short courses and 40+ conference presentations.

Keynote/Plenary Speeches/Distinguished Lectures (Total: 17)

2026 **Wenwen Li,** Advancing Earth science with AI: from data deluge to discovery, AGU College of Fellows Distinguished Lecture Series.

- Xiamen University, China, April 17, 2026.
- University of West Florida, USA, April 8, 2026.
- University of Colorado, Boulder, USA, March 31, 2026.
- Northern Arizona University, USA, March 26, 2026.
- Universidad de Antioquia Medellín, Colombia, February 18. 2026.

2025 **Wenwen Li,** Advancing Earth science with AI: from data deluge to discovery, Loyola University of Chicago (as part of the AGU College of Fellows Distinguished Lecture Series), November 6, 2025.

Wenwen Li, AI foundation models for geosciences: promises, gaps, and future directions. Geological Society of America (GSA) 2025 Annual Geoscience Meeting, October 19-22.

Wenwen Li, GeoAI frontiers: perspectives for USGS science and beyond. USGS CEGIS Annual Research Meeting, July 23, 2025.

2024 **Wenwen Li**, Reproducibility and replicability of geospatial artificial intelligence. MDPI EO&Geo Webinar Series: GIS Day Webinar. November 20, 2024.

Wenwen Li, The future of GeoAI for intelligent mapping. USGS CEGIS Annual Research Meeting, Denver, CO, June 25, 2024.

2023 **Wenwen Li**, GeoAI foundation models for environmental analysis. The 3rd Workshop of Asian Young Geographers, December 17, 2023.

Wenwen Li, GeoAI for science and the science of GeoAI. University of Idaho GIS Day. November 15, 2023.

Wenwen Li, GeoAI in Earth and Environmental Science. ISPRS Geospatial Week 2023. EO & GEO Series: GIS Day Topics Webinar. November 14, 2023.

Wenwen Li, Tracking Arctic permafrost thaw with GeoAI to inform climate action. 2023 Geo for Good Summit. Google. Sunnyvale, CA, October 10, 2023.

Wenwen Li, GeoAI foundation model for vision - AI augmented terrain mapping. USGS CEGIS Annual Research Meeting, Rolla, MO, August 3, 2023.

2021 **Wenwen Li**, Real-time GIS and GeoAI for smart cities. 1st International Academic Exchange Seminar of Postgraduates, Northeastern University, Shenyang, China, May 22, 2021.

2017 **Wenwen Li**, Lowering the barriers for accessing distributed geospatial big data to advance spatial data science: the PolarHub solution. 5th International Workshop on Web Mapping, Geoprocessing and Services. WebWGS 2017, during ISPRS Geospatial Week 2017, Wuhan, China**,** September 17-21, 2017**.**

Invited Talks (Total: 96)

2026 (9)

Wenwen Li, Preparing the GeoAI workforce: lessons from research and teaching, Library Research Commons and Geography Department, Ohio State University, July 24, 2026. (scheduled)

Wenwen Li, AI for hazard mapping, forecasting, and management, Climate & Water Futures Seminar Series, Water Institute, Arizona State University, April 29, 2026. (postponed)

Wenwen Li, AI for environmental monitoring and disaster management. Cornell University, April 6, 2026.

Wenwen Li, GeoAI and Deep Learning Symposium: Advances and Potential Risks in GeoAI Research, AAG26, March 19, 2026 (invited panel talk).

Wenwen Li, The Convergence of Generative AI and GIScience - Challenges and Opportunities, AAG26, March 18, 2026 (invited panel talk).

Wenwen Li, Spatial AI for Geography and Geography for Spatial AI, AAG 2026, March 17, 2026 (invited panel talk).

Wenwen Li, GISER Symposium: Past, present, and future of GIScience, March 17, 2026 (invited panel talk).

Wenwen Li, Artificial Intelligence in Urban Climate Action: Integrating Data, Science, and Planning, AAG 2026, March 17, 2026 (invited panel talk).

Wenwen Li, AI for Arctic permafrost science: a collaboration with the permafrost discovery gateway, UAF/ASU Arctic Collaboratory: Permafrost, January 20, 2026.

2025 (13)

Wenwen Li, Remote Sensing and GIScience in the era of AI: Why are they so fun to study? Northeastern University, December 29, 2025.

Wenwen Li, Prithvi-EO: A geospatial foundation model for key earth observation applications, Shenyang Agriculture University, December 26, 2025.

Wenwen Li, GeoAI foundation model for environmental monitoring, Northeastern Petroleum University, December 11, 2025.

Wenwen Li, GeoAI: the sweet spot of AI for geospatial innovation, National University of Singapore, November 10, 2025.

Wenwen Li, AI in Arctic science: from thawing permafrost to melting sea ice, US Interagency Arctic Research Policy Committee (IARPC) Webinar, IARPC, August 13, 2025.

Wenwen Li, A multi-scale vision transformer-based multimodal GeoAI model for mapping arctic permafrost thaw, NSF Permafrost Discovery Gateway (PDG) Webinar, July 31, 2025.

Wenwen Li, Combining AI and indigenous knowledge to advance Arctic research, Workshop on “Indigenizing Research in Changing Academia”, George Washington University, June 12, 2025.

Wenwen Li, Tracing my research path: from big data to GeoAI. School of Geographical Sciences and Urban Planning (SGSUP) Colloquium, ASU, Feb.28, 2025.

Wenwen Li, GeoAI for Earth observation. NASA Goddard Earth Sciences (GES) Data and Information Services Center (DISC) All Hands Meeting, NASA, Feb. 25, 2025.

Wenwen Li, GeoAI for science and society, NCEAS Monthly Roundtable, University

of California, Santa Barbara, Feb.6, 2025.

Wenwen Li, GeoAI: Empowering the intelligent digital future of Earth system science. Earth System Science Forum, Tsinghua University, January 24, 2025.

Wenwen Li, GeoAI for intelligent mapping. Department of Geography, National University of Singapore. January 13, 2025.

2024 (14)

Wenwen Li, Prithvi-EO: Geospatial foundation model for earth observation. Wherobots, Inc., December 19, 2024.

Wenwen Li, GeoAI in action: shaping the intelligent digital future of Earth science. Greg Leptoukh Lecture, American Geophysical Union Annual Conference, December 10, 2024.

Wenwen Li, The fun and frontiers of AI: innovation, imagination, interaction. NSF Cyber2A workshop, NCEAS, University of California, Santa Barbara. Oct. 25, 2024.

Wenwen Li, GeoAI for intelligent mapping and more. University of Calgary, Alberta, Canada, October 2, 2024.

Wenwen Li, AI foundation models for climate and water security. Climate and Water Security Panel at the 2024 NASA/DOE-ORNL Trillion Pixel Challenge Workshop, Huntsville, AL, September 5, 2024.

Wenwen Li, Generative AI for GIScience: opportunities and risks. Generative AI and GIScience Panel, Harvard CGA Workshop on Evaluating the Science of Geospatial AI, Cambridge, MA, May 17, 2024.

Wenwen Li, Assessing and enhancing the NASA-IBM geospatial foundation model Prithvi. NASA Marshall Space Flight Center, Interagency Implementation and Advanced Concepts (IMPACT) Team, April 26, 2024.

Wenwen Li, Geospatial foundation models for vision and image analysis. GeoAI Foundation Model Panel, 6th GeoAI Symposium, AAG Annual Conference, Honolulu, HI, April 16, 2024.

Wenwen Li, Cyberinfrastructure and AI in Arctic Science: tracking and mapping Arctic permafrost thaw. Arctic Data Center Scalable Computing Workshop. March 27, 2024.

Wenwen Li, GeoAI in humanitarian health assistance and disaster relief. ASU SPARC Workshop on Spatial Sciences and Health. March 26, 2024.

Wenwen Li, Advances in GeoAI and its impacts on environmental and climate change. Database Research Group Webinar Series. National University of Defense Technology. March 21, 2024.

Wenwen Li, Chapter 5: GeoAI for spatial image processing. United Nations International Telecommunication Union (ITU) AI for Good GeoAI Discovery Webinar: GeoAI Solutions for Sustainable Development: The Handbook of Geospatial Artificial Intelligence (GeoAI), February 23, 2024.

Wenwen Li, GeoAI for tracking and forecasting Arctic permafrost thaw: Opportunities and Challenges. Google Climate Talk Series, Google, February 8, 2024.

Wenwen Li, GeoAI and big data for geospatial innovation in environmental and ecological sciences. Earth System Science Forum, Tsinghua University, Jan. 20, 2024.

2023 (5)

Wenwen Li, KnowWhereGraph for disaster response and humanitarian aid: Providing the right help to the right people at the right time. Semantic Technology Committee

Meeting, Earth Science Information Partnership, November 15, 2023.
Wenwen Li, GeoAI and real-time GIS for smart cities. Good Systems Smart Cities Consortium. University of Texas, Austin, November 3, 2023.
Wenwen Li, Is foundation model the future of GeoAI? A view from AI augmented environmental mapping. Technical University of Munich, Munich, Germany, July 13, 2023.
Wenwen Li, The science of GeoAI. Heidelberg University, Heidelberg, Germany, June 12, 2023.
Wenwen Li, Permafrost Discovery Gateway: Enabling big geospatial data creation and discovery. Permafrost Carbon Network Workshop, Flagstaff, AZ, May 3, 2023.

2022 (10)
Wenwen Li, GeoAI-empowered geospatial big data analytics, Northeast Petroleum University, Daqing, China, December 16, 2022.
Wenwen Li, Knowledge graph empowered cyberinfrastructure for disaster response and humanitarian aid, Nanjing Normal University, December 7, 2022.
Wenwen Li, KnowWhereGraph: A location-aware knowledge graph providing the right information to the right people in the right place at the right time, GeoInsider Webinar Series, December 1, 2022.
Wenwen Li, Machine learning for Arctic permafrost mapping. Svalbard Integrated Arctic Earth Observing System (SIOS) webinar series, University Centre in Svalbard, Longyearbyen, Norway, November 25, 2022.
Wenwen Li, GeoAI in image analysis: from Earth to Mars. University of Hawai‘i at Mānoa, Hawaii, October 7, 2022.
Wenwen Li, Tobler’s first law in GeoAI. University Consortium of Geographic Information Science (UCGIS) Webinar Series, September 29, 2022.
Wenwen Li, GeoAI in terrain analysis: Enabling multi-source deep learning and data fusion for natural feature detection. USGS CEGIS (Center of Excellence for Geographic Information Science) All Hands Meeting, August 4, 2022.
Wenwen Li, Real-time GeoAI for smart cities. Design & Analytics for Urban Artificial Intelligence Workshop. Texas A&M University, June 22, 2022.
Wenwen Li, Advancing Arctic science through cyberinfrastructure and AI. NSF Permafrost Discovery Gateway Webinar Series, March 10, 2022.
Wenwen Li, Artificial intelligence in environmental and terrain analysis: A journey of GeoAI. AAG/ASU Webinar “Does GeoAI promise an ethical future of spatial analytics?”, February 8, 2022.

2021 (7)
Wenwen Li, Knowledge-driven cyberinfrastructure for geospatial innovation and convergence research. University of Cincinnati, OH, October 22, 2021.
Wenwen Li, Making the future intelligent: data science for convergence research. University of Virginia, Charlottesville, VA, October 14, 2021.
Wenwen Li, GeoAI for image analysis and natural feature detection. Geo-big data and spatial intelligence summer school, Nanjing Normal University, China, Aug. 20, 2021.
Wenwen Li, Transforming environmental sciences through cyber- knowledge infrastructure. University of Virginia, Charlottesville, VA, May 11, 2021.
Wenwen Li, GeoAI in terrain mapping: A spatially explicit deep learning model for automated natural feature detection. Oak Ridge National Lab, Oak Ridge, TN, April

29, 2021.

Wenwen Li, Tobler's first law in GeoAI: A spatially explicit deep learning model for terrain feature detection under weak supervision. 5th Geographic Information Science Symposium on GeoAI, April 17, 2021.

Wenwen Li, Real-time GIS for smart cities: a GeoAI lens. International Journal of Geographical Information Science Webinar Series, March 22, 2021.

2020 (3)

Wenwen Li, A knowledge-driven cyberinfrastructure to revolutionize environmental science, Hydrosystems Engineering seminar series in the School of Sustainable Engineering and the Built Environment, Arizona State University, November 18, 2020.

Wenwen Li, AI-driven, next-generation GIScience, World Geospatial Developer Conference (WGDC), August 20, 2020.

Wenwen Li, GeoAI for terrain analysis: a novel deep learning approach for natural feature detection, International Young Scientist Forum on GeoAI, China Geoscience University, May 7, 2020.

2019 (3)

Wenwen Li, Cyber- knowledge infrastructure for geospatial innovation, Jilin University, Changchun, China, December 24, 2019.

Wenwen Li, Space-time mining of trajectory big data, Northeastern University, Shenyang, China, December 18, 2019.

Wenwen Li, Redistricting in the era of big data, Harvard CGA Annual Conference: The Geography of Redistricting, Harvard University, Boston, MA, May 2-3, 2019.

2018 (11)

Wenwen Li, Space-time big data analytics, Next-generation GIS workshop, Harvard University, Boston, MA, Oct 11, 2018.

Wenwen Li, Data mining for analyzing space-time big trajectory data. Northeastern University, Shenyang, China, November 11, 2018.

Wenwen Li, Understanding human mobility and hotspots in urban short-trip transportation using bike-sharing data, NSF-IBSS Summer Specialist Meeting on Social Perception and Human Dynamics, San Diego, CA, August 5-8. 2018.

Wenwen Li, Opportunities and challenges of space-time big data, Guizhou Normal University, Guiyang, China, June 12, 2018.

Wenwen Li, A smart cyberinfrastructure for space-time big data discovery and analytics. Yunnan Normal University, June 11, 2018.

Wenwen Li, A deep learning approach for automated terrain feature identification, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China, May 28, 2018.

Wenwen Li, Automated terrain feature detection from remote sensing imagery: a deep learning approach, Peking University, Beijing, China May 28, 2018.

Wenwen Li, A smart cyberinfrastructure for space-time big data discovery and analytics, Northwestern Agriculture and Forest University, Yangling, China, June 8, 2018.

Wenwen Li, Terrain feature recognition from remote sensing imagery: A deep learning approach, Institute of Land Management, Northeastern University, Shenyang, China, March 11, 2018.

Wenwen Li, Cyberinfrastructure and big data to support sustained geospatial innovation: A case of polar climate change, University of Central Florida, Orlando, FL,

February 7, 2018.
Wenwen Li, Cyberinfrastructure for spatial data science: opportunities and challenges, San Diego State University, San Diego, CA, January 26, 2018.

2017 (9)
Wenwen Li, A new look at spatial pattern analysis and its urban, political and ecological applications, School of Mathematical and Statistical Sciences, ASU, Nov 30, 2017.
Wenwen Li, Knowledge-driven cyberinfrastructure for geospatial data, ASU GIS Day, Nov 17, 2017.
Wenwen Li, Cyber-knowledge-infrastructure for geospatial data, ASU Computer Science Department, September 12, 2017.
Wenwen Li, A Knowledge-driven cyberinfrastructure for sustained spatial innovation, Peking University, July 2017.
Wenwen Li, When GIS meets big data: the emergence of spatial data science, Chinese Academy of Sciences, July 2017.
Wenwen Li, A Knowledge-driven cyberinfrastructure to support sustained polar sciences, NASA JPL, June 2017.
Wenwen Li, Cyberinfrastructure and spatial data science, Department of Surveying and Mapping, Northeastern University, June 2017.
Wenwen Li, Spatial data science: opportunities and challenges, Northeastern University, May 2017.
Wenwen Li, Big spatial data: opportunities and challenges, Shenyang Agriculture University, May 2017.

2016 (2)
Wenwen Li, Cyber-knowledge infrastructure for geospatial data. Symposium on Human Dynamics Research: Space-Time Analytics (Technologies) at AAG 2016, San Francisco, CA.
Wenwen Li, A geospatial cyber-knowledge-infrastructure to support polar sciences. *University of Hawaii at Manoa*, Feb 2016.

2015 (1)
Wenwen Li, Building a data-driven, service-oriented polar cyber-knowledge infrastructure, *National Science Foundation (NSF)*, May 2015.

2014 (2)
Wenwen Li, Building a service-oriented polar cyberinfrastructure to support sustained polar sciences, *National Center for Atmospheric Research (NCAR)*, March 2014.
Wenwen Li, Spatial pattern analysis to support geographical sciences. *Northern Arizona University (NAU)*, February 2014.

2012 (3)
Wenwen Li, CyberGIS in support of urban economic modeling. Second Annual Geospatial Summit, *University of Southern California (USC)*, May 2012.
Wenwen Li, Recent work in Cyberinfrastructure for data-intensive cross-disciplinary Geoscience studies. Idaho State University, Pocatello, Idaho, January 2012.
Wenwen Li, Geospatial data mining and knowledge discovery in CyberGIS environments. Arizona State University, Tempe, Arizona, January 2012.

2007 (1)
Wenwen Li, Mining the correlation of geophysical parameters' contribution to tropical storm. COAA Spring Workshop, May 2007.

Invited Short-Courses (Total: 6)

2023 **Wenwen Li**, Geospatial Artificial Intelligence: Methods and Applications, Heidelberg University, Heidelberg, Germany, June 14 – July 5, 2023.

2022 **Wenwen Li**, Space-Time Big Data Theory and Analytics, Northeastern University, Shenyang, China, May 30 – 31, 2022.

2020 **Wenwen Li**, Scientific Writing, Northeastern University, Shenyang, China, January 4-13, 2020.

Wenwen Li, Strategies for Writing Successful Grant, Northeastern University, Shenyang, China, January 2, 2020.

2018 **Wenwen Li**, Space-Time Big Data Retrieval and Analytics. Shenyang Agriculture University, Shenyang, China, June 10-13, 2018.

Wenwen Li, Space-Time Big Data and Artificial Intelligence, Northeastern University, Shenyang, China, July 30- August 3, 2018.

Selected Conference Presentations (Total: 44)

2026 **Wenwen Li**, AI Foundation Models for Geographical Sciences: Opportunities, Gaps, and Future Directions, AAG 2026, San Francisco, CA, March 19, 2026.

2025 **Wenwen Li,** On the Promise and Challenges of Geospatial Foundation Models for Earth Science, AGU 2025, New Orleans, LA, December 19, 2025.

2024 **Wenwen Li**, GeoAI Reproducibility and Replicability: A computational and spatial perspective. AAG 2024, Honolulu, HI, April 17, 2024.

2022 **Wenwen Li**, Cyber2A: Cybertraining of Artificial Intelligence in Arctic Science. NSF Navigating the New Arctic Annual Meeting, Anchorage, Alaska, November 16, 2022.

2021 **Wenwen Li**, GeoImageNet: A multi-source dataset to support GeoAI and natural feature detection, USGS CEGIS (Center of Excellence for Geographic Information Science) All Hands Meeting, July 13, 2021.

2020 **Wenwen Li,** Integrating knowledge graph into CyberGIS for convergence research, NSF Expo, July 1&2, 2020.

2019 **Wenwen Li,** The planning of TerrainAI: A deep learning model for automatic terrain feature detection. USGS CEGIS All Hands Meeting, Rolla, MO, August 27, 2019.

Wenwen Li, A weakly supervised deep learning model for object detection of landform features, 2nd Symposium in GeoAI and Deep Learning in Geography AAG 2019, Washington D.C., April 3, 2019.

Yuanyuan Tian, **Wenwen Li**, Shaohua Wang. Multi-scale effects of built environment and social-demographic profile to the demands of dockless shared bike in the megacity, AAG 2019, Washington D.C., April 3, 2019.

Wenwen Li, Petawawa land cover classification ML model- Machine learning model with WPS interface, OGC Testbed 15 kickoff meeting, April 3, 2019.

2018 **Wenwen Li**, Automatic terrain features identification from remote sensing imagery– A deep learning approach, USGS CEGIS All Hands Meeting, Rolla, MO, July 14, 2018.

Wenwen Li, Recognizing terrain features using remote sensing imagery– A deep learning approach. 1st Symposium in Artificial Intelligence and Deep Learning in Geography, AAG 2018, New Orleans, LO, April 12, 2018.

Wenwen Li, Recognizing terrain features using remote sensing imagery– A deep learning approach. 1st Symposium in Artificial Intelligence and Deep Learning in Geography, AAG 2018, New Orleans, LO, April 12, 2018.
Hu Shao and **Wenwen Li**, A Geo-cyberinfrastructure for one-stop geospatial data integration and semantic search. 1st Symposium in Artificial Intelligence and Deep Learning in Geography, AAG 2018, New Orleans, LO, April 12, 2018.
Zelong Yang and **Wenwen Li**, A comprehensive framework for web map service quality evaluation. 1st Symposium in Artificial Intelligence and Deep Learning in Geography, AAG 2018, New Orleans, LO, April 11, 2018.
Xiran Zhou and **Wenwen Li**, Geo-semantic segmentation with TerrainNet, atrous convolution and graphical model for human-level landscape understanding. 1st Symposium in Artificial Intelligence and Deep Learning in Geography, AAG 2018, New Orleans, LO, April 13, 2018.

2017 **Wenwen Li**, Recognizing terrain features on terrestrial surface using a deep learning model: an example with crater detection. *1st Workshop on Artificial Intelligence and Deep Learning for Geographic Knowledge Discovery* (GeoAI '17), Los Angeles, CA, November 2017.
Wenwen Li, An integrated cyberinfrastructure to support intelligent terrain analysis, USGS CEGIS All Hands Meeting, Rolla, MO, June 13 2017.
Wenwen Li and Hu Shao, A comprehensive optimization strategy for real-time spatial feature sharing and visual analytics in cyberinfrastructure. AGU 17, New Orleans, December, 2017.

2016 **Wenwen Li**, Intelligent terrain analysis and feature extraction: an integrated machine learning and semantic modeling approach. USGS CEGIS All Hands Meeting, Rolla, MO, June 2016.

2015 **Wenwen Li** and Miaomiao Song, Spatiotemporal data representation and its effect on the performance of spatial analysis in a cyberinfrastructure environment, AAG 2015, Chicago, IL, April 2015.
Wenwen Li, Integrating cyberinfrastructure and big Earth observation data to support climate science. AAG 2015, Chicago, IL, April 2015.
Richard Church and **Wenwen Li**, Determining compact and traffic constrained zones for urban and regional modeling, Riverside, CA, Jan. 2015.
Richard Church and **Wenwen Li**, Analyzing fire service deployment in Los Angeles County: Estimating spatial efficiency using cyber search, GIS, and spatial optimization. Tucson, AZ, Feb 2015.

2014 **Wenwen Li**, Semantic enhancement of polar cyberinfrastructure. Geospatial Semantics Workshop & GeoVoCamp, Madison, WI, June 2014.

2013 **Wenwen Li** and Vidit Bhatia, Enabling semantic search in geospatial metadata catalogue to support polar sciences. Geospatial Semantics Workshop and GeoVoCamp, Madison, WI, October 2013.
Wenwen Li, Metadata, provenance and web services for spatial analysis. CyberGIS'13 All Hands Meeting, Seattle, WA, September 2013.
Wenwen Li, A hybrid indexing and ranking approach to enhance geospatial semantic search. Geocomputation 2013, Wuhan, China, May 2013.

Wenwen Li, Knowledge mining for intelligent geospatial data discovery. Earthcube Virtual Workshop on Semantics in Geospatial and Other Architectures, May 7, 2013.
Wenwen Li, Geospatial data mining on the Web: discovering locations of emergency service facilities. Annual Meeting of Association of American Geographers, Los Angeles, LA, April, 2013.
Richard L. Church and **Wenwen Li**, the compact p-regions problem. West Regional Science Conference, Santa Barbara, CA, March 2013.
Wenwen Li, CyberSearch: A data mining tool to discover public service facilities on the Internet. 2013 INFORMS Computing Society Conference, Santa Fe, NM, January 2013.

2012 **Wenwen Li**, Geospatial data mining on the Web: discovering locations of emergency service Facilities. The 8th International Conference on Advanced Data Mining and Applications, Nanjing, China, 2012.

2011 **Wenwen Li**, A heuristic algorithm to optimize automated zoning for urban economic modeling. Annual Meeting of Associations of American Geographers, Seattle, Washington, US, 2011.
Wenwen Li, GIScience in urban economic modeling: building a virtual co-laboratory for policy analysis of the greater L.A. region. University of California, Santa Barbara, 2011.
Wenwen Li, Operationalize semantic search: empowering CyberGIS by intelligent knowledge discovery, University of Illinois, Urbana-Champaign, 2011.

2010 **Wenwen Li**, Earth science data sharing, discovery and integration through an interoperable Cyberinfrastructure, Oak Ridge National Lab, 2010.
Wenwen Li, An active crawler for discovering geospatial web services and their distribution pattern. Annual Meeting of Associations of American Geographers, Washington D.C., US, 2010.

2009 Doug Nebert and **Wenwen Li**, Towards building a virtual Arctic spatial data infrastructure: discovery, sharing, evaluation, and visualization, Second Circumpolar Conference on Geospatial Sciences and Applications, Alaska, NV, 2009.
Wenwen Li, An improved feature matching model for similarity measurement on the Semantic Web, Annual Meeting of Association of American Geographers, Las Vegas, LV, 2009.

2008 **Wenwen Li**, An interoperable framework to access OPeNDAP data, Annual Meeting of American Geophysical Union, San Francisco, CA, 2008 (poster).
Wenwen Li, Semantic enhanced meta-Catalogue for geographic information discovery. George Mason University GIS day Best Oral Presentation Competition. Fairfax, VA, 2008
Wenwen Li, A semantic enhanced model for searching in spatial web portals. Association for the Advancement of Artificial Intelligence-Semantic Scientific Knowledge Integration AAAI/SSKI Spring Workshop, Palo Alto, CA, 2008.

2007 **Wenwen Li**, ESG and EIE, Annual Meeting of Association of American Geographers, San Francisco, CA, 2007.
Bin Zhou and **Wenwen Li**. Grid platform for geospatial applications & fine granule scheduler, Annual Meeting of Association of American Geographers, San Francisco,

CA, 2007.

TEACHING & ADVISING EXPERIENCES

- GIS 322, GIS Programming Principles II (online), ASU (Fall, 2019, 2020, Spring 2021, Fall 2022, Spring 2022, Fall 2022, Fall 2023, Spring 2024, Fall 2024, Spring 2025, Fall 2025, Spring 2026)
- GIS 591, Data Mining and Data-Driven Geography, ASU (Fall, 2018; Spring 2019; Spring 2021)
- GIS 598, Machine Learning for Geographers, ASU (Fall 2017)
- GIS 591, Cyberinfrastructure (Spring 2017).
- GIS 311, Geographic Information Science II (online), ASU (Fall, 2018).
- GIS 521, GIScience III, ASU (Spring 2016, 2017, 2018).
- GIS 322, Spatial Data Structure and Algorithm, ASU (Fall 2015, Fall 2018).
- GIS 311, Geographic Information Science II, ASU (Spring, 2015).
- GIS 211, Geographic Information Science I, ASU (Fall, 2014).
- GPH 591, Cyberinfrastructure, ASU (Spring 2014, 2015).
- GPH 494, Spatial Data Structure and Algorithm, ASU (Spring 2014).
- GPH 373, Geographic Information Science I, ASU (Fall 2013).
- GPH 473, Geographic Information Science II, ASU (Spring 2013).
- GPH 573/PUP598, Geographic Information Science III, ASU (Spring 2013).

Guest Lecturer

- GPH 373, Geographic Information Science I, ASU (Fall 2012).
- GEOG 176c, GIS Design and Applications, UCSB (Spring 2012).
- GEOG 176a, Introduction to GIS, UCSB (Summer Session B 2011).
- EOS 772, Distributed Geographic Information System (Spring 2008)

Teaching Assistant

Role: Occasional classroom teaching, supervising experiments, supplementing lectures, demonstrating solutions to problems and answering questions.

- EOS 650, Introduction to GIS programming, GMU (Fall 2008, Fall 2009)
- EOS 771, Algorithms and Modeling in GIS, GMU (Fall 2007).

Advising

Role: **Advisor/Chair/Co-Chair**

Early-career researcher:

- Chia-Yu Hsu, Assistant Research Professional, Arizona State University, 2022/01-.

Postdocs:

- Dr. Yuanyuan Tian, Arizona State University, 2025/05- present.
- Dr. Shirly Stephan (**completed**), Arizona State University, 2021/01-2021/08. (Current position: Postdoctoral scholar, University of California, Santa Barbara).
- Dr. Shaohua Wang (**completed**), Arizona State University, 2018/07- 2019/08. (Current position: Research programmer, University of Illinois, Urbana-Champaign).

- Dr. Feng Wang (**completed**), Arizona State University, 2016/08 – 2017/09 (Current position: Senior Software Developer, Nvidia Inc.).
- Dr. Miaomiao Song (**completed**), Arizona State University, 2013/10 – 2015/04 (Current position: Assistant Research Scientist, Shandong Academy of Sciences).

PhDs:

- Chenyan Lu, PhD student in GIScience, Arizona State University, 2024/8-.
- Patrick Rhodes (co-supervised with Amy Frazier), PhD student in GIScience, Arizona State University, 2023/8-.
- Xiao Chen, PhD student in GIScience, Arizona State University, 2023/8-.
    - 2nd place, Robert Raskin Student Paper Competition, Cyberinfrastructure Specialty Group, AAG, 2025.
- Hyunho Lee, PhD student in GIScience, Arizona State University, 2022/8-.
    - 3rd place, Remote Sensing Specialty Group Student Honors Competition, AAG, 2025.
    - Anthony J. Brazel Research Award, SGSUP, ASU, 2024
    - Pat Gober Water Prize, SGSUP, ASU, 2023
- Zhining Gu, PhD student in GIScience, Arizona State University, 2021/1-2024/8.
    - Honors and awards:
        - 2022: Pat Gober Water Prize, SGSUP, ASU.
- Yuanyuan Tian (**completed**), PhD student in Geography, Arizona State University, 2018/8-2025/05.
    - Dissertation topic: "*Enhancing Geographic Information Retrieval by Generative AI and Large Language Models*"
    - Honors and awards:
        - 2024: OpenAI grant for OpenAI API access.
        - 2024: SIGIR NSF Travel Award.
        - 2023: Research Travel Grant, The Nature Conservancy.
        - 2023: 3rd place, Student Poster Competition, UCGIS Symposium.
        - 2022: Student Leader for The College of Liberal Arts and Sciences, ASU.
        - 2022: UCGIS Student Travel Awards for Excellence in Research.
        - 2021: Individual Graduate and Professional Student Association Travel Grant, ASU.
        - 2020: Graduate Excellence Award, ASU.
        - 2019: AAG-UCGIS Summer School 2019 on Reproducible Problem Solving with CyberGIS and Geospatial Data Science.
        - 2018: University Graduate Fellowship.
- Sizhe Wang, PhD student in Computer Science, Arizona State University, 2017/1-.
- Jiwon Jang, PhD student in GIScience, Arizona State University, 2021/8- 2022/7.
- Xiran Zhou (**completed**), PhD student in GIScience, Arizona State University, 2014/8-
    - Dissertation topic: "GeoAI-enhanced Techniques to Support Geographical Knowledge Discovery from Big Geospatial Data"
    - Current position: Associate Professor, China University of Mining and Technology
    - Honors and awards:
        - 2019: ASU CLAS Graduate Excellence Award.
        - 2018: 2nd Place, ACM SIGSPATIAL Student Research Competition.

        - 2015: Finalist, AAG GIS Specialty Group Student Paper Competition.
- Hu Shao (**completed**), PhD student in GIScience, Arizona State University, 2014/8-2018/08.
    - Dissertation topic: "*GeoAI-enhanced Techniques to Support Geographical Knowledge Discovery from Big Geospatial Data*"
    - Current position: Software Engineer, Esri.
    - Honors and awards:
        - 2017: 1st Place, AAG Cyberinfrastructure Specialty Group Student Paper Competition.

MSs:

- Bowen Liao, MS in Geography, Arizona State University, 2024/08-.
- Yanxiao An (**completed**), MS in Geography, Arizona State University, 2018/01-2023/05.
- Swastik Roy, MS in Computer Science, Arizona State University, 2018/01-2019/05.
- Chia-Yu Hsu (**completed**), MS in Computer Science, Arizona State University, 2017/08-2018/05. (Current position: Associate Scientific Software Engineer, ASU)
- Vidit Bhatia (**completed**), MS in Computer Science, Arizona State University, 2013/05-2014/05. (Current position: Lead Data Scientist, Abobe Inc.)

Undergraduates:

- Garrett Abeln (**completed**), Undergraduate student in Barrett Honors College, Arizona State University, 2014/08-2015/05.

Visiting scholars and students:

- Yelin Kim, National Geographic Information Institute, South Korea, 2023/12-2024/05.
- Lei Hu, PhD student, Chinese Academy of Sciences, Beijing, 2023/03-2025/03.
- Mi Shu, PhD student, Peking University, Beijing, 2018/10-2019/9.
- Qingren Jia, PhD student, Northeastern University, Shenyang, 2018/10-2019/9.
- Jingqi Zhang, faculty, Northeastern University, Shenyang, 2018/03-2019/03.
- Xiaoyi Zhang, PhD student, Zhejiang University, Hangzhou, 2017/09-2018/05. (Honorable Mentions, ASU Institute for Social Science Research Spring Poster Competition, 2018)
- Zelong Yang, PhD student, Wuhan University, 2016-2018.
- Maosheng Hu, faculty, China Geoscience University, Wuhan, 2017/09-2018/09.
- Feng Wang, PhD student, Chinese Academy of Sciences, 2015/10-2016/07.
- Sheng Wu, PhD, faculty, Southwest University, 2014/09-2016/08.
- Chu Du, PhD candidate, China Geoscience University (Beijing), 2014/09-2015/04.

Role: **Committee Member**

Ongoing:

- Fopefoluwa Anjolaoluwa, PhD in Environmental Social Science, School of Human Evolution and Social Change, Arizona State University, 2026/01-.

Completed:

- Lei Hu, PhD in GIScience, University of Chinese Academy of Sciences, 2023/03-2025/06.
  Dissertation topic: "*Construction and embedding representation methods for geographic knowledge graphs oriented toward complex natural language spatial relations*"
- Tabea Rettelbach, PhD in Geoscience, Alfred Wegener Institute, 2023/03-2025/02.
  Dissertation topic: "*Leveraging computer vision on Earth observation data for quantifying Arctic permafrost landscape characteristics*"

- Rafael Antwerpen, PhD in Earth and Environmental Sciences, Columbia University, 2024.
  Dissertation topic: "*Understanding Drivers of Ice Mass Loss in Greenland Through Sea-Level and Climate Modeling, Remote Sensing, and Machine Learning*"
- Hongjun Choi, PhD in Computer Science, Arizona State University, 2020/09-2023/07.
  Dissertation topic: "*Building Reliable and Robust Deep Neural Networks with Improved Representations using Model Distillation and Deep Constraints*"
- Qi Deng, PhD student in Environmental Life Sciences, Arizona State University, 2016/08-2022/08.
  Dissertation topic: "*Establishing Explainability in Data-Driven Modeling for Ecohydrology: From Rainfall, River Flow, to Fish Migration*"
- Avipsa Roy, PhD student in Geography, Arizona State University, 2017/08- 2021/08.
  Dissertation topic: "*Developing Data-Driven Methods for Movement Pattern Analysis using Geographic Context*"
- Xuke Hu, PhD student in Geoinformatics, Heidelberg University, Heidelberg, Germany, 2020/07.
  Dissertation topic: "*Building Semantics Reasoning by Using Rules based on Available Geospatial Information*"
- Ziqi Li, PhD student in Geography, Arizona State University, 2016/08-2020/05.
  Dissertation topic: "*Multiscale Geographically Weighted Regression: Computation, Inference, and Application*"
- Jia Yu, PhD student in Computer Science, Arizona State University, 2019/08-2020/05.
  Dissertation topic: "*System Support for Large-scale Geospatial Data Analytics*"
- Tania Khalafbeigi, PhD in Geomatics, University of Calgary, Alberta, CA, 2018/12.
  Dissertation topic: "*An Open Geospatial Internet of Things Cloud Service Architecture Based on the Big Data Lambda Architecture*"
- Jason Laura, PhD student in Geography, Arizona State University, 2013/09 -2015/09.
  Dissertation topic: "*A Taxonomy of Parallel Vector Spatial Analysis Algorithms*"
- Chao Fan, PhD student in Geography, Arizona State University, 2013/09-2016/06.
  Dissertation topic: "*A spatial statistical framework for evaluating landscape pattern and its impacts on the urban thermal environment*"
- Sizhe Wang, MS student in Geography, Arizona State University, 2015.
  Thesis topic: "*Regional Economic Inequality Analysis : A Comparative Study of the United States and China*"
- Kailai Wang, MS student in Planning, Arizona State University, 2015.
  Thesis topic: "*How Does Built Environment Affect Cycling? Evidence From The Whole California 2010-2012*"
- Chih-Yuan Huang, PhD in Geomatics, University of Calgary, Alberta, CA, 2014.
  Dissertation topic: "*GeoPubSubHub: A Geospatial Publish/Subscribe Architecture for the World-Wide Sensor Web*"

Role: Mentoring students on research and development on Geospatial Semantic Web technologies.

- High School Student Summer Research Program (Summer 2008, presented in 2008 AGU Fall meeting)

Training

- Metadata Training Workshop: Metadata Within Cyberinfrastructure: An Introduction to the Geospatial Metadata Needs, Practice, and Future within the Cyberinfrastructure. AAG Annual Meeting in Las Vegas, NV (2009)
- Instruct and train researchers about metadata, metadata standards, tools for creating and maintaining metadata, metadata catalogs, how metadata can be utilized within grid computing, cloud computing and other advanced Cyberinfrastructure topics.

PROFESSIONAL SERVICES

Panel (21)

- Panelist, NSF Geoscience panel, 2026.
- Panelist, NSF RISE panel, 2025.
- Panelist, NSF CyberTraining panel, 2025.
- Panelist, NSF Geoinformatics program panel, 2025.
- Panelist, NSF OPP panel, 2024.
- Panelist, NSF CISE/OAC panel, 2024.
- Panelist, NSF OPP Postdoctoral Fellowship (PRF) Program, 2024.
- Panelist, NSF TIP/Pro-OKN panel, 2023.
- Panelist, NSF CISE/OAC/Cybertraining panel, 2023.
- Panelist, NSF SBE/BCS/HEGS panel, 2022.
- Panelist, NSF CISE/OAC/Cybertraining panel, 2021.
- Panelist, NSF CISE/OAC/CSSI panel, 2021.
- Panelist, NSF Science Gateways Community Institute virtual site review panel, 2020.
- Panelist, NSF CISE/OAC/CSSI panel, 2020.
- Panelist, NSF CISE/OAC/SGCI site review panel, 2019.
- Panelist, NSF CISE/OAC/Cybertraining panel, 2019.
- Panelist, NSF CISE/OAC/CESER panel, 2018.
- Panelist, Canadian Foundation for Innovation, 2017.
- Panelist, NSF EarthCube Panel, 2017.
- Panelist, NSF ARC Joint Panel, 2016.
- Panelist, NSF EarthCube program, 2015.
- Panelist, NSF Polar CI program, 2014.

Grant Proposal

Reviewer (124 proposals)

- Estonian Research Council, 2026. (1)
- European Science Foundation, 2026. (3)
- High North Research Centre for Climate and the Environment, Norway, 2025. (5)
- Dutch Research Council (NWO), 2025. (1)
- European Science Foundation, 2025. (1)
- Hongkong Research Grants Council, 2025. (3)
- Austrian Research Promotion Agency (FFG), 2025. (1)
- National Science Foundation, 2025. (11)
- European Science Foundation, 2024. (34)

- National Science Foundation, 2024. (4)
- Vienna Science and Technology Fund, 2024. (1)
- German Research Foundation, 2024. (1)
- National Science Foundation (NSF) CSSI, 2024. (1)
- European Science Foundation YUFE4PostDocs Programme, 2024. (1)
- Research Grants Council (RGC) of Hong Kong, 2024-. (11)
- Provost's Fund for Innovation in Research, Louisiana State University, 2024. (1)
- Government of the Hong Kong Special Administrative Region (HKSAR), Innovation and Technology Commission (ITC), 2023. (1)
- National Science Foundation (NSF) Innovation and Technology Ecosystems Program, 2023. (5)
- National Science Foundation (NSF) Methodology, Measurement, and Statistics Program, 2023. (1)
- Research Grants Council (RGC) of Hong Kong, 2023. (1)
- German Research Foundation, 2023. (1)
- National Science Foundation (NSF) SBE, 2022. (6)
- National Science Foundation (NSF) Arctic Social Sciences Program, 2022. (1)
- National Science Foundation (NSF) CSSI, 2022. (1)
- National Science Foundation (NSF) CISE/OAC, 2021. (9)
- National Science Foundation (NSF) CISE Program, 2021. (3)
- National Science Foundation (NSF) Geoinformatics Program, 2019. (2)
- Natural Sciences and Engineering Research Council of Canada (NSERC), 2019. (1)
- National Science Foundation (NSF) Office of Advanced Cyberinfrastructure program, 2019. (6)
- Netherlands Space Office (NSO) eScience program, 2019. (1)
- National Science Foundation (NSF) CESER program, 2018. (6)
- Canadian Foundation for Innovation, 2018. (3)
- National Science Foundation (NSF) EarthCube program, 2017-. (7)
- University of Hawai'i Sea Grant College Program, 2017. (1)
- National Science Foundation (NSF) EPSCoR Research Infrastructure Improvement (RII) Track 4, 2017. (1)
- National Science Foundation (NSF) Geoinformatics program, 2015-. (1)
- National Science Foundation (NSF) EarthCube program, 2015-. (8)
- National Science Foundation (NSF) ArcSEES program, 2013-. (1)
- National Science Foundation (NSF) Polar Cyberinfrastructure Program, 2013-. (9)
- National Science Foundation (NSF) Arctic Social Sciences Program, 2014-. (1)
- National Science Foundation (NSF) Antarctic Glaciology Program, 2014-. (1)
- German Research Foundation (GRF), 2014-. (1)
- Austrian Science Foundation, 2015-. (1)

Editorial Experience

Responsibilities: As the editor and guest editor, my primary role is to manage the publishing cycle of a manuscript. I review all submissions, select and invite reviewers, synthesize reviews and make decision recommendations to editor-in-chief who makes the final decision. As the editorial board member, my role is to review manuscripts falling in my areas of expertise and support activities to promote the publicity of the journal(s).

- Guest Editor, Special issue on "Critical Challenges in GeoAI" with *International Journal of*

Geographical Information Science. Co-edited with Drs. Michael Goodchild, Shashi Shekhar, Patricia Solis, and Dylan Connor, 2026-.

- Guest Editor, Special issue on "Ethical and Explainable GeoAI" with *Transactions in GIS*. Co-edited with Drs. Xinyue Ye, Sulong Zhou, and Song Gao, 2024-.
- Editorial Board Member, Applied Spatial Analysis and Policy, 2025- (invited).
- Guest Editor, Special issue on "Urban AI for a Sustainable Built Environment" with *Environment and Planning B*. Co-edited with Steffen Knoblauch, Dr. Hao Li, Dr. Filip Biljecki, and Dr. Alexander Zipf, 2024-.
- Guest Editor, Special issue on "Harnessing the Power of Generative AI in GIScience through Autonomous Spatial Agents" with *International Journal of Digital Earth*. Co-edited with Dr. Zhenlong Li, Dr. Song Gao, and Dr. Krzysztof Janowicz, 2024-.
- Guest Editor, Special issue on "Geospatial AI and Informatics for Urban and Ecosystems Analytics" with *Applied Sciences*, Co-edited with Dr. Henry Bulley and Dr. Monika Kuffer, 2024-.
- Editorial Board Member, Geomatica, 2024-.
- Editorial Board Member, International Journal of Geographical Information Science, 2023-.
- Editorial Board Member, for section 'Remote Sensing and Geo-Spatial Science', Remote Sensing, 2022-.
- Book co-editor, Handbook of Geospatial Artificial Intelligence (GeoAI), CRC Press/Taylor & Francis Group, co-edited by Song Gao and Yingjie Hu, 2022-.
- Associate Editor, 'Big Data, AI and the Environment' Section, Frontiers in Environmental Science, 2022-.
- Guest Editor, International Journal of Applied Earth Observation and Geoinformation, special issue on "Geospatial big data and GeoAI for Spatial Optimization", co-edited with Kai Cao (lead), Richard Church, Chenghu Zhou, and Xia Li, 2022-.
- Guest Editor, Remote Sensing, special issue on "Machine Learning and GeoAI for Remote Sensing Environmental Monitoring", 2022-.
- Editorial Board Member, International Journal of Digital Earth, 2022-.
- Guest Editor, Journal of Geographical Systems special feature on "Scale in Spatial Analytics" with Michael Goodchild (lead) and Daoqin Tong, 2020.
- Guest Editor, Annals of AAG special feature in Replicability and Reproducibility in Geography with Mike Goodchild (lead), Stewart Fotheringham, and Peter Kedron, 2020.
- Editor, Data Management Knowledge Area, UCGIS Geographic Information Science & Technology Body of Knowledge, 2015-.
- Editorial Board Member, Geo-spatial Information Science, 2019-.
- Editorial Board Member, Computers, Environment & Urban Systems, 2018-.
- Editorial Board Member, Journal of Spatial Information Science, 2018-.
- Editorial Board Member, Geographical Analysis, 2017-.
- Guest Editor: Geoinformatica special issue on "GeoAI", 2019 (co-edited with Song Gao et al.).
- Guest Editor: Transactions in GIS special issue on "Cyberinfrastructure and Intelligent Spatial Decision Support", 2019 (co-edited with Zhe Zhang et al.).
- Guest Editor: Environmental and Urban Planning B (EPB) special issue on "Big data and Spatial Optimization for Planning", 2018 (co-edited with Kai Cao and Richard L. Church).
- Guest Editor: International Journal of Geographic Information Science Special Issue on "Real-

time GIS for Smart Cities", 2017 (co-edited with Michael Batty and Michael F. Goodchild)
- Guest Editor: Cartography and Geographic Information Science Special Issue on "Integrating big social data, computing and modeling for spatial social science", 2016.
- Guest Editor: Computer, Environment and Urban Systems Special Issue on "*Cyberinfrastructure and Data-driven Geography*", 2015.
- Guest Editor: International Journal of Geographic Information Science Special Issue on "*Cyberinfrastructure, GIS and Spatial Optimization*", 2014.

Journal and Conference Reviews (173 papers)

- Proceedings of National Academy of Sciences, 2018-. (3)
- International Journal of Geographic Information Science, 2009-. (18)
- Annals of American Association of Geographers, 2016- . (3)
- Environmental Modeling and Software, 2016-. (1)
- Computer, Environment and Urban Systems, 2013-. (8)
- IEEE Intelligent Systems, 2011-. (4)
- IEEE Transactions on Systems, Man and Cybernetics: Systems, 2020-. (1)
- Environment and Planning B, 2015-. (1)
- Geographical Analysis, 2015-. (3)
- Geographical Compass, 2018-. (1)
- Frontiers in Marine Science, 2023-. (1)
- Journal of Cloud Computing, 2023-. (1)
- ISPRS Journal of Photogrammetry and Remote Sensing, 2019-. (1)
- Geo-spatial Information Science, 2019-. (2)
- IEEE Transactions on Knowledge and Data Engineering, 2018-. (1)
- 3rd Machine Learning for Remote Sensing workshop, ICLR 2025. (3)
- IEEE Transactions on Service Computing, 2014-. (1)
- GeoAI workshop in conjunction with ACMGIS 2019, 2019. (2)
- Engineering Science and Technology, an International Journal, 2019-. (1)
- International Journal of Semantic Web and Information Systems, 2011-. (1)
- Knowledge and Information Systems, 2012-. (3)
- PLOS One, 2014-. (3)
- Applied Geography, 2011-. (1)
- Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2014-. (1)
- Cartography and Geographic Information Science, 2011-. (3)
- Geoinformatica, 2011-. (5)
- Transactions in GIS, 2011-. (9)
- GIScience & Remote Sensing, 2011-. (2)
- ISPRS International Journal of Geo-Information, 2013-. (3)
- Catena, 2019-. (1)
- Annals of GIS, 2014-. (2)
- International Journal of Distributed Sensor Networks, 2014-. (1)
- Journal of Spatial Sciences, 2013-. (1)
- Journal of Integrative Agriculture, 2014. (1)
- Journal of Oceanography and Marine Science, 2019-. (1)

- International Journal of Geosciences, 2011-. (1)
- Remote Sensing, 2011-. (5)
- International Journal of Digital Earth, 2008-. (3)
- Earth Science Informatics, 2009-. (2)
- Computer Communications, 2010-. (1)
- Computers & Geosciences, 2009-. (2)
- Geospatial Web Services: Advances in Information Interoperability (book), 2010-. (2)
- OGC Summit, 2014. (1)
- SciPy, 2014. (9)
- GeoAI workshop in conjunction with ACMGIS 2018, 2018. (2)
- ESWC 2016: 13th Extended Semantic Web Conference, 2016. (2)
- ESWC 2013: 10th Extended Semantic Web Conference, 2013. (2)
- STAIRS 2012: Starting Artificial Intelligence Research Symposium, 2012. (2)
- Geoinformatics 2013, 2014, 2015. (14)
- IWSC 2015 – 1st International Workshop on Spatiotemporal Computing, 2015. (4)
- 26th AAAI Conference on Artificial Intelligence, 2012-2015. (12)
- IADIS International Conference on Internet Technologies & Society, 2012. (6)
- 21st International World Wide Web Conference, 2011-. (2)
- 4th IEEE International Conference on Computer Science and Information Technology, 2011-. (6)
- The 2010 International Conference on Computer Application and System Modeling, 2010-. (1)
- 4th IEEE Conference on Industrial Electronics and Applications (ICIEA 2009), 2008-. (1)

Community Service

University

- University Promotion and Tenure (P&T) committee, ASU (2021-2023).
- University Senate, ASU (2017-2019).
- ASU representative for OGC (Open Geospatial Consortium), 2014-2024.

College

- Social Science Dean search committee, ASU (2022).
- CLAS college curriculum committee, ASU (2021-2024).
- CLAS college senators committee, ASU (2020-2022).
- Graduate College faculty review committee for Achievement Rewards for College Scientists (ARCS) Fellowship, (2018-2020).

Department

- Chair, SGSUP personnel committee, (2023-; Chair: 2024-)
- Chair, SGSUP GIScience faculty search committee, ASU (2024-2025).
- Member, SGSUP executive committee, ASU (2024-2025).
- Chair, SGSUP GIScience faculty search committee, ASU (2023-2024).
- SGSUP research advancement committee, ASU (2020-).
- SGSUP faculty mentor, ASU (2021-2022).
- SGSUP director search committee, ASU (2020-2021).
- SGSUP GIS/Planning faculty search committee, ASU (2018-2019).

- SGSUP graduate admission committee, ASU (2017-2019).
- SGSUP GIS faculty search committee, ASU (2017-2018).
- SGSUP representative, University Senate, ASU (2017-2019).
- SGSUP representative, CLAS Data Science Degree committee, ASU (2017).
- Hiring committee for Peter Rogerson, 2016
- Graduate admission committee (2015-2016)
- SGSUP GIS faculty search committee (2015)
- ASU delegate for UCGIS (University Consortium of Geographic Information Science) (2013-2019).
- New PhD in GIScience degree planning committee (2014)
- New MS in Spatial Analytics degree planning committee (2014)
- SGSUP computer representative (2014-).
- SGSUP GIS undergraduate committee (2014-).
- SGSUP graduate award committee (2012-2014).
- ASU undergraduate graduation commencement (2013 Spring).

National and International

Responsibilities: As a program committee member, my main responsibility is to review manuscripts submitted to the conferences. As a senior program committee member, my responsibility is to review manuscripts and synthesize reviews from regular program committee members, foster the discussion among reviewers, ensure the quality of the review process, and help the program chairs in reaching a final decision.

- Advisory Committee, International Conference on Geospatial Artificial Intelligence (GeoAI CON 2026), 23–27 November 2026, India.
- **Chair**, organizing committee, ASU SPARC workshop on "Critical Challenges of GeoAI," February 5-6, 2026.
- Expert reviewer, ESF College of Expert Reviewers, (2025-), European Science Foundation.
- Expert panelist, FWO Review College Fundamental Research (2025-2028), Belgium, Netherlands.
- Co-chair, GeoSearch 2025 Workshop @ SIGSPATIAL.
- Award committee member, AGU Greg Leptoukh Lecture Selection Committee, 2025-present.
- Program committee member, The 33rd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2025) - Application Track, 2025.
- External evaluator, University of Buffalo new proposed degree program in AI for Spatial Analytics, 2025.
- Program committee member, I-GUIDE Forum: Geospatial AI and Innovation for Sustainability Solutions, 2025.
  - Responsible for reviewing submissions for the forum.
- Meta-reviewer, ICLR 2025 Workshop: Tackling Climate Change with Machine Learning.
  - Responsible for making final acceptance decisions on papers submitted to the workshop.
- Program committee, 3rd Machine Learning for Remote Sensing workshop, ICLR 2025.
- Co-chair, 3rd GeoSearch workshop, ACM SIGSPATIAL 2024, Atlanta, GA, October 29 – November 1, 2024.
- Program committee member, 7th GeoAI workshop, ACM SIGSPATIAL 2024, Atlanta, GA, October 29 – November 1, 2024.

- Panelist, Climate and Water Security, 2024 NASA/DOE-ORNL Trillion Pixel Challenge Workshop, Huntsville, AL, September 4-5, 2024.
- **Lead convener**, AI panel, 2024 NASA/DOE-ORNL Trillion Pixel Challenge Workshop, Huntsville, AL, September 4-5, 2024.
- Panel organizer, GeoAI for Climate Science and Policy, UCGIS Symposium, Columbus, Ohio, June 5, 2024.
- Panelist, GeoAI Foundation Models, AAG 2024, Hawaii, April 16-20. 2024.
- Panelist, Future Map: The Convergence of Generative GeoAI, Population Synthesis, and Agent-Based Modeling to Develop Geographic Futures for Climate and Sustainability Assessments. AAG 2024, Hawaii, April 16-20. 2024.
- **Lead organizer** and **chair**, 6th Symposium on GeoAI and Deep Learning in Geographical Research at AAG 2024, Hawaii, April 16-20, 2024.
    - The symposium spans from day 1 to day 5 of the conference and features 30 sessions (28 paper sessions and 2 panel sessions) with more than 150+ GeoAI authors/speakers.
- **Chair**, UCGIS Research Committee, 2022-2025.
- Program Committee member, Program committee member, GeoKG & GeoAI 2023 at GIScience 2023.
- Program Committee member, International Conference Internet Technologies & Society 2023 (ITS 2023)
- Program committee member, GeoKG 2022 at GIScience 2022.
- Panelist, Human-Centered Spatial Decision Support Systems, AAG 2022.
- Panelist, Convergence of CyberGIS and Geospatial AI, AAG 2022.
- **Co-chair** and moderator, ASU/AAG Webinar "Does Spatial Analytics Promise an Ethical Future for Spatial Analytics", 2022.
- **Domain chair**, Humanities & Social Sciences, Platform for Advanced Scientific Computing (PASC) Conference, 2021 - 2022.
- Review committee member (**Invited**), Geocomputation 2021, October 5-8, 2021.
- GeoAI initiative advisory board member (**Invited**), American Geographical Society, 2020-.
- Senior program committee member (**Invited**), GIScience 2020, Poznan, Poland, September 15-18, 2020.
- Program committee member (**Invited**), AutoCarto 2020, Redlands, CA, May 20-22, 2020.
- User Working Group (UWG) Member (**Invited**), NASA Socioeconomic Data and Applications Center (SEDAC), 2019-2023.
- **Lead organizer** and **chair**, 3rd Symposium on GeoAI and Deep Learning in Geographical Research at AAG 2020, Denver, CO, April 6-10, 2020.
- **Vice-chair**, UCGIS Research Committee, 2019-. (***Responsibilities***: (co-) lead a few research initiatives including the UCGIS research award).
- Program committee member, Internet Technologies & Society 2020, São Paulo, Brazil.
- External reviewer, hiring of an assistant professor in Big Data Management at Technical University, Munich, Germany, July 2019.
- Panelist, Next-Generation GIS. AAG 2019, Washington D.C., April 5, 2019.
- PC Member, GeoAI 2019 workshop in conjunction with ACMGIS 2019, Chicago, IL.
- **Lead organizer and co-chair**, 2nd Symposium on GeoAI and Deep Learning in Geographical Research at AAG 2019, Washington D.C., April 3-8, 2019. (***Accomplishments***: successfully

organized 13 paper sessions and 1 panel session to foster community discussion in this interdisciplinary research topic).

- Program committee member, GSES & GeoAI-UC 2019 (Geoinformatics in Sustainable Ecosystem and Society 2019; Geospatial Artificial Intelligence for Urban Computing 2019).
- Co-organizer, ASU SPARC Workshop on Reproducibility and Replicability, 2019.
- PC Member, 9th International Conference on Internet Technologies & Society 2019, Feb 8-10, 2019, Hongkong.
- PC Member, GeoAI 2018 workshop in conjunction with ACMGIS 2018, Seattle, WA.
- **National Visiting Committee (NVC) Member** of the NSF IBSS project (PI: Dr. Ming-Hsiang Tsou) at San Diego State University, August 6-8, 2018 (**Role**: review the project progress with two other NVC members and write a report summarizing assessment results and offering suggestions for future actions).
- **Lead organizer and co-chair**, 1st Symposium on Artificial Intelligence and Deep Learning in Geographical Research at AAG 2018, New Orleans, LA. (***Accomplishments***: successfully organized 11 paper sessions and 1 panel session to foster community discussion in this interdisciplinary research topic).
- TPC Member, Second edition of Big Data and Advanced Wireless technologies (BDAW 2018) conference, Oxford, United Kingdom, April, 2018
- **Director on board (elected)**, University Consortium of Geographic Information Science (2017-2020).
    - ***Responsibilities***: advise on UCGIS activities and priorities, help organize UCGIS spring symposiums, vote on change of bylaws, led a survey on female GIScience faculty in US higher education for gender-awareness raising.
- **Director on board (elected)**, Chinese Professionals in Geographic Information Science (2017-2018).
- PC Member, the 8th International Conference on Internet Technologies & Society 2017 (ITS 2017)
- PC Member, International Conference on Internet of Things and Machine Learning, Liverpool city, United Kingdom, 2017.
- PC Member, Geo-Knowledge Graphs Workshop, COSIT 2017, in L'Aquila, Italy, 2017.
- PC Member, ISWC 2017 (16th International Semantic Web Conference), 2017.
- PC Member, CyberGIS 16', Urbana-Champaign, Illinois, 2016.
- PC Member, GIScience 2016 workshop on "GeosSocial: Social Media and GIScience", Toronto, CA, 2016.
- Member, UCGIS 2016 Research Award committee, 2016.
- PC Member, NSF CyberGIS Curriculum Workshop for Synthesizing Education Materials, April 2-3, San Francisco, CA, 2016.
- **Organizer and Chair**, Session of "Future Directions of CyberGIS", AAG 2016, San Francisco, CA.
- PC Member, 2016 International Conference on Geoinformatics, 2016.
- PC Member, 13th Extended Semantic Web Conference (ESWC 2016).
- Co-convener, Session on "Data Visualization for Information Exploration and Knowledge Discovery", AGU 2015, San Francisco, CA.
- PC Member, Geoinformatics 2015, Wuhan, China.

- PC Member, 1st International workshop on spatiotemporal computing, 2015, Fairfax, VA.
- PC Member, European Semantic Web Conference 2015, Portoroz, Slovenia.
- **Organizer and Chair**, Session of "Cyberinfrastructure in Climate Science – A focus at the Poles", AAG 2015, Chicago, IL.
- PC Member, Internet Technology & Society 2014 (ITS 2014), New Taipei City, Taiwan.
- Co-convener, Earthcube session on Crawling the Web for EarthCube, EarthCube All Hands Meeting 2014, Washington DC.
- Co-convener, AGU session on Enabling Visualization Technologies Enhancing Earth and Space Science Data Usability, AGU 2014, San Francisco, CA.
- Co-convener, AGU session on Polar Cyberinfrastructure, AGU 2014, San Francisco, CA.
- PC Member, 2014 Python for Scientific Computing Conference (Scipy 2014), Austin, TX.
- **Publicity Chair**, OGC Academic Summit 2014, Calgary, Canada.
- PC Member, 22st International Conference on Geoinformatics (Geoinformatics 2014).
- Organizer, session of "Spatial Land Use Optimization", AAG 2014, Tampa, FL.
- Organizing Committee Member, AAG 2014 Symposium on Synergistic Advances of CyberGIS and Geography, Tampa, FL.
- Organizer and **Chair**, Workshop of Geospatial Cyberinfrastructure to Support Sustained Polar and Environmental Science, AAG 2014, Tampa, FL.
- PC Member, 11th Extended Semantic Web Conference (ESWC 2014)
- PC Member, 27th AAAI Conference on Artificial Intelligence, Student Abstract and Poster Program, 2014 (AAAI 2014).
- Member, Organizing committee of GIScience, GIS, and Public Policy theme of the AAG's 2014 Annual Meeting, April 8-12, Tampa, Florida.
- Member, UCGIS Geographic Information Science & Technology Body of Knowledge Task Force Steering Committee, 2013-2014.
- Cyberinfrastructure Specialty Group, Association of American Geographers
  - 2014-2015: **Past Chair**
  - 2013-2014: **Chair**
  - 2012-2013: **Vice Chair**
  - 2010- 2012: Secretary/Treasure
  - 2008- 2010: Board director (student member)
  - 2008: Acting secretary

  Responsibilities: One of the founding members of the specialty group. As the chairman of the group, I work with other officers to organize activities to enhance geographic research particularly in the area of cyberinfrastructure. This includes hosting monthly business meetings, discussing new funding and collaboration opportunities, and sponsoring members from this and other AAG specialty groups in academic events. We also started the specialty group's student paper competition at the AAG annual conference. We developed the criteria for the competition, secured external financial sponsorship for the awards, reviewed submissions, voted on finalists, coordinated final presentations and announced the award winners.
- Workshop Organizer and **Chair**, AGU Polar Cyberinfrastructure Workshop, AGU, 2013.
- Workshop Organizer, NSF Polar Cyberinfrastructure, University of Minnesota, 2013.
- PC Member, IADIS International Conference on Internet Technologies & Society (ITS 2013).
- Technical PC Member, 1st International Conference on Geo-Information in Green Ecology &

Environment (GGEE 2013).
- PC Member, 10th Extended Semantic Web Conference (ESWC 2013)
- PC Member, 21st International Conference on Geoinformatics (Geoinformatics 2013).
- PC Member, 26th AAAI Conference on Artificial Intelligence, Student Abstract and Poster Program, 2013 (AAAI 2013).
- PC Member, "Starting Artificial Intelligence Research" Symposium (STAIRS 2012), ECAI, 2012, Montpellier, France.
- PC Member, IADIS International Conference on Internet Technologies & Society (ITS 2012).
- PC Member, 5th Linked Data on the Web workshop (LDOW 2012).
- Member, Spatial Decision Support Consortium at the University of Redlands, CA, USA, 2012-.
- Volunteer staff, 1st International Conference on Computing for Geospatial Research & Application, 2010.
- Organizer: Session of Spatial Metadata, Knowledge and Semantic Interoperability II and III. 2010 Annual Meeting of AAG, Washington D.C., 2010.
- Co-organizer: Workshop of Metadata within Cyberinfrastructure: An Introduction to the Geospatial Metadata Needs, Practice, and Future within the Cyberinfrastructure, 2010 Annual Meeting of AAG, LV, NV.
- Event Coordinator, GMU student chapter of ARPRS, 2009-2010.

PROFESSIONAL AFFILIATION

- Member, The Geological Society of America (GSA), 2025-.
- Lifetime Member of American Geophysical Union (AGU), 2007-.
- Member of American Association of Advancement of Science, 2022-.
- Member of International Society for Digital Earth (ISDE), 2013-.
- Member of Association of American Geographers (AAG), 2007-.
- Member of American Society for Photogrammetry and Remote Sensing (ASPRS), 2009.
- Member of Association for the Advancement of Artificial Intelligence (AAAI), 2008.
- Member of Institute of Electrical and Electronics Engineers (IEEE), 2008.
- Member of Federation of Earth Science Information Partners (ESIP), 2007-2009.