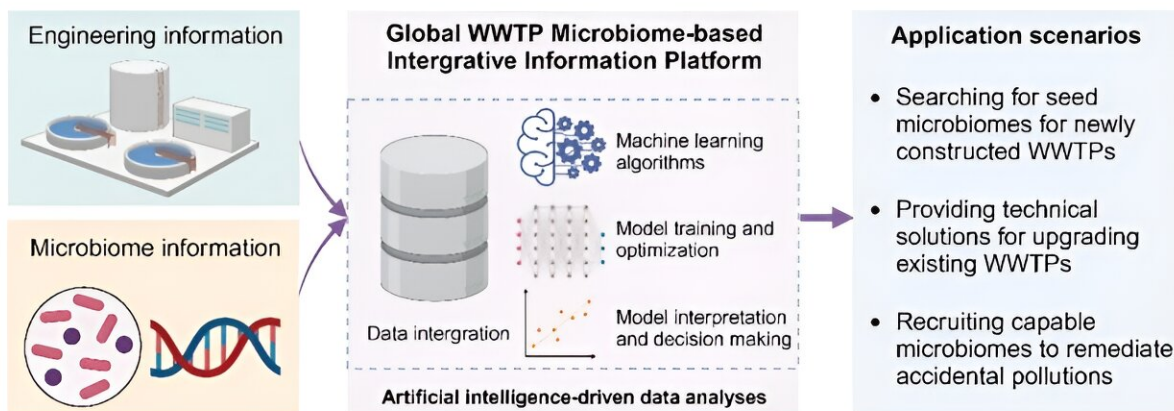


Innovating wastewater treatment: A leap from experience to intelligence

January 9 2024

An artificial intelligence-driven strategy for microbiome engineering in wastewater treatment



Credit: *Environmental Science and Ecotechnology* (2023). DOI: 10.1016/j.ese.2023.100370

In a [recent study](#) published online 18 December 2023 in the journal *Environmental Science and Ecotechnology*, scientists from Peking University introduced a Global WWTP Microbiome-based Integrative Information Platform to address the escalating complexities of pollutants and inadequacies in traditional wastewater treatment plants (WWTPs).

This [platform](#), inspired by the advancements in [artificial intelligence](#) (AI), is poised to revolutionize the field of environmental engineering and microbiome research.

The innovative platform harnesses extensive microbiome and engineering data from WWTPs around the world. By utilizing advanced AI-driven tools, it analyzes the data to identify optimal microbiomes, upgrade facilities, and effectively respond to pollution accidents. This AI-driven platform strives for a stronger, faster, and globally integrated wastewater treatment solution, thereby enhancing WWTPs' indispensable role in pollution control and environmental sustainability.

"The Global WWTP Microbiome-based Integrative Information Platform is not just a [technological advancement](#); it's a [paradigm shift](#) in how we cope with environmental challenges," stated Donghui Wen, a leading figure in environmental engineering. "By harnessing the power of AI and global data, we're moving from mere experience-based methods to an era of informed intelligence."

The implications of this platform are vast. It is expected to significantly enhance the performance of WWTPs in pollution control, contributing to a more harmonious and healthy future for human society and the natural environment. It supports multidisciplinary research, documents microbial evolution, advances wastewater-based epidemiology, and enhances global resource sharing.

More information: Fuzhong Xiong et al, Global WWTP Microbiome-based Integrative Information Platform: From experience to intelligence, *Environmental Science and Ecotechnology* (2023). [DOI: 10.1016/j.es.2023.100370](#)

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