

# Shaoqing Dai

Ph.D Candidate

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Department of Earth Observation Science, ITC, UT



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## Education

- 2020.01-present **Ph.D.**, Faculty of Geo-information Science and Earth Observation(ITC), University of Twente  
Supervised by Prof. Alfred Stein, Prof. Peng Jia, and Prof. Fei Xu  
Thesis: *Spatial Lifecourse Epidemiology and Health Geography*  
Major in Acquisition and quality of geo-spatial information(ACQUAL) 📍 Enschede, Netherlands
- 2016.09-2019.06 **M.Sc.**, Institute of Urban Environment, Chinese Academy of Sciences, University of Chinese Academy of Sciences  
Supervised by Prof. Yin Ren  
Thesis: *Creating a Carbon Source and Sink Map by Coupling an Ecological Process Model with an Emission Inventory to Study a Carbon Balance*  
Major in Ecology 📍 Xiamen, China
- 2012.09-2016.06 **B.Sc.**, School of Geographical Sciences, Fujian Normal University  
Supervised by Prof. Huixian Jiang  
Thesis: *The Planning Location and Design of Smart Campus Based on BIM and GIS: A Case Study of Fujian Normal University*  
Major in Geographical Science (National Talents Training Base) 📍 Fuzhou, China

## Research Interests

Health Geography; Spatial Lifecourse Epidemiology; Spatial Statistics; Urban Computing; Spatial-Temporal Big Data; Ecoinformatics









## Developed Open Software & Project

- from 2017 Note of Applied Statistics with R  
<http://gisersqdai.top/Note-of-Applied-Statistics-with-R-Book/>
- from 2018 D3L Tool of NASA Satellite  
The program provides a graphical interface to download satellite imagery from NASA, such as MODIS products, MERIS and more information can see <http://gisersqdai.top/D3LTool/>
- from 2018 Geographical detector in R  
The geographical detector software based on R.
- from 2018 GitHub Paper Notebook  
The software for notebook of papers.
- from 2019 rgeoda  
rgeoda is a R package for spatial data analysis based on libgeoda and GeoDa(contributor).
- from 2020 COVID-19 Dashboard shiny app  
A developed dashboard shiny app about COVID-19. <https://gisersqdai.shinyapps.io/COVID19VIS/>
- from 2020 Awesome COVID-19  
Resources of COVID-19 research. <http://covid19.gisersqdai.top/en-us/>
- from 2023 MetS score calculator shiny app  
A shiny app to calculate MetS score. [https://gisersqdai.shinyapps.io/mets\\_severity\\_calculator/](https://gisersqdai.shinyapps.io/mets_severity_calculator/)


## Awards & Honors

-  2021.07 The National 2nd Prize in the 5th Planning Decision Support Model Design Contest(Chengyuan Cup)  China
-  2019.06 China Scholarship Council(CSC)  China
-  2019.06 The 2nd Grade Scholarship of Yonker Environmental Protection Scholarship  China
-  2019.06 The 1st Grade Scholarship of Institute of Urban Environment, Chinese Academy of Sciences[*No.3 in Institute*]  Xiamen, China
-  2019.01 The Scientific and Technological Innovation Award of Outstanding Graduate Students of the Ecological Society of China  China
-  2018.11 National Scholarship for M.Sc[*top 2-3%*]  China
-  2018.10 The National 3rd Prize in Urban Big Data Special Committee, Chinese Society for Urban Studies the 2nd Big Data Support Spatial Planning and Design Competition  China
-  2018.07 'Applied Energy' 2018 Summer School Certification  Beijing, China
-  2018.06 Merit Students in the academic year 2017-2018, University of Chinese Academy of Sciences  Beijing, China
-  2018.06 The 2nd Grade Scholarship of Institute of Urban Environment, Chinese Academy of Sciences[*No.9 in Institute*]  Xiamen, China
-  2018.06 The 1st Scholarship of Institute of Urban Environment, Chinese Academy of Sciences  Xiamen, China
-  2018.03 The National Winning Award in National Science & Technology Infrastructure Center, 2017 'Sharing Cup' College Student Science and Technology Resource Sharing Service Innovation Contest  China
-  2017.10 'Excellent Volunteer' award of 15th User Conference of Esri China  China
-  2017.06 Merit Students in the academic year 2016-2017, University of Chinese Academy of Sciences  Beijing, China
-  2015.11 The National Winning Award in 2015 Esri Cup National Collegiate Developed Contest in GIS · 3D Modeling and Design  China
-  2015.11 Innovation Scholarships in the academic year 2014-2015, Fujian Normal University  Fuzhou, China
-  2015.07 The National 3rd Prize in the Smart City Special Event Contest, the 14th Challenge Cup National College Students' Extracurricular Academic Science and Technology Works Contest  China
-  2015.05 The First Annual Fujian Normal University Student Selection, Scientific and Technological Innovation award and Nomination  Fuzhou, China
-  2015.03 The School Wining Award during the 9th Challenge Cup National College Students' Extracurricular Academic Science and Technology Works Contest  Fuzhou, China
-  2014.11 Innovation Scholarships in the academic year 2013-2014, Fujian Normal University  Fuzhou, China
-  2014.07 The National 3rd Prize in 2014 MathorCup Global Collegiate Mathematical Contest in Modeling  China
-  2014.05 'Excellent League Cadres' in the academic year 2013-2014, Fujian Normal University  Fuzhou, China
-  2014.05 'Excellent League Leader' in the academic year 2013-2014, School of Geographical Sciences, Fujian Normal University  Fuzhou, China
-  2013.05 'Excellent League Leader' in the academic year 2012-2013, School of Geographical Sciences, Fujian Normal University  Fuzhou, China

## Academic Service & Affiliations

	from 2019	International Institute of Spatial Lifecourse Epidemiology (ISLE)	Fellow
	from 2019	GeoDa Center, rgeoda, libgeoda Github Organizations	Contributor
	from 2015	The Organizations "Sustainable Cities & Mobility"	Volunteer
	2020-2023	GISphere	Editor Board, Member
	2018-2020	Aliyunqi Community	Expert
	2017-2019	International Association of Landscape Ecology of China(IALE-China)	Member
	2016-2017	Green Bike-Transit	Volunteer
	2013-2017	The Geographical Tribune of Youth	

**Founder, Editor in Chief, Associate Editor, Assistant Editor in Chief**

	from 2019	European Heart Journal, Sustainable Cities and Society, Cities, Frontiers in Public Health, International Journal of Digital Earth, Scientific Reports, Data in Brief, The Journal of Open Source Software, Shanghai Urban Planning Review	
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**Reviewer**

## Publications

\*corresponding author, #co-first author.

### Peer-Reviewed Journal Articles

- Peng Jia, Yuanyuan Shi, Qi Jiang, **Shaoqing Dai**, Bin Yu, Shuhan Yang, Ge Qiu, Shujuan Yang. (2023). Environmental determinants of childhood obesity: a meta-analysis. *The Lancet Global Health*. 11, S7. doi:10.1016/S2214-109X(23)00092-X. [SCI, IF = 34.3].
- Shudi Zuo, **Shaoqing Dai**, Jiaheng Ju, Fanxin Meng, Yin Ren, Yunfeng Tian, Kaide Wang. (2022). The importance of the functional mixed entropy for the explanation of residential and transport CO<sub>2</sub> emissions in the urban center of China. *Journal of Cleaner Production*. 380, 134947. doi:10.1016/j.jclepro.2022.134947. [SCI, IF = 11.1].
- Pengxin Zhang, Shuhan Yang, **Shaoqing Dai**, Darren How Jin Aik, Shujuan Yang, Peng Jia. (2022). Global spreading of Omicron variant of COVID-19. *Geospatial Health*. 17. doi:10.4081/gh.2022.1083. [SCI, IF = 1.7].
- Yupeng Liu, Jiajia Li, Weiqiang Chen, Lulu Song, **Shaoqing Dai**. (2022). Quantifying urban mass gain and loss by a GIS-based material stocks and flows analysis. *Journal of Industrial Ecology*. 26(3), 1051-1060. doi:10.1111/jiec.13252. [SCI, IF = 5.9].
- Weichao Wang, Xian Liu, Changwen Zhang, Fei Sheng, Shanjun Song, Penghui Li, **Shaoqing Dai**, Bin Wang, Dawei Lu, Luyao Zhang, Xuezhi Yang, Zhihong Zhang, Sijin Liu, Aiqian Zhang, Qian Liu, Guibin Jiang. (2022). Identification of two-dimensional copper signatures in human blood for bladder cancer with machine learning. *Chemical Science*. 13(6), 1648-1656. doi:10.1039/D1SC06156A. [SCI, IF = 8.4].
- Shaoqing Dai**<sup>#</sup>, Xiaoman Zheng<sup>#</sup>, Lei Gao, Chengdong Xu, Shudi Zuo, Qi Chen, Xiaohua Wei, Yin Ren. (2021). Improving plot-level model of forest biomass: A combined approach using machine learning with spatial statistics. *Forests*. 12(12), 1663. doi:10.3390/f12121663. [SCI, IF = 2.9].
- Peng Jia, **Shaoqing Dai**, Tong Wu, Shujuan Yang. (2021). New approaches to anticipate the risk of reverse zoonosis. *Trends in Ecology & Evolution*. 36(7), 580-590. doi:10.1016/j.tree.2021.03.012. [SCI, IF = 16.8].
- Panfeng Dou, Shudi Zuo, Yin Ren, Manuel J. Rodriguez, **Shaoqing Dai**. (2021). Refined water security assessment for sustainable water management: A case study of 15 key cities in the Yangtze River Delta, China. *Journal of Environmental Management*. 290, 112588. doi:10.1016/j.jenvman.2021.112588. [SCI, IF = 8.7].
- Shujuan Yang, **Shaoqing Dai**, Yuling Huang, Peng Jia. (2021). Pitfalls in Modeling Asymptomatic COVID-19 Infection. *Frontiers in Public Health*. 9, 593176. doi:10.3389/fpubh.2021.593176. [SCI, IF = 5.2].
- Lulu Song, **Shaoqing Dai**, Zhi Cao, Yupeng Liu, Weiqiang Chen. (2021). High spatial resolution mapping of steel resources accumulated above ground in mainland China: Past trends and future prospects. *Journal of Cleaner Production*. 297, 144609. doi:10.1016/j.jclepro.2021.126482. [SCI, IF = 11.1].
- Shudi Zuo, Lianping Yang, Panfeng Dou, Hung Chak Ho, **Shaoqing Dai**, Wenjun Ma, Yin Ren, Cunrui Huang. (2020). The direct and interactive impacts of hydrological factors on bacillary dysentery across different geographical regions in central China. *Science of the Total Environment*. 764, 144609. doi:10.1016/j.scitotenv.2020.144609.

[SCI, IF = 9.8].

12. **Shaoqing Dai**<sup>#</sup>, Yin Ren<sup>#</sup>, Shudi Zuo, Chengyi Lai, Jiajia Li, Shengyu Xie, Bingchu Chen. (2020). Investigating the uncertainties propagation analysis of CO<sub>2</sub> emissions gridded maps at the urban scales: a case study of Jinjiang city, China. *Remote Sensing*. 12(23), 3932. doi:10.3390/rs12233932. [SCI, IF = 5.0].
13. **Shaoqing Dai**, Jiajia Li, WeiXu Yang, Fangyu Chen, Huixian Jiang. (2020). The Evaluation of Health Effect of Short-term Exposure to PM<sub>2.5</sub> during Spring Festival: A Case Study of 25 Cities in the Yangtze River Delta. *Shanghai Urban Planning Review*. 05, 22-29. doi:10.11982/j.supr.20200504. [in Chinese].
14. Peng Jia, **Shaoqing Dai**, Kristen. E. Rohli, Robert V. Rohli, Yanan Ma, Chao Yu, Xiongfeng Pan, Weiqi Zhou. (2020). Natural environment and childhood obesity: A systematic review. *Obesity Reviews*. 1-9. doi:10.1111/obr.13097. [SCI, IF = 8.9].
15. XiaoFang Pan, Hu Li, Lixin Zhao, Xiaoru Yang, Jianqiang Su, **Shaoqing Dai**, Jing Ning, Chunxing Li, Guanjing Cai, GeFu Zhu. (2020). Response of syntrophic bacterial and methanogenic archaeal communities in paddy soil to soil type and phenological period of rice growth. *Journal of Cleaner Production*. 278, 123418. doi:10.1016/j.jclepro.2020.123418. [SCI, IF = 11.1].
16. Peng Jia, Xinxi Cao, Hongxi Yang, **Shaoqing Dai**, Pan He, Ganlin Huang, Tong Wu, Yaogang Wang. (2020). Green space access in the neighbourhood and childhood obesity. *Obesity Reviews*. 1-12. doi:10.1111/obr.13100. [SCI, IF = 8.9].
17. Miyang Luo, Hanqi Li, Xiongfeng Pan, Teng Fei, **Shaoqing Dai**, Ge Qiu, Yuxuan Zou, Heleen Vos, Jiayou Luo, Peng Jia. (2020). Neighbourhood speed limit and childhood obesity. *Obesity Reviews*. 1-11. doi:10.1111/obr.13052. [SCI, IF = 8.9].
18. Shengyu Xie, Guangwei Yu, Chunxing Li, Jie Li, Gang Wang, **Shaoqing Dai**, Yin Wang. (2020). Treatment of high-ash industrial sludge for producing improved char with low heavy metal toxicity. *Journal of Analytical and Applied Pyrolysis*. 150, 104866. doi:10.1016/j.jaap.2020.104866. [SCI, IF = 6.0].
19. Xiongfeng Pan, Li Zhao, Jiayou Luo, Yinhao Li, Lin Zhang, Tong Wu, Melody Smith, **Shaoqing Dai**, Peng Jia. (2020). Access to bike lanes and childhood obesity: A systematic review and meta-analysis. *Obesity Reviews*. 1-11. doi:10.1111/obr.13042. [SCI, IF = 8.9].
20. **Shaoqing Dai**, Shudi Zuo, Yin Ren. (2020). A spatial database of CO<sub>2</sub> emissions, urban form fragmentation and city-scale effect related impact factors for the low carbon urban system in Jinjiang city, China. *Data in Brief*. 29, 105274. doi:10.1016/j.dib.2020.105274. [ESCI, IF = 1.2].
21. Shudi Zuo, **Shaoqing Dai**, Yin Ren. (2019). More fragmented urban form more CO<sub>2</sub> emissions? An comprehensive relationship from the combination analysis across different scales. *Journal of Cleaner Production*. 244, 118659. doi:10.1016/j.jclepro.2019.118659. [SCI, IF = 11.1].
22. Panfeng Dou, Shudi Zuo, Yin Ren, **Shaoqing Dai**, Guoliang Yun. (2019). The impacts of climate and land use/land cover changes on water yield service in Ningbo region. *Acta Scientiae Circumstantiae*. 39(7), 2398-2409. doi:10.13671/j.hjkxxb.2019.0122. [CSCD, in Chinese].
23. Qing Yang, Tianyue Huang, Saige Wang, Jiashuo Li, **Shaoqing Dai**, Sebastian Wright, Yuxuan Wang, Huaiwu Peng. (2019). A GIS-based high spatial resolution assessment of large-scale PV power generation potential and associated CO<sub>2</sub> emission reduction in China. *Applied Energy*. 247, 254-269. doi:10.1016/j.apenergy.2019.04.005. [SCI, IF = 11.2].
24. Guoliang Yun, Yuanrong He, Yuantong Jiang, Panfeng Dou, **Shaoqing Dai**. (2019). PM<sub>2.5</sub> spatiotemporal evolution and drivers in the Yangtze River Delta between 2005 and 2015. *Atmosphere*. 10(2), 55. doi:10.3390/atmos10020055. [SCI, IF = 2.9].
25. Shudi Zuo, **Shaoqing Dai**, Xiaodong Song, Chengdong Xu, Yilan Liao, Weiyin Chang, Qi Chen, Yaying Li, Jianfeng Tang, Wang Man, Yin Ren. (2018). Determining the Mechanisms that Influence the Surface Temperature of Urban Forest Canopies by Combining Remote Sensing Methods, Ground Observations, and Spatial Statistical Models. *Remote Sensing*. 10(11), 1814. doi:10.3390/rs10111814. [SCI, IF = 5.0].
26. Shudi Zuo, **Shaoqing Dai**, Yaying Li, Jianfeng Tang, Yin Ren. (2018). Analysis of Heavy Metal Sources in the Soil of Riverbanks Across an Urbanization Gradient. *International Journal of Environmental Research and Public Health*. 15(10), 2175. doi:10.3390/ijerph15102175. [SSCI, IF = 4.614].
27. **Shaoqing Dai**, Huixian Jiang, Jiajia Li, Xian Su, Juan Wu, Yin Ren. (2018). Influence of walking environment on robbery, snatch and theft crime in urban area, H city, China. *Scientia Geographica Sinica*. 38(8), 1235-1244. doi:10.13249/j.cnki.sgs.2018.08.005. [CSCD, in Chinese].
28. Guoliang Yun, Shudi Zuo, **Shaoqing Dai**, Xiaodong. Song, Chengdong Xu, Yilan Liao, Peiqiang Zhao, Weiyin

- Chang, Qi Chen, Yaying Li, Jianfeng Tang, Wang Man, Yin Ren. (2018). Individual and Interactive Influences of Anthropogenic and Ecological Factors on Forest PM2.5 Concentrations at an Urban Scale. *Remote Sensing*. 10(4), 521. doi:10.3390/rs10040521. [SCI, IF = 5.0].
29. Qin Ye, Gang Zeng, **Shaoqing Dai**, Fenglong Wang. (2018). Research on the effects of different policy tools on China's emissions reduction innovation. *China Population, Resources and Environment*. 28(02), 115-122. doi:10.12062/cpre.20170915. [CSCD, in Chinese].
  30. Qin Ye, **Shaoqing Dai**, Gang Zeng. (2017). Research on the effects of command-and-control and market-oriented policy tools on China's energy conservation and emissions reduction innovation. *Chinese Journal of Population Resources and Environment*. 16(1), 1-11. doi:10.1080/10042857.2017.1418273. [ESCI, IF = 9.3].
  31. Miaoyi Li, **Shaoqing Dai**, Jingyuan Wang, Zhenjiang Shen. (2016). The Analysis of Urban Spatial Development Pattern in Beijing Based on the Big Data of Government. *Geomatics World*. 23(3), 20-26. doi:10.3969/j.issn.1672-1586.2016.03.004. [in Chinese].

#### Book Chapter

1. Guoliang Yun, Shudi Zuo, **Shaoqing Dai**, Xiaodong. Song, Chengdong Xu, Yilan Liao, Peiqiang Zhao, Weiyin Chang, Qi Chen, Yaying Li, Jianfeng Tang, Wang Man, Yin Ren. (2019). Individual and Interactive Influences of Anthropogenic and Ecological Factors on Forest PM2.5 Concentrations at an Urban Scale. *Advances in Quantitative Remote Sensing in China—In Memory of Prof. Xiaowen Li*. 316-332.
2. **Shaoqing Dai**, Jiajia Li, Shudi Zuo, Yin Ren, Huixian Jiang. (2017). Landscape-Scale Simulation Analysis of Waterlogging and Sponge City Planning for a Central Urban Area in Fuzhou City, China. *International Low Impact Development Conference China 2016 : LID Applications in Sponge City Projects*. 251-260. doi:10.1061/9780784481042.028. [EI]

#### Patent

1. Yin Ren, Xiaoman Zheng, **Shaoqing Dai**, Qi Chen, Shudi Zuo. Improving the accuracy of forest biomass estimate using source analysis and machine learning.
2. Yin Ren, **Shaoqing Dai**, Shudi Zuo, Xiaoman Zheng. A forest inventory biomass estimation model by multi-sources data fusion.
3. Qi Chen, Yin Ren, Xiaoman Zheng, Shudi Zuo, **Shaoqing Dai**. A mixed-effect model for estimation of large area subtropical forest biomass.

#### Software Copyright

1. A water safety monitoring system based on environmental IOT data and InVEST model. V1.0. RN: 2019SR0517519. (2019).
2. A water conservation service monitoring system based on environmental IOT data. V1.0. RN: 2018SR745897. (2018).

#### Conference Paper & Abstract

1. **Shaoqing Dai**, Jiajia Li, Weixu. Yang, Fangyu Chen, Huixian Jiang. (2020). The Evaluation of Health Effect of Short-term Exposure to PM2.5 during Spring Festival: A Case Study of 25 Cities in the Yangtze River Delta. *The Workshop of 16th Spatial Behavior and Planning & Digitalization and Fine-Grained Governance, abstract*.
2. Jiajia Li, Yupeng Liu, **Shaoqing Dai**, Keying Xiang, Huixian Jiang, Weiqiang Chen. (2019). The night light uncovers city's weight—A case study on estimating construction materials in Fuzhou, China. *10th International Conference on Industrial Ecology, abstract 320*.
3. **Shaoqing Dai**. (2018). The Scale Effect, Zoning Effect of Geographical Features, the Modified Areal Unit Problem and the Challenges of Spatial Statistics. *11th Chinese R Language Conference, abstract*.
4. **Shaoqing Dai**, Shudi Zuo, Yin Ren. (2018). High-resolution mapping of direct CO<sub>2</sub> emissions and uncertainties at the urban scale. *Proceedings of Spatial Accuracy 2018*. 88-90. [EI].
5. **Shaoqing Dai**<sup>#</sup>, Xiaoman Zheng, Shudi Zuo, Yin Ren. (2018). Improving the prediction accuracy of forest aboveground biomass benchmark map by integrating machine learning and spatial statistics. *Proceedings of Spatial Accuracy 2018*. 80-83. [EI].
6. Shudi Zuo, **Shaoqing Dai**, Yin Ren, Zhaowu Yu. (2017). Quantifying the linear and nonlinear relations between the urban form fragmentation and the carbon emission distribution. *American Geophysical Union, Fall Meeting 2017, abstract GC21G-1007*.
7. **Shaoqing Dai**, Yin Ren, Shudi Zuo, Min Dai, Pan Chen, Zhao Wang, Lingxing Xu, Jianwei Qi, Guoliang Yun.



- (2017). The Environmental Effect of Urban Form on PM2.5: A Case Study of Beijing-Tianjin-Hebei Urban Agglomerations. *9th Chinese Landscape Ecology workshop, abstract*.
8. Qin Ye, Gang Zeng, **Shaoqing Dai**, Fenglong Wang. (2017). Research on the Effects of Different Policy Tools on China's Energy Conservation and Emissions Reduction Innovation Based on the Panel Data of 285 prefectural-level municipalities. *2017 annual conference of the Chinese geographical society, economic geography and Specialized Committee Abstracts Proceedings, abstract*.
  9. **Shaoqing Dai**, Yin Ren, Shudi Zuo. (2017). The relationship between the fragmented urban form landscape and the carbon emission distribution at different resolutions. *9th Lecture of Modern Ecology, abstract*.
  10. **Shaoqing Dai**, Huixian Jiang, Jiajia Li, Xian Su, Juan Wu, Kun Chen. (2016). The environmental crime analysis based on WalkScore and CGT model, a case study of H city. *The Workshop of 12th Spatial Behavior and Planning & Spatial-Temporal Behavior and Social Planning Researchg, abstract*.
  11. **Shaoqing Dai**, Huixian Jiang, Jiajia Li, Qingwei Xu. (2016). Transportation Planning of Smart City on the Basis of Data Augmentation Design Under the Perspective of Humanism: A Case Study of Fuzhou's Cangshan District. *10th annual conference of International Association of China Planning, abstract 1813*.
  12. **Shaoqing Dai**, Huixian Jiang, Jiajia Li. (2016). The Simulation Analysis of Waterlogging and the Sponge City Planning Control of Central Urban Area in Fuzhou City. *2016 International Low Impact Development Conference, paper 391*.





#### Open Dataset & Code

1. **Shaoqing Dai**. (2020). GISerDaiShaoqing/3dmodelFJNU 1.0 (Version 1.0). Zenodo. doi:10.5281/zenodo.4277977.
2. **Shaoqing Dai**, Shudi Zuo, Yin Ren. (2020). GISerDaiShaoqing/Urban-Carbon-Dioxide-sources-gridded-maps-and-its-determination-in-Jinjiang-city 0.6 (Version 0.6) . Zenodo. doi:10.5281/zenodo.3566072.

#### Papers submitted/under revision

1. **Shaoqing Dai**, Alfred Stein, Yuchen Li, Shujuan Yang, Peng Jia. Street view imagery for built environment auditing: a systematic review. *International Journal of Geographical Information Science*. (under revision).
2. **Shaoqing Dai**, Wufan Zhao, Yanwen Wang, Xiao Huang, Zhidong Chen, Jinghan Lei, Alfred Stein, Peng Jia. Assessing Spatiotemporal Bikeability Using Multi-Source Geospatial Big Data: A Case Study of Xiamen, China. *International Journal of Applied Earth Observation and Geoinformation*. (under review).
3. **Shaoqing Dai**, Frank Badu Osei, Peng Jia, Alfred Stein. Mapping of hourly street-level PM2.5 concentrations using an ensemble-random forest model and multi-source geospatial data. *Environmental Science & Technology*. (submitted).
4. Xiaoman Zheng, **Shaoqing Dai**, Qi Chen, Kim Calders, Chengdong Xu, Xiaohua Wei, Mazhan Zhuang, Yin Ren. Integrating Spatial Statistics and Machine Learning to Analyze Error Sources in Estimating Forest Aboveground Biomass from Airborne LiDAR Data. . (under revision).
5. Peng Jia, Tong Wu, **Shaoqing Dai**, Ross C. Brownson, Yan Kestens, Miyang Luo, Shiyong Liu, Jing Su, Gordon G. Liu, Shujuan Yang. Impacts of and vulnerability to the COVID-19 pandemic. . (submitted).
6. Yunfeng Tian, Shudi Zuo, Jiaheng Ju, **Shaoqing Dai**, Yin Ren, Panfeng Dou. Local carbon emission zone construction in the highly urbanized regions: Application of residential and transport CO<sub>2</sub> emissions in Shanghai, China. *Building and Environment*. (under review).

#### Research Projects

- |  |           |   |                     |
|--|-----------|---|---------------------|
|  | 2021-2021 | 'Investigating the Changes of Residents' Daily Behaviors, Lifestyles, and Built Environment During the COVID-19 Pandemic', WeSpace Academic Support Plan in 2020: "Tsinghua-Tencent" Emerging Technologies Future Urban Space project | <b>PI</b>           |
|  | 2018-2019 | 'The construction of Typhoon Disaster Assessment Index Based on GIS and Multi-source Remote Sensing Data in Fujian Province', Open Fund of the Big Data Institute of Digital Natural Disaster Monitoring in Fujian (NDMBD2018001)     | <b>Investigator</b> |
|  | 2016-2020 | 'Research on the key technology research and integration demonstration of urban agglomeration ecological security in the Yangtze River Delta', National Key Research and Development Plan(2016YFC0502704)                             | <b>Investigator</b> |
|  | 2015-2018 | 'Scaling up of carbon sequestration for Eucalyptus plantations based on ETKF-3DVAR hybrid data assimilation', National Natural Science Foundation of China(31470578)  | <b>Investigator</b> |

- 📅 2015-2016 'The Spatiotemporal Difference of Tourism in Fujian Province Based on Spatial Mismatch Theory', The Technological Innovation Plan of University Students, Fujian Normal University(cxsl-2015137) **Investigator**
- 📅 2015-2016 'The Spatial Optimization Evaluation of Medical Facility Based on GIS in Cangshan District, Fuzhou', The Technological Innovation Plan of University Students, Fujian Normal University(cxsl-2015146) **Investigator**
- 📅 2014-2015 'The Optimization Model of High Education Staff's Refuge Space Under Earthquake Disaster', The Technological Innovation Plan of University Students, Fujian Normal University(cxsl-2014137) **PI**

## 🗨 Presentations

- 📅 2023.05.19 **Seeking your interest and going ahead will contribute to success(invited)**, *Class 3, Senior 1, Xiamen No.1 High School of Fujian*  
📍 Xiamen No.1 High School of Fujian, Xiamen, China
- 📅 2022.08.18 **Do neighborhood boundaries matter for examining the associations between environmental factors and obesity(invited)**, *The 29th International Conference on Geoinformatics in 2022 session 10-2 GIScience for Public Health*  
📍 China University of Geosciences(Beijing), Beijing, China
- 📅 2020.12.12 **The Evaluation of Health Effect of Short-term Exposure to PM2.5 during Spring Festival: A Case Study of 25 Cities in the Yangtze River Delta(invited)**, *The Workshop of 16th Spatial Behavior and Planning & Digitalization and Fine-Grained Governance*  
📍 Xiamen University, Xiamen, China
- 📅 2020.08.07 **What is geography? From coronavirus disease 2019 to Bei Dou Systems(invited)**, *Geography lecture group, Tong An No.1 High School of Fujian*  
📍 Tong An No.1 High School of Fujian, Xiamen, China
- 📅 2018.05.27 **The Scale Effect, Zoning Effect of Geographical Features, the Modified Areal Unit Problem and the Challenges of Spatial Statistics**, *11th Chinese R Language Conference*  
📍 Renmin University of China, Beijing, China
- 📅 2018.05.22 **High-Resolution Mapping of Direct CO<sub>2</sub> Emissions and Uncertainties at the Urban Scale**, *13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences(Spatial Accuracy 2018)*  
📍 China National Convention Center, Beijing, China
- 📅 2017.11.11 **The Environmental Effect of Urban Form on PM2.5: A Case Study of Beijing-Tianjin-Hebei Urban Agglomeration**, *9th Chinese Landscape Ecology workshop*  
📍 Sanyu Hotel, Guangzhou, China
- 📅 2017.09.28 **The Assessment Platform of Urban Forest Ecosystem Service Based on InVEST model and IOT(invited)**, *2nd urban environment long-term monitor and sustainable development workshop*  
📍 Shanghai Normal University, Shanghai, China
- 📅 2016.11.27 **The Criminal Geographical Analysis about Walking Environment of Urban**, *The Workshop of 12th Spatial Behavior and Planning & Spatial-Temporal Behavior and Social Planning Research*  
📍 Beijing Union University, Beijing, China
- 📅 2016.07.01 **Transportation Planning of Smart City on the Basis of Data Augmentation Design Under the Perspective of Humanism: A Case Study of Fuzhou's Cangshan District**, *10th annual conference of International Association of China Planning*  
📍 Peking University, Beijing, China

## 🖼 Selected Posters

- 📅 2017.12.10 **Quantifying the linear and nonlinear relations between the urban form fragmentation and the carbon emission distribution**, *2017 AGU Fall Meeting*  
📍 New Orleans, LA, USA.

📅 2017.05.16 **The relationship between the fragmented urban form landscape and the carbon emission distribution at different resolutions, 9th Lecture of Modern Ecology**

📍 Shanghai, China

📅 2016.06.26 **The Simulation Analysis of Waterlogging and the Sponge City Planning Control of Central Urban Area in Fuzhou City, 2016 International Low Impact Development Conference**

📍 China National Convention Center, Beijing, China

## 🗨 Languages

Chinese Native

English First foreign language

## 💻 Expertise & Skills

**Major** GIScience, Remote Sensing, Health Geography, Spatial Statistics, Urban Studies, Environments, Ecological Modelling, Landscape Ecology

**Programming** R, Python, CGA, Shell, LaTeX, Markdown, Github

**Expertise** ArcGIS, ENVI, Erdas Image, City Engine