Rui Zhang

Chinese (Birthdate: 1994)

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Education Background

Ghent University, Belgium

Ph.D. Environmental Engineering 2019-2024

South China University of Technology, China

Master of Bioengineering, 2016-2019

Hainan University, China

Batchelor of Engineering, 2012-2016

Research Projects (Participated)

Europe project IQUA , supported by The Interreg V "Vlaanderen-Nederland" program, a program for transregional collaboration with financial support from the European Regional Development Fund.

Europe project Water circle 't Hof Bellewaerde, supported by the Province of West-Flanders Regional and community funding.

Chinese project "Research and Demonstration of the Key Technology of the Infrastructural Improvement and Functional Extension of the Traditional Village", supported by the National Key Technology R&D Program during the 12th Five-Year Plan Period (NO: 2014BAL06B02).

Chinese project "Research of biological nitrogen removal and simultaneous dissolved oxygen technology in aquaculture" supported by the Guangdong Provincial Department of Oceans and Fisheries during the 2017 Fishing port construction and fishery industry development No: (2017)17.

Professional skills

- Biological wastewater treatment
- Microbiology
- Adsorption
- Next generation sequencing analysis
- Life cycle assessment modeling
- Rural (Decentralized) wastewater treatment design

Publications (Orcid: 0000-0002-1573-3018)

Zhang, R., Wang, L., Lakho, F. H., Yang, X., Depuydt, V., Igodt, W., ... & Van Hulle, S. (2022). Iron oxide coated sand (IOS): Scale-up analysis and full-scale application for phosphorus removal from goat farm wastewater. *Separation and Purification Technology*, *284*, 120213.

Zhang, R., Liu, X., Wang, L., Xu, P., Li, K., Chen, X., ... & Van Hulle, S. W. (2023). Combining a novel biofilm reactor with a constructed wetland for rural, decentralized wastewater treatment. *Chemical Engineering Journal*, *455*, 140906.

Yang, X., Manhaeghe, D., **Zhang, R***., Song, S., Demeestere, K., & Van Hulle, S. W. (2021). Enhanced Production and Recovery of Orthophosphate from Wastewater Containing Phosphonate 1-Hydroxyethane-1, 1-diphosphonic Acid through Combined Packed-Bed Ozonation and Adsorption. *ACS Sustainable Chemistry & Engineering*, *9*(50), 16946-16955.

Zhang, R., Wang, L., Chen, P., & Pu, Y. (2018). Shifts in microbial community structure and diversity in a novel waterfall biofilm reactor combined with MBBR under light and dark conditions. *RSC advances*, *8*(65), 37462-37471.

Zhang, R., Tang, M., & Pu, Y. (2019). Performance and microbial community of novel three-stage waterfall aeration grooves biofilm reactor for treating decentralized wastewater in rural areas. *Environmental Engineering Science*, *36*(1), 35-42.

Yang, X., Chen, C., Zhang, T., Tian, X., **Zhang, R***., Manhaeghe, D., ... & Van Hulle, S. W. (2023). Low-cost mineral packing materials improve DOM and micropollutants removal from landfill leachate in ozonation bubble columns: Insights into the enhancement mechanisms and applicability of surrogate-based monitoring. *Chemical Engineering Journal*, *458*, 141461.

Rousseau, D., Louage, F., Wang, Q., & **Zhang, R**. (2021). Constructed wetlands for urban wastewater treatment: An overview. *Reference module in earth systems and environmental sciences*.

Tang, M., **Zhang, R.,** & Pu, Y. (2018). Wheat straw modified with palmitic acid as an efficient oil spill adsorbent. *Fibers and Polymers*, *19*, 949-955.

Zhang, R., Wang, Z., Rousseau, D., Van Hulle, S. W. Addressing the Rural Wastewater Treatment Dilemma: A Techno-Environmental-Economic Analysis (under review)

Zhang, R., Van Hulle, S. W., Rousseau, D. Pilot scale demonstration of decentralized wastewater treatment and non-potable reuse at a rural campsite in a protected area. (under review)

Conference contributions:

Zhang, R., Rousseau, D., Van Hulle, S. "Polishing goat farm wastewater in view of advanced phosphate removal" in MELiSSA Conference, 3-5 November, 2020

Zhang, R., Rousseau, D., Van Hulle, S."" , The 7th YWP BeNeLux conference 2022, Netherlands

Acadmia activities

Reviewer for peer-reviewed journals, including Chemical Engineering Journal, Separation and Purification Technology, Resources, Conservation and Recycling.