Shiyan Sha

ORCID | Google Scholar | E-mail | Research Theme

Research Interests: Climate Adaption and Resilience, Sustainable Urbanization, Scenario-based analysis, Policy Research, Geospatial analysis

EDUCATION

Harbin Institute of Technology *Sep. 2021-Mar. 2024*
(Project 211 and 985/"Double First-Class" university)

- **Master** of Engineering in Urban and Rural Planning
- Average score: 86.4/100

Hebei University of Technology *Sep. 2016-Jun. 2021*
(Project 211/"Double First-Class" university)

- **Bachelor** of Engineering in Urban and Rural Planning
- Average score: 89.04/100 | Ranking: 2/58 (Top 3% in major)

WORK EXPERIENCES

Research Positions (GIS Analyst & Urban Planner) *Jun. 2024-Present*
SinoScience Construction and Research Technology Co., Ltd.

- Recognized as **Municipal Talent**, Shijiazhuang City. Conducted geospatial analysis and local government policy research, serving as head of the research unit and participating in decision-making processes related to sustainable infrastructure regeneration within urban-rural planning authorities.

PUBLICATIONS

* ***Corresponding author***

[1] Cheng, Q., & **Sha, S.*** (2024). Last defense in climate change: Assessing healthcare inequities in response to compound environmental risk in a megacity in Northern China. ***Sustainable Cities and Society****, 115*, 105886.
https://doi.org/10.1016/j.scs.2024.105886 ***(SCIE Q1 IF=12.0)***

[2] **Sha, S.**, Cheng, Q., & Lu, M.* (2024). Building a "reservoir of social resilience": A strategy for social infrastructure regeneration in shrinking cities based on social network analysis. ***Habitat International****, 143*, 102991.
https://doi.org/10.1016/j.habitatint.2023.102991 ***(SSCI Q1 IF=7.0)***

[3] **Sha, S.**, & Cheng, Q.* (2024). Built or Social environment? Effects of perceptions of neighborhood green spaces on resilience of residents to heat waves. ***Urban Forestry & Urban Greening****, 94*, 128267.
https://doi.org/10.1016/j.ufug.2024.128267 ***(SCIE/SSCI Q1 IF=6.7)***

[4] **Sha, S.**, & Cheng, Q.* (2024). Determining the effects of green space usage on health inequalities among residents of shrinking cities based on a social capital perspective. ***Urban Forestry & Urban Greening****, 97*, 128375.
https://doi.org/10.1016/j.ufug.2024.128375 ***(SCIE/SSCI Q1 IF=6.7)***

[5] Cheng, Q., & **Sha, S.*** (2024). Revealing the injustice and factors that affect the resilience responses of residents in the full period of heat waves. ***Sustainable Cities and Society****, 107*, 105467.
https://doi.org/10.1016/j.scs.2024.105467 ***(SCIE Q1 IF=12.0)***

[6] Cheng, Q., & **Sha, S.*** (2024). Resisting the heat wave: Revealing inequalities in matching between heat exposure risk and healthcare services in a megacity. ***Applied Geography****, 167*, 103291.
https://doi.org/10.1016/j.apgeog.2024.103291 ***(SSCI Q1 IF=5.4)***

[7] Cheng, Q., **Sha, S.***, & Cheng, W. (2023). Revealing the heterogeneity of social capital in shrinking cities from a social infrastructure perspective: Evidence from Hegang, China. ***Applied Geography****, 159*, 103087.
https://doi.org/10.1016/j.apgeog.2023.103087 ***(SSCI Q1 IF=5.4)***

[8] Lu, M., **Sha, S.***, & Cheng, Q. (2023). The Inspirations of Action-Oriented Social Infrastructure Regeneration Practices: A Case Study of Bayside City, Australia. ***Urban Planning International***.
https://doi.org/10.19830/j.upi.2023.077 ***(CSSCI/CSCD IF=4.5)***

[9] Bian, G., Gao, X., Zou, Q., Cheng, Q., Sun, T., **Sha, S.**, & Zhen, M.* (2023). Effects of thermal environment and air quality on outdoor thermal comfort in urban parks of Tianjin, China. ***Environmental Science and Pollution Research**, 30(43)*, 97363-97376.
https://doi.org/10.1007/s11356-023-29130-3 ***(SCIE Q1 IF=5.8)***

[10] Bian, G., Cheng, Q., Yan, G., **Sha, S.**, & Zhen, M.* (2024). Effects of landform and building layout on outdoor thermal environment: a case study of mountain villages in severely cold regions. ***Journal of Asian Architecture and Building Engineering**,* 1-31.
https://doi.org/10.1080/13467581.2024.2389162 ***(SCIE/AHCI IF=1.6)***

BOOK CHAPTERS

Science of Urban Systems
(National 14th Five-Year Plan Textbook for Urban-Rural Planning Education in China).

- Contributed over 100,000 words across core chapters on **urbanization processes and evaluation metrics**, **urban development laws and spatial governance**, **urban social systems and equity dimensions**, and **rural planning strategies**; coordinated cross-disciplinary editorial and content integration processes.

CONFERENCE PRESENTATIONS

[1] **Sha, S.**, Lu, M., Meng, Q., & Xuan, L. (2022). Differentiation of family medical resources use of "New Citizens" from the perspective of health equity. ***Proceedings of the 58th ISOCARP Congress***. Brussels, Belgium: ISOCARP.
https://doi.org/10.47472/z2r9J3Q4 ***(Presentation)***

[2] **Sha, S.**, Cheng, Q., & Lu, M.* (2023). Theoretical responses and regeneration strategies for social infrastructure in shrinking cities. ***Proceedings of the 2023 China Urban Planning Annual Conference (Volume 02: Urban Renewal)**,* 15.
https://doi.org/10.26914/c.cnkihy.2023.055866 ***(Poster)***

[3] **Sha, S.**, Cheng, Q., Lu, M., & Cheng, W. (2023). Equity-oriented research on the characteristics of socio-spatial differentiation and governance strategies in shrinking cities. ***Proceedings of the 59th ISOCARP Congress***. Toronto, Canada: ISOCARP.
(Presentation)

[4] **Sha, S.**, Cheng, Q., Lu, M., & Cheng, W. (2023). Improving social resilience in shrinking cities through social infrastructure regeneration: A investigation from Hegang, China. ***Proceedings of the 59th ISOCARP Congress***. Toronto, Canada: ISOCARP.
(Presentation)

[5] **Sha, S.**, Cheng, Q., Lu, M., & Cheng, W. (2023). Characteristics of "Flash Mob" behavior and cultural transmission in public space based on an inclusive perspective: Evidence from Tianjin City, China. ***Proceedings of the 59th ISOCARP Congress***. Toronto, Canada: ISOCARP.
(Presentation)

[6] **Sha, S.**, Cheng, Q., Lu, M., & Cheng, W. (2023). Spatial Distribution and Usage Characteristics of "Workers' Harbor" from the Perspective of Opening and Sharing: A Case Study from Tianjin, China. ***Proceedings of the 59th ISOCARP Congress***. Toronto, Canada: ISOCARP.
(Presentation)

[7] Cheng, Q., **Sha, S.**, Cheng, W., & Lu, M. (2023). The thermal environmental characteristics and climate-responsive planning of "Rural Communities" in severe cold regions: Evidence from Zhangjiakou, China. ***Proceedings of the 59th ISOCARP Congress***. Toronto, Canada: ISOCARP.
(Primary participant)

[8] Cheng, Q., **Sha, S.**, Cheng, W., & Lu, M. (2023). Social infrastructure demand evaluation and planning policies of historical communities from a resilience perspective: Evidence from typical communities in Hebei, China. ***Proceedings of the 59th ISOCARP Congress***. Toronto, Canada: ISOCARP.
(Primary participant)

[9] Cheng, Q., **Sha, S.**, Cheng, W., & Lu, M. (2023). Evaluation of urban community healing space demand and planning strategies from a health equity perspective: Evidence from Tianjin, China. ***Proceedings of the 59th ISOCARP Congress***. Toronto, Canada: ISOCARP.
(Primary participant)

[10] Cheng, Q., **Sha, S.**, Cheng, W., & Lu, M. (2023). Comparison of the spatial and temporal distribution characteristics of the "Informal Economy" in the context of multi-sector collaboration and governance: Evidence from Tianjin, China. ***Proceedings of the 59th ISOCARP Congress***. Toronto, Canada: ISOCARP.

(Primary participant)

[11] Meng, Q., Lu, M., **Sha, S.**, & Yang, Z. (2022). The thermal environmental characteristics and climate-responsive planning of "Rural Communities" in severe cold regions: Evidence from Zhangjiakou, China. ***Proceedings of the 58th ISOCARP Congress***. Brussels, Belgium: ISOCARP.
https://doi.org/10.47472/ZsRdcv5E ***(Participant)***

CERTIFICATES

Reviewer for 10+ international journals (50+ peer reviews)

- **For the following SCIE/SSCI journals (mostly JCR Q1):**

  Sustainable Cities and Society *(SCIE JCR Q1),* ***Environmental Impact Assessment Review*** *(SCIE JCR Q1),* ***Cities*** *(SSCI JCR Q1),* ***International Journal of Disaster Risk Science*** *(SCIE JCR Q1),* ***Environmental Research*** *(SCIE JCR Q1),* ***Applied Geography*** *(SSCI JCR Q1),* ***BMC Public Health*** *(SCIE JCR Q1),* ***Urban Forestry & Urban Greening*** *(SCIE/SSCI JCR Q1),* ***Health & Place*** *(SCIE/SSCI JCR Q1),* ***International Journal of Digital Earth*** *(SCIE JCR Q1),* ***Heliyon*** *(SCIE JCR Q1),* ***Wellbeing, Space and Society*** *(SCIE JCR Q2)*

Member of ISOCARP *(International Society of City and Regional Planners)* *Jun. 2023-Present*

Co-founder of the "Yingcheng Society" *(An urban studies academic society)* *Dec. 2017-Present*

HONORS & AWARDS

[1] 2019, **Second prize (First Author)**, National Competition in Urban-rural Planning Discipline (China's highest competition for undergraduate students), Ministry of Education of the People's Republic of China, National level.

[2] 2019, **Third prize (First Author)**, National Competition in Urban-rural Planning Discipline (China's highest competition for undergraduate students), Ministry of Education of the People's Republic of China, National level.

[3] 2019, 2022, 2023, **First-class Scholarship (Top 5%)**, University level.

[4] 2021, **Outstanding Graduate Award (Top 3%)**, University level.

[5] 2022, **Excellent Dissertation Proposal (Top 5%)**, University level.

[6] 2024, **Outstanding Student Award (Top 5%)**, University level.

[7] 2025 Fall, **Jardine Foundation Postgraduate Scholarship Nominee**, University of Cambridge (Top 12 University-wide).

RESEARCH EXPERIENCES

Healthcare Facilities Layout Plan for Tianjin (2019-2035) *Dec. 2019-Sep. 2021*
Core team member

- Conducted GIS-based spatial analysis to evaluate medical facility accessibility and service coverage; developed optimization strategies for facility distribution and funding allocation; collected, verified, and analyzed spatial and service-level data while establishing and maintaining a geodatabase to support evidence-based planning.

SKILLS

Research skills:

Statistical Analysis Methods (including descriptive statistics, regression and correlation analysis, cluster analysis, TOPSIS, difference analysis, and structural equation modelling); **Geospatial Analysis Methods** (including geospatial and GIS analysis, remote sensing techniques, and GeoAI applications); **Questionnaire and Interview Methods** (including questionnaire design, semi-structured interviews, and data organisation and coding); **Team Collaboration and Coordination Methods** (including practical project participation, project management, and teamwork)

Communication skills: Mandarin Chinese *(Native)*; English *(Can read, write, speak, understand and peer review), IELTS* ***6.5***