



# Side Event III: Workshop on Anaerobic Fermentation Biotechnology for Organic Solid Waste

### Objective

Anaerobic fermentation is one of the most attractive technologies for organic solid waste treatment and resource recovery. A deep understanding of anaerobic fermentation can provide valuable insights to fundamental acknowledge and novel biotechnology for anaerobic fermentation. This workshop aims at providing scientists and students with the cutting-edge knowledge of anaerobic biotechnology and acquiring valuable information for their research and development.

### **4** Invited professors

- Prof. Dr. Jules van Lier (Delft University of Technology, The Netherlands)
- Prof. Dr. Huub Rijnaarts (Wageningen University & Research, The Netherlands)
- Prof. Dr. Xinmin Zhan (National University of Ireland, Galway, Ireland)
- Prof. Dr. Zhenya Zhang (University of Tsukuba, Japan)
- Prof. Dr. Yinguang Chen (Tongji University, China)
- Prof. Dr. **Jianxiong Zeng** (University of Science and Technology of China, China) Prof. Dr. **Xiangzhen Li** (Chengdu Institute of Biology, Chinese Academy of Sciences,
- China)

Prof. Dr. He Liu (Jiangnan University, China)

- Venue: Picturesque (Shan Ming Shui Xiu) Hotel, 999 Lixi Road, Binhu District, Wuxi, Jiangsu Province, China
- **4** Sponsor: School of Environment and Civil Engineering, Jiangnan University
- **4** Dates: 14th-16th October 2017

### 🖊 Preliminary program

### 14th October, the whole day

• Registration

### 15th October, morning: Principle and Bioprocess

- Introduction
- Fundamental acknowledge of anaerobic fermentation
- Bioprocess of anaerobic fermentation

### 15th October, afternoon: Novel biotechnology and application

- Novel biotechnology for anaerobic fermentation
- Bioproduction of value-added chemicals
- Application of novel biotechnology

### 16th October, morning: Sightseeing in Wuxi

- Huishan Town
- Shi Li Causeway of Taihu
- Jiangnan University

The whole workshop consists of one day of academic reports and half of day of visit. Each talk will be given in 30 minutes and subsequently researchers and students can discuss the topic.

### **4** Who should attend the workshop?

This workshop is oriented towards scientists and students who work on anaerobic fermentation of organic solid waste.

### Contact Information

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### **Google map of the meeting Venue**



Website of the meeting Venue http://www.smsxhotel.com/

### **4** Application Table

Name			Organisation	
Address			Academic diplomas	
Telephone			E-mail	
Poster	Yes□	No□	The topic of the poster	
Presentation				
Accommodation	Yes□	No□	Accommodation	Single room□ Two-bed room□ Other□
The time of	Arrive:			
arriving and leaving hotel	Leave:			
Remarks				

### Note:

1. There is no registration fee for the workshop.

2. The cost of a Single Room is 425 RMB per person per day (including breakfast, lunch and supper meal); The cost of a Two-bed Room is 265 RMB per person per day (including breakfast, lunch and supper meal).

3. Except from the invited speakers, the workshop only accepts Poster Presentation for the attendees. However, we arranged sufficient time for the discussion during the workshop, the attendees can present their academic ideas during the discussion time.

4. The format requirement of the Poster is same with the AD-15 conference. The organizers will provide Poster racket to show the Posters.

5. Please send this application table before 20th September, 2017. The application documents should be sent to Dr. Bo Fu, E-mail: fubo@jiangnan.edu.cn

#### Transportation

How do the international participants come to the Picturesque (Shan Ming Shui Xiu) Hotel in Wuxi, China? There are two ways for the international participants:

1. The international participants can take the international flight to Wuxi Shuofang Airport directly, then take the taxi to the Picturesque (Shan Ming Shui Xiu) Hotel by about 40 mins.

2. Alternatively, the participants can take the international flight to Shanghai Pudong International Airport or Hongqiao airport in Shanghai city, or Nanjing Lukou International Airport in Nanjing city, then take the airport shuttle bus to the railway station of the city, and finally take the bullet train to Wuxi Railway Station by about one hour. After arriving Wuxi railway station, the participants can take the taxi to the hotel by about 30 mins.

During 14th October, there are volunteers in Wuxi Shuofang Airport, Wuxi Railway Station and Wuxi East Railway Station to provide the guide help.

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### Google map of Wuxi railway station and airport

### **4** Introduction of the invited professors

### Prof. Dr. Jules van Lier



Jules van Lier is a full professor "Wastewater Treatment/ Environmental Engineering" at the Section Sanitary Engineering of Delft University of Technology, with a 0.2 fte seconded position at Unesco-IHE. He received both his MSc and PhD from Wageningen University, The Netherlands, and is specialized in Anaerobic Treatment technology. He (co-) published over 200 scientific publications in peer reviewed journals and over 350 publications in conference proceedings

and scientific books from 1988 onwards. From 1988-2008 he was working at Wageningen University, where he obtained an appointment as part time professor in Anaerobic Treatment Technology in 2005. In the period 1997-2005 he also was director of the Lettinga Associates Foundation (LeAF).

His research interest comprises the development of cost-effective technologies for (waste) water treatment, recovering resources such as water, nutrients, biogas, elements from waste streams. Research projects are focused on closing water cycles in industries and sewage water recovery for irrigated agriculture. He promoted 18 and co-promoted 5 PhD students and is supervising 18 PhD students at this moment. Jules van Lier chaired the IWA Anaerobic Digestion Specialist group between 2001 and 2009. In 2011 he became nominated member of the IWA Fellow program.

### Prof. Dr. Huub Rijnaarts



Huub Rijnaarts is a professor in Environment and Water Technology at the sub-department of Environmental Technology, Wageningen University & Research (WUR). He is also the director of the Wageningen institute for Environmental and Climate research (WIMEK), member of the board of Deltares and member of the board of the Amsterdam Institute for Advanced Metropolitan Solutions (AMS).

He received his PhD (1994) through research on microbial adhesion on solid surfaces and biodegradation of halogenated compounds in groundwater and soils, which he conducted at WUR. His main fields of research include water treatment for reusable water, micropollutant removal, urban water system engineering, sustainable desalination and urban infrastructure redesign for implementing resource-oriented biotechnologies. Prof. Huub Rijnaarts heads multiple research projects focusing on water technology, resource recovery and creating resilient cities.

### **Prof. Dr. Xinmin Zhan**



Xinmin Zhan is a professor in Department of Civil Engineering, National University of Ireland, Galway. He received his PhD from Tsinghua University in 2000. His main fields of research include recovery of organic waste and biomass for use as a sustainable and clean energy source and for building a green agriculture industry; Development of cost-effective and efficient technologies for domestic and agricultural wastewater treatment; Interactions between climate

change and the waste treatment infrastructure; Development of novel environmental materials for recovery of phosphorus and heavy metals from wastewater.

His research paper was selected as Top Cited Papers for 2011 and 2012 of the Biochemical Engineering Journal in 2014. Prof. Xinmin Zhan was the awards finalist by the Composting and Anaerobic Digestion Association of Ireland in 2013.

### Prof. Dr. Zhenya Zhang



Zhenya Zhang received his PhD from the University of Tsukuba, Japan, and now is a professor in Graduate School of Life and Environmental Sciences, University of Tsukuba. He has published over 200 scientific publications in peer reviewed journals and over 100 publications in conference proceedings. His major research fields cover waste and wastewater treatment, especially on the development of high efficiency anaerobic and water purification systems such as dry anaerobic digestion for manure waste treatment, immobilization and methanation of carbon dioxide during anaerobic digestion, utilization and transfer of metal ions during anaerobic digestion processes, etc.

Prof. Zhenya Zhang has received many research projects from the government and enterprises, such as Ammonia Recovery from Organic Wastes and Realization of Dry Anaerobic Biogasification with Mitigation of Ammonia Inhibition (2013-2015); Nanotube Based Composite Adsorbent Development for Highly Efficient Removal of Hazardous Ions from Water (2015-2017), etc.

### Prof. Dr. Yinguang Chen



Yinguang Chen is a professor in College of Environmental Science and Engineering, Tongji University. He received his PhD from Jiangnan University in 1998, and then completed the postdoctor in Tongji University, University of Central Florida, Virginia Polytechnic Institute. In 2003 he joined the College of Environmental Science and Engineering, Tongji University as a professor. His main fields of research include the waste activated sludge/wastewater anaerobic treatment and resource utilization technology; Environmental

behaviour of pollutants and biological reuse; Environmental microbial technology.

Prof. Yinguang Chen is the editorial board of Global Journal of Environmental Science and Technology, The Open Enzyme Inhibition Journal. He has received the research fund from National Natural Science Foundation of China; National High-tech R&D Program (863 Program); Major Science and Technology Program for Water Pollution Control and Treatment, et al.

### Prof. Dr. Jianxiong Zeng



Jianxiong Zeng graduated from South China University of Technology in 1991 and then worked 7 years in Hoechst China Ltd and in Dow Chemical Pacific Ltd before studying his PhD in Advanced Water Management Centre (AWMC), The University of Queensland (Australia). His PhD study was about the role of intracellular storage products in biological nutrient removal in wastewater treatment. Dr. Zeng obtained his PhD degree in 2002 and then worked as postdoctoral fellow in AWMC on the optimization of

enhanced biological phosphorus removal (EBPR) systems. In 2004 he moved to Technical University of Denmark as assistant professor and started the research in bio-hydrogen production and microbial fuel cells (MFC). He came back to AWMC in 2006 as research fellow. His research covers methane driven denitrification,  $N_2O$  emission, bio- hydrogen,

EBPR and MFC. In 2009 he joined the chemistry department at University of Science and Technology of China as a professor.

His main fields of research include biological nutrient removal in wastewater treatment; Bio-hydrogen production via anaerobic fermentation; Metabolic modeling in bioprocess; Value-added products from wastes via bio-electrochemical system; Denitrifying anaerobic methane oxidation.

### Prof. Dr. Xiangzhen Li



reviewed journals.

Xiangzhen Li received his PhD from University Konstanz, Germany, in 2004. After that, he completed the postdoctor in the University of Oklahoma, University of Illinois at Urbana-Champaign. From 2009.5-2011.11, he worked in the University of Illinois. In 2011, he joined the Chengdu Institute of Biology, Chinese Academy of Sciences. He has published over 100 scientific publications in peer

Dr. Xiangzhen Li's main fields of research include the structure, function and interaction of microbial communities during the anaerobic digestion process; The diversity of microorganisms in natural ecosystems, especially in the soil microbial ecology; Ecology of the intestinal microorganisms. He is the editorial board of Scientific Reports; Frontiers in Microbial Ecotoxicology and Bioremediation; Plos One; Annals of Microbiology.

### Prof. Dr. He Liu



He Liu received his PhD from Zhejiang University in 2004, and now is a professor and the dean in School of Environment and Civil Engineering, Jiangnan University. He has published over 100 scientific publications in peer reviewed journals such as Water Research, Biotechnology for Biofuels, etc. His major research fields cover the organic solid waste treatment and utilization; Organic acids

generation from municipal excess sludge by anaerobic fermentation; The organic acids was used as additional carbon source for the nitrogen and phosphorus remove in sewage treatment plant.

Prof. He Liu was awarded Second Prize of the State Scientific and Technological Progress Award; Third Prize of Jiangsu Science and Technology Progress Award. He has received the research fund from National High-tech R&D Program (863 Program); National Natural Science Foundation of China; Major Science and Technology Program for Water Pollution Control and Treatment, National Key Technology and Development Program, et al.

## **4** Wuxi Scenery



# Huishan Town



Taihu Lake



Bird view of Wuxi city



Jiangnan University