

# Advanced Urban Wastewater Treatment

Malmö 1–3 June 2010



# Advanced Urban Wastewater Treatment

Wastewater treatment plants in Sweden and Denmark have been extended for nitrogen and phosphorus removal during the last decades. Today almost all municipalities have new or retrofitted plants that meet the discharge limits. However a number of new challenges are coming up and will put significant pressure on municipalities and the engineers working in the field.

New discharge requirements and requirements to the sludge quality are coming up. Pharmaceuticals, health care product and priority pollutants will put new pressure on the wastewater and sludge management. Increasing energy prizes call for re-evaluation of the process schemes and operational strategies. Advances in microbiology improve the possibilities to optimise operation. Emerging processes enable cheap plant expansion in cases of need for more capacity in the wastewater or sludge handling.

Education of wastewater engineers in Sweden and Denmark has followed different routes due to different treatment strategies but the coming challenges are the same. It is now time for a combined effort for post-education of the practitioners in the field in order to utilise the strong positions from each country and to develop a new practise to meet the future. Lund University and the Technical University of Denmark together with Svenskt Vatten have developed a new course for this purpose.

## Who should attend?

The course is open for wastewater engineers with a university background in wastewater treatment and with a wish for up-to-date knowledge of advanced wastewater treatment.

Welcome!



## Teachers

### Technical University of Denmark

*Mogens Henze*

*Henrik Andersen*

*Anna Ledin*

### Lund University

*Jes la Cour Jansen*

*Karin Jönsson*

## Guests

*Gert Petersen, Envidan*

*Michael Cimbritz VA SYD*

## Course plan

Day 1: Advances in waste water treatment

Day 2: Advances in sludge treatment and handling of emerging problems

Day 3: Energy optimisation

# Program

**June 1<sup>st</sup>**  
10.00–17.00

## Introduction

Welcome presentation of the course and the participants

*Ulrika Engvall, Mogens Henze, Karin Jönsson*

## Advances in wastewater treatment

- Advanced wastewater treatment of today – broad introduction driving forces  
*Mogens Henze*
- New nitrogen removal processes (nitritation, denitrification, anammox)  
*Karin Jönsson*
- Denitrification (selection, effect of carbon sources on microbiology)  
*Karin Jönsson*
- Biological phosphorus removal processes  
*Karin Jönsson*
- New separation technologies  
*Michael Cimbritz*

19.00 Welcome dinner

**June 2<sup>nd</sup>**  
09.00–17.00

## Advances in sludge treatment and handling of emerging problems

- New ways to operate digesters. Co-digestion, optimisation of operation, hygienisation  
*Jes la Cour Jansen*
- Advanced reject water treatment  
*Jes la Cour Jansen*
- Hygienisation of wastewater  
*Henrik Andersen*
- Removal of pharmaceuticals from wastewater  
*Henrik Andersen*
- Xenobiotics in wastewater and sludge  
*Anna Ledin*

**June 3<sup>rd</sup>**  
09.00–17.00

## Energy optimisation

- Potentials in wastewater treatment (Energy, organics, N, P, heat, metals)  
*Mogens Henze*
- Simple tools for evaluation of energy consumption  
*Mogens Henze*
- Introduction to carbon utilisation  
*Jes la Cour Jansen*
- Methods for sludge hydrolysis  
*Jes la Cour Jansen*
- Side stream hydrolyses in practise  
*Gert Petersen*
- Energy optimisation through process selection  
*Jes la Cour Jansen*
- New challenges, Climate change, New cities  
*Mogens Henze*



Photo: Catharina Eriksen

## Course fee

SEK 10 500 for members of Svenskt Vatten and DANVA, 19.000 for others. The fee for lunches, coffee/tee and welcome dinner is SEK 1 500. For Swedish participants value added tax will be added.

## Location

Hilton Malmö City  
Triangeln 2, Malmö

We have made reservations at the following hotel. Please let us know if you need a room. The fee is SEK 1 470 exkl. VAT.

The fee for accommodation is not included in the course fee and will be added to the invoice.

## Registration

Internet; [www.svensktvatten.se](http://www.svensktvatten.se)  
e-mail: [maria.wedberg@svensktvatten.se](mailto:maria.wedberg@svensktvatten.se)  
Fax; +46 8 506 002 10

**Note:** The web on-line registration form is in Swedish. Please do not hesitate to register to the course by e-mail or fax if you do not understand Swedish.

## Cancellation and Substitution policy

Full refund will be given if cancellation is received by Svenskt Vatten no later than May 17<sup>th</sup>. 50% refund will be given if cancellation is made 8-14 days before the course starts.

No refund for cancellations made less than 8 days before the course starts.

We encourage participants who are unable to attend the course to send a colleague as a substitution.

# Registration

## Advanced Urban Wastewater Treatment

First name..... Last name.....

Job title.....

Company/Municipality.....

Company Address .....

Invoice Address.....

Telephone..... Mobile phone.....

E-mail Address.....



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