Jointly organized by:
Faculty of Engineering
Department of Civil Engineering
The University of Hong Kong

Distinguished Public Lecture (PHYSICAL AND ONLINE)

Understanding and Mitigating Direct Greenhouse Gas Emissions from Wastewater Systems to Support Net Zero Urban Water Management

Date: 22 November 2022 (Tuesday)

Time: 4:30 p.m. - 6:30 p.m. (HKT)

Venue: CPD-LG.18, Central Podium Levels, Centennial Campus

Zoom: https://hku.zoom.us/j/93227209475 (Meeting ID: 932 2720 9475)

Professor Zhiguo YUAN AM

Honorary Professor, Australian Centre for Water and Environmental Biotechnology, The University of Queensland

Abstract

Reducing greenhouse gas (GHG) emissions is a responsibility to be shared by all sectors including urban water utilities. Most Australian water utilities have pledged to achieving net zero urban water services by 2035 through reduction in direct emissions, optimization of energy use, energy recovery, and emissions offset.

The direct emissions of N_2O and CH_4 from wastewater systems contribute substantially to the carbon footprint of water utilities. The mitigation of these emissions represents both a significant challenge and an important opportunity.

Based on the research outcomes of his own group in the past 15 years, as well as the latest results available in the literature, Professor Zhiguo Yuan will present the state-of-the-art knowledge on CH_4 emissions from sewer networks, N_2O and CH_4 emissions from wastewater and sludge treatment systems, as well as the emissions of CO_2 originating from fossil carbon in wastewater. The talk will also cover the mathematical modelling of biological N_2O and CH_4 production, and the opportunities and strategies for the reduction of these emissions.

About the Speaker

Professor Zhiguo Yuan AM was, until July 2022, the Director of the Australian Centre for Water and Environmental Biotechnology at The University of Queensland. He is a Fellow of the Australian Academy of Technology and Engineering (ATSE) and a Distinguished Fellow of the International Water Association. He was named as one of Engineers Australia's Top 100 Most Influential Engineers for 2015, and appointed a Member of the Order of Australia in 2019. He was an Australian Laureate Fellow awarded by the Australian Research Council (2018-2022).

His research focuses on development of innovative solutions for urban water management through effective integration of fundamental science and applied engineering. His research areas include corrosion and odour management in sewers, greenhouse gas emissions from wastewater systems, resource recovery from wastewater, integrated urban water management, and digital water. He published over 500 fully refereed journal papers including papers in Nature and Science, and attracted over 41,000 citations, giving an h-index of 111 (GS, Nov 2022). He is the founder of three biotechnology businesses namely SeweX, Cloevis and Lodomat. His research achievements and leadership have been recognized through major national and international awards including the 2015 ATSE Clunies Ross Award and the 2014 International Water Association (IWA) Global Project Innovation Award.

Registration is required only for participants who require attendance certificate:
https://hkuems1.hku.hk/hkuems/ec_hdetail.aspx?guest=Y&ueid=85001

An electronic certificate of attendance will be issued to registered participants after the public lecture.

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ALL ARE WELCOME