

Curriculum Vitae

Xin (Selena) Feng

Contact Details

Department of Geography and Environmental Sustainability
University of Oklahoma
Norman, OK 73019, USA
Email: selena.feng@ou.edu

Teaching and Research Interests

Geographic information science; geospatial data science; spatial optimization; location modeling; urban, regional, and natural resource planning and development; emergency response; infrastructure and transportation systems; public policy; and techniques to support interactive planning and decision making.

Education

Ph.D., Geography (Spatial analysis and modeling) University of California, Santa Barbara, USA	2019
M.A., Geographical Sciences and Urban Planning Arizona State University, USA	2015
M.S., Remote Sensing & GIS Peking University, China	2013
B.S., Cartography and Geographical Information System Wuhan University, China	2010

Academic Appointments

2021-present	Assistant Professor, Department of Geography and Environmental Sustainability, University of Oklahoma
2020-2021	Postdoctoral Scholar, Center of Geospatial Sciences, University of California, Riverside
2015-2019	Research Assistant and Lab Lecturer, Department of Geography, University of California, Santa Barbara
2013-2015	Research Assistant and Teaching Assistant, School of Geographical Sciences and Urban Planning, Arizona State University
2010-2013	Research Assistant, Institute of Remote Sensing and Geographic Information System, Peking University

Publications

Refereed Articles and Proceedings

- 2023 **X. Feng**. Multi-Plant Location involving Resource Allocation. *Geographical Analysis*. (Accepted in May 2023)
- 2023 Y. Zhu, S. W. Myint, **X. Feng***, & Y. Li. An Innovative Scheme to Confront the Trade-Off Between Water Conservation and Heat Alleviation with Environmental Justice for Urban Sustainability: The Case of Phoenix, Arizona. *AGU Advances*, 4(1), e2022AV000816. (*corresponding author; this paper was selected for featuring as an Editor's Highlight, which was published on Eos.org)
- 2022 R. Wei, **X. Feng**, S. Rey, & E. Knaap. Reducing racial segregation of public school district. *Socio-Economic Planning Sciences*, 101415.
- 2022 **X. Feng**, G. Barcelos, J. D. Gaboardi, E. Knaap, R. Wei, L.J. Wolf, ... & S. J. Rey. Spopt: a Python package for solving spatial optimization problems in PySAL. *Journal of Open Source Software*, 7(74).
- 2022 **X. Feng**, S. Rey, & R. Wei. The max-p-compact-regions problem. *Transactions in GIS*, 26(2), 717-734.
- 2021 **X. Feng**, A. Murray, R. Church. "Drone service response: Spatiotemporal heterogeneity implications." *Journal of Transport Geography* 93, 103074.
- 2021 **X. Feng**, S. Wang, A. Murray, Y. Cao, S. Gao. "MOTO: A multi-objective trajectory optimization method for finding sequential activity locations over space and time." *Environment and Planning B-Urban Analytics and City Science*, 2399808320913300.
- 2020 **X. Feng**, A. Murray. "Spatiotemporal Heterogeneous Allocation to Support Service Area Response." *Computers, Environment, and Urban Systems*, 82, 101503.
- 2020 A. Murray, R. Church, **X. Feng**. "Single facility siting involving allocation decisions." *European Journal of Operational Research*, 284 (3), 834-846.
- 2018 **X. Feng**, A. Murray. "Allocation Using a Heterogeneous Space Voronoi Diagram." *Journal of Geographical Systems*, 20(3), 207-226.
- 2018 A. Murray, **X. Feng**, Ali Shokoufandeh. "Heterogeneous Skeleton for Summarizing Continuously Distributed Demand in a Region." In *Proceedings of 10th International Conference on Geographic Information Science*, vol. 114.
- 2018 S. Wang, S. Gao, **X. Feng**, A. Murray, Y. Zeng. "A context-based geoprocessing framework to find optimal spatiotemporal meetup location on road networks for multiple moving objects." *International Journal of Geographical Information Science*, 32(7), 1368-1390.
- 2018 **X. Feng**, A. Murray. "Spatial analytics for enhancing street light coverage of public spaces." *LEUKOS*, 14(1): 13-23.
- 2016 A. Murray, **X. Feng**. "Public street lighting service standard assessment and achievement." *Socio-Economic Planning Sciences* 53: 14-22.
- 2016 **X. Feng**, S. Myint. "Exploring the effect of neighboring land cover pattern on land surface temperature of central building objects." *Building and Environment*, 95: 346-354.
- 2014 J. Song, S. Du, **X. Feng** and L. Guo. "The relationships between landscape compositions and land surface temperature: Quantifying their resolution sensitivity with spatial regression models." *Landscape and Urban Planning*, 123: 145-157.
- 2013 **X. Feng**, S. Du, F. Zhang and S. Wang. "Urban land classification of high-resolution images based on multi-scale fusion." *Journal of Geography and Geo-Information Science* 29(3): 43-47.
- 2011 **X. Feng**, S. Du, H. Shu. "The effect of spatial weight matrices on spatial autocorrelation - a cased study of hemorrhagic fever with renal syndrome (HFRS) in China." *Geomatics and Information Science of Wuhan University*, 36(12): 1410-1413.

- 2011 **X. Feng**, S. Du, H. Shu. “Spatial regression analysis in hemorrhagic fever with renal syndrome (HFRS) in China.” *Proceedings of 2011 IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services*, 77-80.

Research Funding

Awarded (as PI or Co-PI)

- 2023 **X. Feng** and D. Schwartzman. *Optimizing the location of Mobile Radar Deployment to Support Meteorological Observation*. The University of Oklahoma (Vice President for Research and Partnerships, Faculty Investment Program), \$ 9,981.3.
- 2023 **X. Feng** and J. Koch. *Spatially explicit delineation for boundaries of social-environmental systems: a case in the Rio Grande – Rio Bravo basin*. The University of Oklahoma (Data Institute for Societal Challenges Seed Grant), \$10,000.

Courses Taught

- GIS 2023 Introduction to Spatial Thinking (2022, 2023)
- GIS 4970 Environmental Spatial Modeling (2022, 2023)

Students Advised

Doctoral (advisor)

- Bikram Parajuli

Doctoral (committee member)

- Jay (Joshua) Wimhurst
- Chinedu Nsude

Doctoral (external reviewer)

- Kevin Thiel
- Andrew Berrington

Master’s (advisor)

- M. Shahriyar Parvez

Master’s (committee member)

- David Conn – The University of Oklahoma, 2022

Meetings and Conference Presentations

- 2023 X. Feng. “A multi-source, raw material allocation form of multi-plant Weber problem.” *American Association of Geographers Annual Meeting*, Denver, CO, March 23-27, 2023.
- 2020 X. Feng, Sergio Rey, Ran Wei. “Max-p-Compact-Regions Problem”. *67th North American Meetings of the Regional Science Association International*, Virtual meeting, November 9-13, 2020.
- 2019 X. Feng, A. Murray, R. Church. “Medical drone service response: spatiotemporal heterogeneity implications.” *American Association of Geographers Annual Meeting*, Washington, DC, April 3-7, 2019.

- 2018 X. Feng and A.T. Murray. "Addressing Spatial Allocation: Planning for Drone-based Emergency Medical Service." *Western Regional Science Association 57th Annual Meeting*, Pasadena, California, USA, February 11-14, 2018.
- 2017 X. Feng, S. Wang, S. Gao, and Y. Cao. "Spatial analytics for supporting meetup location." *64th North American Meetings of the Regional Science Association International*, Vancouver, British Columbia, Canada, November 8-11, 2017.
- 2017 X. Feng and A.T. Murray. "Heterogeneous Voronoi diagram." *2017 Annual Meeting of the American Association of Geographers*, Boston, Massachusetts, USA, April 5-9, 2017
- 2016 X. Feng and A.T. Murray. "Heterogeneous space facility siting in order to maximize coverage." *63rd North American Meetings of the Regional Science Association International*, Minneapolis, Minnesota, USA, November 9-12, 2016.
- 2016 X. Feng and A.T. Murray. "Spatial analytics for enhancing street light coverage of public spaces." *2016 Annual Meeting of the American Association of Geographers*, San Francisco, California, USA, March 29- April 2, 2016.
- 2015 X. Feng and S. Myint. "The effect of spatial heterogeneity of land cover types on land surface temperatures within different land use categories." *2015 Annual Meeting of the American Association of Geographers*, Chicago, Illinois, USA, April 21-25, 2015.
- 2014 A.T. Murray and X. Feng. "Street light coverage optimization." *61st North American Meetings of the Regional Science Association International*, Washington, D.C., USA, November 12-15, 2014.
- 2014 Xin Feng. "Understanding the effect of neighboring land cover pattern on land surface temperature of central building patch in Beijing. *2014 Annual Meeting of the American Association of Geographers*, Tampa, US, April 8-12, 2014.
- 2011 Xin Feng, Shihong Du, Hong Shu. "Spatial regression analysis in hemorrhagic fever with renal syndrome (HFRS) in China." *IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services & 8th Beijing International Workshop on Geographical Information Science*. Fuzhou, China, July 6-8, 2011.

Honors and Awards

- 2022 TRELIS Fellow, selected through a competitive process to participate in an intensive program of professional development for academic women in the geospatial sciences. Program funded by the US National Science Foundation (Award #1660400).
- 2021 Finalist, William L. Garrison Award for Best Dissertation in Computational Geography, American Association of Geographers.
- 2019 Excellence in Research Award, Department of Geography, University of California, Santa Barbara.
- 2019 2nd Place, Student Paper Competition, Geographic Information Science and Systems Specialty Group (GISS-SG), American Association of Geographers Annual Meeting, Washington, DC, April 3-7.
- 2018 Finalist (2nd Place), Tiebout Prize, Best Graduate Student Paper Award Western Regional Science Association 57th Annual Meeting, USA, February 11-14.
- 2016-2018 Dangermond Travel Grant, Department of Geography, UCSB. (Winter 2018, Spring 2018, Spring 2017, Fall 2017, Fall 2016)
- 2014 Lounsbery Student Travel Fellowship, Arizona State University,
- 2013 Second Prize Scholarship, Peking University, China.

- 2012 Wusi Individual Scholarship, Peking University, China.
- 2012 First Prize Scholarship, Peking University, China.
- 2011 2nd Place, Best Student Paper Award IEEE International Conference on Spatial Data Mining and Geographical Knowledge Services, Fuzhou, China, July 6-8.
- 2010 Excellent B. S. Dissertation, Hubei Province, China.

Invited Lectures

- 2020 School of Geosciences, University of South Florida, USA. “Optimization in Geospatial Data Science.”
- 2020 Department of Urban & Regional Planning, San Jose State University, USA. “F(X): my function of GIScience.”
- 2019 Department of Geography, Environment and Society, University of Minnesota, USA. “Spatial Optimization in Geography.”
- 2018 Department of Geography, University of Florida, USA. “Optimizing meetup locations along road networks.”

Professional Service

Journal Reviewer

Annals of GIS

Building and Environment

Cities

Computational Urban Science

Computers, Environment and Urban Systems

Construction and Building Materials

Environment and Planning B: Urban Analytics and City Science

IEEE Access

International Journal of Geographical Information Science

Journal of Geographical Systems

Journal of Transport Geography

LEUKOS

Socio-Economic Planning Sciences

Sustainable Cities and Society

Transportation Research Part E: Logistics and Transportation Review

Professional Society Service

Boards

2022 - 2025 Spatial Analysis and Modeling Specialty Group, American Association of Geographers, Board of Officers.

University and Department Committees

University of Oklahoma

Colloquium Committee (2021, 2022, 2023)

Technology Committee (2021)

Faculty Evaluation Committee (2022, 2023)

University of California, Santa Barbara

Events Committee, Department of Geography (2017, 2018)

Outreach Committee, Department of Geography (2016, 2017)

Professional Society Membership

American Association of Geographers

Regional Science Association International