



DECHEMA e.V.

# INDUSTRIAL WATER 2006

## European Conference on Efficient Use of Water Resources in Industry

February 6–8, 2006 • Frankfurt am Main/Germany



PROGRAMME

CALL FOR POSTERS

INVITATION TO EXHIBIT



GfKORR – Gesellschaft für Korrosionsschutz e.V.



A.C.E.



[www.dechema.de/water](http://www.dechema.de/water)

## SCIENTIFIC ORGANIZING COMMITTEE

Peter Cornel	Technical University of Darmstadt/D
Martin Jekel	Technical University of Berlin/D
Eva Maus	Sulzer Chemtech Ltd., Winterthur/CH
Patrice Meheux	Société de Chimie Industrielle, Paris/F
Etienne Paul	Institut National des Sciences Appliquées de Toulouse/F
Norbert Rübiger	University of Bremen/D
Karl-Heinz Rosenwinkel	University of Hanover/D
Michel Roustan	Société Française de Génie des Procédés, Paris/D
Thomas Track	DECHEMA e.V., Frankfurt am Main/D

## PARTICIPATING ORGANIZATIONS

Initiated by DECHEMA e.V. and SCI

**A.C.E.** Association Chimie et Eau

**ASTEE** Association Scientifique et Technique pour l'Eau et l'Environnement

**DECHEMA** – Subject Division Membrane Technology

**DGMT** – Deutsche Gesellschaft für Membrantechnik

**DWA** – Deutsche Vereinigung für Wasserwirtschaft, Abwasser und Abfall e.V.

**EWA** – European Water Association

**GDCh** – Water Chemical Society

**GfKORR** German Society for Corrosion Protection

**GVC/DECHEMA** Section Sustainable Production, Energy and Resources

(SuPER)

**IOA** International Ozone Association

**SFGP** Société Française de Génie des Procédés

**SFC** Société Française de Chimie

**SCI** Société de Chimie Industrielle

**VDI/GVC** Society for Chemical Process Engineering

## CONFERENCE INFORMATION

DECHEMA e.V.

Congress Office

Attn. Renate Strauss

Theodor-Heuss-Allee 25

D-60486 Frankfurt am Main/Germany

Phone: +49 (0) 69 7564-249

Fax: +49 (0) 69 7564-176

E-Mail: [strauss@dechema.de](mailto:strauss@dechema.de)

All informations are available on the internet: [www.dechema.de/water](http://www.dechema.de/water)

Picture at cover: © WEDECO

## INVITATION

Water is indispensable to industry, its availability in suitable quality and quantity is an important factor for investment decisions. Its responsible use is the basis for sustainable global development and stable economic growth.

### European water service industries and water-intensive industries face several challenges in the coming decades:

Regulative requirements, such as the WFD (Water Framework Directive), IPPC (Integrated Pollution Prevention and Control Directive) and REACH (Registration, Evaluation and Authorisation of Chemicals Policy), have to be considered in future planning and investment decisions.

The need for enhanced production process efficiency and reliability, advanced product quality standards and new products requires innovative, optimised water treatment technologies. Their efficient integration in production processes is a further challenge.

The global competitiveness of water-intensive industry in Europe calls for the reduction of water-related costs throughout the production chain. On the other hand the rising markets in Eastern Europe and Asia offer great potential for the implementation of new technologies and services for industrial water treatment.

Changes in climate conditions over the coming decades will lead to increasing water shortages in many regions of Europe, causing stress to surface and groundwater resources and resulting in highly varying raw water quality and periods of raw water scarcity.

The goal of this event is to discuss innovative, economically and ecologically efficient strategies for industrial water treatment.



The Scientific Committee invites you to submit a contribution for a poster presentation on the following topics:

- Water resources for industrial processes: efficient use and reuse
- Water conditioning for the process industries
- Treatment of industrial wastewater
- Innovative membrane and combined technologies
- Hygienisation of water
- Innovative materials and coatings in water technology
- Treatment and reuse of cooling water
- Special applications of treatment technologies
- Chemicals for water treatment
- New equipment and maintenance for transport and treatment
- Other topics

**INDUSTRIAL WATER 2006** will bring together developers, manufacturers and providers of industrial water treatment technologies from research and industry, service providers, environmental and water managers in industry and end-users of water-intensive industries, such as the chemical, pharmaceutical, food, automotive, electronics and metal-processing industries. The conference will provide a platform to present cutting-edge developments, to show new applications, to report on progress in research, to discuss administrative aspects, to consider strategies for implementation and to exchange experience and knowledge on an international scale.

**We would be very pleased to welcome you in Frankfurt am Main!**

## Monday, February 6, 2006

9:15 **Welcome, Introduction and Opening**

### Water resources for industrial processes: efficient use and reuse

- 9:30 **Keynote Lecture**  
**A European vision for water in industry: the results of the "Water Supply and Sanitation Technology Platform"**  
 T. Vereijken, EUCETSA, Balk/NL
- 10:15 **Keynote Lecture**  
**Efficient water use and reuse in industry – potentials and limitations**  
 K.-H. Rosenwinkel, University of Hanover/D
- 11:00 Coffee Break
- 11:30 **Zero Effluent Stretch Target (ZEST)**  
 O. O'Connor, Cork Institute of Technology, Cork/IRL; N. Duffy, Clean Technology Centre, Cork/IRL
- 12:00 **Measurements to improve water efficiency in the textile industry**  
 M. Sartor, upt GmbH, Saarbrücken/D; M. Kaschek, Saarland University, Saarbrücken/D; H. Chmiel, upt GmbH, Saarbrücken/D
- 12:30 **Case studies to reduce water related costs in the industry**  
 G. Stucki, Bolewa AG, Liestal/CH
- 13:00 Lunch Break
- 14:30 **Investigations into the reuse of wastewater from the beverage industry**  
 R.J. Greaves, A.S. Donn, C.D. Howorth, ITT Industries, Aqueous – PCI Membranes, Basingstoke/UK
- 15:00 **Advanced treatment of malting wastewater including the application of membrane bioreactors**  
 H. De Wever, W. Boenne, VITO, Mol/B; M. Danau, Enprotech, Haacht/B; N. Vanderspiegel, SEE:WATER, Tremelo/B; J. Limbos, K. Hardy, Sobelgra, Antwerpen/B
- 15:30 **Water recycling in laundry and potato processing industry**  
 D. Schippers, P. Sjoerdsma, N.B.A Wolthek, Vitens, Leeuwarden/NL
- 16:00 Coffee Break

### Case studies on industrial wastewater treatment I

- 16:30 **Sequencing Batch Reactor (SBR) process applied to effluents from dairies**  
 M. Torrijos, INRA, Narbonne/F
- 17:00 **Nutrient limited biofilm/activated sludge treatment – removal of COD, EDTA and AOX with low sludge production rate and improved sludge settling characteristics**  
 C. Guby, Bamag GmbH, Butzbach/D; K. Steube, PURAC GmbH, Merseburg/D; R. Zierau, Zellstoff Stendal GmbH/D
- 17:30 **Climate change, droughts and industrial water use – research agenda of the GLOWA-Elbe Project**  
 K. Mutafoglu, TU Berlin/D
- 17:45 **Poster Presentation and Get-Together-Party**

Tuesday, February 7, 2006

## Membrane technologies in industrial water and wastewater treatment

- 9:00 **Keynote Lecture**  
**Membrane bioreactors in industrial wastewater treatment – European experiences, examples and trends**  
 P. Cornel, TU Darmstadt/D
- 9:45 **Treatment of wastewater from a chemical park using a membrane bioreactor**  
 S. Krause, U. Meyer-Blumenroth, R. Voigt, Microdyn-Nadir GmbH, Wiesbaden/D; A. Patzak, Infracerv GmbH, Wiesbaden/D
- 10:15 **Treatment of industrial effluent at Ciba Specialty Chemicals in Basel Region – experience with membrane separation processes**  
 J. Malisz, Ciba Spezialitäten Chemie GmbH, Basel/CH; S. Mirza, Somicon AG, Basel/CH
- 10:45 Coffee Break
- 11:15 **Membrane bioreactors for wastewater treatment in the beverage industry**  
 M. Brockmann, U. Mende, ZENON GmbH, Hilden/D
- 11:45 **Water reuse from effluents of industrial wastewater treatment plants**  
 G. Gehlert, H. Wienands, Wehrle Umwelt GmbH, Emmendingen/D
- 12:15 **The use of submerged ultrafiltration membranes for wastewater reuse in industry**  
 T. Buer, P. Ohle, ZENON GmbH, Hilden/D
- 12:45 Lunch Break
- 14:15 **Membrane filtration based wastewater treatment**  
 T. Zech, W. Sternad, W. Trösch, Fraunhofer IGB, Stuttgart/D
- 14:45 **Direct river water treatment with coagulation and microfiltration applying ceramic membranes**  
 A. Loi-Brügger, S. Panglisch, P. Buchta, K. Hattori, H. Yonekawa, Y. Tomita, R. Gimbel, IWW Water Centre, Mülheim/D
- 15:15 **Development and operation of a submerged ceramic plate module within the scope of a DBU project**  
 J. Brinkmeyer, K.-H. Rosenwinkel, University of Hanover/D; O. Binkle, G. Braun, R. Nonninger, ITN Nanovation, Saarbrücken/D
- 15:45 Coffee Break

## Case studies on industrial wastewater treatment II

- 16:15 **Industrial wastewater treatment: 2 case studies**  
 M. Engelhart, ENVIRO-CHEMIE GmbH Water and Wastewater Technology, Rossdorf/D
- 16:45 **Anaerobic digestion of wastewater from food processing industries**  
 R. Moletta, Université de Savoie, Le Bourget du Lac /F
- 17:15 **Biological depollution of waste waters from milk industries**  
 N. Pallez, Fromagerie BEL, Paris/F
- 20:00 **Congress Dinner at the “Sachsenhäuser Warte”**  
 Registration necessary (see page 10)

Wednesday, February 8, 2006

## Advanced chemical treatment processes

- 9:00 **Keynote Lecture**  
**Review of ozone techniques for water treatment**  
 S. Baig, Société DEGREMONT, Rueil/F  
 President of International Ozone Association
- 9:45 **Ozone and Ozone/H<sub>2</sub>O<sub>2</sub> for the degradation of hardly biodegradable COD**  
 A. Ried, J. Mielcke, M. Kampmann, WEDECO GmbH, Herford/D
- 10:15 **Post-treatment of wastewater for water reuse**  
 S. Schaefer, M. Sievers, CUTEC GmbH, Clausthal-Zellerfeld/D
- 10:45 Coffee Break
- 11:15 **Cooling water treatment with ozone**  
 H. Stapel, WEDECO GmbH, Herford/D
- 11:45 **An innovative process to reduce the production of biosolids in wastewater treatment**  
 Y. Mottot, L. Louvel, S. Edmunds, RHODIA NOVECARE, Aubervilliers/F
- 12:15 **Advanced oxidation processes (AOP) for the degradation of hazardous pharmaceuticals in hospital and industrial wastewaters**  
 J. Türk, T.K. Kiffmeyer, K.G. Schmidt, Institute of Energy and Environmental Technology (IUTA), Duisburg/D; B. Becker, S. Kabasci, Fraunhofer Institute for Environmental, Safety and Energy Technology (Fraunhofer UMSICHT), Oberhausen/D; H.-M. Kuß, University Duisburg-Essen, Duisburg/D
- 12:45 Lunch Break
- 13:45 **Treatment of organic pollutants in industrial wastewaters by catalytic wet air oxidation**  
 D. Pham Minh, A. Pintar, P. Galleot, M. Besson, IRC-CNRS, Villeurbanne/F
- 14:15 **Impact and properties of Boron doped diamond electrodes applied to water and wastewater treatment**  
 M. Ernst, J. Haberkamp, I. Bewersdorff, M. Jekel, TU Berlin/D
- 14:45 **Advantages and limitations of electrochemical water hygienisation**  
 H. Bergmann, Anhalt University of Applied Sciences, Koethen/D
- 15:15 **End of the conference**

### ACCOMMODATION

Accommodation has been reserved for conference participants at a special rate.

Reservations should be directly made by the participants with the keyword "Water" before **January 9, 2006**:

Hotel Mercure & Residenz Frankfurt  
 Voltastraße 29  
 60486 Frankfurt am Main  
 Phone: +49 (0) 69 7926-0  
 Fax: +49 (0) 69 7926-1606  
 E-Mail: H1204@accor-hotels.com

Hotel rooms are available for the rate of EUR 85.00 per night for a single room and EUR 109.00 for a double room incl. breakfast and VAT. Reservations are binding. Charges for rooms which are not used, or cancelled too late, must be paid by the participant.

### EXHIBITION

Water treatment technology providers are invited to present equipment and innovations related to industrial water treatment in the accompanying exhibition for hands-on discussion of cutting-edge developments. The exhibition will be held at a central place by the lecture hall, where also coffee breaks will take place. The space in the exhibiton area is limited. The fee for an exhibition stand is 250.00 EUR/m<sup>2</sup> plus tax at a minimum stand area of 4m<sup>2</sup>. Two tickets for the conference are included. The fee is for raw space. Additional stand facilities and services can be ordered. Should you be willing to participate in our conference in the above mentioned way, please register via the registration form on the internet. For further questions please contact the congress office via e-mail: [strauss@dechema.de](mailto:strauss@dechema.de)

### LOCATION AND CONGRESS OFFICE

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 Fax: +49 (0) 69 7564-176  
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### POSTER PRESENTATION AND CALL FOR POSTERS

Posters should be put up latest on Monday, February 6, 2006 at 10:00 and taken down at the end of the conference. The poster presentation will be held on Monday, February 6 from 17:45 to 21:30. Authors are expected to be present during the poster presentation. Further possibilities to present the posters are during the coffee and lunch breaks (see programme).

Further poster contributions can be accepted as **Last-Minute-Posters**, subjected approval by the Scientific Committee and as long as free capacity is available. These Last-Minute-Posters will be announced in the Last-Minute-Information being available for participants at the beginning of the conference.

Please submit an abstract of 1-2 pages till **January 10, 2006 at the latest** via E-Mail to [strauss@dechema.de](mailto:strauss@dechema.de)

Please notice: Registration fee can not be waived for authors.

### POSTER PROGRAMME

The poster programme is now available on the internet at [www.dechema.de/water](http://www.dechema.de/water).

### PUBLICATIONS

Manuscripts of each contribution except Last-Minute-Posters will be published in the book of extended abstracts which will be distributed at the beginning of the conference.

### REGISTRATION FEE\*

Conference ticket for

Participant	Members <sup>1)</sup>	Others
from Industry	€ 480.00	€ 495.00
from Academia	€ 275.00	€ 280.00
Student/Pensioner	€ 140.00	€ 155.00

(proof of status required)

<sup>1)</sup> Personal members of DECHEMA and co-organizers and EFC/EFCE passport bearers

\* No VAT requested according to § 4.22 UStG.

The conference ticket includes book of extended abstracts, list of participants, lunch on Monday, Tuesday and Wednesday, Poster Party on Monday evening as well as beverages during the breaks.

## REGISTRATION

Registrations should be made **online** at

[www.dechema.de/water](http://www.dechema.de/water)

or via fax with the enclosed registration form. Deadline for appearance in the list of participants is **January 20, 2006**. Confirmation of registration and the invoice will be sent on receipt of the registration form. Fees should be remitted after the receipt of the invoice in favour of DECHEMA e.V. stating the invoice number, the name of the participant and the keyword "Water", to one of the DECHEMA accounts as stated in the invoice. Payment by credit card is also possible.

## CANCELLATION

€ 30 administrative costs will be charged for cancellations made before January 20, 2006. Thereafter 80% of the registration fee will be invoiced, however the book of extended abstracts will be sent. Cancellation need to be made in writing (letter, fax or e-mail).

## SOCIAL EVENT

Congress Dinner on Tuesday, February 7, 2006 at 20:00 at the "Sachsenhäuser Warte" will cost € 40 incl. € 10 for beverages. Registration is necessary, places are limited.

## VISA FORMALITIES

Participants from a number of countries may need an entry visa for the Federal Republic of Germany. It is recommended that this be applied for well in advance of the conference. If a formal invitation letter is needed please contact the Congress Office at DECHEMA e.V. in good time.

## HOW TO REACH DECHEMA

## By public transport

From Frankfurt Airport

- approx. 20 min. by taxi
- S-Bahn: S 8, S 9 (line 8 or 9) to the main station (Hauptbahnhof), change to S 3, S 4, S 5 or S 6 (platform 104, underground) to the station Messe, exit "Emser Straße".

From the main railway station (Hauptbahnhof)

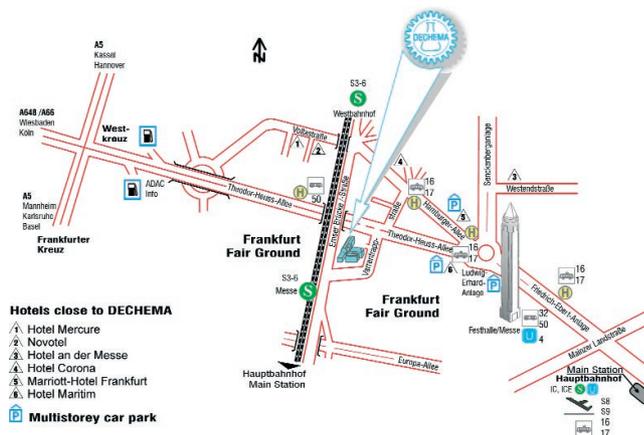
- approx. 20 min. walk
- approx. 10 min. by taxi
- S-Bahn: S 3, S 4, S 5 or S 6 (platform 104, underground) to the station "Messe", Exit "Emser Straße"
- Underground: line U 4 (line 4) direction "Bockenheimer Warte" to the station "Messe", Exit "Festhalle" and 10 min. walk
- tram/streetcar line 16 to the station "Festhalle/Messe" and 10 min. walk

## By car

Via Autobahn/Westkreuz to Frankfurt Stadtmitte, turn right at first traffic light after the railway bridge.

From the city centre in direction Messe (exhibition grounds), on the Theodor-Heuss-Allee first left-hand turn-off lane before the railway bridge Entrance Varrentrappstraße.

Parking on the DECHEMA site is not possible. Please use one of the parking garages near DECHEMA (see map)



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