QIANG PU

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EDUCATION

2023	**Ph.D.** in Geography The State University of New York at Buffalo (*Buffalo*, *NY*)
2017	**M.S.** in Cartography and Geographical Information Engineering Central South University (*Changsha*, *China*)
2014	**B.S.** in Geomatics Engineering Central South University (*Changsha*, *China*)

ACADEMIC APPOINTMENTS

Saint Louis University

Aug. 2024 - Current	Assistant Professor, Department of Behavioral Science and Health Equity, College for Public Health and Social Justice

Emory University

Feb. 2023 - Aug. 2024	Postdoctoral Fellow, Gangarosa Department of Environmental Health, Rollins School of Public Health

University at Buffalo, SUNY

Aug. 2017 - May 2022	Graduate Teaching Assistant, Department of Geography
2018, 2022	Graduate Research Assistant, Department of Geography

RESEARCH/TEACHING INTERESTS

- Environmental Health
- Geographic Information Science (GIScience)
- Geospatial Data Science
- Air Pollution
- Statistical Modeling
- Climate and Health

PUBLICATIONS

Refereed Journal Articles **(**Google Scholar**)**

Published or Accepted

2024 Jin, Z., **Pu, Q.**, Janechek N., Zhang, H., Wang, J., Chang, H., & Liu, Y. A MAIA-like modeling framework to estimate $PM_{2.5}$ mass and speciation concentrations with uncertainty. ***Remote Sensing of Environment***, 303, 113995. DOI: 10.1016/j.rse.2024.113995

2023 Zhang, D., Wang, W., Xi, Y., Bi, J., Hang, Y., Zhu, Q., **Pu, Q.**, Chang, H., & Liu, Y. Wildfire worsened population exposure to $PM_{2.5}$ pollution in the Continental United States. ***Environmental Science & Technology***, 57(48), 19990-19998. DOI: 10.1021/acs.est.3c05143

2022 **Pu, Q.** & Yoo, E. H. A Gap-filling hybrid approach for hourly $PM_{2.5}$ prediction at high spatial resolution from multi-sourced AOD data. ***Environmental Pollution***, 315, 120419. DOI: 10.1016/j.envpol.2022.120419

2021 **Pu, Q.** & Yoo, E. H. Ground $PM_{2.5}$ prediction using imputed MAIAC AOD with uncertainty quantification. ***Environmental Pollution***, 274, 116574. DOI: 10.1016/j.envpol.2021.116574

2021 Yoo, E. H., **Pu, Q.**, Eum, Y., & Jiang, X. The impact of individual mobility on long-term exposure to ambient $PM_{2.5}$: assessing effect modification by travel patterns and spatial variability of $PM_{2.5}$. ***International Journal of Environmental Research and Public Health***, 18(4), 2194. DOI: 10.3390/ijerph18042194

2020 Cairo, S. B., **Pu, Q.**, Kalisya, L. M., Bake, J. F., Zaidi, R., Poenaru, D., & Rothstein, D. H. Geospatial mapping of pediatric surgical capacity in North Kivu, Democratic Republic of Congo. ***World Journal of Surgery***, 44(11), 3620-3628. DOI: 10.1007/s00268-020-05680-2

2020 **Pu, Q.**, Yoo, E. H., Rothstein, D. H., Cairo, S. B., & Malemo, L. Improving the spatial accessibility of healthcare in North Kivu, Democratic Republic of Congo. ***Applied Geography***, 121, 102262. DOI: 10.1016/j.apgeog.2020.102262

2019 **Pu, Q.** & Yoo, E. H. Spatio-temporal modeling of $PM_{2.5}$ concentrations with missing data problem: a case study in Beijing, China. ***International Journal of Geographical Information Science***, 34(3), 423-447. DOI: 10.1080/13658816.2019.1664742

2016 Zou, B., **Pu, Q.**, Bilal, M., Weng, Q., Zhai, L., & Nichol, J.E. High-resolution satellite mapping of fine particulates based on geographically weighted regression. ***IEEE Geoscience and Remote Sensing Letters***, 4(13): 495-499. DOI: 10.1109/LGRS.2016.2520480

2014 Dong, M., Zou, B., **Pu, Q.**, Wan, N., Yang, L., & Luo, Y. Spatial pattern evolution and causal analysis of county level economy in Changsha-Zhuzhou-Xiangtan urban agglomeration, China. ***Chinese Geographical Science***, 24(5): 620-630. DOI: 10.1007/s11769-014-0685-2

Under Review or In Revision

2024 Hao, H, Xu, K., Zhang, D., Wang, W., Zhu, Q., **Pu, Q.**, Pattisapu, V., Steenland, K., Chang, H., Alonso, A., & Liu, Y. Cardiovascular disease incidence and long-term exposure to wildfire smoke. (Under Review)

2024 **Hang, Y.***, **Pu, Q.***, Zhu, Q., Meng, X., …, & Liu, Y. Decoding the long-term patterns of organic carbon pollution in China. (Under Review, * equal contribution)

In Submission or In Preparation

Zhu, Q., **Pu, Q.**, …, & Liu, Y. The impact of wildfire smoke on mental health among the American older adults: A national cohort study.

Pu, Q., Zhang, D., …, & Liu, Y. The changing risk and social vulnerability of people exposed to wildfire smoke in the United States.

Pu, Q., Steenland, K., …, & Liu, Y. Modeling the ambient exposures of multi-air-pollutant and heat in Peru.

PRESENTATIONS

Invited Talks, Lectures, & Seminars

2024 Leveraging geospatial science to unravel emerging environmental risk factors. College for Public Health and Social Justice, Saint Louis University, St. Louis, MO (Invited Talk).

2024 Air pollution exposure assessment using satellite remote sensing. *EHS 710 Advanced Laboratory and Field Methods in Exposure Science*. Rollins School of Public Health, Emory University, Atlanta, GA (Guest Lecture).

Oral Presentations

2022 Yoo, E. H., Roberts, J., **Pu, Q.**, & Palermo, T. Geospatial modeling of national health survey delivery data: A case study of Tanzania. *International Conference on Geostatistics for Environmental Applications*, Parma, Italy, June 22-24, 2022.

2022 **Pu, Q.** & Yoo, E. H., A hybrid Approach to estimate spatially and temporally resolved $PM_{2.5}$ distributions from multi-satellite AOD data. *AAG Annual Conference, John Odland student paper competition, Spatial Analysis and Modeling specialty group*, New York City, U.S., Feb 25 - Mar 1, 2022. (**Finalist, top 10 out of 25**)

2020 **Pu, Q.** & Yoo, E. H., Modeling spatial variation of hourly $PM_{2.5}$ concentrations using both CMAQ model and satellite aerosol optimal depth. *Exposome Symposium: Measuring the Exposome Using Novel Methods and Big Data to Improve Human Health*, New York City, U.S., Mar 5-6, 2020.

2019 **Pu, Q.** & Yoo, E. H., Spatio-temporal modeling of $PM_{2.5}$ concentrations with missing data problem. *2019 AAG Annual Conference, Symposium on Frontiers in Geospatial Data Science*, Washington DC, U.S., Apr 3-7, 2019.

2019 Niu, Z., Mu, L., Wen, X., & **Pu, Q**. Leukocyte telomere length and cardiovascular disease mortality among US adults: effect modification by race. *Annals of Epidemiology*, 40, 38.

2018 **Pu, Q.** & Yoo, E. H., Prediction of urban $PM_{2.5}$ concentrations using a Bayesian spatio-temporal modelling approach. *The 13th International Symposium of Spatial Accuracy: Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*, Beijing, China, May 21-24, 2018. (**First-place best student paper award**)

2015 **Pu, Q.**, & Zou, B., High-resolution satellite mapping of fine particulates based on geographically weighted regression. *International Workshop on Mobility and Land Cover Change Mapping*, Changsha, China, 2015.

Poster Presentations

2023 **Pu, Q.**, Hang, Y., Zhu, Q., Meng, X., …, & Liu, Y, 2023. A super learner model for predicting ambient particulate organic carbon concentrations across China from 2003 to 2019. *2023 AGU Annual Conference. Session: Data-Driven Methods for Quantifying Atmospheric Composition*, San Francisco, U.S., Dec 11-15, 2023.

2022 Eum, Y., **Pu, Q.** & Yoo, E. H. Spatio-temporal exposure assessment of urban cyclists: Using bike-sharing data and highly-resolved $PM_{2.5}$ estimates. *UCGIS Symposium 2022 GIScience Forward: Meeting the Challenge*, Syracuse, U.S., June 7-9, 2022.

TEACHING EXPERIENCE

Emory University

Spring 2024 **Course Instructor**, EH 587/587L: *Introduction to Environmental Remote Sensing and Its Applications in Public Health* (3 credits, 8 graduate students, Co-teaching: ~66% of efforts)
Course evaluation: *4.7/5.0*

University at Buffalo (Course evaluations are listed)

Spring 2022	**Lab Instructor**, GEO 481/506: *Geographical Information System* 24 students (undergraduates/graduates - 22/2) **Lab Instructor**, GEO 479/559: *GIS for Environmental Modeling* 27 students (undergraduates/graduates - 16/11)
Fall 2021	**Lab Instructor**, GEO 481/506: *Geographical Information System* 47 students (undergraduates/graduates - 34/13) Course evaluation: *4.7/5.0*
Spring 2021	**Lab Instructor**, GEO 479/559: *GIS for Environmental Modeling* 29 students (undergraduates/graduates - 21/8)
Fall 2020	**Lab Instructor**, GEO 483/553: *Remote Sensing* 29 students (undergraduates/graduates - 20/9) **Teaching Assistant**, GEO 102 *Human Geography* (212 undergraduate students) GEO 106 *Global Climate Change* (160 undergraduate students)
Spring 2020	**Lab Instructor**, GEO 479/559: *GIS for Environmental Modeling* 33 students (undergraduates/graduates - 25/8) Course evaluation: *4.8/5.0* **Guest lecturer**, GEO 481/506, *Geographic Information Systems* (45 students, undergraduates/graduates)
Fall 2019	**Lab Instructor**, GEO 481/506: *Geographical Information System* 40 students (undergraduates/graduates - 31/9) Course evaluation: *4.6/5.0* **Guest lecturer**, GEO 482/507, *Locational Analysis* (16 students, undergraduates/graduates)
Spring 2019	**Lab Instructor**, GEO 479/559: *GIS for Environmental Modeling* 20 students (undergraduates/graduates - 13/7) Course evaluation: *4.7/5.0*
Fall 2018	**Lab Instructor**, GEO 483/553: *Remote Sensing* 22 students (undergraduates/graduates - 14/8) Course evaluation: *4.4/5.0*
Spring 2018	**Teaching Assistant / Guest lecturer**, GEO 120: *Maps: Earth from Above* **Teaching Assistant**, GEO 106: *Global Climate Change* (97 undergraduate students)
Fall 2017	**Teaching Assistant**, GEO 102: *Human Geography* (109 undergraduate students) **Teaching Assistant**, GEO 112: *International Health* (77 undergraduate students)

RESEARCH GRANTS

2023	National Emission and Air quality assessment System, South Korea. Co-I (w Soontae Kim, Ajou University, PI).

AWARDS AND HONORS

2022	**Travel Award**, Department of Geography, University at Buffalo
2022	**Travel Award**, Graduate Student Association, University at Buffalo

2017-2022	**Graduate Assistantship**, Department of Geography, University at Buffalo
2021	**Travel Award**, Department of Geography, University at Buffalo
2019	**Professional Development Award**, Graduate Student Employees Union, SUNY
	Travel Award, National Center for Geographic Information and Analysis at Buffalo
2018	**First Place Best Student Paper Presentation Award**, The 13th International Symposium of Spatial Accuracy
	Travel Award, Department of Geography, University at Buffalo
2015	**National Scholarship for Graduates**, Ministry of Education of China
2014	**National Scholarship for Graduates**, Ministry of Education of China
	The Baogang Excellence Scholarship, Baosteel Group Corporation
	First-Class Outstanding Student Scholarship, Central South University
2013	**National Encouragement Scholarship**, Ministry of Education of China
	Second-Class Outstanding Student Scholarship, Central South University

ACADEMIC SERVICES

Editorial Board

Human and Ecological Risk Assessment: An International Journal - since 2024

Ad-hoc Journal Reviewer

African Geographical Review - (2) since 2020
Annals of the American Association of Geographers - (2) since 2023
Applied Geography - (1) since 2023
Applied Spatial Analysis and Policy - (3) since 2023
Communications Earth & Environment - (1) since 2024
Environmental Modelling & Software - (3) since 2022
Environmental Monitoring and Assessment - (1) since 2022
Geocarto International - (1) since 2022
GIScience and Remote Sensing - (3) since 2024
Health & Place - (1) since 2023
Journal of Environmental Management - (4) since 2022
PLOS ONE - (1) since 2022
Scientific Reports - (2) since 2022

PROFESSIONAL MEMBERSHIPS

American Geophysical Union (AGU)
American Association of Geographers (AAG)
Cartography and Geographic Information Society (CaGIS)
International Association of Chinese Professional in Geographic Information Sciences (CPGIS)
International Society for Environmental Epidemiology (ISEE)

MEDIA COVERAGE

2021 Global Health Equity Research in Translation Series (policy brief)
Issue 12: Towards a Cartography of Equity: Leveraging Geographic Information Systems and Data Science to Improve Access to Healthcare in North Kivu, DRC, and other LMICs.