

## **PhD Graduate Research Assistant (GRA) Position at Wayne State University (Michigan)**

Prof. Yongli Wager's Sustainable Water-Environment-Energy Technologies Lab (SWEET lab) at Wayne State University (Michigan) invites applications for a PhD GRA position starting from Winter or Fall of 2023. This position is full-funded for five years. The candidate is expected to work on a NIEHS-funded project with research interest in real-time monitoring of vapor intrusion (VI) of volatile organic compounds (VOCs). Particularly, we will integrate the Internet of Things (IoT) sensor network with edge computing (IoTEC), including advanced data collection/processing and a machine learning algorithm for sensor signal pattern recognition under different environmental conditions, for accurate, energy- and cost-efficient VOCs VI monitoring/screening with varying sensor placements and spatial/temporal intervals. Accuracy and energy- and cost-saving of the IoTEC monitoring will be compared with off-line sampling methods and conventional monitoring approaches at field study sites. Dr. Wager's research focuses on water-environment-energy sustainability in an urban environment by using both experimental research and system modeling approach. This project is one of her research focuses, as particularly pertaining to environmental pollution monitoring and remediation.

Ideal candidates should have earned a Master's degree or an equivalent degree in environmental engineering, chemical engineering, chemistry, or other related fields. They are expected to have research experience in environmental pollution monitoring (particularly VOCs), gas sensors, analytical instrument such as GC/LC, and computing techniques (programming, cloud-based data processing, and machine learning). Interested applicants please contact Dr. Yongli Wager ([zhangyl@wayne.edu](mailto:zhangyl@wayne.edu)) for more details regarding the research project and the application procedure. The information regarding Dr. Wager's group can be found at <https://engineering.wayne.edu/profile/ft4970>.

Founded in 1868, Wayne State University (WSU) is Michigan's third-largest university, and ranked in the top 50 American public universities for research expenditures. WSU offers nearly 350 programs to more than 27,000 graduate and undergraduate students. Additional information can be found on the WSU website at <https://wayne.edu/>. The Department of Civil and Environmental Engineering at WSU has fourteen faculty with six of them focusing on environmental engineering. The faculty in environmental engineering has close collaboration with local utilities and industries. Further information about the department can be found at <https://engineering.wayne.edu/civil-environmental>.