

XVI IWA World Conference on Anaerobic Digestion, Delft, 2019

AD16, The Netherlands and Belgium

Place and specific venue for the conference

The conference will be organized with partners from The Netherlands and Belgium. The organizational lead will be taken by the Technical Committee Anaerobic treatment (TCA) of the Royal Netherlands Water Association (KWN) in cooperation with Flanders Knowledge Center Water (VLAKWA). Universities, involved in the organization of workshops and the scientific programming will be Wageningen University (WU), Delft University of technology (DUT), Ghent university (UGhent), Catholic University Leuven (KU Leuven) and the institute for water education Unesco-IHE (IHE).

The conference location will be Delft, The Netherlands. This small city has a rich history in science and culture, such as the birthplace of Antoni van Leeuwenhoek and the Delft school of microbiology and of course the world famous painter Johannes Vermeer. Delft is housing the Delft University of Technology, which will host the conference. The Conference Centre of the TU Delft (Aula) will be the conference venue. The Atrium has place for 1000 persons for plenary sessions, while 5 lecture rooms (200-350 persons) directly connected to the Aula offer great possibilities for breakout sessions. Furthermore there is a large foyer for catering and vides and smaller rooms linked to this foyer for poster sessions and exhibitions.

Before the conference we will also organize specialist courses at the locations of the partner universities in Belgium and the Netherlands.

Proposed Themes

Themes that are currently of great interest are:

Anaerobic Microbiology:

- Microbial population dynamics in anaerobic systems
- Interspecies electron transfer, syntrophy

Resource recovery and fermentation processes:

- Anaerobic hydrolysis and pretreatment of complex substrates
- Role of anaerobic digestion in resource factories (recovery of nutrients and energy)
- Reductive transformations for product recovery and/or product synthesis
- Fermentation design for efficient down-stream processing
- Second generation bio-electrochemical systems
- Electro-fermentation
- Maximizing chemical energy recovery

Modelling and instrumentation:

- Mixing and CFD modelling in AD
- Big data analysis for anaerobic systems
- Process control in AD

Emerging anaerobic technologies:

- Novel niches and application fields requiring novel technological approaches
- Anaerobic treatment under extreme conditions
- Biogas upgrading and biogas use
- Aerobic treatment of domestic sewage and slurries

Details about accommodation and transport

Delft is a touristic small city with a 17th century street plan, easy to discover by foot. A total of almost 800 rooms are available in the city center of Delft, another 500 rooms are available within 15 minutes by public transport, varying from hostels to top end hotels. Pubs and restaurants are scattered in the small historic city center, for all of us to enjoy; nobody can get lost. In the direct vicinity of Delft, The Hague and Rijswijk has even more large hotels. A HTM conference transport pass (€15,50 for 4 days unlimited use) allows participants to travel by public transport to Rijswijk, The Hague and even to the beaches of Scheveningen.

Delft has a frequent direct (40 min.) connection to Amsterdam Schiphol Airport for less than 10 €). Most hotels are at walking distance from the brand new Delft train station, or are connected by bus or tram. Participants could even rent a bike at the train station to go around as cars are not allowed in large parts of the old center.

Scientific committee selection policy

The starting point of the scientific committee selection will be an open call to join the committee. A small committee from the 4 organizing Universities and the KWN and VLAKWA will judge the requests. The members of the scientific committee should be geographically well distributed, have an excellent track record in the field of anaerobic digestion processes and come from the different relevant disciplines covering the program. Special attention will be paid to including younger upcoming talents to be part of the scientific committee.

Motivation to organize AD16

Belgium and the Netherlands are historically strongly related, which certainly is the case for Anaerobic Treatment. World market leaders on anaerobic technology are based in our countries and so do the founder fathers' universities of the various anaerobic technologies. However, thus far, the world IWA-AD conference was never held in the Netherlands. The 4 organising universities play a prominent role in consolidating what has been developed, meanwhile advancing in the next generation of AD technologies in cooperative research projects. AD is fully intertwined in our environmental engineering approach and many different kind of applications can be found at full-scale. In a close cooperation, we would like to show our achievements and discuss with all AD interests the current potentials in the field. We are sure that new creative ideas and cooperation will evolve from the conference. Our proposal is fully backed by the national water professional networks, governmental institutions and commercial companies working in the field.

Why would people come to AD 16 in Delft?

The Netherlands and Belgium gave birth to a number of AD technologies that found their way to successful commercial application. In The Netherlands and Belgium, AD plays a key role in developing energy neutral or even energy producing sewage treatment plants. Numerous industries apply, already since the early 1980's, anaerobic treatment of their wastewaters, while recovered water and energy are increasingly reused in industrial or treatment processes. Reductive technologies to close the N-cycle and S-cycle can be visited at short distance. In fact, everything is at short distance in the Netherlands and Belgium (!), ready to share with all of you. Before, during and after the conference we will offer an interesting content/line-up in a friendly atmosphere, with chances to network, interact and discuss at a compact conference venue in a small city.

Possible technical tours and networking events

We will organize specialists courses before the start of the conference, the topics will be determined by our scientific committee reflecting the foreseen most urgent topics of 2019.

Possible technical tours within the Netherlands and Belgium to full scale anaerobic installations are:

- A number of full scale UASB, EGSB installations for industrial wastewater treatment (chemical wastewater, food processing, beer). Paques, Biothane, Waterleau, Colson, etc. are around the corner, happy to invite you for a close look.
- Towards zero discharge with anaerobic treatment as core 'kidney' technology (paper, textile)
- Novel full scale Anaerobic MBRs for concentrated wastewaters (e.g. candy factory)
- Anaerobic composting installations of Organic Waste Systems, Dranco, Aterro, Omrin, or Orgaworld.
- Full-scale AD reactors treating black water in new sanitation approaches.
- Full-scale autotrophic N removal using Anammox, Demon, Oland or other techniques.
- Full-scale S-cycle technologies for off-gases, metal recovery, biogas cleaning.

Networking events will be organized in Delft and The Hague:

- A guided city tour along the highlights of Delft history, including the grave of Antoni van Leeuwenhoek, Royal Delft where the beautiful Delft Blue Pottery is produced, Vermeer's home and the royal tombs;
- A conference dinner, foreseen at the historic location 'the Kurhaus' at the Scheveningen beach
- Delft has a small city Centre, where people will meet each other over drinks and dinner.

Touristic tours that will be organized as possible partner program:

- Excursion to the international court (peace palace) and Madurodam (miniature Holland)
- Excursion to Unesco's heritage – the windmills of Kinderdijk, the harbor area of Rotterdam, or the famous coastal defense, the 'Delta works': see how the Dutch live with water for over centuries.
- In addition to university cities: visit Antwerp or Amsterdam –great trading cities of late Medieval ages.

Ways we will address low income nation attendance

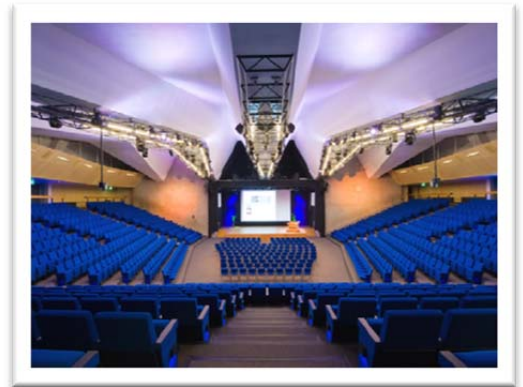
As during former AD conferences, special rates will be ensured for attendees of low income countries. In addition, with the help of sponsors we would like to (co-)fund the participation of selected young professionals from developing countries. We will also focus on African young water professionals; currently many initiatives on AD are employed in the scope of "Biogas for Life" and "Africa Biogas Partnership Programme" of SNV and Hivos. Unesco-IHE, the International Institute of Water Education, home-based in Delft, will actively approach their students, alumni, and network in low income countries to participate in AD-16.

Hoping to meet you all in Delft in 2019!!!

Lise Appels, Damir Brdjanovic, Raf Dewil, Nico Groeneveld, Merle de Kreuk, Robbert Kleerebezem, Jules van Lier, Mark van Loosdrecht, Henk Lubberding, Korneel Rabaey, Chris Reijken, Carl Schultz, Henri Spanjers, Bram Versprille and Grietje Zeeman.

And of course this invitation has its strong support from Gatze Lettinga and Willy Verstraete!

Pictures from Delft and possible technical tours



TU Delft conference centre



Images of Delft (Beestenmarkt, canals of Delft)



Technical tours

(Dranco installation for VFY digestion, Anaerobic high-rate treatment in a zero-discharge paper mill, Anaerobic treatment of domestic wastewater in the DESAH application)