Siqiao (Sijiao) Xie

Postdoctoral Associate, Institute of Behavioral Science, University of Colorado, Boulder
Ph.D. Geography, Arizona State University
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Education

Doctor of Philosophy, Geography
Arizona State University • Tempe, AZ • Oct 2024
- Dissertation: The geography of inequality in STEM: migration, gender, and economic disparities.
- Advisors: Dylan Connor (co-chair, ASU/Stanford); Wei Li (co-chair, ASU); Mark Ellis (UW)
- GPA: 4.0/4.0

Master of Science, Urbanisation and Development
London School of Economics and Political Science • London, UK • 2017
- GPA: 3.7/4.0

Bachelor of Arts, Geography
University of Washington • Seattle, WA • 2015
- GPA: 3.6/4.0

Research Interests

Science, technology, and economic inequality:
Developing econometric, machine learning and GIScience frameworks to analyze STEM workforce data, uncovering how advancement of the STEM industry fueled spatial, gender, and nativity disparities in the US, with insights crucial for shaping equitable urban, migration and labor policies.

Urban-spatial demography and data-driven policy research:
Bridging advanced statistical and spatial analytics with policy research to explore how urban and regional dynamics influence economic inequality, mobility, and population health, providing critical and actionable insights for marginalized communities and federal public health policy.

Research Experience

University of Colorado Boulder • Spatial Analysis Research Center
Graduate Research Associate • Boulder, CO • Starting January 2025

Arizona State University • Spatial Analysis Research Center
Graduate Research Associate • Tempe, AZ • August 2018 to Present
- *National Institute of Health. R21. Trends, transitions, and well-being in small-town America project.*
  - Established typologies of longitudinal demographic and socioeconomic changes in small towns of the US using sequence analysis, machine-learning clustering, and geospatial analysis in R, Python, and ArcGIS.
  - Studied the relationship between community change, intergenerational upward mobility and health risk, employing multinominal logistic models.
  - Presented research findings at the National Association of Regional Science conference.
  - Drafted annotated bibliography for studies of longitudinal community change.
- *National Science Foundation: Humans, Disasters, and the Built Environment program. The creeping disaster along the coast: Built environment, coastal communities and population vulnerability to sea level rise.*
  - Analyzed built-environment features and developed urban landscape metrics of 709 commuting zones in the US with remote sensing images and Ztrax dataset using python and ArcGIS.
  - Predicted regional socioeconomic change in relation to build-environment and urban form such as sprawling and fragmentation, using machine learning feature selection techniques in Python and R.
- *COVID-19 and a World of Ad Hoc Geographies book project.*
  - Led a three-person team, developed the research design, and oversaw data analysis.
  - Developed a community-level race-specific social vulnerability measure to predict racial inequality and identify communities at risk of COVID-19 using ACS PUMS data.
  - Created California state-wide hot-spot maps for anti-Asian racism incidents using Google Map Geolocation API and online survey from STOP AAPI HATE NGO.
  - Drafted the introduction, method, findings and discussion sections of 1 peer-reviewed book chapter.

o   Delivered 4 in-person and online presentations to STOP AAPI HATE NGO, school departments of Arizona State University and Eastern Mennonite University, and Association of American Geographer national conference.

Acumen LLC / SPHERE Institute

Data & Policy Analyst • Burlingame, CA • November 2022 to May 2024

- Clean, process, and analyze large datasets, including over 20 million Medicaid, Medicare, and care facility records.
- Evaluate nursing home service quality and medical insurance program integrity.
- Developed sequence analysis method with clinicians and policy experts to detect fraud claims and drug abuse.
- Utilized SAS EBI, streamlined analysis of longitudinal data from the Integrated Data Repository, managed, and scrutinized insurance claims after beneficiaries' demise.
- Drafted policy reports and visualizations for regular client meetings.
- Identified regional patterns in prevalent health conditions and high-risk populations by analyzing confidential Medicaid and Medicare claims data using SAS, R, SQL, multiple regression, and frequency charts.
- Presented comprehensive reports to clients, including the Centers for Medicare & Medicaid Services (CMS), Center for Program Integrity, and Nursing Home Quality Initiative.

Teaching Experience

Arizona State University

Graduate Teaching Associate • Tempe, AZ • August 2018 to November 2022

- Facilitated the following courses: Urban Economic Development (2018, Graduate seminar), World regions (2018-2022), Population Geography (2019-2022), International Crisis (2020-2022).
- Designed, led, and assessed guest lectures, class activities, assignments, and projects for population growth theories, population geography, and regional geography of East Asia.
- Designed instruction plan, class presentation, instruction video and public lecture for population data access and analysis.
- Mentored two undergraduate honor's theses.

Seattle Central College

Tutor • Seattle, WA • January 2015 to December 2015

- Offered career consultation services, providing guidance on job search, resume building, and interview preparation.
- Assisted 13 refugee students with their English reading, writing, and speaking through personalized tutoring sessions.

Other Professional Experience

Cushman & Wakefield

Assistant Manager • Guangzhou, China • December 2017 to July 2018

- Led a six-person team in delivering strategic consulting services to city governments and private corporations.
- Advised on eight urban development projects, including Yuexiu retirement community development, Haikou Free Trade Area TOD urban complex, and Six Flags Park China.

Publications

Xie, S. (2023) Global education trajectories and inequality: STEM workers From China to the US. *Journal of Ethnic and Migration Studies*: 49 (18), 4699-4721.

Connor, D. Xie, S. Uhl, J., and Talbot, C., Hester, C., Jaworski, T., Gutmann, M., Leyk, S. and Hunter, L (2024) Poverty dynamics and social mobility in rural America. *Population Space and Place*: e-2802

Connor, Xie, S. Jang, J. (2024) Sprawling cities fuel inequality across generations. *PNAS Nexus* (Revise & Resubmit)

Xie, S. Li, W. Tan, Y (2021) Vulnerability, Infection, and Anti-Discrimination among Asian Americans and COVID-19: Explorations into Race and Health Intersections in California. In: S.D. Brunn (ed*.), COVID-19 and a World of Ad Hoc Geographies*. New York: Springer

Works in Progress

Xie, S (with Connor, D.) Stemming the tide of inequality? Immigration, gender, and spatial income disparities in today's leading technological sectors. Available at SSRN: https://ssrn.com/abstract=4036007 or http://dx.doi.org/10.2139/ssrn.4036007

Xie, S (with Connor, D, Storper, M. Kemeny, T.) The US housing crisis and its impact on long-term wealth inequality

Xie, S (with Connor, D.) Where are the "World's Best and Brightest": foreign-born workers, foreign education and STEM labor markets of the US

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Xie, S (with Connor, D. and Jang, J.) Landscape metrics and intergeneration mobility
Xie, S (with Cooke, A; and Connor, D;) Employment Dynamics and Long-term Neighborhood Change: Buffalo, NY 1940 to 2017

Consulting Reports

Xie. S. Panishkavili.N (2023). "Health condition trend among Medicaid beneficiaries in the states of New York and Pennsylvania". Consultancy report to Center of Medicaid and Medicare Services. Acumen LLC/SPHERE Institute.
Xie. S (2023). "Antipsychotic drug abuse monitoring using time series analysis". Consultancy report to Nursing Home Quality Initiative. Acumen LLC/SPHERE Institute.
Xie. S, Byrne, E. (2023). "Evaluating State program integrity and database for detecting posthumous insurance claims". Consultancy report to Center of Medicaid and Medicare Services. Acumen LLC/SPHERE Institute.
Xie, S, Zheng, H (2018), "Offshore incubator development in FTA and Bonded area" Hainan FTA initiative study, consultancy report to China Communications Construction Company; Municipal Government of Haikou, Cushman & Wakefield, Strategic Consulting, Guangzhou, China
Xie, S (2018), "Urban redevelopment and rural preservation in Guangdong Province", Litanba renewal project, consultancy report to Municipal government of Meizhou and Trust King urban renewal group, Cushman & Wakefield, Strategic Consulting, Guangzhou, China
Xie, S, Chen, V, Zheng, H. et. Al. (2018), "Recreational and healthcare themed town development" in urban development and real estate investment planning, consultancy report to Riverside Group and Six Flags Entertainment Corporation, Cushman & Wakefield, Strategic Consulting, Guangzhou, Beijing, Chengdu, Hangzhou, Shanghai, China
Xie, S, Chen, V. (2017), "Continue care and recreational community in Southern China", consultancy report to Yuexiu Holding, Ltd. Cushman & Wakefield, Strategic Consulting, Guangzhou, China
Zhou, A, Q, Yang, Xie, S. Zheng, H, et. al. (2018), "Sustainable development of new harbor region in Hainan FTA", Hainan FTA initiative study, consultancy report to China Communications Construction Company, Ltd.; Municipal Government of Haikou, Cushman & Wakefield, Strategic Consulting, Guangzhou, China

Other Publications

Xie, S; Li, W (2019), New representation or new misrepresentation? Critical reflection of Crazy Rich Asians. *Model Minority Magazine at Dartmouth College,* inaugural issue,

Presentations

2022, Xie, S; The geography of foreign education: imputing location of foreign-born STEM workers in the US, ASU Spatial Analysis Research Center (SPARC) presentation series
2022, Xie, S; Pathway to Success: education trajectories and inequality in STEM, *Annual conference of the American Association of Geographers*
2022, 2021, Xie, S; Li, W; Covid-19 and Anti-Asian racism, invited talks at *ASU School of Social Transformation, Eastern Mennonite University Center for Justice and Peacebuilding*
2021, Xie, S; Occupational selectivity and migration-gender wage inequality in STEM. *Race, Ethnicity, and Place Conference*, the Middle Atlantic Division of the American Association of Geographers (MAD-AAG) joint meeting.
2021, Xie, S; Different major: geography. Podcast at ASU International Student Service Center
2019, Xie, S; Lacey, E. How can sharing personal narratives of migration help us find connectedness in our differences? Invited talk at ASU Graduate College 80th Anniversary, Tempe, AZ
2019, Xie, S; Cooke, A; Connor, D. Employment Dynamics and Long-term Neighborhood Change: Buffalo, NY 1940 to 2017. 66th Annual North American Meetings of the *Regional Science Association International*, Pittsburgh, PA

Honors and Awards

2022	ASU Graduate and Professional Student Association travel grant ($350)
2021	ASU Graduate School travel award ($1000)
2019	ASU SGSUP Research symposium presentation award (2nd prize)
2015	University of Washington study abroad travel grant ($5000)
2012-2015	Dean's list, University of Washington

Service Experience

2020-2021	COVID and anti-racism focus group	ASU SGSUP JEDI committee
2019	Conference Assistant	American Association of Geographers
2018-2019	International student coordinator	ASU SGSUP Grad student committee
2013-2015	Social Media Editor	UW Husky Help Organization

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Skills

Areas of Expertise: Regional Economy, Urban Economy, Migration, Demography, Public Health, Geospatial Analysis,
Data Analysis: Google Data Analytics Certificate, R, SAS, Python, SQL, Tableau, SPSS, FSQCA, MS excel.
Spatial Analysis: ArcGIS Series, Google Map API, Geoda, FRAGSTAT
Language: Mandarin Chinese (proficient), English (proficient), Modern Greek (basic communication)