

Conférencier invité

Génie chimique et génie biotechnologique



Jinkai Xue, Ph.D., P.Eng

Associate Professor in Environmental Systems Engineering at the University of Regina (UofR), Adjunct Associate Professor of Queensland University of Technology (QUT), and the Founder/CEO of EcoLoop Sustainable Technologies Limited.

Responsable : Wen Ma

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Faculté de génie

Transforming Liability into Opportunity: Circular Solutions to Waste Stream

As the world confronts climate change, ensuring the safety of our water resources becomes crucial for sustainable development. Wastewater, a major contributor to pollution in waterways, demands proper management to address various challenges related to water sustainability. Due to unique local factors such as climate, water quality, financial resources, and regulations, there is no universal solution for wastewater management. However, when viewed through the lens of the Circular Economy, wastewater can also serve as a rich source of valuable resources such as clean water, nutrients, and energy. Therefore, water resource recovery (WRR) technologies are vital for achieving the United Nations Sustainable Development Goals. These technologies can efficiently eliminate pollutants and recover precious resources from water matrices while incurring minimal environmental and financial costs. My research program focuses on WRR, aligning my objectives with critical industrial and societal demands. This approach enables me to establish robust partnerships, produce relevant research findings, and train skilled, competitive professionals. In this presentation, I will discuss my ongoing research, including 1) the valorization of water treatment residuals (WTR) and 2) biofilm-based WRR technologies, with particular attention to emerging pollutants.