

UPCOMING CANDIDATE SEMINAR

*Candidate for Assistant/Associate
Professor in Emerging Contaminants*

FEBRUARY 26

Frazier Rogers 122, 11:15 a.m.



**Dr. Xuneng
Tong**

**FACULTY CANDIDATE
RESEARCH FELLOW,
NATIONAL UNIVERSITY
OF SINGAPORE**

“Modeling Approach to Understanding the Fate and Transport of Emerging Contaminants in the Aquatic Environment”

About the Seminar

Emerging contaminants may pose a significant threat to water resources, as well as to the health of ecosystems and humans. Despite this, modeling studies on the occurrence, fate and transport of emerging contaminants in aquatic environments have received less attention than field surveys and laboratory experiments. The fate and transport of emerging contaminants are determined by physical, chemical, and biological processes, with dominant processes varying depending on the type of emerging contaminant. In this presentation, Dr. Tong shares how to use models to better understand the fate, transport and potential risks of different types of emerging contaminants in aquatic environment. These include ocean plastics, emerging organic contaminants, and antibiotic resistance. Additionally, Dr. Tong shares his vision on a future framework in developing a comprehensive modeling approach to provide a holistic understanding of the fate and transport of emerging contaminants in water system. Dr. Tong hopes to demonstrate from this presentation how we can engage in goal-oriented research to find practical ways to provide useful information for water quality management, especially when dealing with the rising concerns of emerging contaminants in the aquatic environment.

About Dr. Xuneng Tong

Dr. Xuneng Tong is a research fellow at National University of Singapore and co-founder of AquaShield Solutions, a spin-off company from NUS. Dr. Tong obtained his Ph.D. from Department of Civil and Environmental Engineering, National University of Singapore and his Bachelors from Hohai University. Dr. Tong has an interdisciplinary background in hydraulics and environmental engineering, equipping him with a broad and nuanced understanding crucial for tackling complex water-related issues. Dr. Tong’s research primarily focuses on developing both process-based hydrodynamic-water quality models and data-driven models, with a deep scientific and practical understanding. Dr. Tong involved in several R&D projects to develop integrated modeling framework to understand the physical-biological-chemical processes in natural aquatic environment. The models he has developed simulate the transport and fate of emerging contaminants, including antibiotics, antibiotic resistance, pharmaceuticals and personal care products, endocrine-disrupting chemicals, and plastics, etc. These models have been successfully applied in local reservoirs and coastal waters.

**MONDAY, FEBRUARY 26
ROG 122 • 11:15 A.M.**

**ZOOM LINK: [HTTPS://
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