Ying TU

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EDUCATION

August 2019 – April 2024	Tsinghua University

Ph.D. in Ecology (Advisor: Prof. Bing Xu)

August 2015 – June 2019	Sun Yat-sen University

B.S. in Geographic Information Science

APPOINTMENTS

May 2024 –	Cornell University

Postdoctoral Associate (Advisor: Prof. Chuan Liao)

August 2022 – August 2023	The University of Hong Kong

Research Assistant (Advisor: Prof. Bin Chen)

RESEARCH INTERESTS

- GeoAI and Remote Sensing
- Human–Environment Interactions
- Exposure, Equity, and Well-being
- Climate Hazard and Agricultural Sustainability

PUBLICATIONS

(*corresponding author, #co-first author)

Articles in peer-reviewed journals

1. **Ying Tu**, Bin Chen*, Chuan Liao*, Shengbiao Wu, Jiafu An, Chen Lin, Peng Gong, Bin Chen, Hong Wei, Bing Xu*. "Inequality in infrastructure access and its association with health disparities." *Nature Human Behaviour* (2025): 1–14.

2. **Ying Tu**, Shengbiao Wu, Bin Chen, Qihao Weng, Yuqi Bai, Jun Yang, Le Yu, and Bing Xu*. "A 30 m annual cropland dataset of China from 1986 to 2021." *Earth System Science Data* 16 (2024): 2297–2316.

3. Bin Chen[#], **Ying Tu**[#], Jiafu An[#], Shengbiao Wu, Chen Lin*, and Peng Gong*. "Quantification of losses in agriculture production in eastern Ukraine due to the

Russia-Ukraine war." *Communications Earth & Environment* 5.1 (2024): 336.

4. **Ying Tu**, Bin Chen*, Le Yu, Yimeng Song, Shengbiao Wu, Miao Li, Hong Wei, Tingting Chen, Wei Lang, Peng Gong, and Bing Xu*. "Raveling the nexus between urban expansion and cropland loss in China." *Landscape Ecology* (2023): 1-16.

5. **Ying Tu**[#], Bin Chen[#]*, Jun Yang, and Bing Xu*. "Olympic effects on reshaping urban greenspace of host cities." *Landscape and Urban Planning* 230 (2023): 104615.

6. **Ying Tu**, Bin Chen, Le Yu, Qinchuan Xin, Peng Gong, and Bing Xu*. "How does urban expansion interact with cropland loss? A comparison of 14 Chinese cities from 1980 to 2015." *Landscape Ecology* (2021): 1-21.

7. **Ying Tu**, Bin Chen, Wei Lang, Tingting Chen, Miao Li, Tao Zhang, and Bing Xu*. "Uncovering the Nature of Urban Land Use Composition Using Multi-source Open Big Data with Ensemble Learning." *Remote Sensing* 13, no. 21 (2021): 4241.

8. **Ying Tu**, Wei Lang, Le Yu, Ying Li, Junhao Jiang, Yawen Qin, Jiemin Wu, Tingting Chen, and Bing Xu*. "Improved Mapping Results of 10 m Resolution Land Cover Classification in Guangdong, China Using Multisource Remote Sensing Data With Google Earth Engine." *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* 13 (2020): 5384-5397.

9. **Ying Tu**, Bin Chen, Tao Zhang, and Bing Xu*. "Regional Mapping of Essential Urban Land Use Categories in China: A Segmentation-Based Approach." *Remote Sensing* 12, no. 7 (2020): 1058.

10. **Ying Tu**, Hanlin Zhou, Wei Lang, Tingting Chen, Xun Li*, and Bing Xu*. "A novel cross-sensor calibration method to generate a consistent night-time lights time series dataset." *International Journal of Remote Sensing* 41, no. 14 (2020): 5482-5502.

11. Bin Chen*, **Ying Tu**, Shengbiao Wu, Yimeng Song, Yufang Jin, Chris Webster, Bing Xu, and Peng Gong. "Beyond green environments: Multi-scale difference in human exposure to greenspace in China." *Environment International* 166 (2022): 107348.

12. Bin Chen*, **Ying Tu**, Yimeng Song, David M. Theobald, Tao Zhang, Zhehao Ren, Xuecao Li, Jun Yang, Jie Wang, Xi Wang, Peng Gong, Yuqi Bai*, and Bing Xu*. "Mapping essential urban land use categories with open big data: Results for five metropolitan areas in the United States of America." *ISPRS Journal of Photogrammetry and Remote Sensing* 178 (2021): 203-218.

13. Tao Liu, Le Yu*, Xiaoxuan Liu, Dailiang Peng, Xin Chen, Zhenrong Du, **Ying Tu**, Hui Wu, Qiang Zhao. "A Global Review of Monitoring Cropland Abandonment using Remote Sensing methodology: Tempo-spatial Patterns, Causes, Ecological Effects, and Future Prospects." *Journal of Remote Sensing* (2025).

14. Tian Tian, Le Yu, **Ying Tu**, Bin Chen, and Peng Gong*. "Mapping the Time-Series of Essential Urban Land Use Categories in China: A Multi-Source Data Integration Approach." *Remote Sensing* 16.17 (2024): 3125.

15. Hong Wei, Bin Chen, Kangning Huang, Meng Gao, Bin Fan, Tao Zhang, **Ying Tu**, and Bing Xu*. "Moderating AC Usage Can Reduce Thermal Disparity

between Indoor and Outdoor Environments." *Environmental Science & Technology* (2024).

16. Xinjian Wen, Fuying Yang, Jiangping Chen, **Ying Tu**, Haiyun Wang, Zhanpeng Chen, Ting Dong, and Gang Xu*. "Spatial Patterns of Urban Expansion and Cropland Loss during 2017-2022 in Guangdong, China." *Heliyon* (2024).

17. Hong Wei, Yimin Chen, Bin Chen, Shuai Shi, **Ying Tu**, and Bing Xu*. "Built environments, communities, and housing price: A data-model integration approach." *Applied Geography* 166 (2024): 103270.

18. Le Yu*, Zhenrong Du, Runmin Dong, Juepeng Zheng, **Ying Tu**, Xin Chen, Pengyu Hao et al. "FROM-GLC Plus: toward near real-time and multi-resolution land cover mapping." *GIScience & Remote Sensing* 59, no. 1 (2022): 1026-1047.

19. Miao Li, Tao Zhang, **Ying Tu**, Zhehao Ren, and Bing Xu*. "Monitoring Post-Flood Recovery of Croplands Using the Integrated Sentinel-1/2 Imagery in the Yangtze-Huai River Basin." *Remote Sensing* 14, no. 3 (2022): 690.

20. Tingting Chen, Eddie CM Hui, **Ying Tu**, and Wei Lang*. "Growth or Shrinkage: Discovering Development Patterns and Planning Strategies for Cross-Border Areas in China." *Journal of Urban Planning and Development* 147, no. 4 (2021): 05021046.

21. Xinyu Dou, Cuijuan Liao, Hengqi Wang, Ying Huang, **Ying Tu**, Xiaomeng Huang, Yiran Peng, Biqing Zhu, Jianguang Tan, Zhu Deng, Nana Wu, Taochun Sun, Piyu Ke, Zhu Liu*. "Estimates of daily ground-level NO2 concentrations in China based on Random Forest model integrated K-means." *Advances in Applied Energy* 2 (2021): 100017.

22. Wenjia Cai*[#], Chi Zhang[#], Hoi Ping Suen[#], …, **Ying Tu** ..., and Peng Gong*. "The 2020 China report of the Lancet Countdown on health and climate change." *The Lancet Public Health* (2020).

23. Ruiyun Li[#], Bin Chen[#], Tao Zhang, …, **Ying Tu** ..., and Bing Xu*. "Global COVID-19 pandemic demands joint interventions for the suppression of future waves." *Proceedings of the National Academy of Sciences* 117, no. 42 (2020): 26151-26157.

24. Peng Gong*, Bin Chen, Xuecao Li, …, **Ying Tu** ..., and Bing Xu*. "Mapping essential urban land use categories in China (EULUC-China): preliminary results for 2018." *Science Bulletin* 65, no. 3 (2020): 182-187.

Manuscripts under consideration

1. **Ying Tu**, Jenny Kao-Kniffin, Matthew Reid, and Chuan Liao*. "Climate-adaptive rice farming in flood-prone croplands contributes to economic benefits and environmental sustainability."

2. **Ying Tu**[#], Radine Rafols[#], Yangyang Xu, Natalia Butler, Linah Ababneh, Feng Tao, Veerabhadran Ramanathan, Benjamin Houlton, and Chuan Liao*. "Scaling up enhanced rock weathering for equitable climate change mitigation."

3. **Ying Tu**, Chuan Liao, Gang Xu, Bin Chen, and Bing Xu*. "Understanding cropland-urban land conversion in China through the lens of the Environmental Kuznets Curve."

4. Chuan Liao, Jenny Kao-Kniffin, Matthew C Reid, Wendong Zhang, Precious Tshabalala, Erik Andrus, Zachary Butler-Jones, Jordan LaPoint, Shuai Zhou, Radine Rafols, Seongmin Shin, Mai Ichihara, Autumn Pereira, Natalia Butler,

Ying Tu, and Susan R McCouch*. "Rice Farming for Climate Change Adaptation in the Northeastern United States."

Conference proceedings

1. **Ying Tu**, Bin Chen, Le Yu, Qinchuan Xin, Peng Gong, and Bing Xu*. "Urban-Expansion Driven Farmland Loss Follows with the Environmental Kuznets Curve Hypothesis: Evidence from Temporal Analysis in Beijing, China." *In Geoinformatics in Sustainable Ecosystem and Society*, pp. 394-412. Springer, Singapore, 2019.

2. Shengjie Liu, Haowen Luo, **Ying Tu**, Zhi He, and Jun Li*. "Wide contextual residual network with active learning for remote sensing image classification." *In IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium*, pp. 7145-7148. IEEE, 2018.

TEACHING

Teaching Experience

SP 2025	Cornell University	GDEV 3170/5170 Land Systems and Sustainability	Guest Lecture
SP 2025	University of Connecticut	GEOG 4095/5895 Introduction to Geospatial Artificial Intelligence	Guest Lecture
FA 2022	The University of Hong Kong	ARCH7176 Landscape Media	Teaching Assistant
FA 2022	The University of Hong Kong	ARCH3097 Landscape Representation: Systems and Simulations	Teaching Assistant
SP 2021	Tsinghua University	The Way of Academia	Teaching Assistant
FA 2020	Tsinghua University	Global Change and Sustainable Development	Teaching Assistant

FUNDINGS

- *Sorghum for sustainability? Enabling water savings from crop switching in Kansas*. Environmental Defense Fund (2025–2027). <u>My role: Participant.</u>
- *SCC-CIVIC-PG Track A: Community-driven Innovations in Rice for Climate Adaptation in New York State (CIRCA-NYS)*. National Science Foundation (NSF) (2024–2027). <u>My role: Participant.</u>
- *Agricultural Floodplain Rice Farming as Adaptation to Climate Change in New York State*. United States Department of Agriculture (USDA), National Institute of Food and Agriculture (2024–2025). <u>My role: Participant.</u>
- *Agricultural Floodplain Rice Farming as Adaptation to Climate Change in NYS: An RCT Approach*. Towards Sustainability Foundation (2024). <u>My role: Participant.</u>

- *Agricultural Floodplain Rice Farming for Just Technological Futures: An Environmental Justice Perspective*. Cornell CALS Moonshot Seed Grant (2024). <u>My role: Participant.</u>
- *Organic Rice Farming for Climate Change Adaptation*. Cornell Center for Social Sciences (2024). <u>My role: Participant.</u>
- *Parcel-based urban land use classification using domain adaptations of sample, feature, and model*. National Natural Science Foundation of China (NSFC) Young Scientists Fund (2023–2025). <u>My role: Participant.</u>
- *Urban land use monitor (LUMonitor): Time-series mapping of essential urban land use categories in the Greater Bay Area*. URC Seed Fund for Basic Research, The University of Hong Kong (2022–2023). <u>My role: Participant.</u>
- *Green and low-carbon development monitoring and diagnosis optimization application in megacities*. National Key Research and Development Program of China (2022–2026). <u>My role: Participant.</u>
- *Global change impact on human infectious diseases and health, and its urban responses and sustainable development*. Open Research Program of the International Research Center of Big Data for Sustainable Development Goals (2022–2023). <u>My role: Participant.</u>

PRESENTATIONS & TALKS

1. **Ying Tu** and Ding Fei. "Urbanizing through Special Economic Zones? Territorial Outcomes of Chinese-Contracted Industrial Parks in Ethiopia." *AAG Annual Meeting*, Detroit, MI, USA. March 2025.

2. **Ying Tu**, Chuan Liao, Jenny Kao-Kniffin, and Matthew Reid. "Assessing the Suitability of Agricultural Floodplain Rice Farming as Adaptation to Climate Change in the United States." *AGU Annual Meeting*, Washington, D.C, USA. December 2024.

3. **Ying Tu** and Chuan Liao. "Climate Adaptation and the Potential for Flood-Tolerant Agriculture in New York State." *Cornell Rice Field Day*, Ithaca, NY, USA. October 2024.

4. **Ying Tu** and Chuan Liao. "Remote Sensing and Climate Adaptation in Agricultural Floodplain Regions." *Cornell Cooperative Extension (CCE) Executive Leadership Conference*, Freeville, NY, USA. September 2024.

5. **Ying Tu**, Bin Chen, Jun Yang, and Bing Xu. "Olympic effects on reshaping urban greenspace of host cities". *The 3rd International Forum on Big Data for Sustainable Development Goals*, Beijing, China. September 2023.

6. **Ying Tu**, Bin Chen, and Bing Xu. "Raveling the nexus between urban expansion and cropland loss in China." *AAG Annual Meeting* (Virtual). February 2022.

7. **Ying Tu**, Bin Chen, Le Yu, Qinchuan Xin, Peng Gong, and Bing Xu*. "Urban-Expansion Driven Farmland Loss Follows with the Environmental Kuznets Curve Hypothesis: Evidence from Temporal Analysis in Beijing, China." *The 7th International Conference on Geoinformatics in Sustainable Ecosystem and Society*, Guangzhou, China. November 2019.

AWARDS

2024	Outstanding Doctoral Dissertation of Tsinghua University
2023	First Scholarship of Tsinghua University
2022	National Scholarship of China (for Doctoral Students)
2021	Second Scholarship of Tsinghua University
2020	First Scholarship of Tsinghua University
2020	Best Report in the 610th Doctoral Forum of Tsinghua University
2019	Best Student Paper in the Geoinformatics in Sustainable Ecosystem and Society (GSES) Conference
2019	Outstanding Undergraduate Thesis of Sun Yat-sen University
2019	"Top 10 Graduation Student" of School of Geography and Planning, Sun Yat-sen University
2017	National Scholarship of China (for Undergraduate Students)
2016	First Scholarship of Sun Yat-sen University
2015	First Scholarship of Sun Yat-sen University

PROFESSIONAL SERVICE

Editorial

Guest Editor, Special Issue "Sustainable Application of Land Surveying and Mapping in Land Resource Development and Management", *Sustainability* (2024). Co-edited with Prof. Bing Xu, Prof. Hanlin Zhou and Prof. Yimeng Song.

Journal Reviews

Communications Earth & Environment (2025)
Earth's Future (2025)
Earth System Science Data (2024)
Food Security (2024)
Geo-spatial Information Science (2023)
GIScience & Remote Sensing (2023)
Environmental Science & Technology (2024)
Infrastructure (2024)
International Journal of Agricultural Sustainability (2024)
International Journal of Remote Sensing (2021x3, 2022)
International Journal of Digital Earth (2023x2, 2024)
International Journal of Electrical and Computer Engineering (2021)
International Journal of Environmental Research and Public Health (2023)
ISPRS Journal of Photogrammetry and Remote Sensing (2023)
Land (2022x2, 2023)
Land Use Policy (2024)
Regional Environmental Change (2024)

Remote Sensing (2023x3)
Remote Sensing in Ecology and Conservation (2022)
Remote Sensing of Environment (2024)
Scientific Data (2024)

<u>Academic Affiliations</u>

American Association of Geographers (AAG)
American Geophysical Union (AGU)

LANGUAGES

Chinese (native); English (professional, IELTS 7.5); Cantonese (fluent)

SKILLS

Programming: Python, JavaScript, R, Matlab, C/C++, VB, etc.

Platform: Google Earth Engine, Microsoft Planetary Computer, etc.

Software: ArcGIS, QGIS, Adobe Photoshop, Adobe Illustrator, etc.