Shaoqing Dai

Graduate Student

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Education

2016-2019	**M.Sc** in Ecology
	Institute of Urban Environment,Chinese Academy of Sciences, Xiamen, China
2012-2016	**B.Sc** in Geographical Sciences(National Base)
	Fuajian Normal University, Fuzhou, China

Expertise & Skills

Major	GIScience, Remote Sensing, Spatial Statistics, Urban Studies, Environments, Ecological Modelling.
Programming	CGA, Python, Fortran, R, Shell, LaTeX, Makrdown, Github.
Expertise	QGIS, ArcGIS, ENVI, Erdas Image, PostGIS, City Engine.

Research Interests

- Urban Computing

- Spatial-Temporal Big Data

- Ecological Modeling and Ecoinformatics

- Intergration of Ecology, GIS and RS

- Spatial Statistics

Open Software

*Year indicates when the project was started. All projects are currently ongoing.

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. http://gisersqdai.top/D3LTool/
2018	**geographical detector in R** – The geographical detector software based on R.
2018	**GitHub Paper Notebook** – The software for notebook of papers.

Languages

Chinese	mother tongue
English	first forign language

Awards & Honors

2019   The Scientific and Technological Innovation Award of Outstanding Graduate Students of the Ecological Society of China.

2018   National Scholarship for M.Sc. [*top 2-3%*]

2018   The National Third Prize in Urban Big Data Special Committee, Chinese Society for Urban Studies the 2nd Big Data Support Spatial Planning and Design Competition.

2018   Merit Students, University of Chinese Academy of Sciences, China.

2018   The Second Scholarship, Institute of Urban Environment, Chinese Academy of Sciences, China.[*top 15%*]

2018   The National Winning Award in 2017 "Sharing Cup" College Student Science and Technology Resource Sharing Service Innovation Contest, China.

2017   "Excellent Volunteer" award of 15th User Conference of Esri.

2017   Merit Students, University of Chinese Academy of Sciences, China.

2015   The National Winning Award in 2015 Esri Cup National Collegiate Developed Contest in GIS · 3D Modeling and Design, China.

2015   The National Third Prize in the "Smart City" Special Competition of 14th "Challenge Cup" National College Student Curricular Academic Science and Technology Works Competition, China.

2015   The First Annual Fujian Normal University Student Selection, Scientific and Technological Innovation award and Nomination, China.

2015   Scientifc and Technological Inovation Scholoarships of Fujian normal University, China.

2014   The School Wining Award during the 9th "Challenge Cup" Fujian Normal University College Student Curricular Academic Science and Technology Works Competition, China.

2014   The National Third Prize in 2014 MathorCup Global Collegiate Mathematical Contest in Modeling Certifcate of Achievement, China.

2014   "Excellent League Cadres" award of Fujian Normal University, China.

2014   Scientifc and Technological Inovation Scholoarships of Fujian normal University, China.

2014   "Outstanding communist Youth League cadres" award of Fujian Normal University, China.

2013   "Outstanding communist Youth League cadres" award of Fujian Normal University, China.

Professional Societies & Activities

2015 - present   Volunteer of The Subscription Accounts "Sustainable City · Transportation"

2017 - present   Member of International Association of Landscape Ecology of China(IALE-China)

2016 - 2017   Volunteer of Green Bike-Transit

2013 - 2017   Founder, Chief Editor, Subeditor, Assistant Chief Editor of
                    The Geographical Tribune of Youth

Research Projects

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), **Investigator**

2015 - 2018   "Scaling up of carbon fxation for Eucalyptus plantations based on ETKF-3DVAR hybrid data assimilation",National Natural Science Foundation of China(31470578), **Investigator**

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(cxxl-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(cxxl-2015146), **Investigator**

2014 - 2015   "The Optimization Model of High Education Staff's Refuge Space Under Earthquake Disater", The Technological Innovation Plan of University Students, Fujian Normal University(cxxl-2014137), **PI**

Publications

*corresponding author, #co-first author.

Peer-Reviewed Journal Articles

8. GL. Yun, YR. He, YT. Jiang, PF. Dou, & **SQ. Dai**. (2019). PM2.5 spatiotemporal evolution and drivers in the Yangtze River Delta between 2005 and 2015. *Atmosphere.* *10*(2), 55-69 doi:10.3390/atmos10020055. [SCI, IF = 1.704]

7. SD. Zuo, **SQ. Dai**, XD. Song, CD. Xu, YL. Liao, WY. Chang, Q. Chen, YY. Li, JF. Tang, W. Man, Y. 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), 1814-1832 doi:10.3390/rs10111814. [SCI, IF = 3.406]

6. SD. Zuo, **SQ. Dai**, YY. Li, JF. Tang, Y. 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), 2175-2198 doi:10.3390/ijerph15102175. [SCI, IF = 2.145]

5. **SQ. Dai**, HX. Jiang, JJ. Li, X. Su, J. Wu, Y. 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]

4. GL. Yun, SD. Zuo, **SQ. Dai**, XD. Song, CD. Xu, YL. Liao, PQ. Zhao, WY. Chang, Q. Chen, YY. Li, JF. Tang, W. Man, Y. Ren. (2018). Individual and Interactive Influences of Anthropogenic and Ecological Factors on Forest PM2.5 Concentrations at an Urban Scale. *Remote Sensing. 10*(4), 521-538 doi:10.3390/rs10040521. [SCI, IF = 3.406]

3. Q. Ye, G. Zeng, **SQ. Dai**, FL. Wang. (2018). Research on the effects of different policy tools on China's emissions reduction innovation. *China Population, Resources and Environment. 210*(02), 115-122. doi:10.12062/cpre.20170915. [CSCD, in Chinese]

2. Q. Ye, **SQ. Dai**, G. 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]

1. ML. Li, **SQ. Dai**, JY. Wang, ZJ. 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. **SQ. Dai**, JJ. Li, SD. Zuo, Y. Ren, HX. 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]

Papers submitted/under revision

6. **SQ. Dai**, SD. Zuo, & Y. Ren. High-resolution mapping of direct CO_2 emissions and uncertainties at the urban scale. (*submitted*).

5. **SQ. Dai**[#], XM. Zheng, SD. Zuo, & Y. Ren. Improving the Prediction Accuracy of Forest Aboveground Biomass Map by Integrating Machine Learning and Spatial Statistics. (*submitted*).

4. SD. Zuo, **SQ. Dai**, Y. Ren, R. Zhou, & ZW. Yu. More fragmentized urban form more CO_2 emissions? An comprehensive relationship from the combination analysis across different scales (*under review*).

3. ZF. Wu, **SQ. Dai**, W. Man, Q. Chen, SD. Zuo, JF. Tang, YY. Li, Y. Ren. Interactive effects of human activity and environmental factors on variation in urban forest surface temperature. (*under review*).

2. LY. Cai, SD. Zuo, ZF. Wu, GL. Yun, XM. Zheng, **SQ. Dai**, Y. Ren. Effects of different green spaces on air PM2.5 in the winter in Southeast China at landscape scales. (*under review*).

1. Q. Yang, TY. Huang, SG. Wang, JS. Li, **SQ. Dai**, S. Wright, YX. Wang, & HW. Peng. A GIS-based high spatial resolution assessment of large-scale PV power generation potential and associated CO_2 emission reduction in China. (*under review*).

Meeting Abstracts & Papers

9. **SQ. Dai**, SD. Zuo, & Y. Ren. (2018). High-Resolution Mapping of Direct CO_2 Emissions and Uncertainties at the Urban Scale. Abstract 37 presented at the 13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences(Spatial Accuracy 2018), Beijing, China.

8. **SQ. Dai**[#], XM. Zheng, SD. Zuo, & Y. Ren. (2018). Improving the Prediction Accuracy of Forest Aboveground Biomass Map by Integrating Machine Learning and Spatial Statistics. Abstract 35 presented at the 13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences(Spatial Accuracy 2018), Beijing, China.

7. SD. Zuo, **SQ. Dai**, Y. Ren, & ZW. Yu. (2017). Quantifying the linear and nonlinear relations between the urban form fragmentation and the carbon emission distribution. Abstract GC21G-1007 presented the poster at 2017 AGU Fall Meeting, New Orleans, LA, USA.

6. **SQ. Dai**, Y. Ren, SD. Zuo, M. Dai, P. Chen, Z. Wang, LX. Xu, JW. Qi, GL. Yun. (2017). The environmental effect of urban form on PM2.5: a case study of Beijing-Tianjing-Hebei agglomeration. Presented at 9th Chinese Landscape Eoclogy workshop, Guangzhou, China.

5. Q. Ye, G. Zeng, **SQ. Dai**, FL. 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. Presented at 2017 annual conference of the Chinese geographical society, economic geography and Specialized Committee.Sichuan, China.

4. SD. Zuo, **SQ. Dai**, Y. Ren, & ZW. Yu. (2017). Quantifying the linear and nonlinear relations between the urban form fragmentation and the carbon emission distribution. Presented the poster at 9th Lecture of Modern Ecology, Shanghai, China.

3. **SQ. Dai**, HX. Jiang, JJ. Li, X. Su, J. Wu. (2016). The Criminal Geographical Analysis about Walking Environment of Urban. Presented at The Workshop of 12th Spatial Behavior and Planning & Spatial-Temporal Behavior and Social Planning Research, Beijing, China.

2. **SQ. Dai**, HX. Jiang, JJ. Li, QW. 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. Abstract 1813-2948-1 presented at The 10th annual conference of International Association of China Planning, Beijing, China.

1. **SQ. Dai**, HX. Jiang, JJ. Li. (2016). The Simulation Analysis of Waterlogging and the Sponge City Planning Control of Central Urabn Area in Fuzhou City. Abstract 391 presented the poster at 2016 International Low Impact Development Conference, Beijing, China.

Talks

6. **SQ. Dai** The Scale Effect, Zoning Effect of Geographical Features, the Modified Areal Unit Problem and the Chanlleges of Spatial Stastistics. *11th Chinese R Language Conference, Renmin University of China*, Beijing, China. May. 27, 2018.

5. **SQ. Dai** High-Resolution Mapping of Direct CO_2 Emissions and Uncertainties at the Urban Scale. *The 13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences(Spatial Accuracy 2018), China National Convention Center*, Beijing, China. May. 22, 2018.

4. **SQ. Dai** The Environmental Effect of Urban Form on PM2.5. *The 9th Chinese Landscape Eoclogy workshop, Sanyu Hotel*, Guangzhou, China. Nov. 11, 2017.

3. **SQ. Dai** The Assement Platform of Urban Forest Ecosystem Servcie Based on InVEST model and IOT. *The 2rd urban environment long-term monitor and sustainable development workshop, Shanghai Normal University*, Shanghai, China. Sep. 28, 2017. [**invited**]

2. **SQ. Dai** 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. Nov. 27, 2016.

1. **SQ. Dai** 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. *The 10th annual conference of International Association of China Planning, Peking University*, Beijing, China. July. 2, 2016.