SHENG Dong 盛 东

PhD cand. @ School of Engineering, Westlake University.
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RESEARCH INTEREST

Agroecology, Pollination, Microplastics, Climate Change, Ecosystem Services, Artificial Intelligence, Computer Vision, System modelling

EDUCATION

PhD candidate in Environmental Sciences & Engineering 2023 Sept – present
School of Engineering, Westlake University (joint program with Zhejiang University)
Supervisors: Thomas Cherico Wanger & Ling Li (李凌)

Bachelor of Science in Environmental Sciences 2019 Sept – 2023 Jun
College of Environmental & Resource Sciences, Zhejiang University
General GPA = 3.81/4.00
Thesis: "Negative effects of microplastics on bumblebees at colony and individual level"
Supervisors: Thomas Cherico Wanger & Yili Huang (黄益丽)

Minor in Advanced Honor Class of Engineering Education 2020 Sept – 2023 Jun
Chu Kochen Honors College, Zhejiang University

MEMBERSHIPS

Student Member | The Ecological Society of America 2024 – present
Core Member | The Scientists' Coalition for an Effective Plastics Treaty 2025 – present

PUBLICATIONS

Sheng, D., Jing, S., He, X., Klein, A.-M., Köhler, H.-R., & Wanger, T. C. (2024). Plastic pollution in agricultural landscapes: An overlooked threat to pollination, biocontrol and food security. *Nature Communications*, *15*(1), 8413. https://doi.org/10.1038/s41467-024-52734-3

Xu, W., Bazegar, S. G., **Sheng, D.**, Toledo-Hernandez, M., Lan, Z., & Wanger, T. C. (2024). Identifying Cocoa Pollinators: A Deep Learning Dataset. *arXiv*. https://doi.org/10.48550/ARXIV.2412.19915

Darras, K. F. A., Balle, M., Xu, W., Yan, Y., Zakka, V. G., Toledo‐Hernández, M., **Sheng, D.**, Lin, W., Zhang, B., Lan, Z., Fupeng, L., & Wanger, T. C. (2024). Eyes on nature: Embedded vision cameras for terrestrial biodiversity monitoring. *Methods in Ecology and Evolution*, 2041-210X.14436. https://doi.org/10.1111/2041-210X.14436

Sheng, D., Chen, M., Chen, Q., Huang, Y. (2022). Opposite selection effects of nZVI and PAHs on bacterial community composition revealed by universal and sphingomonads-specific 16SrRNA primers. *Environmental Pollution*, 311, 119893. https://doi.org/10.1016/j.envpol.2022.119893

CONFERENCES & PRESENTATIONS

Sheng, D., & Wanger, T. C. (2024, August 8). *Long-term exposure to microplastics and heat affects bumblebee colony development, behavior patterns and social networks*. The 2024 Annual Meeting of the Ecological Society of America (ESA), Long Beach, California, US.

PATENTS

Wanger, T. C., **Sheng, D.**, Wang, L., Yuan, X. (2023). *Detection method and apparatus, object monitoring system, computing device, and storage medium* (CN 120124651 A). China National Intellectual Property Administration, 2025-06-10.

In process: US patent application No. 18/607,745.

SELECTED HONORS & AWARDS

Award of Honor for Graduate | Zhejiang University	2024
Exploration Award | Westlake University	2024
Certificate of Chu Kochen Honors Program | Zhejiang University	2023
The 18th Zhejiang Province "Challenge Cup" Academic and Technological Competition for College Students (Silver Award)	2023
Interdisciplinary Contest in Modeling (Honorable Mention) | The Consortium for Mathematics and Its Application	2022
Zhejiang University – Jiande Scholarship (Second Prize)	2021
Zhejiang Province Physics Innovation (Theoretical) Competition for College Students (First Prize) | Zhejiang Physical Society	2020
Zhejiang University Scholarship (Second Prize)	2019

OTHER EXPERIENCES

Visiting student | SASE Lab, Westlake University	2022 May – 2023 Aug
Bioinformatics analysis (supervised by Dr. Yili Huang) | Zhejiang University	2021 Nov – 2022 Sept
Internship | Zhejiang Ecology & Environment Design and Research Institute	2022 Jul – 2022 Sept
Summer session | University of California, Berkeley. Environmental Earth Sciences (EPS-80), A-	2021 Aug

SKILLS

Software: Python, MATLAB, R, C/C++, CAD, SolidWorks, SketchUp

Experiment: Raman spectrum, optical microscope, basic chemical/biological experiments

Data analysis: machine learning, computer vision, meta-analysis