



Organizers:



**The Hong Kong University of
Science & Technology**
Department of Civil and
Environmental Engineering



**國家重金屬污染防治
工程技術研究中心
(香港分中心)**
Chinese National Engineering Research Center for
Control and Treatment of Heavy Metal Pollution
(Hong Kong Branch)



水技術中心
WATER TECHNOLOGY CENTER

Seminar Details

- Date:** 26th February 2018 (Monday)
Time: 9:30 am – 12:00 am (Registration commence at 9:00am)
Venue: Rm 4334 CIVIL Conference Room, HKUST (Tentative)
Registration: Please click [HERE](#) to register
Registration Deadline: 19th February 2018
Quota*: 25 (HKUST CIVIL faculty/students/staff, CNERC-CTHMP member/
 affiliate institutions)

Scan to register



Programme:

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|---------------------|---|
| Date: | 26th February 2018 (Monday) |
| Time | Seminar Topic and Speaker |
| 9:30 am – 10:30 am | Seminar 1: Granular Sludge for Nutrient Removal Technologies Speaker: Prof. Mark van Loosdrecht |
| 10:30 am – 10:50 am | Tea break |
| 10:50 am – 11:50 am | Seminar 2: Granular sludge modelling to evaluate microbial interactions and novel process concepts Speaker: Prof. Eveline Volcke |
| 11:50 am – 12:00 am | Q & A session |

Seminar 1 Description

Title: *Granular Sludge for Nutrient Removal Technologies*

Abstract: Granular sludge has already been successfully applied for anaerobic (industrial) wastewater treatment since the 1970-ies. Based on the better understanding of engineering aspects of granular sludge formation, this type of technology can now also be applied to nutrient removal wastewater treatment systems. The anammox technology is already successfully applied in side streams, and strong research efforts for application in mainstream wastewater treatment are ongoing. The Nereda technology for mainstream municipal wastewater treatment is currently rapidly spreading worldwide with full-scale plants in almost every continent. The lecture will give an update on the status of anammox and nereda technology and a look towards future developments with respect to resource recovery from wastewater.

Speaker:

Professor Mark van Loosdrecht is Professor in Environmental Biotechnology at Delft University of Technology (DUT), The Netherlands. He obtained his Engineering and PhD degree from Wageningen University, The Netherlands. He was appointed at DUT in 1988 and became Full Professor in 1998. His research is characterized by the combination of scientific understanding of complex systems and development of new processes. Prof. van Loosdrecht's scientific interests are mainly related to biofilm processes, nutrient conversion processes and the role of storage polymers in microbial ecology.



In particular, he is interested in new processes related to wastewater treatment and resource recovery. His research has resulted in several processes currently applied on full scale such as the Sharon process, Anammox process and Nereda process. He is an active member of the International Water Association (IWA) and past chairman of the Biofilm and the Nutrient removal specialist groups. He is the Editor-in-Chief of Water Research. He obtained several awards for his work, including the Spinoza Prize, the Lee Kuan Yew Singapore Water Prize and the IWA Grand Award. Prof. Loosdrecht is a member of the royal academy of arts and sciences (KNAW) and of the academy of engineering (ActI). He was awarded an honorary doctorate from the ETH-Zurich and a knighthood in the order of the Dutch Lion. He has published over 500 scientific papers, has 15 patents and supervised over 50 PhD students.

Seminar 2 Description

Title: *Granular sludge modelling to evaluate microbial interactions and novel process concepts*

Abstract: This presentation reviews our work on granular sludge modelling. Three types of applications are considered: (i) aerobic granular sludge for carbon, nitrogen and phosphorous removal, (ii) anammox-based granular sludge, (iii) integration of methane oxidation. Overall, it is demonstrated how models can be used for process description in terms of substrate and biomass profiles and how they serve to gain process insight by studying microbial interactions.

Speaker:

Eveline Volcke graduated as a Chemical Engineer (1999) and obtained a PhD in Environmental Technology (2006) from Ghent University, Belgium. In 2007, she took up an EU Marie Curie fellowship at the Laboratory of Environmental Biotechnology, INRA, France. Since 2009, she has been a tenured professor at Ghent University. Eveline Volcke is the founder and head of the 'Biosystems Control (BioCo)' research group, currently supervising 11 PhD students and 1 postdoctoral researcher. Her research is focused on efficient and sustainable process design and control, and applying a combination of physical-based modelling and experimental techniques. Eveline Volcke has a specific expertise in bioconversion processes. Eveline Volcke is a Fellow of the International Water Association (IWA).



* On first come first served basis

For enquiry, please contact Ms. Yuhua ZHANG at yuhua Zhang@ust.hk