

Jun Cai

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Research Interests

Respiratory Infectious Diseases; Infectious Disease Modelling; Bayesian Inference for Infectious Disease Dynamics. My research involves respiratory infectious diseases (e.g., SARS-CoV-2 and influenza) and focuses on developing mathematical models to characterize their spatiotemporal patterns, to measure disease burden, and to evaluate control strategies.

Education

2012.09–2020.06 **Ph.D.**, *Department of Earth System Science, Tsinghua University, Beijing, China.*

Major Ecology Advisor Prof. Bing Xu
Thesis Assessing the Spatial Spread of Influenza based on Epidemic Characteristic Parameters

2008.09–2012.06 **B.S.**, *School of Resource and Environmental Science, Wuhan University, Wuhan, China.*

Major Geographic Information System
Thesis Spatio-temporal Characteristics of Influenza A(H1N1)pdm09 during Early Phase in Mainland China
Advisors Prof. Huanfeng Shen and Prof. Bing Xu

Work Experiences

2023.01–Present **Young Research Fellow**, *Department of Epidemiology and Ministry of Education Key Laboratory of Public Health Safety, School of Public Health, Fudan University, Shanghai, China.*

2020.07–2022.12 **Super Postdoctoral Fellow**, *Specializing in Epidemiology and Health Statistics, Postdoctoral Mobile Station for Public Health and Preventive Medicine, Fudan University, Shanghai, China.*
Collaborating supervisor: Prof. Hongjie Yu.

2016.05–2016.11 **Visiting Predoctoral Fellow**, *Division of International Epidemiology and Population Studies (DIEPS), Fogarty International Center (FIC), National Institutes of Health (NIH), Bethesda, MD, USA.*
Co-funded by Tsinghua Scholarship for Overseas Graduate Studies and Supplemental Pre-doc Fellowship from the NIH Visiting Program
Focus on modeling spatial-temporal transmission of influenza A(H1N1)pdm09 in mainland China supervised by Dr. Cecile Viboud.

- 2015.05–2015.08 **Google Summer of Code student with R**, Beijing, China.
Optimize disk usage for animint package by saving common data in every tsv into a common tsv mentored by Dr. Toby Dylan Hocking.
- 2014.09–2015.06 **Intern**, *Big Data Lab at Baidu, Inc*, Beijing, China.
Utilize Baidu search queries and Baidu Map position data to improve influenza forecasting accuracy of Baidu Disease Trend supervised by Dr. Zhiyong Shen.
- 2012.09–2020.06 **Research Assistant**, *Department of Earth System Science, Tsinghua University*, Beijing, China.

Funding Programs

- Young Scientists Fund of NSFC Assessing the risk of epidemics caused by emerging SARS-CoV-2 variants and the impact of implementing interventions in China after downgrading COVID-19 management to Class B (82304199). 2024/01/01–2026/12/31. [Role: PI]
- Key Program of NSFC Prediction of reemergence of COVID-19 and evaluation of the impact of COVID-19 vaccination on transmission in China (82130093). 2022/01/01–2026/12/31. [Role: main participant]
- 863 Program Spatio-temporal Transmission of Influenza and Early Warning System under Global Change (2012AA12A407). 2012/06/01–2015/05/31. [Role: participant]
- 973 Program Impacts of Climate Change on Human Health and Adaptation Mechanisms (2012CB955501). 2012/01/01–2016/12/31. [Role: participant]

Workshops/Short Courses

- Sep 2024 **Introduction to Mathematical Models of the Epidemiology & Control of Infectious Diseases**, *Department of Infectious Disease Epidemiology, School of Public Health, Imperial College London*, London, UK.[Role: participant]
- Dec 2023 Short Course on **Mathematical Modelling of Infectious Diseases**, *Ministry of Education Key Laboratory of Public Health Safety, School of Public Health, Fudan University*, Shanghai, China.[Role: founder and lecturer]
- Jul 2020 Module 7: **Simulation-based Inference for Epidemiological Dynamics** and Module 9: **Contact Network Epidemiology** at the 12th Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID), *Department of Biostatistics, School of Public Health, University of Washington*, Shanghai, China.[Role: participant]
- Nov 2016 Multinational Influenza Seasonal Mortality Study (MISMS) Workshop, *FIC of NIH*, Bethesda, MD, USA.[Role: participant]
- Sep 2016 Summer School of Computational Biology for Infectious Diseases in the **epidemics forecasting** specialty, *USTH, CAMPUS FRANCE, La France au Vietnam, IRD, cnrs, FIC of NIH, GREASE, CDC, Institut Pasteur International Network, FONDATION MERIEUX, wellcome trust, WHO*, Hanoi, Vietnam.[Role: participant]
- Oct 2015 MISMS Workshop, *FIC and NCBI of NIH, APCMV 2015 and National Taiwan University*, Taipei, China.[Role: participant]

- Oct 2014 Workshop for Research Methods in Climate Change and Health & Shandong University Forum on Climate Change and Health, *School of Public Health, Shandong University, and Shandong University Climate Change and Health Center*, Jinan, China.[Role: participant]
- Nov 2013 EMBO Practical Course-Bioinformatics and Statistics for Large-scale Data, *BGI*, Shenzhen, China.[Role: participant]
- Jun 2013 1st CPGIS Health-GIS Workshop on Applications of GIS in Public Health, *CPGIS*, Beijing, China.[Role: participant]

Publications Google Scholar Citations: 5218, h-index: 25, i10-index: 32

o **Journal**

Infectious Diseases

- [1] Shi Y, Lv Q, Zhu K, **Cai J**, Kong D, Liu K, Chen Z, Zhang Z, Yin L. (2025). Estimating the two consecutive epidemic waves of SARS-CoV-2 Omicron in Shenzhen, China from November 2022 to July 2023: a modeling study based on multi-source surveillance and mobility data. *Advances in Continuous and Discrete Models*, 2025(1), 1-25. doi:[10.1186/s13662-024-03860-1](https://doi.org/10.1186/s13662-024-03860-1).
- [2] Chen Z, Tsui JLH, **Cai J**, Su S, Viboud C, du Plessis L, Lemey P, Kraemer MUG, Yu H. (2025). Disruption of seasonal influenza circulation and evolution during the 2009 H1N1 and COVID-19 pandemics in Southeastern Asia. *Nature Communications*, 16(1), 475. doi:[10.1038/s41467-025-55840-y](https://doi.org/10.1038/s41467-025-55840-y).
- [3] Chen Z, Tsui JLH, Gutierrez B, Moreno SB, du Plessis L, Deng X, **Cai J**, Bajaj S, Suchard MA, Pybus OG, Lemey P, Kraemer MUG, Yu H. (2024). COVID-19 pandemic interventions reshaped the global dispersal of seasonal influenza viruses. *Science*, 386(6722), eadq3003. doi:[10.1126/science.adq3003](https://doi.org/10.1126/science.adq3003).
- [4] Liu H, **Cai J**, Zhou J, Xu X, Ajelli M, Yu H. (2024). Assessing the impact of interventions on the major Omicron BA.2 outbreak in spring 2022 in Shanghai. *Infectious Disease Modelling*, 9(2), 519-526. doi:[10.1016/j.idm.2024.02.013](https://doi.org/10.1016/j.idm.2024.02.013).
- [5] Liu H, Xu X, Deng X, Hu Z, Sun R, Zou J, Dong J, Wu Q, Chen X, Yi L, **Cai J**, Zhang J, Ajelli M, Yu H. (2024). Counterfactual analysis of the 2023 Omicron XBB wave in China. *Infectious Disease Modelling*, 9(1), 195-203. doi:[10.1016/j.idm.2023.12.006](https://doi.org/10.1016/j.idm.2023.12.006).
- [6] Chen X, Yan X, Sun K, Zheng N, Sun R, Zhou J, Deng X, Zhuang T, **Cai J**, Zhang J, Ajelli M, Yu H. (2022). Estimation of disease burden and clinical severity of COVID-19 caused by Omicron BA. 2 in Shanghai, February-June 2022. *Emerging Microbes & Infections*, 11(1), 2800-2807. doi:[10.1080/22221751.2022.2128435](https://doi.org/10.1080/22221751.2022.2128435).
- [7] Chen Z, Deng X, Fang L, Sun K, Wu Y, Che T, Zou J, **Cai J**, Liu H, Wang Y, Wang T, Tian Y, Zheng N, Yan X, Sun R, Xu X, Zhou X, Ge S, Liang Y, Yi L, Yang J, Zhang J, Ajelli M, Yu H. (2022). Epidemiological characteristics and transmission dynamics of the outbreak caused by the SARS-CoV-2 Omicron variant in Shanghai, China: a descriptive study. *The Lancet Regional Health - Western Pacific*, 29, 100592. doi:[10.1016/j.lanwpc.2022.100592](https://doi.org/10.1016/j.lanwpc.2022.100592).
- [8] **Cai J***, Deng X*, Yang J*, Sun K, Liu H, Chen Z, Peng C, Chen X, Wu Q, Zou J, Sun R, Zheng W, Zhao Z, Lu W, Liang Y, Zhou X, Ajelli M, Yu H. (2022). Modeling transmission

- of SARS-CoV-2 Omicron in China. *Nature Medicine*, 1-18. doi:[10.1038/s41591-022-01855-7](https://doi.org/10.1038/s41591-022-01855-7).
- [9] **Cai J***, Yang J*, Deng X, Peng C, Chen X, Wu Q, Liu H, Zhang J, Zheng W, Zou J, Zhao Z, Ajelli M, Yu H. (2022). Assessing the transition of COVID-19 burden towards the young population while vaccines are rolled out in China. *Emerging Microbes & Infections*, 11(1), 1205-1214. doi:[10.1080/22221751.2022.2063073](https://doi.org/10.1080/22221751.2022.2063073).
- [10] Liu H, Zhang J, **Cai J**, Deng X, Peng C, Chen X, Yang J, Wu Q, Chen X, Chen Z, Zheng W, Viboud C, Zhang W, Ajelli M, Yu H. (2022). Investigating vaccine-induced immunity and its effect in mitigating SARS-CoV-2 epidemics in China. *BMC Medicine*, 20(1), 1-12. doi:[10.1186/s12916-022-02243-1](https://doi.org/10.1186/s12916-022-02243-1).
- [11] Han S*, **Cai J***, Yang J, Zhang J, Wu Q, Zheng W, Shi H, Ajelli M, Zhou X-H, Yu H. (2021). Time-varying optimization of COVID-19 vaccine prioritization in the context of limited vaccination capacity. *Nature Communications*, 12(1), 1-10. doi:[10.1038/s41467-021-24872-5](https://doi.org/10.1038/s41467-021-24872-5).
- [12] Yang J, Marziano V, Deng X, Guzzetta G, Zhang J, Trentini F, **Cai J**, Poletti P, Zheng W, Wang W, Wu Q, Zhao Z, Dong K, Zhong G, Viboud C, Merler S, Ajelli M, Yu H. (2021). Despite vaccination, China needs non-pharmaceutical interventions to prevent widespread outbreaks of COVID-19 in 2021. *Nature Human Behaviour*, 1-12. doi:[10.1038/s41562-021-01155-z](https://doi.org/10.1038/s41562-021-01155-z).
- [13] Li R, Chen B, Zhang T, Ren Z, Song Y, Xiao Y, Hou L, **Cai J**, Xu B, Li M, Chan KK, Tu Y, Yang M, Yang J, Liu Z, Shen C, Wang C, Xu L, Liu Q, Bao S, Zhang J, Bi Y, Bai Y, Deng K, Zhang W, Huang W, Whittington JD, Stenseth NC, Guan D, Gong P, Xu B. (2020). Global COVID-19 pandemic demands joint interventions to the suppression of future waves. *Proceedings of the National Academy of Sciences*, 117(42), 26151-26157. doi:[10.1073/pnas.2012002117](https://doi.org/10.1073/pnas.2012002117).
- [14] Yu J, Xiao H, Yang W, Dellicour S, Kraemer MUG, Liu Y, **Cai J**, Huang ZX, Zhang Y, Feng Y, Huang W, Zhang H, Gilbert M, Tian H. (2020). The impact of anthropogenic and environmental factors on human rabies cases in China. *Transboundary and Emerging Diseases*, 67(6), 2544-2553. doi:[10.1111/tbed.13600](https://doi.org/10.1111/tbed.13600).
- [15] Tian H, Liu Y, Li Y, Wu CH, Chen B, Kraemer MUG, Li B, **Cai J**, Xu B, Yang Q, Wang B, Yang P, Cui Y, Song Y, Zheng P, Wang Q, Bjornstad O, Yang R, Pybus OG, Grenfell B, Dye C. (2020). An investigation of transmission control measures during the first 50 days of the COVID-19 epidemic in China. *Science*, 368(6491), 638-642. doi:[10.1126/science.abb6105](https://doi.org/10.1126/science.abb6105).
- [16] Xu B, **Cai J**, He D, Chowell G, Xu B. (2020). Mechanistic Modelling of Multiple Waves in an Influenza Epidemic or Pandemic. *Journal of Theoretical Biology*, 486, 110070. doi:[10.1016/j.jtbi.2019.110070](https://doi.org/10.1016/j.jtbi.2019.110070).
- [17] Li Y, Cazelles B, Yang G, Laine M, Huang ZX, **Cai J**, Tan H, Stenseth NC, Tian H. (2019). Intrinsic and extrinsic drivers of transmission dynamics of hemorrhagic fever with renal syndrome caused by Seoul hantavirus. *PLOS Neglected Tropical Diseases*, 13(9), e0007757. doi:[10.1371/journal.pntd.0007757](https://doi.org/10.1371/journal.pntd.0007757).[†]

*Co-first authors

[†]Featured research selected by PLOS Disease Forecasting & Surveillance Channel on October 30, 2019

- [18] **Cai J**, Zhang B, Xu B, Chan KK, Chowell G, Tian H, Xu B. (2019). A maximum curvature method for estimating epidemic onset of seasonal influenza in Japan. *BMC Infectious Diseases*, 19(1), 181. doi:[10.1186/s12879-019-3777-x](https://doi.org/10.1186/s12879-019-3777-x).
- [19] Kamvar ZN, **Cai J**, Pulliam JR, Schumacher J, Jombart T. (2019). Epidemic curves made easy using the R package incidence [version 1; peer review: 1 approved, 2 approved with reservations]. *F1000Research*, 8:139. doi:[10.12688/f1000research.18002.1](https://doi.org/10.12688/f1000research.18002.1).[‡]
- [20] **Cai J**, Xu B, Chan KK, Zhang X, Zhang B, Chen Z, Xu B. (2019). Roles of Different Transport Modes in the Spatial Spread of the 2009 Influenza A(H1N1) Pandemic in Mainland China. *International Journal of Environmental Research and Public Health*, 16(2), 222. doi:[10.3390/ijerph16020222](https://doi.org/10.3390/ijerph16020222).
- [21] Tian H, Yu P, Cazelles B, Xu L, Tan H, Yang J, Huang S, Xu B, **Cai J**, Ma C, Wei J, Li S, Qu J, Laine M, Wang J, Tong S, Stenseth NC, Xu B. (2017). Interannual cycles of Hantaan virus outbreaks at the human–animal interface in Central China are controlled by temperature and rainfall. *Proceedings of the National Academy of Sciences*, 114(30), 8041–8046. doi:[10.1073/pnas.1701777114](https://doi.org/10.1073/pnas.1701777114).
- [22] Li R, Bai Y, Heaney A, Kandula S, **Cai J**, Zhao X, Xu B, Shaman J. (2017). Inference and forecast of H7N9 influenza in China, 2013 to 2015. *Eurosurveillance*, 22(7). doi:[10.2807/1560-7917.ES.2017.22.7.30462](https://doi.org/10.2807/1560-7917.ES.2017.22.7.30462).
- [23] Zhao X, **Cai J**, Feng D, Feng Y, Xu B. (2016). Meteorological Influence on the 2009 Influenza A (H1N1) Pandemic in Mainland China. *Environmental Earth Sciences*, 75(10), 878. doi:[10.1007/s12665-016-5275-4](https://doi.org/10.1007/s12665-016-5275-4).
- [24] Jiang Z, Bai J, **Cai J**, Li R, Jin Z, Xu B. (2012). Characterization of the Global Spatio-temporal Transmission of the 2009 Pandemic H1N1 Influenza. *Journal of Geo-Information Science*, 14, 794–799. doi:[10.3724/SP.J.1047.2012.00794](https://doi.org/10.3724/SP.J.1047.2012.00794). [In Chinese]

Non-communicable Diseases

- [25] Feng Y*, **Cai J***, Tong X, Chen R, Zhu Y, Xu B, Mo X. (2018). Non-inheritable risk factors during pregnancy for congenital heart defects in offspring: a matched case-control study. *International Journal of Cardiology*, 264, 45–52. doi:[10.1016/j.ijcard.2018.04.003](https://doi.org/10.1016/j.ijcard.2018.04.003).

Statistics and Visualizations

- [26] Sievert C, VanderPlas S, **Cai J**, Ferris K, Khan FU, Hocking TD. (2019). Extending ggplot2 for linked and dynamic web graphics. *Journal of Computational and Graphical Statistics*, 28(2), 299–308. doi:[10.1080/10618600.2018.1513367](https://doi.org/10.1080/10618600.2018.1513367).

Air Quality — Remote Sensing

- [27] Li R, Xu M, Chen Z, Gao B, **Cai J**, Shen F, He X, Zhuang Y, Chen D. (2021). Phenology-based classification of crop species and rotation types using fused MODIS and Landsat data: the comparison of a Random-Forest-based model and a decision-rule-based model. *Soil & Tillage Research*, 206, 104838. doi:[10.1016/j.still.2020.104838](https://doi.org/10.1016/j.still.2020.104838).
- [28] Chen Z, Chen D, Zhao C, Kwan M, **Cai J**, Zhuang Y, Zhao B, Wang X, Chen B, Yang J, Li R, He B, Gao B, Wang K, Xu B. (2020). Influence of meteorological conditions on PM_{2.5} concentrations across China: a review of methodology and mechanism. *Environment International*, 139, 105558. doi:[10.1016/j.envint.2020.105558](https://doi.org/10.1016/j.envint.2020.105558).

[‡]Featured research selected by PLOS Disease Forecasting & Surveillance Channel on June 05, 2019

- [29]Chen Z, Chen D, Xie X, **Cai J**, Zhuang Y, Cheng N, He B, Gao B. (2019). Spatial self-aggregation effects and national division of city-level PM_{2.5} concentrations in China based on spatio-temporal clustering. *Journal of Cleaner Production*, 207, 875-881. doi:10.1016/j.jclepro.2018.10.080.
- [30]Zhuang Y, Chen D, Li R, Chen Z, **Cai J**, He B, Gao B, Cheng N, Huang Y. (2018). Understanding the Influence of Crop Residue Burning on PM_{2.5} and PM₁₀ Concentrations in China from 2013 to 2017 Using MODIS Data. *International Journal of Environmental Research and Public Health*, 15(7), 1504. doi:10.3390/ijerph15071504.
- [31]Chen Z, Xie X, **Cai J**, Chen D, Gao B, He B, Cheng N, Xu B. (2018). Understanding meteorological influences on PM_{2.5} concentrations across China: a temporal and spatial perspective. *Atmospheric Chemistry and Physics*, 18(8), 5343-5358. doi:10.5194/acp-18-5343-2018.
- [32]Chen Z, Chen D, Zhuang Y, **Cai J**, Zhao N, He B, Gao B, Xu B. (2017). Examining the Influence of Crop Residue Burning on Local PM_{2.5} Concentrations in Heilongjiang Province Using Ground Observation and Remote Sensing Data. *Remote Sensing*, 9(10), 971. doi:10.3390/rs91009714.
- [33]Lv B, **Cai J**, Xu B, Bai Y. (2017). Understanding the Rising Phase of the PM_{2.5} Concentration Evolution in Large China Cities. *Scientific Reports*, 7, 46456. doi:10.1038/srep46456.
- [34]Chen Z*, **Cai J***, Gao B, Xu B, Dai S, He B, Xie X. (2017). Detecting the causality influence of individual meteorological factors on local PM_{2.5} concentration in the Jing-Jin-Ji region. *Scientific Reports*, 7, 40735. doi:10.1038/srep40735.
- [35]Lv B, Hu Y, Chang HH, Russell AG, **Cai J**, Xu B, Bai Y. (2017). Daily estimation of ground-level PM_{2.5} concentrations at 4 km resolution over Beijing-Tianjin-Hebei by fusing MODIS and ground observations. *Science of the Total Environment*, 580, 235-244. doi:10.1016/j.scitotenv.2016.12.049.
- [36]Chen Z, Xu B, **Cai J**, Gao B. (2016). Understanding temporal patterns and characteristics of air quality in Beijing: A local and regional perspective. *Atmospheric Environment*, 127, 303-315. doi:10.1016/j.atmosenv.2015.12.011.
- [37]Zhang Y, Lu H, Shen S, **Cai J**. (2015). Comment on "Do aerosols impact ground observation of total cloud cover over the North China Plain?". *Global and Planetary Change*, 133, 120-124. doi:10.1016/j.gloplacha.2015.08.008.
- [38]Lu H, Zhang Y, **Cai J**. (2015). Consistency and differences between remotely sensed and surface observed total cloud cover over China. *International Journal of Remote Sensing*, 36, 4160-4176. doi:10.1080/01431161.2015.1072651.
- [39]Chen L, Jin Z, Michishita R, **Cai J**, Yue T, Chen B, Xu B. (2014). Dynamic monitoring of wetland cover changes using time-series remote sensing imagery. *Ecological Informatics*, 24, 17-26. doi:10.1016/j.ecoinf.2014.06.007.

○ Conference

- [1] **Cai J**. (2022, November). Projecting the health impact of SARS-CoV-2 Omicron epidemic in China. Shanghai Infectious Diseases Forum 2022.
- [2] Han S, **Cai J**, Yang J, Zhang J, Wu Q, Zheng W, Shi H, Ajelli M, Zhou X-H, Yu H. (2021, November). Time-varying optimization of COVID-19 vaccine prioritization in the

context of limited vaccination capacity. *Epidemics*8 - 8th International Conference on Infectious Disease Dynamics. [Poster Pitch Video]

- [3] **Cai J.** (2018, May). Non-inheritable risk factors during pregnancy for congenital heart defects in offspring: a matched case-control study. The 11th China R Conference (Beijing). [Slides]
- [4] **Cai J.** (2017, May). R Epidemics Consortium and Using Its Packages to Analyze Influenza Data. The 10th China R Conference (Beijing). [Slides]
- [5] **Cai J, Xu B.** Air and Railway Travels Accelerated Spatial Spread of 2009 Pandemic Influenza A(H1N1) in mainland China [abstract]. International Conference on Emerging Infectious Diseases 2015 poster and oral presentation abstracts. *Emerg Infect Dis.* 2015 Sep. <http://wwwnc.cdc.gov/eid/article/21/9/nn-2109>. doi:10.3201/eid2109.NN2109. [Poster]
- [6] Zhang Y, Lu H, **Cai J.** (2014, November). Towards the comparison of satellite and ground based cloud amount over China. In *SPIE Asia Pacific Remote Sensing* (pp. 92590A-92590A-8). International Society for Optics and Photonics. doi:10.1117/12.2068979.
- [7] Zhang Y, Lu H, **Cai J.** (2014, July). Estimating regional amount of low clouds over North China plain from multi-source remote sensing data. In *Geoscience and Remote Sensing Symposium (IGARSS), 2014 IEEE International* (pp. 4131-4134). IEEE. doi:10.1109/IGARSS.2014.6947396.

o Book

- [1] Paul Murrell. *R Graphics*, 2nd Edition. 2011. Hu S, Zhang Y, **Cai J**, translated. R 绘图系统. 2016. Posts & Telecom Press. Beijing, China.

Teaching Experiences

Lecturer

Fall 2024 **Introduction to Infectious Disease Modelling**, Prof. Hongjie Yu, Dr. Jun Cai & Dr. Wei Wang, School of Public Health, Fudan University, Graduate-level.

This course introduced students to the basic theories and methods of mathematical modelling of infectious diseases.

Course leader, designed the course and taught the majority of the content

Teaching Assistant

Fall 2015 **Data Analysis in Ecology**, Prof. Jun Yang, Department of Earth System Science, Tsinghua University, Graduate-level.

This course introduced students to R programming and data analysis principles and methods used in ecology.

Prepared laboratory materials, instructed laboratory section, graded homework

Professional Services

Reviewer for

Nature Communications, PLOS Medicine, PLOS Pathogens, PLOS Neglected Tropical Diseases, PLOS Computational Biology, PLOS ONE, American Journal of Public Health, BMC Medicine, BMC Infectious Diseases, Epidemics, Infectious Disease Modelling, International Journal of Health Geographics, International Journal of Environmental Research and Public Health, SAGE Open, Mathematical Biosciences and Engineering, Epidemiologia

ISPRS Journal of Photogrammetry and Remote Sensing, Journal of Cleaner Production, Science of the Total Environment, International Journal of Applied Earth Observation and Geoinformation, Atmospheric Environment, Atmospheric Pollution Research, International Journal of Disaster Risk Reduction, SN Applied Sciences

Member of

Science Editorial Board for Infectious Medicine (2024-2026)

R Epidemics Consortium (RECON), Models of Infectious Disease Agent Study (MIDAS)

Awards

- 2024.09 Second Prize of Chinese Medical Science and Technology Award 2024 [Role: 7th out of 12 contributors]
- 2024.08 Outstanding Postdoctoral Fellow of Fudan University
- 2012.06 Outstanding Graduate of Wuhan University
- 2010.09 National Second Prize in China Undergraduate Mathematical Contest in Modeling of Higher Education Press Cup (with Zhenshan Zhu & Shujun Wang)
- 2009.12 National Endeavor Scholarship

Skills

Programming Languages

- R/Stan Bayesian Data Analysis and Visualization, Statistical and Dynamic Modeling. Author of *geoChina*, *humidity*, and *ggcorrplot2* packages, contributor of *animint*, *AnomalyDetection*, *corrplot*, *incidence*, *ncf* and *rEDM* packages.
- Python Automated Data Collection and Batch for ArcGIS Tools. Devooped *PFD* Project.
- IDL Remote Sensing Image Processing and Application Development for ENVI. Developed *LCF* Project.
- MATLAB Mathematical Modeling.
- Miscellaneous National Computer Rank Examination for Grade 4 Database Engineer.