



DECHEMA

Gesellschaft für Chemische Technik
und Biotechnologie e.V.

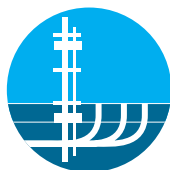
PROGRAMME

27 – 30 November 2018

DECHEMA-Haus · Frankfurt/Main · Germany

Industrial Water 2018

www.industrial-water.org



INDUSTRIAL WATER 2018

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#IndustrialWater



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COMMITTEES / VENUE / ORGANISER

ORGANISING COMMITTEE

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Christoph Blöcher	Covestro Deutschland AG/D
Santino Di Bernardino	IWA Specialist Group Pretreatment of Industrial Wastewaters/P
Markus Engelhart	Technical University Darmstadt/D
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Sven-Uwe Geißen	Technical University, Berlin/D
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Thomas Track	DECHEMA e.V./D

PROGRAMME COMMITTEE

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Sylvie Baig	SUEZ International/F
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Angeles Blanco	Complutense University of Madrid & European Water Partnership/E
Ludo Diels	EU-PPP SPIRE/B
Uwe Fortkamp	Swedish Environmental Protection Agency/S
Peter Gebhart	VDMA (Mechanical Engineering Industry Association)/D
Heike Glade	University Bremen/D
Niels Groot	Dow Benelux/NL
Cesar Huilini	Universidad de Santiago de Chile/CL
Matthias Kozariszczuk	VDEh-Betriebsforschungsinstitut GmbH/D
Henk Pool	SusChem-Sustainable Chemistry Technology Plattform & CEFIC/B
Andrea Rubini	WSSTP-Water Supply and Sanitation Technology Plattform/B
Gerd Sagawe	EnviroChemie GmbH/D
Winfried Schmidt	DGMT German Society for Membrane Technology/D
Henri Spanjers	TU Delft/NL
Ken Stockil	Central Solutions LTD/IRL
Markus Stöckl	DECHEMA Research Institute/D
Matthias Woyciechowski	Evonik Industries AG/D
Yongjung Zhang	Nanjing Tech University/CN
Gerhard Zimmer	BASF SE/D

VENUE/ORGANISER

DECHEMA e.V.
Theodor-Heuss-Allee 25
60486 Frankfurt am Main
Germany

CONTACT

Christopher Diaz Maceo
Phone: +49 (0)69 7564-243
Fax: +49 (0)69 7564-176
Email: christopher.diaz@dechema.de

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Deutsche Gesellschaft
für Membrantechnik



the international
water association



Large Water
Users CoP

GreenEnterprise



Sustainable Process Industry through
Resource and Energy Efficiency



European Technology Platform
for Sustainable Chemistry

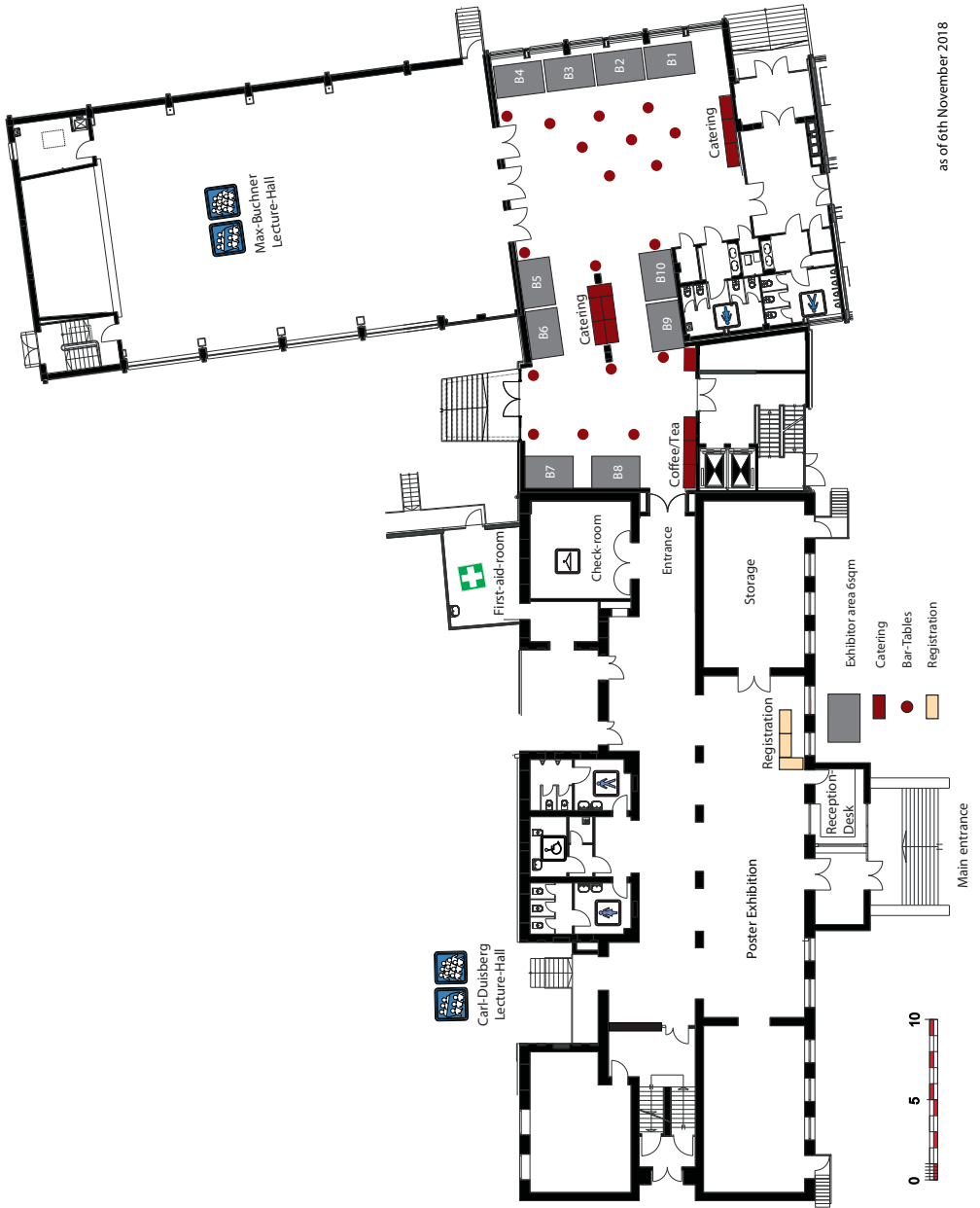


Verfahrenstechnische
Maschinen und Apparate



The European Water Platform

EXHIBITION



EXHIBITORS

EXHIBITORS



Blücher GmbH

B9

WavE

BMBF funding measure WavE

B10



Evides Industrierwater

B4

FOENEVAP

Fontaine Engineering und Maschinen GmbH

B8



HUBER SE

B3



JUMO GmbH & Co. KG

B6



MOL Katalysatortechnik GmbH

B5



rqmicro AG

B1



Tamkang University

B7



WATERLEAU

B2

PROGRAMME

Tuesday, 27 November 2018

Room: Max-Buchner-Hörsaal

11:00 WELCOME & INTRODUCTION

PLENARY TALK

Chair: S.-U. Geißen; Technical University Berlin/D

11:15 Industrial Water 4.0 – Perspectives and challenges of digitalization for industrial water management

I. Track¹; ¹ DECHEMA e.V., Frankfurt a.M./D

Room: Max-Buchner-Hörsaal

TREATMENT OF PROCESS WATER

Chair: S.-U. Geißen; Technical University Berlin/D

12:00 Water reuse from condensates in the petrochemical industry

I. Veleva¹; M. Vanoppen¹; N. Groot²; A. Verliefde¹; ¹ Ghent University (UGent), Ghent/B; ² Dow Benelux BV, Terneuzen/NL

12:25 Innovative and sustainable solutions for efficient water use in steel industry by desalination with capacitive deionisation

M. Hubrich¹; M. Kozariszczuk¹; B. Padilla Vivas²; E. Piedra Fernandez²; V. Menendez Delmiro²; ¹ VDEh-Betriebsforschungsinstitut GmbH, Düsseldorf/D; ² ArcelorMittal, Global R&D Asturias, Aviles/E

12:50 Lunch break with exhibition & posters

TREATMENT OF PROCESS WATER

Chair: M. Engelhart; Technical University Darmstadt/D

14:20 Efficient Degradation of Sulfamethazine by Fenton-like Reaction with Sludge Derived Carbon modified with nitric acid

Y. Yu¹; F. Huang²; Y. He²; Y. Zhang²; ¹ Nanjing Tech University, Nanjing, Jiangsu Province/D; ² Nanjing Tech University, Nanjing/CN

14:45 Innovative Membrane Process for Produced Water Treatment

T. Steube¹; L. Wiles²; E. Peirtsegaee²; ¹ MICRODYN-NADIR GmbH, Wiesbaden/D; ² MICRODYN-NADIR US Inc., Goleta, CA/USA

15:10 Application of ceramic membranes for solid liquid separation in a two-stage fermentation with process water recirculation

M. Tuczinski¹; F. Saravia²; H. Horn³; ¹ DVGW-Forschungsstelle am Engler-Bunte-Institut des Karlsruher Instituts für Technologie (KIT), Karlsruhe/D; ² KIT, Engler-Bunte-Institut, Karlsruhe/D; ³ KIT, Engler-Bunte Institut, Karlsruhe/D

15:35 Water recycling and reuse in food industry– Practical examples, technical & economical potentials

K. Dickhoff¹; ¹ EnviroChemie GmbH, Rossdorf/D

16:00 Coffee break with exhibition & posters

PROGRAMME

Tuesday, 27 November 2018

*Room: Max-Buchner-Hörsaal*11:00 **WELCOME & INTRODUCTION****PLENARY TALK***Chair: S.-U. Geißen; Technical University Berlin/D*11:15 **Industrial Water 4.0 – Perspectives and challenges of digitalization for industrial water management**T. Track¹; ¹ DECHEMA e.V., Frankfurt a.M./D*Room: Carl-Duisberg-Hörsaal***COOLING WATER MANAGEMENT***Chair: H. Glade; University of Bremen/D*12:00 **Cooling tower blow down water reuse – Challenging the status quo**J. Henkel¹; M. Slagt²; ¹ Dow Water & Process Solution, Rheinmuenster/D; ² Dow Water & Process Solution, Terneuzen/NL12:25 **Stay Practical – Reduce Chemical for improving performance of Cooling Water Circuits**J. Koppe¹; G. Battagello¹; ¹ MOL Katalysatortechnik GmbH, Schkopau/D12:50 **Lunch break with exhibition & posters****COOLING WATER MANAGEMENT***Chair: H. Glade; University of Bremen/D*14:20 **Antimicrobial Stabilization of Process and Cooling Water by AGXX®**P. Frania¹; I. Jolk¹; B. Söndgerath¹; ¹ Feindrahtwerk Adolf Edelhoff GmbH & Co. KG, Iserlohn/D14:45 **Possibilities for Use of Reclaimed Water for Cooling at a Thermal Power Plant in Maputo**N. Gulamussen¹; L. Nougues¹; A. André¹; L. Rietveld¹; ¹ Delft University of Technology, Delft/NL15:10 **WaterWatt – Development of the E3 Platform to foster improvement of energy efficiency in industrial water circuits**J. Michels¹; N. Heine¹; T. Track¹; M. Kozariszczuk²; P. Ivashechkin²; M. Iten³; R. Rato³; D. Stroud⁴; M. Weinle⁴; T. Bolognesi⁵; O. Stavset⁶; S. Sannan⁶; ¹ DECHEMA e.V., Frankfurt am Main/D; ² VDEh-Betriebsforschungsinstitut GmbH, Düsseldorf/D; ³ ISQ – Instituto da Soldadura e Qualidade, Porto Salvo/P; ⁴ School of Social Sciences, Cardiff University, Cardiff/UK; ⁵ ISMB – Istituto Superiore Mario Boella, Torino/I; ⁶ SINTEF Energy Research, Trondheim/N15:35 **Alternative water resources for industrial use in the Zayandeh Rud Region, Isfahan, Iran**T. Hinz¹; G. Götz¹; S.-U. Geißen¹; ¹ Technical University Berlin/D16:00 **Coffee break with exhibition & posters**

PROGRAMME

Tuesday, 27 November 2018

Room: Max-Buchner-Hörsaal

WATER EFFICIENCY

Chair: C. Groot; Dow Benelux BV, Terneuzen/NL

- 16:30 **Innovative treatment scheme for water reuse in the petrochemical industry**
C. Bosch¹; M. Badia¹; J. Ribera¹; I. Jubany¹; X. Martínez¹; V. Gómez²; D. Arias²; E. Taberna³; J. Sanz³; ¹ Fundacio CTM Centre Tecnologic, Manresa/E; ² Dow Water & Process Solution, Tarragona/E; ³ Veolia Water Technologies, Sant Cugat del Vallès/E
- 16:55 **Production of demineralized water with wastewater reuse, energy and resource saving aspects**
S. Lübbecke¹; V. Toussaint²; W. van den Broek³; ¹ Evides Stade Wasserbetriebs GmbH, Stade/D; ² Evides Industrierwater, Rotterdam/NL; ³ Evides Industrierwater, Middelburg/NL
- 17:20 **A holistic approach to industrial water management: turning a business treat into an opportunity**
N. La Rocca¹; ¹ Arcadis Germany GmbH, Berlin/D
- 17:45 **Exhibition, poster & networking evening with buffet & drinks** (17:45 – 21:30)

PROGRAMME

Tuesday, 27 November 2018

Room: Carl-Duisberg-Hörsaal

ENERGY EFFICIENCY

Chair: M.Woyciechowski; Evonik Industries AG, Hanau-Wolfgang/D

- 16:30 **New Solutions for Thermal Water Treatment in Corrosive Conditions with Heat Conductive Polymers**
T. Orth¹; H. Glade²; S. Schilling²; ¹ Technoform Kunststoffprofile GmbH, Lohfelden/D;
² University of Bremen, Bremen/D
-
- 16:55 **Comparison of CSTR and AnMBR for high-solid digestion of WAS and high shares of float sludge from the dairy processing industry**
R. Lutze¹; M. Engelhart²; J. Rühl²; ¹ TU Darmstadt, Darmstadt/D; ² TU Darmstadt, Darmstadt/D
-
- 17:20 **Energy Efficiency at Airports Through the Management of Aircraft De-Icing Fluid (ADF) by a High-Rate Anaerobic Treatment Process**
G. Engiz¹; E. Su¹; C. Yangin-Gomec¹; ¹ Istanbul Technical University, Istanbul/TR
-
- 17:45 **Exhibition, poster & networking evening with buffet & drinks** (17:45 – 21:30)

PROGRAMME

Wednesday, 28 November 2018

Room: Max-Buchner-Hörsaal

PLENARY TALK

Chair: T. Track; DECHEMA e.V, Frankfurt a.M./D

- 09:00 **Water and Waste Water in the Chemical Industry: Management, Challenges and Future Developments**
A. Blesgen¹; ¹ Evonik Industries AG, Hanau-Wolfgang/D

Room: Max-Buchner-Hörsaal

MAINTENANCE

Chair: S. Di Berardino; Laboratório Nacional de Energia e Geologia, Lisbon/P

- 09:45 **Digital Solutions for Predictive Maintenance of Progressive Cavity Pumps in Waste Water Treatment Applications**
C. Brehm¹; ¹ SEEPEX GmbH, Bottrop/D

- 10:10 **On-Line Monitoring of Fouling in Membrane Distillation by means of Optical Coherence Tomography**
A. Bauer¹; V. Hilgenfeldt²; S. Bartl²; F. Saravia²; M. Wagner³; H. Horn¹; ¹ DVGW Research Center at the Engler-Bunte Institute, Karlsruhe Institute of Technology (KIT), Karlsruhe/D; ² Karlsruhe Institute of Technology (KIT), Engler-Bunte-Institut, Karlsruhe/D; ³ Karlsruhe Institute of Technology (KIT) / Institute of Functional Interfaces, Karlsruhe/D

- 10:35 **Coffee break with exhibition & posters**

MAINTENANCE

Chair: S. Di Berardino; Laboratório Nacional de Energia e Geologia, Lisbon/P

- 11:05 **Treatment of RO-membranes with chlorine dioxide to prevent biofouling and to rise the quality in performance**
S. Holz¹; ¹ Dr. Kücke GmbH, Wedemark/D

- 11:30 **Scale Formation on Polymer Composite Tubes in Falling Film Heat Exchangers for Water Treatment Applications**
S. Schilling¹; H. Glade¹; D. Moses²; T. Orth²; ¹ University of Bremen, Bremen/D; ² Technoform Kunststoffprofile GmbH, Lohfelden/D

- 11:55 **Struvite management in wastewater treatment plants with innovative chemicals**
K. Odiot¹; S. Nied¹; H. Konardi¹; ¹ BASF SE, Ludwigshafen/D

- 12:20 **Lunch break with exhibition & posters**

PROGRAMME

Wednesday, 28 November 2018

Room: Max-Buchner-Hörsaal

PLENARY TALK

Chair: T. Track; DECHEMA e.V, Frankfurt a.M./D

- 09:00 **Water and Waste Water in the Chemical Industry: Management, Challenges and Future Developments**
A. Blesgen¹; ¹ Evonik Industries AG, Hanau-Wolfgang/D

Room: Carl-Duisberg-Hörsaal

DIGITALIZATION IN INDUSTRIAL WATER MANAGEMENT

Chair: T. Track; DECHEMA e.V, Frankfurt a.M./D

- 09:45 **Water Management 4.0**
W. Schiettecatte¹; P. Quinart²; ¹ Vito NV, Mol/B; ² Calculus, Zutendaal/B
- 10:10 **Status of digitization in steel production and extension to water management**
A. Ante¹; ¹ SMS group GmbH, Hilchenbach/D
- 10:35 Coffee break with exhibition & posters

DIGITALIZATION IN INDUSTRIAL WATER MANAGEMENT

Chair: T. Track; DECHEMA e.V, Frankfurt a.M./D

- 11:05 **Resource Efficient Quality Optimisation**
S. Filipsson¹; ¹ IVL Swedish Environmental Research Institute, Stockholm/S
- 11:30 **Optimization of RO Systems through Digitalization, Connectivity and SMART Algorithms**
V. Yangali-Quintanilla¹; M. Witte²; C. Persner²; ¹ Grundfos Holding A/S, Bjerringbro/DK; ² Grundfos Water Treatment GmbH, Pfingztal/D
- 11:55 **The Value of Industry Water: Integrated multiple waters, Digitally Connected and Smartly Managed**
H. Pool¹; D. Krol²; A. Rubini²; ¹ CEFIC, Brussels/B; ² WssTP, Brussels/B
- 12:20 Lunch break with exhibition & posters

PROGRAMME

Wednesday, 28 November 2018

Room: Max-Buchner-Hörsaal

WASTEWATER TREATMENT TECHNOLOGIES

Chair: A. Ante; SMS group GmbH, Hilchenbach/D

- 13:50 **Direct- and indirect-discharge of waste-water from milk-industry**
T. Hackner¹; ¹ HUBER SE, Berching/D
- 14:15 **BOOMERANG® Wastewater Recycling: Examples from Food Industry**
M. Dr. Brockmann¹; ¹ WATERLEAU Deutschland GmbH, Bremen/D
- 14:40 **Sulfide precipitation for the treatment of acidic washing waters**
J. Schumacher¹; V. Schulte¹; ¹ Eisenmann Anlagenbau GmbH & Co.KG, Böblingen/D
- 15:05 **Water Treatment Agent ('WTA') – a new, plant-enhanced material for more effective treatment of industrial wastewater**
M. Hajek¹; R. Shimada²; H. Buno²; ¹ Dexerials Europe BV, Lijnden/NL; ² Dexerials Corporation, Tokyo/J
- 15:30 Coffee break with exhibition & posters

WASTEWATER TREATMENT TECHNOLOGIES

Chair: Henri Spanjers; Technical University Delft/NL

- 16:00 **Hybrid oxidation for advanced treatment of water in oil production**
S. Baig¹; ¹ SUEZ, Rueil-Malmaison/F
- 16:25 **Case Study: cost-effective industrial wastewater reuse by means of akvoFloat™ – a flotation-filtration technology based on novel ceramic membranes**
J. Schulz¹; ¹ akvola Technologies GmbH, Berlin/D
- 16:50 **Demonstration of a decision support system for a novel integrated solution aimed at water reuse in the Oil&Gas industry.**
C. Sanroma¹; J. Malfeito¹; A. Jiménez¹; C. Koch¹; C. Bayona¹; ¹ Acciona Agua, Barcelona/E

Room: Max-Buchner-Hörsaal

- 17:15 **Poster Awards**
- 17:30 **End of Conference Day**
- 19:30 **Conference Dinner in the city of Frankfurt** (19:30 – 23:00)

PROGRAMME

Wednesday, 28 November 2018

Room: Carl-Duisberg-Hörsaal

INTEGRATED INDUSTRIAL WATER MANAGEMENT

Chair: C. Blöcher; Covestro Deutschland AG, Leverkusen/D

13:50 **Future-oriented Technologies and Concepts to Increase Water Availability by Water Reuse and Desalination – WavE**

C. Jungfer¹; T. Track¹; D. Becker¹; ¹ DECHEMA e.V., Frankfurt am Main/D

14:15 **Water-Reuse concepts for industrial parks (in South-East-Asia)**

H. Linke¹; M. Wagner²; S. Bauer¹; A. Dell¹; J. Behnisch²; ¹ TU Darmstadt Department of Landmanagement, Darmstadt/D; ² TU Darmstadt Department of Wastewater Technology, Darmstadt/D

14:40 **Application-Oriented Software Tool for Optimization of Resource Efficiency in Apple Juice Production**

S. Breitenkamp¹; K. Rosenwinkel²; ¹ Ingenieurbüro Dr. Breitenkamp, Bünde/D; ² Leibniz Universität Hannover, Institut für Siedlungswasserwirtschaft und Abfalltechnik, Hannover/D

15:05 **Industry water production & circular business modeling**

D. Xevgenos¹; B. Baldassare²; N. Bocken³; G. Calabretta²; ¹ Sealeau B.V., Delft/NL; ² TU Delft, Delft/NL; ³ Lund University, Lund/S

15:30 Coffee break with exhibition & posters

INTEGRATED INDUSTRIAL WATER MANAGEMENT

Chair: C. Blöcher; Covestro Deutschland AG, Leverkusen/D

16:00 **Optimizing operational expenditure by increasing water sustainability**

C. Schöpfer¹; ¹ Arcadis Germany GmbH, Darmstadt/D

16:25 **Wastewater and incident management on the Chemiepark Marl**

J. Gisselmann¹; ¹ Evonik Technology & Infrastructure GmbH, marl/D

16:50 **Development of an Industrial Water Risk Management Framework through Practical Based Action Research**

S. Merritt¹; K. Stockil¹; J. Harrington²; ¹ Central Solutions Ltd., Limerick/IRL; ² Cork Institute of Technology, Cork/IRL

Room: Max-Buchner-Hörsaal

17:15 **Poster Awards**

17:30 **End of Conference Day**

19:30 **Conference Dinner in the city of Frankfurt** (19:30 – 23:00)

PROGRAMME

Thursday, 29 November 2018

Room: Max-Buchner-Hörsaal

PLENARY TALK

Chair: M. Kozariszczuk; VDEh-Betriebsforschungsinstitut GmbH, Düsseldorf/D

- 09:00 **Water management perspectives in steel industry**
K. Peters¹; ¹ European Steel Technology Platform, Brussels/B

Room: Max-Buchner-Hörsaal

WASTEWATER TREATMENT TECHNOLOGIES

Chair: M. Stöckl; DECHEMA Research Institute, Frankfurt a.M./D

- 09:45 **Challenges of modular plant design in industrial wastewater treatment – increasing flexibility, reduction of project complexity**
G. Sagawe¹; ¹ EnviroChemie GmbH, Rossdorf/D
- 10:10 **Controllable Bioreactors with Aerobic Sludge Stabilization for Industrial Applications**
N. Müller-Blanke¹; A. Blanke¹; ¹ TIA Technologien zur Industrie-Abwasser-Behandlung GmbH, Breitenfelde/D
- 10:35 Coffee break with exhibition & posters

WASTEWATER TREATMENT TECHNOLOGIES

Chair: M. Stöckl; DECHEMA Research Institute, Frankfurt a.M./D

- 11:05 **Reduced nitrous oxide emissions during high nitrogen loading in wastewater treatment**
C. Lindenblatt¹; J. Drewes¹; ¹ Technische Universität München, Garching/D
- 11:30 **Process engineering optimization of wastewater treatment plants for the paper and pulp industry**
P. Huber¹; ¹ INVENT Umwelt- und Verfahrenstechnik AG, Erlangen/D
- 11:55 **Integration of reverse osmosis and electrochemical advanced oxidation process for petrochemical wastewater treatment**
S. da Silva¹; C. Venzke²; J. Welter¹; D. Schneider¹; M. Siqueira Rodrigues²; A. Bernardes¹; ¹ UFRGS (Universidade Federal do Rio Grande do Sul), Porto Alegre/BR; ² FEEVALE, Novo Hamburgo/BR
- 12:20 Lunch break with exhibition & posters

PROGRAMME

Thursday, 29 November 2018

Room: Max-Buchner-Hörsaal

PLENARY TALK

Chair: M. Kozariszczuk; VDEh-Betriebsforschungsinstitut GmbH, Düsseldorf/D

09:00 **Water management perspectives in steel industry**
K. Peters¹; ¹ European Steel Technology Platform, Brussels/B

Room: Carl-Duisberg-Hörsaal

RECOVERY OF VALUABLES

Chair: M. Kozariszczuk; VDEh-Betriebsforschungsinstitut GmbH, Düsseldorf/D

09:45 **Recycling of water and valuables in steel production**
P. Brücher¹; J. Wentzel²; J. Kiessling-Romanus¹; L. Piezanowski³; M. Sjoestrom⁴; A. Ante¹;
¹ SMS group GmbH, Hilchenbach/D; ² SMS group GmbH, Düsseldorf/D; ³ Paul Wurth S. A.,
Luxembourg/L; ⁴ Fontaine Engineering und Maschinen GmbH, Langenfeld/D

10:10 **Cyanide recovery from thiocyanate in mining effluent by ozonation**
L. De Franceschi¹; ¹ SUEZ, Dübendorf/CH

10:35 Coffee break with exhibition & posters

TOWARDS WATER LOOP CLOSURE

Chair: M. Kozariszczuk; VDEh-Betriebsforschungsinstitut GmbH, Düsseldorf/D

11:05 **The concept of zero liquid discharge and the performance of existing plants**
H. Schoenberger¹; ¹ University of Stuttgart, Stuttgart/D

11:30 **Sodium chloride recovery from brine for reuse purposes in zero liquid discharge**
N. van Linden¹; R. Shang¹; H. Spanjers¹; ¹ Delft University of Technology, Delft/NL

11:55 **Brine releases and salt consumption from process industries: the case of the Netherlands**
E. Skourtanioti¹; D. Bakogianni²; M. Mortou³; M. Loizidou²; D. Xevgenos⁴; ¹ National
Technical University of Athens, Greece, Athens/GR; ² National Technical University of
Athens, Athens/GR; ³ SEALEAU B.V., Delft/NL; ⁴ SEALEAU B.V., Delft, the Netherlands/NL

12:20 Lunch break with exhibition & posters

PROGRAMME

Thursday, 29 November 2018

Room: Max-Buchner-Hörsaal

WASTEWATER TREATMENT TECHNOLOGIES

Chair: Y. Zhang; Nanjing Tech University/CN

- 13:50 **Microbial fuel cell integration in paper mill wastewater treatment – Experiences with a two-stage pilot plant**
 H. Klasen¹; D. Bastian¹; J. Pinnekamp¹; ¹ RWTH Aachen University - Institut für Siedlungswasserwirtschaft, Aachen/D
- 14:15 **Electrosorption for Recovery of Wastewater: Challenges and Limits**
 A. Steinkamp¹; C. Abt¹; K. Mangold¹; S. Hild¹; ¹ DECHEMA-Forschungsinstitut, Frankfurt am Main/D

Room: Max-Buchner-Hörsaal

PLENARY TALK

Chair: T. Track; DECHEMA e.V., Frankfurt a.M./D

- 14:40 **Towards efficient concentrate treatment in industrial water reuse and water loop closure**
 S.-U. Geißen¹; ¹ Technical University Berlin/D
- 15:25 **Closing**

Friday, 30 November 2018

- 08:30 **ADDITIONAL WORKSHOP**
Increasing water and energy efficiency in process industry – tools, technologies and concepts
 (08:30 – 13:00)

More information available at the Conference Registration Desk

PROGRAMME

Thursday, 29 November 2018

Room: Carl-Duisberg-Hörsaal

TOWARDS WATER LOOP CLOSURE

Chair: H. Pool; Cefic - European Chemical Industry Council, Brussels/B

- 13:50 **Wastewater reclamation in the chemical industry by membrane technologies**
 M. Pastur Romay¹; L. Barberà²; R. Wünsch³; J. Kochan⁴; C. Kazner³; C. Niewersch²; C. Pătruț⁵;
 L. van Dijk⁵; F. Zorn⁴; J. Palacín¹; J. Koppe⁶; ¹ Clariant Ibérica Producción, Tarragona/E;
² Dow Water & Process Solution, Tarragona/E; ³ University of Applied Sciences and Arts
 Northwestern Switzerland FHNW, School of Life Sciences, Basel/CH; ⁴ Clariant Produkte
 (Deutschland) GmbH, Frankfurt/D; ⁵ Blue-Tec, Renkum/NL; ⁶ MOL Katalysatortechnik GmbH,
 Schkopau/D

- 14:15 **Design and Operation of ZLD Installations for F&B and Metal Processing**
 E. Döpken¹; ¹ REMONDIS Aqua Industrie GmbH Co KG, Hannover/D

Room: Max-Buchner-Hörsaal

PLENARY TALK

Chair: T. Track; DECHEMA e.V., Frankfurt a.M./D

- 14:40 **Towards efficient concentrate treatment in industrial water reuse and water loop closure**
 S.-U. Geißen¹; ¹ Technical University Berlin/D

- 15:25 **Closing**

POSTER PROGRAMME

- P01 **Water reuse in industry – opportunities, limitations and potential markets**
D. Becker¹; ¹ DECHEMA e.V., Frankfurt am Main/D
- P03 **Applications of system dynamics modelling for efficient operations of A water supply system with multiple water sources**
S. Park¹; J. Ha¹; ¹ Pusan National University, Busan/ROK
- P04 **Robustness of water systems in industrial applications**
M. Slagt¹; J. Henkel²; ¹ Dow Water & Process Solution, Terneuzen/NL; ² Dow Water & Process Solution, Rheinmuenster/D
- P05 **Treatment of different Process Waters using Membrane Capacitive Deionization**
A. Weigert¹; T. Runge²; A. Lerch¹; ¹ Technische Universität Dresden, Dresden/D; ² Wolfsburger Entwässerungsbetriebe, Wolfsburg/D
- P06 **Water Structures & Membrane Systems - Performance Boost with Catalytic Water Treatment**
J. Koppe¹; G. Battagello¹; ¹ MOL Katalysatortechnik GmbH, Schkopau/D
- P07 **Water efficiency of hydromechanical descaling for surface treatment of stainless steel wire**
B. Wendler¹; M. Kozariszczuk¹; M. Degirmencioglu²; F. Kolinke²; M. Pohanka³; ¹ VDEh-Betriebsforschungsinstitut GmbH, Düsseldorf/D; ² Deutsche Edelstahlwerke Specialty Steel, Hagen/D; ³ Brno University of Technology, Brno/CZ
- P08 **Process-integrated innovations in steel production for water saving**
A. Ante¹; I. Wiebelitz¹; J. Marburger¹; R. Seidel¹; ¹ SMS group GmbH, Hilchenbach/D
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DECHEMA e.V.
Theodor-Heuss-Allee 25
60486 Frankfurt am Main
Germany

Christopher Diaz Maceo
Phone: +49 (0)69 7564-243
Fax: +49 (0)69 7564-176
Email: christopher.diaz@dechema.de