



International
Water Association

Program
Conference / Workshop

2nd IWA National Young Water
Professionals Conference, Germany

**“Membrane Technologies for
Wastewater Treatment and Reuse”**

Organised By:

**KOMPETENZZENTRUM
WasserBerlin**

Sponsored By:



Young Water Professionals



Conference: 4–5 June 2007
Workshop: 6 June 2007
Berlin, Germany

www.IWA.kompetenz-wasser.de



The Berlin Centre of Competence for Water is pleased to organise, together with the International Water Association, the 2nd National Young Water Professionals Conference in Germany. This event is following up on the 1st NYWP conference held in Aachen in October 2005. It will provide a forum for scientists and professionals working in the membrane sector of the wastewater industry to present their work and meet their peers. This conference is an initiative of "MBR-Network", the European coalition on membrane bioreactor technology, gathering about 50 European and international companies and institutions (www.MBR-Network.eu).

Sunday 3 June –Registration and Welcome

- 17.00 h Opening of registration, reception of posters
- 20.00 h Welcome Drink (sponsored by Veolia)

Monday 4 June 2007 – IWA NYWP Conference: Day 1

8.30- 9.00 h Registration

9.00-10.30 h **Session I – Welcome address and key notes** *Chairman: L. Pawlowski (Berlin Centre of Competence for Water, Germany)*

- **Welcome address**
*L. Pawlowski
(Director of Berlin Centre of Competence for Water, Germany)*
- **The young professionals programme of the International Water Association**
Dr. T. Wintgens (RWTH Aachen University, representative of IWA Young Water Professionals in Germany)
- **Overview of membrane business for wastewater and reuse applications in Europe**
Dr. J.C. Schrotter (Anjou Recherche – Veolia Water, France)
- **Future of membrane technologies in worldwide sanitation**
Dr. P. Côté (IWA Specialist Group on Membrane Technologies)

10.30-11.00 h Coffee break

11.00-13.00 h **Session II - MBR process Optimisation and Wastewater Reuse** *Chairman: Prof. M. Kraume (TU Berlin, Germany)*

- **Membrane bioreactor technology for agricultural reuse of municipal wastewater: a comparative study**
*G. Guglielmi, D. Chiarani, G. Andreottola, G. Ziglio
(Universita degli Studi di Trento, Italy)*
- **Impact of different recirculation schemes on nutrients removal in a laboratory scale MBR**
*U. Bracklow, L. Manigas, A. Drews, M. Vocks and
M. Kraume (Technical University of Berlin, Germany)*
- **Intermittent and automatically controlled membrane bioreactor for municipal wastewater treatment and reuse: a demonstration study**
G. Carletti, F. Fatone, E. Cola, A.L. Eusebi (University of Verona, Italy)
- **Analysis of long term performance of a full-scale MBR plant treating domestic and industrial wastewater**
*V. Ferre Pellicer, S. Churchouse, P. Jeffrey, and S. Judd
(Kubota Membrane Europe, United Kingdom)*
- **Membrane bioreactor biological nutrient removal activated sludge systems: Performance and kinetics**
V. Parco, M. Wentzel, G. Ekama (University of Palermo, Italy)
- **Persistent Organic Pollutants (POPs) removal in conventional WWTP and in a MBR pilot plant for agricultural reuse.**
G. Buttiglieri, H. Bouju, F. Malpei (Politecnico di Milano, Italy)
- **Reserve:** Adsorption of Selected Organic Micropollutants from WWTP Effluent on Powdered Activated Carbon and Retention by Nanofiltration *K. Lehnberg, L. Kovalova, C. Kazner, T. Wintgens, T. Melin, J. Hollender, W. Dott (RWTH Aachen University, Germany)*

13.00-14.00 h Lunch

14.00-16.00 h **Session III – Novel Approaches on Membrane Fouling** *Chairman: Dr. A. Drews (TU Berlin, Germany)*

- **Fluorescence spectroscopy as a tool for performance monitoring of membrane bioreactors in wastewater treatment systems**
C. F. Galinha, C. Portugal, G. Carvalho, J. G. Crespo, and M. A. M. Reis (REQUIMTE/CQFB, Portugal)
- **Use of water soluble polymers to reduce capital and operating costs of membrane bioreactors (MBR)**
*J. Koppes, J. Collins, S.-H. Yoon, B. Davé
(Nalco Europe, Netherlands)*
- **Composition of membrane fouling layers for different filtration modes in MBR**
*U. Metzger, P. Le-Clech, R.M. Stuetz, F.H. Frimmel and
V. Chen (University of Karlsruhe, Germany)*
- **Highly fouling resistant ultrafiltration membrane for water and wastewater treatments**
H. Susanto, M. Ulbricht (Duisburg-Essen University, Germany)
- **Metaproteomic approach to the characterization of MBR biomass** *R. Kuhn, A. Pollice, G. Laera, L.L. Palese, S. Papa
(IRSA CNR, Italy)*
- **Impact of solid retention time on EPS and fouling tendency in membrane bioreactors**
*D. Al-Halbouni, S. Lyko, A. Janot, D. Tacke, W. Dott and
J. Hollender (RWTH Aachen University, Germany)*
- **Reserve:** Sample pre-treatment device for continuous EPS analysis in membrane bioreactor systems *R. Mehrez, M. Jekel, M. Ernst (TU Berlin, Germany)*

16.00-19.00 h Posters session + drinks

20.00 h Conference dinner (sponsored by Berliner Wasserbetriebe)



Tuesday 5 June 2007 – IWA NYWP Conference: Day 2

8.00 h Opening

8.30-10.30 h Session IV – Modelling of Membrane Processes *Chairman: Dr. T. Wintgens (RWTH Aachen University, Germany)*

- **Investigating hydrodynamics in submerged hollow-fibre membrane filtration units in municipal wastewater treatment using Computational Fluid Dynamics (CFD)**
S. Buetehorn, C. N. Koh, T. Wintgens, T. Melin, D. Volmering, K. Vossenkaul (RWTH Aachen University, Germany)
- **Hydrodynamic CFD simulation of a two-phase flow in a single tube of an ultrafiltration membrane for a side-stream membrane bioreactor**
N. Rios, I. Nopens and W. Verstraete (Ghent University, Belgium)
- **Model-based optimisation of the biological performance of a sidestream MBR** *I. Nopens, G. Sin, T. Jiang, L. d'Antonio, S. Stama, J. Zhao and P. Vanrolleghem (Ghent University, Belgium)*
- **Evaluation of membrane bioreactor performance via residence time distribution analysis: effects of membrane configuration**
M. W. D. Brannock, Y. Wang, K. W. Ong, G. Leslie (UNESCO Centre of Membrane Science and Technology, Australia)
- **Membrane bioreactor aeration: investigation of the velocity flow pattern** *D. Tacke, J. Pinnekamp H. Prieske, M. Kraume (RWTH Aachen University, Germany)*
- **Flow structure in MBR-tanks**
J. Saalbach, M. Hunze (FlowConcept GmbH, Germany)
- **Reserve:** Modelling of enhanced biological phosphorus removal (EBPR) in post-denitrification system combined MBR for domestic wastewater *J. Mouchard (Berlin Centre of Competence for Water, Germany)*

10.30-11.00 h Coffee break

11.00-13.00 h Session V - New Membrane Technologies and Concepts *Chairman: R. Gnirss (Berliner Wasserbetriebe, Germany)*

- **Application of submerged membranes for the treatment of spent filter backwash water**
F. Saravia, C. Zwiener, F. H. Frimmel (University of Karlsruhe, Germany)
- **Evaluation of innovative operating technology for flat sheet MBR filtration system**
L. Weinrich ; A. Grélot (A3 Water Solutions Germany)
- **Treatment of landfill leachate with reverse osmosis membrane technologies**
F. Li (Technical University of Hamburg, Germany)
- **Experience with a new developed submerged membrane system for MBR application**
S. Krause (Microdyn-Nadir GmbH, Germany)
- **Submerged membranes in wastewater lagoons: A new approach to wastewater reuse in agriculture**
K. Teschner (Technical University of Berlin, Germany)
- **Market potential of decentral membrane based wastewater treatments systems in China**
C. Adler, Dr. B. Truffer (ETH Zürich, Switzerland)
- **Reserve:** Comparison of Aerobic and Anaerobic MBRs: a literature review. *I. M. Garcia (Cranfield University, United Kingdom)*

13.00-14.00 h Lunch

14.00-16.00 h Session VI – Career Development and Awards *Chairman: B. Lesjean (Berlin Centre of Competence for Water, Germany)*

- **A3 Water Solutions: a successful SME in the global world of environmental technologies**
Dr. U. Brüß (Director of A3 Water Solutions, Germany)
- **The situation of end-users and operators in the membrane business**
C. Brepols, N. Engelhardt (Ertverband, Germany)
- **PURON®-MBR filtration system: from concept to business**
Dr. K. Vossenkaul (KMS, Managing Director and Head of R&D - submerged membranes, Germany)
- **Awards and closure address**
B. Lesjean (Berlin Centre of Competence for Water, Germany)

16.00 h Technical tour: Margaretenhöhe MBR demonstration plant (sponsored by Berliner Wasserbetriebe)

The full papers will be considered for publication in *Water Science and Technology*. The best paper will be awarded a free registration to the next IWA Membrane Technology Conference, to be organised in Beijing in September 2009.

The free technical workshop will present the outcomes of the ENREM demonstration project. This project, supported by the EU-Life program, was conducted by the Berlin Centre of Competence for Water together with Berliner Wasserbetriebe and Anjou Recherche – Veolia Water. Four invited projects on the use of membrane technologies for decentralised applications will be also presented.



Wednesday 6 June 2007 – Technical Workshop

“Performances and economics of membrane-based concepts for decentralised wastewater treatment“

8.30 h Registration

9.00-12.00 h ENREM demonstration project: decentral wastewater scheme with low pressure sewer and advanced biological nutrients removal in MBR

Chairman: L. Pawlowski (Berlin Centre of Competence for Water, Germany)

- **Welcome address**
L. Pawlowski
(Director of Berlin Centre of Competence for Water, Germany)
- **Context of the ENREM project**
R. Gnirss (Berliner Wasserbetriebe, Germany)
- **Design parameters and construction of the ENREM demonstration plant**
B. Lesjean
(Berlin Centre of Competence for Water, Germany)
- **Operational issues and process optimisation of containerised MBR plant**
C. Lüdicke (Berliner Wasserbetriebe, Germany)
- **Results of process for advanced biological nutrients removal in MBR** M. Vocks
(Berlin Centre of Competence for Water, Germany)
- **Evaluation of concept and outlook**
R. Gnirss (Berliner Wasserbetriebe, Germany)
- **Discussion**

12.00-13.30 h Lunch

13.30-16.00 h Four German projects of membrane-based processes for decentral wastewater treatment

Chairman: B. Lesjean (Berlin Centre of Competence for Water, Germany)

- **Semi-decentralized wastewater management with membrane technology and large-scale operation experiences**
T. Zech, W. Sternad, W. Trösch
(Fraunhofer Institute for Interfacial Engineering and Biotechnology, Stuttgart, Germany)
- **LAGOON-MEMB – a leading-edge concept for economical wastewater handling in rural area**
H. D. Janke, A. Ante, R. Hasselbach
(Gesellschaft für umweltkompatible Prozeßtechnik mbH i.L., Saarbrücken, Germany)
- **Innovative decentralised wastewater treatment concepts**
Dr. M. Wade, Dr. G. Schories
(TTZ-Bremerhaven, Germany)
- **Overview of domestic MBR plants for decentralised wastewater treatment in Germany** Dr. E. Dorgeloh,
A. Kaiser (PIA / RWTH-Aachen, Germany)
- **Conclusion and closure address**
L. Pawlowski (Director of Berlin Centre of Competence for Water, Germany)

16.00 h Technical tour: Margaretenhöhe MBR demonstration plant (sponsored by Berliner Wasserbetriebe)

General information

Language

The presentation language of the two-day conference on Monday and Tuesday will be exclusively English. The workshop on Wednesday will be hold in English and German, with audio translation and slides in English.

Registration and conference fee

Information on the event and registration form is available on the conference website www.iwa/kompetenz-wasser.de
Early registration fee up to 30 April 2007

Contact

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KompetenzZentrum Wasser Berlin
Cicerostrasse 24, D-10709 Berlin
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Conference location

The conference will be held at the “Film Museum Berlin”, which is located in the Sony Center on Potsdamer Platz.

Address conference and workshop

Filmuseum Berlin
Potsdamer Str. 2
(Filmhaus I Sony Center)
10785 Berlin
S-Bahn ‘Potsdamer Platz’

Conference Dinner

Berliner Wasserbetriebe
Neue Jüdenstraße 1
10179 Berlin
S-Bahn ‘Alexanderplatz’

