Stanford



Ziyan Wu

Postdoctoral Scholar, Otolaryngology - Head & Neck Surgery

Bio

BIO

Ziyan's PhD research centers around contaminant sensing in the environment using Raman spectroscopy, membrane sensors, and machine learning. At Stanford, Ziyan will continue her research on investigating the health impacts of emerging contaminants.

PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Wisconsin Madison (2026)
- Master of Science, Stanford University , CEE-MS (2020)
- Bachelor, Northern Arizona University , Environmental Engineering (2018)

STANFORD ADVISORS

- Kara Meister, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Decoding the oxidative digestion mechanism for polystyrene nanoplastic detection in the Great Lakes using a customizable Raman spectral processing algorithm** *WATER RESEARCH*
  Wu, Z., Janssen, S. E., Tate, M. T., Cook, B. A., Wei, H., Qin, M.
  2027; 308: 126906
- **Microplastics Undergo Fragmentation during PressurizedMembrane Filtration** *ENVIRONMENTAL SCIENCE & TECHNOLOGY LETTERS*
  Wang, Z., Wu, Z., Janssen, S. E., Harrington, G. W., Wei, H., Qin, M.
  2026
- **Degradation Kinetics for Organic Nitrogen in Bioelectrochemical Systems toward Ammonia Recovery** *ACS ES&T ENGINEERING*
  Burns, M., Wu, Z., Mirsha, T., Beaudet, A., Mangus, K., Qin, M.
  2026; 6 (4): 1369-1381
- **A Two-Step Artificial Intelligence Framework for Discriminating and Quantifying Mixed Pollutants** *ACS ES&T WATER*
  Wu, Z., Li, C., Peng, P., Qin, M., Wei, H.
  2026; 6 (2): 1317-1323
- **Regenerable Membrane Sensors for Ultrasensitive Nanoplastic Quantification Enabled by A Data-driven Raman Spectral Processing Algorithm** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Wu, Z., Janssen, S. E., Tate, M. T., Qin, M., Wei, H.
  2025; 59 (31): 16652-16661
- **Adaptable Plasmonic Membrane Sensors for Fast and Reliable Detection of Trace Low-Micrometer Microplastics in Lake Water** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*

Wu, Z., Janssen, S. E., Tate, M. T., Wei, H., Qin, M.
2024; 58 (45): 20172-20180

- **Improved Reliability of Raman Spectroscopic Imaging of Low-Micrometer Microplastic Mixtures in Lake Water by Fractionated Membrane Filtration** *ACS ES&T WATER*
  Wu, Z., Qin, M., Wei, H.
  2023; 3 (8): 2616-2626

- **Laboratory Filter Membranes May Release Organic Particles That Affect Water Analysis** *ACS ES&T ENGINEERING*
  Wu, Z., Cai, S., Cho, S., Wei, H., Qin, M.
  2022; 2 (12): 2311-2316