

# TU Ying (屠滢)



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## EDUCATION

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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 (GPA: 4.1/5.0)

## APPOINTMENTS

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May 2024 – Cornell University

Postdoctoral Associate (Advisor: Dr. Chuan Liao)

August 2022 – August 2023 The University of Hong Kong

Research Assistant (Advisor: Dr. Bin Chen)

## RESEARCH INTERESTS

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My research interest broadly focuses on *harnessing satellite remote sensing and computational approaches to monitor global environmental changes in support of sustainable development*. Specifically, I am interested in

- Land Cover/Land Use Monitoring
- Agricultural Sustainability
- Environment, Development & Justice

## PUBLICATIONS

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(\*corresponding author, #co-first author)

### Articles in peer-reviewed journals

1. Bin Chen<sup>#</sup>, **Ying Tu**<sup>#</sup>, Jiafu An<sup>#</sup>, Shengbiao Wu, Chen Lin<sup>\*</sup>, and Peng Gong<sup>\*</sup>. Quantification of losses in agriculture production in eastern Ukraine due to the Russia-Ukraine war. *Communications Earth & Environment* (2024). Accepted.
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. 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).
  4. 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.
  5. **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.
  6. **Ying Tu**<sup>#</sup>, Bin Chen<sup>#\*</sup>, Jun Yang, and Bing Xu\*. "Olympic effects on reshaping urban greenspace of host cities." *Landscape and Urban Planning* 230 (2023): 104615.
  7. 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.
  8. 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.
  9. 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.
  10. **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.
  11. **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.
  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. 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.

14. 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 NO<sub>2</sub> concentrations in China based on Random Forest model integrated K-means." *Advances in Applied Energy* 2 (2021): 100017.
15. **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.
16. **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.
17. **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.
18. Wenjia Cai<sup>\*,#</sup>, Chi Zhang<sup>#</sup>, Hoi Ping Suen<sup>#</sup>, ..., **Ying Tu** ..., and Peng Gong\*. "The 2020 China report of the Lancet Countdown on health and climate change." *The Lancet Public Health* (2020).
19. Ruiyun Li<sup>#</sup>, Bin Chen<sup>#</sup>, 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.
20. 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.

### 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.

### AWARDS

Year	Awards
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 610 <sup>th</sup> 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

## LANGUAGES

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

## SKILLS

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

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

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

Other: large-scale dataset processing, time-series analysis, machine learning, deep learning, change detection, statistical analysis, causality analysis, etc.

## JOURNAL REVIEWS

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*Food Security* (2024)

*Geo-spatial Information Science* (2023)

*GIScience & Remote Sensing* (2023)

*Infrastructure* (2024)

*International Journal of Remote Sensing* (2021x3, 2022)

*International Journal of Digital Earth* (2023, 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)

*Remote Sensing* (2023x3)

*Remote Sensing in Ecology and Conservation* (2022)

## TEACHING EXPERIENCES

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The University of Hong Kong:

FA 2022	ARCH 3097	Landscape Representation: Systems and Simulations	Dr. Bin Chen	TA
FA 2022	ARCH 7176	Landscape Media	Dr. Bin Chen	TA

Tsinghua University:

FA 2020	DESS 1003	Global Change and Sustainable Development	Prof. Peng Gong	TA
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