**Sheng Dong 盛 东**

PhD cand. @ School of Engineering, Westlake University.

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**Research Interest**

Pollination, Microplastics, Climate Change, Ecosystem Services, Artificial Intelligence, Computer Vision.

**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**

The Ecological Society of America – student member 2024

The Scientists’ Coalition for an Effective Plastics Treaty – core member 2025

**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). *Latebreaking poster: 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**

In process: CHN application No. 202311686500.0; US 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

浙江省第十八届“挑战杯”工商银行大学生课外学术科技作品竞赛 银奖 2023

Interdisciplinary Contest in Modeling (honorable mention) 2022

Zhejiang University-Jiande Scholarship (second prize) 2021

浙江省大学生物理创新（理论）竞赛 一等奖 2020

Zhejiang University Scholarship (second prize) 2019

**Other Experiences**

Visiting student at SASE Lab, Westlake University 2022 May – 2023 Aug

Bioinformatics analysis (supervised by Dr. Yili Huang) at Zhejiang University 2021 Nov – 2022 Sept

Internship at Zhejiang Ecology & Environment Design and Research Institute 2022 Jul – 2022 Sept

Summer session at University of California, Berkeley. 2021 Aug

Environmental Earth Sciences, A-

**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…