

# FILTECH 2011

March 22 – 24, 2011 · Wiesbaden · Germany

## Conference Programme



**International Conference & Exhibition for  
Filtration and Separation Technology**

## **The Filtration Event**

[www.Filtech.de](http://www.Filtech.de)



**The Filtration Event**

**FILTECH** is the most important special interest event in Europe devoted entirely to filtration and separation technology. The event is a must for all those concerned with designing, improving, purchasing, selling or researching filtration and separation equipment and services.

**International Conference**

The Conference will feature 180 technical papers from 31 countries and will give an unique survey about the latest research in the field of "Solid-Liquid-Separation" by filtration and sedimentation as well as "Air and Gas Cleaning" by filtration, settling, electrostatic precipitation, scrubbing and "Membrane Separation Technology".



**Travel & Accomodation**

FILTECH 2011 will be again held in Wiesbaden, Germany. Hessen's State Capital is situated right in the Center of Europe. Wiesbaden is easy to reach by whatever means, be it by road, by rail or by plane. The City's proximity to **Frankfurt International Airport** guarantees easy access especially for international visitors: the largest airport in continental Europe is 30 minutes away by car or by train.

**Wiesbaden Public Transport Ticket**

FILTECH 2011 Congress delegates can receive a "Public Transport Ticket" together with their registration confirmation. This ticket entitles to **free rail travel** between Frankfurt International Airport (FRA) Railway Station and Wiesbaden Central Station and return plus unlimited free travel on the Wiesbaden public transport bus and regional train services from March 21-25, 2011.

**Hotel Reservation**

The Wiesbaden Tourist Service will handle your hotel booking quickly and efficiently. The choice of accomodations ranges from the family type guest house to the luxury hotel. You can easily book by returning the hotel reservation form for FILTECH participants.

If you have any queries concerning hotels/accommodation or any other kind of tourist information please contact:

Wiesbaden Congress & Tourist Service - Hotel Reservation  
 PO Box 38 40 – 65028 Wiesbaden – Germany  
 Contact: Charlotte Riefke  
 Phone: +49 (0)6129 1729-777  
 Fax: +49 (0)6129 1729-799  
 E-mail: hotel@wiesbaden-marketing.de

**Travel discounts**

The Star Alliance™ Members Airlines is the Official Airline Network for FILTECH 2011.

**FILTECH 2011 Participants can save up to 20% on travel with the Star Alliance™ Network!**



To obtain the Star Alliance™ Conventions Plus discounts, please call the reservation office of a participating Star Alliance Member Airline and quote the following convention code:

**CONVENTION CODE LH02S11**

Registered participants plus one accompanying person travelling to the event are automatically granted a discount of up to 20%, depending on fare and class of travel booked. Discounts are offered on published business and economy class fares, excluding website/internet fares, senior and youth fares, group fares and Round the World fares.

Booking office information can be found at: [www.staralliance.com/conventionsplus](http://www.staralliance.com/conventionsplus) ⇨ Delegates ⇨ Login with: LH02S11

Detailed information is available at [www.filtech.de](http://www.filtech.de) ⇨ Visitor Info.



**With the offer of FILTECH Exhibitions Germany and Deutsche Bahn you can save money by visiting FILTECH 2011!**

Get on board and profit from attractive prices and conditions for train travel. With your FILTECH Event Ticket the price for a return trip to Wiesbaden is: 2nd class Euro 99  
 1st class Euro 159

Your ticket is valid from 20th to 26th of March 2011. If travelling by train from outside Germany, you can also take advantage of this reduced fare by booking this special ticket which is valid throughout Germany. Detailed information is available at [www.filtech.de](http://www.filtech.de) ⇨ visitor info.



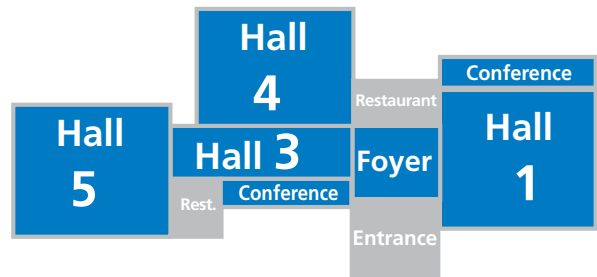


**Exhibition**

At the **INTERNATIONAL EXHIBITION** innovative companies and market leaders from the world-wide filtration and separation industry, manufacturers of particle measurement & analysis systems as well as associated industries will feature the latest innovations and most modern technology available.

**Over 200 Exhibitors will feature their products and services on 7,400 sqm exhibition space.**

The exhibition is open to registered trade visitors and conference delegates. At **FILTECH 2011** delegates and professional visitors from all over the world will be able to discuss and solve their filtration tasks with leading experts face to face in a business like manner .



**Opening Hours Exhibition**

Tuesday, March 22, 2011	9:00 am - 6:00 pm
Wednesday, March 23, 2011	9:00 am - 6:00 pm
Thursday, March 24, 2011	9:00 am - 6:00 pm



**Discover New Markets at FILTECH!**

**Exhibitor information** is available at the **FILTECH** homepage or contact **info@filtech.de** to apply for space. Attractive shell scheme packages are available.

**Visitor Registration**

	pre-registered	onsite
1-Day Visitor Ticket	EUR 15.00	EUR 20.00
2-Day Visitor Ticket	EUR 20.00	EUR 25.00
3-Day Visitor Ticket	EUR 25.00	EUR 30.00
FILTECH Catalogue	EUR 15.00	EUR 20.00
All Prices incl. German VAT		

**Visitor Pre-Registration**

Visitor pre-registration allows fast-track entrance to the exhibition. Visitor pre-registration opens in November 2010. Register online at [www.Filtech.de](http://www.Filtech.de)



**Venue**

The Rhein-Main-Halls are conveniently situated in the City Centre just 10 walking minutes from the Central Station.



Rhein-Main-Hallen  
Rheinstr. 20  
65185 Wiesbaden  
[www.rhein-main-hallen.de](http://www.rhein-main-hallen.de)

Conference delegates and Short Course participants do not have to pre-register. They have free access to the Exhibition with their conference badge.



**Scientific Committee**

The Scientific Committee is represented by leading experts throughout the world, covering all major aspects of filtration and separation applications.

- Dr. Harald Anlauf Karlsruhe Germany
- Dr. Harald Banzhaf Fayetteville USA
- Dr. Roger de Bruyne Zulte Belgium
- Prof. José R. Coury Sao Carlos Brazil
- Dr. Krishna Gupta Ithaca USA
- Prof. Wilhelm Höflinger Vienna Austria
- Prof. Kuo-Jen Hwang Taipei Taiwan
- Prof. Eiji Iritani Nagoya Japan
- Prof. Chikao Kanaoka Tsubata Japan
- Prof. Gerhard Kasper Karlsruhe Germany
- Dr. Karsten Keller St. Louis USA
- Ir. Hermanes Kleizen Delft Netherlands
- Prof. Gernot Krammer Graz Austria
- Dr. Martin Lehmann Ludwigsburg Germany
- Dr. Markus Lehner Steinwiesen Germany
- Prof. Dietmar Lerche Berlin Germany
- Prof. Wallace Leung Hong Kong P.R. China
- Dr. Hisao Makino Yokosuka Japan
- Prof. Gerd Mauschitz Vienna Austria
- Prof. Marja Oja Hut Finland
- Dr. Thomas Peters Neuss Germany
- Dr. Christophe Peuchot Foulayronnes France
- Prof. Urs Peuker Freiberg Germany
- Dr. Jaroslav Pridal Hradec Kralove Czech Republic
- Prof. Siegfried Ripperger Kaiserslautern Germany
- Prof. Peter Scales Parkville Australia
- Prof. Hans-Joachim Schmid Paderborn Germany
- Prof. Eberhard Schmidt Wuppertal Germany
- Dr. Stephen Tarleton Loughborough Great Britain
- Prof. Hans Theliander Gothenburg Sweden
- Prof. Kuo-Lun Allen Tung Taipei Taiwan
- Prof. Eugène Vorobiev Compiègne France
- Prof. Richard Wakeman Exeter Great Britain
- Dr. Matthias Waldenmaier Kaiserslautern Germany
- Mr. Yan-Xi Wang Shanghai P.R. China
- Prof. Takeshi Yoneda Kuwana Japan

The flyer lists countries and regions.

**Survey Lectures**

FILTECH 2011 Conference will feature a plenary lecture and 6 survey lectures which provided, a survey of current research findings and state-of-the-art developments. The survey lectures are part of the FILTECH 2011 Congress and accessible for all Congress delegates. The plenary lecture is open to all participants (delegates, exhibitors & visitors).

**Plenary Lecture 10:30 - 11:30 22.03.2011**

**Plenary Lecture  
New Developments in the Field of Filtering Dust Separation Techniques**

Prof. Dr. Wilhelm Höflinger, Vienna Technical University - Institute of Chemical Engineering – Austria

**Survey Lecture 1 13:15 - 14:30 22.03.2011**

**International Standardization in the Field of Filtration and Separation**

Prof. Dr. Chikao Kanaoka, Ishikawa National College of Technology – Japan  
Dr. Hisao Makino, Central Research Institute of Electric Power Industry – Japan  
Takeshi Yoneda, Yoneda Professional Engineer Office – Japan

**Survey Lecture 2 15:00 - 16:15 22.03.2011**

**Membrane Processes for the Treatment of Water and Wastewater**

Dr.-Ing. Thomas Peters  
Consulting for Membrane Technology – Germany

**Survey Lecture 3 16:45 - 18:00 22.03.2011**

**Particle (Size) Characterization**

Prof. Dr. Bernd Sachweh  
BASF SE, GCP/TP – Germany

**Survey Lecture 4 13:15 - 14:30 23.03.2011**

**Nonwovens in Filtration**

Dr.-Ing. Jörg Sievert  
Freudenberg Filtration Technologies KG – Germany

**Survey Lecture 5 15:00 - 16:15 23.03.2011**

**Equipment Selection and Process Design for Solid/Liquid Separation Processes**

Dr. Steve Tarleton  
Loughborough University – Department of Chemical Engineering – UK

**Survey Lecture 6 16:45 - 18:00 23.03.2011**

**Simulation in the Field of Gas Filtration and Separation**

Prof. Paolo Tronville  
Politecnico di Torino - Dipartimento di Energetica – Italy

**Conference Prices**

- 3-Day-Congress Ticket
- 1-Day-Congress Ticket

**Early Bird  
until 10.12.2010**  
€ 590,-  
€ 290,-

**Normal Price  
from 11.12.2010**  
€ 740,-  
€ 360,-

**The Congress registration includes**

- Conference Proceedings (books & CD) featuring all papers
- Lunch voucher/s
- Refreshments during breaks
- Entrance to the FILTECH 2011 Exhibition (March 22 – 24, 2011)

- FILTECH 2011 Exhibition Catalogue
- Welcome Reception on March 22, 2011
- Wiesbaden Public Transport Ticket, March 21–25, 2011

Fees include 19% German VAT. Speakers will be registered at the early bird rate.



**Short Course I**  
**Solid/Liquid Separation**  
**Monday March 21, 2011**

The course is of interest to engineers, scientists, managers and other technical personnel involved in solid-liquid separation in the process and other industries. They will find the course informative, regardless of whether they design, purchase, research or use filtration and separation equipment. Plant engineers, technicians and operators should find the course materials directly applicable, and graduate research students will value the expert introduction to the technologies. It is a comprehensive review of the processes involved in the separation of solids from liquids, which will emphasise practical aspects and present appropriate theoretical information as necessary.

**Scope:**

- Woven and Composite Filter Media
- Nonwoven Filter Media and Membranes
- Clarification Filtration
- Sedimenters
- Cake Filters
- Centrifugal Separations
- Pressure and Vacuum Filtration Selection, Analysis and Simulation of SLS Equipment
- Computer Software



**Presenters**

Professor Richard Wakeman is a consultant chemical engineer with many years experience of working with industry internationally. He also holds professorships at Loughborough (UK), Pardubice (Czech Republic) and Chun Yuan (Taiwan) Universities and is a Visiting Fellow at Mumbai University (India). He is the Honorary Secretary of The Filtration Society and a Fellow of the Institution of Chemical Engineers and the Royal Academy of Engineering.

Dr. Steve Tarleton is a mechanical engineer and a Senior Lecturer at Loughborough University, and has been Secretary of the EFCE Working Party on Filtration and Separation.

**Short Course II**  
**Fine Dust Separation**  
**Monday March 21, 2011**

The course is of interest to engineers, technicians, scientists, managers, and other personnel involved in gas-solid separation in the process and other industries. They will find the course informative, regardless of whether they design, purchase, research, or use dust separation equipment for product recovery, emission control, or process gas cleaning. It is a comprehensive review of the processes involved in the separation of solid or liquid particles from gases, which will emphasise practical aspects and present appropriate theoretical information as necessary.

**Scope:**

- Evaluation of Dust Collection Equipment
- Centrifugal Collectors / Cyclones
- Fibrous Filters / Deep Bed Filters
- Fabric Filters / Surface Filters
- Wet Scrubbers
- Electrical Precipitators
- Raw Gas Conditioning
- Selection of Dust Collection Equipment



**Presenter**

Prof. Dr.-Ing. habil. Eberhard Schmidt is Professor of Safety Engineering / Environmental Protection at Wuppertal University. He earned his academic degrees 1991 and 1998 at Karlsruhe University. From 1993 to 1994 he was affiliated with the Joint Research Centre in Ispra/Italy. In the years 1998 and 1999 he was with Degussa company in the department of process engineering / particle technology.

He is Co-Chairman of the FILTECH Conference and was Scientific Secretary of 10th World Filtration Congress; he has published more than 100 technical papers, books, patents etc. and has consulted and lectured throughout the world.

Short Course Prices	21.03.2011	Early Bird until 10.12.2010	Normal Price from 11.12.2010
Short Course I – Solid/Liquid Separation		€ 450,-	€ 540,-
Short Course II – Fine Dust Separation		€ 450,-	€ 540,-
<b>The Short Course registration includes</b>			
<ul style="list-style-type: none"> <li>■ Extensive Short Course Notes</li> <li>■ Lunch</li> <li>■ Refreshments during breaks</li> <li>■ Entrance to the FILTECH 2011 Exhibition (March 22 – 24, 2011)</li> </ul>			
<ul style="list-style-type: none"> <li>■ FILTECH 2011 Exhibition Catalogue</li> <li>■ Welcome Reception on March 22, 2011</li> <li>■ Wiesbaden Public Transport Ticket, March 21–25, 2011</li> </ul>			
Fees include 19% German VAT.			



Tuesday, 22.03.2011				
08:30 – 09:45	Registration			
09:45 – 11:30	Opening Session / Plenary Talk			
11:30 – 12:15	Walk Around – Fair			
12:15 – 13:15	Lunch – Fair			
13:15 – 14:30	Survey Lecture 1	L1 Filter Media – New Developments I	L2 Centrifugal Sedimentation Technology I	G1 Measurement Techniques
14:30 – 15:00	Coffee Break – Fair			
15:00 – 16:15	Survey Lecture 2	L3 Filter Media – New Developments II	L4 Centrifugal Sedimentation Technology II	G2 Filter Test Systems I
16:15 – 16:45	Coffee Break – Fair			
16:45 – 18:00	Survey Lecture 3	L5 Filter Media – Modelling, Simulation, Design	L6 Mechanical Liquid-Liquid Separation	G3 Filter Test Systems II

Wednesday, 23.03.2011				
08:30 – 09:45	L7 Filter Media – Characterization and Porometry	L8 Poster Session I	M1 Poster Session I	G4 Poster Session I
09:45 – 11:00	Poster Viewing			
11:00 – 12:15	L9 Wet Particle Classification	L10 Cake Filtration – Cake Formation	M2 Cross Flow Techniques	G5 Particle Deposition
12:15 – 13:15	Lunch – Fair			
13:15 – 14:30	Survey Lecture 4	L11 Cake Filtration – Washing and Extraction	M3 Membrane Bio Reactor	G6 Modelling and Simulation
14:30 – 15:00	Coffee Break – Fair			
15:00 – 16:15	Survey Lecture 5	L12 Cake Filtration – Deliquoring	M4 Waste Water Treatment	G7 Surface Filtration
16:15 – 16:45	Coffee Break – Fair			
16:45 – 18:00	Survey Lecture 6	L13 Cake Filtration Technology	L14 Electrostatic and Electrokinetic Effects in Separation Processes	G8 Mist and Droplet Separation

Thursday, 24.03.2011				
08:30 – 09:45	L15 Depth Filtration – Modelling and Simulation I	L16 Poster Session II	M5 New Membranes	G9 Poster Session II
09:45 – 11:00	Poster Viewing			
11:00 – 12:15	L17 Depth Filtration – Modelling and Simulation II	L18 Non- & Regenerable Filters for Cleaning of Low Concentrated Liquids I	M6 Special Applications	G10 HEPA/ULPA Filters
12:15 – 13:15	Lunch – Fair			
13:15 – 14:30	L19 Depth Filtration – Modelling and Simulation III	L20 Non- & Regenerable Filters for Cleaning of Low Concentrated Liquids II	G11 Cabin Air Filters	G12 Filter Media Characterization
14:30 – 15:00	Coffee Break – Fair			
15:00 – 16:15	L21 Separation Enhancement by Coagulation	L22 Removal of Particles and Scales from Surfaces	G13 Industrial Air/Gas Cleaning I	G14 Special Filter Media I
16:15 – 16:45	Coffee Break – Fair			
16:45 – 18:00	L23 Separation Enhancement by Flocculation	L24 Removal of Pollutants by Biological and Encymatic Treatment	G15 Industrial Air/Gas Cleaning II	G16 Special Filter Media II

Programme is subject to ammendments.



## Tuesday, March 22, 2011

Plenary Talk 10:30 - 11:30

### New developments in the field of filtering dust separation techniques

Prof. Dr. Wilhelm Höflinger, Vienna Technical University - Institute of Chemical Engineering, Austria

Survey Lecture 13:15 - 14:30 S1

### International standardization in the field of filtration and separation

Prof. Dr. Chikao Kanaoka, Ishikawa National College of Technology, Japan  
Dr. Hisao Makino, Central Research Institute of Electric Power Industry, Japan  
Takeshi Yoneda, Yoneda Professional Engineer Office, Japan

Filter Media - New Developments I 13:15 - 14:30 L1

Filter belts for vacuum belt filters – trends and new developments, C. Maurer\*, SEFAR AG, Switzerland

Innovative low pressure plasma coatings for gas and liquid filter media, F. Legein\*, Europlasma N.V., Belgium

Clean and easy union of filter materials by using ultrasonic, F. Weber, M. Pasternak\*, Herrmann Ultraschall-technik GmbH & Co. KG, Germany

Centrifugal Sedimentation Technology I 13:15 - 14:30 L2

Using numerical flow and particle simulation to predict the separation performance of a centrifuge, X. Romani Fernández\*, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany

Effect of critical process parameters on the operation of a decanter centrifuge, T. Kinnarinen\*, E. Meshcheryakov, M. Louhi-Kultanen, A. Häkkinen, Lappeenranta University of Technology, Finland

Selective separation of magnetic particles by magnetic field enhanced centrifugation, J. Lindner\*, K. Wagner, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany



Measurement Techniques 13:15 - 14:30 G1

Large drop re-entrainment from an oil-mist filter, D. Kampa\*, J. Meyer, G. Kasper, Karlsruhe Institute of Technology (KIT), Germany; B. Mullins, Curtin University of Technology, Australia

Monitoring and control of particulate matter emitted by biomass burning using scrubber venturi, M.A. Martins Costa\*, F.A. Filho, S.P. Morais, B.A. Lima, R.A.D. Ribero, University Estadual Paulista - UNESP; N.A. G. Puentes, University São Carlos - UFSCAR, Brazil

New portable wide range aerosol spectrometer for the mobile inspection of large industrial filtration systems, H. Grimm\*, Grimm Aerosol Technik GmbH & Co KG, Germany

Survey Lecture 15:00 - 16:15 S2

### Membrane processes for the treatment of water and wastewater,

Dr. Thomas Peters, Consulting for Membrane Technology, Germany



Filter Media – New Developments II 15:00 - 16:15 L3

Monolithic melt blown process and applications, R.A. Steele\*, Oerlikon Neumag, Germany

Development of innovative fiber materials for technical applications – fine polyvinylidene-fluoride filaments and fabrics, S. Walter\*, W. Steinmann, G. Seide, T. Gries, G. Roth, RWTH Aachen University, Germany

New lube & fuel media technology increases element lifetime, D. Guimond\*, T. Lawson, G. Jeide, P. Wijns, Hollingsworth & Vose, Germany

Centrifugal Sedimentation Technology II 15:00 - 16:15 L4

Innovative technology for produced water treatment, M.H. Lean\*, J. Seo, A. Kole, A.R. Völkel, N. Chang, B. Hsieh, K. Melde, PARC Palo Alto Research Center, Inc., USA

Spiral plate technology with soft discharge system, H.A. Boele\*, Evodos B.V., Netherlands

Investigation of particle flow in a hydrocyclone by positron emission particle tracking, Y.F. Chang\*, A.C. Hoffmann, C.G. Ilea, Ø.L. Aasen, University of Bergen, Norway

Filter Test Systems I 15:00 - 16:15 G2

Data analysis of agglomerate filtration measurements for polydisperse diesel challenging aerosol, J. Wang\*, ETH Zurich University, Switzerland; D.Y.H. Pui, University of Minnesota, USA; S. Haep, H. Fissan, Institute for Energy and Environmental Technology (IUTA), Germany

Influence of the dust on the filter efficiency and emissions of cleanable filter media, M. Schmidt\*, Palas® GmbH, Germany

Experimental and numerical analysis of dust removal performance by ceramic filter, H. Li\*, Z. Tie, P.H. Guo, Henan Polytechnic University, P.R. China

16:45 - 18:00 Survey Lecture S3

Particle (size) characterization Prof. Dr. Bernd Sachweh, BASF SE, Germany

Filter Media - Modelling, Simulation, Design 16:45 - 18:00 L5

CFD simulations for better filter element design, O. Iliev\*, Z. Lakdawala, R. Kirsch, K. Steiner, E. Toroshchin Fraunhofer Institute for Industrial Mathematics ITWM; M. Dederig\*, IBS Filtran, Germany; V. Starikovicius, Vilnius Gediminas Technical University, Lithuania

Applications of simulation processes in filter media, P. Jungbecker, T. Kletzing, H. Krieger, G. Seide\*, T. Gries, RWTH Aachen University, Germany

Structure and pressure drop of real and virtual metal wire meshes, E. Glatt, S. Rief, A. Wiegmann, Fraunhofer Institute for Industrial Mathematics ITWM; M. Knefel\*, E. Wegenke, GKD-Gebr. Kufferath AG, Germany

Mechanical Liquid-Liquid Separation 16:45 - 18:00 L6

Analysis of impact parameters on the water/diesel separation process with filter elements, S. Schütz\*, D. Winkler, K. Kissling, University of Stuttgart; P. Trautmann, J. Reyinger, M. Veit, U. Staudacher, MANN+HUMMEL GmbH, Germany

Nano-structured nonwoven filter media for oil-in-water emulsion separation, S. Bansal\*, V. von Arnim, T. Stegmaier, H. Planck, Institute for Textile Technology and Process Engineering Denkendorf (ITV), Germany

Laboratory scale evaluation of inclined creaming, T. Sobisch\*, D. Lerche, LUM GmbH, Germany



Filter Test Systems II 16:45 - 18:00 G3

New device for In situ testing of filter media in pulse jet filter plants concept – Details and experimental results, F. Popovici, G. Gasparin\*, Evonik Fibres, Austria

Test procedure to determine fine dust emissions of dust reduced street sweepers, D. Renschen\*, J. Schamberg, E. Andrae, D. Glätzer, DMT GmbH & Co. KG; B. Schröer, AWISTA GmbH, Germany

New test rig for adsorption of toxic substances, H. Finger\*, W. Mölter-Siemens, S. Haep, Institute for Energy and Environmental Technology (IUTA); D. Bathen, University Duisburg-Essen, Germany

## Wednesday, March 23, 2011

Filter Media – Characterization and Porometry 08:30 - 09:45 L7

In situ cake formation and pore structure characterization of filtration media, A. Jena, K. Gupta\*, Porous Materials, Inc., USA

Measuring the Maximum Pore Size of Small Profile Filter Elements, G.R. Rideal\*, J. Storey, A. Stewart, Whitehouse Scientific Ltd, UK



**How to reduce filtration costs of complex hydraulic systems**, C. Peuchot\*, N. Petillon, IFTS Institute of Filtration and Techniques of Separation, France

Poster Session I  
08:30 - 09:45

L8

## CENTRIFUGAL SEDIMENTATION TECHNOLOGY

**Innovative platform technology for selective removal of suspended particles from raw waters**, M.H. Lean, J. Seo, A. Kole, A.R. Völkel\*, N. Chang, B. Hsieh, K. Melde, PARC Palo Alto Research Center, Inc., USA

## CAKE FILTRATION - DELIQUORING

**Dewatering behaviour of ultrafine particle packings**, S. Stein\*, W. Hintz, J. Tomas, Otto-von-Guericke-University Magdeburg - Germany

**Removal of coke fines from oil used mini-hydrocyclone**, H.-L. Wang\*, Q. Yang, Z.-M. Li, East China University of Science and Technology, P.R. China

**Temperature effects on filtration efficiency of Fischer-Tropsch wax-catalyst separation**, M.A. Khodagholi, M.R. Hemmati Mahmodi, RIPI Research Institute of Petroleum Industry, Iran

## CAKE FILTRATION TECHNOLOGY

**Hyperbaric disc filter for dewatering of copper flotation concentrate**, R. Raberger\*, G. Krammer, Andritz AG, Austria

**Counterpressure filtration of suspensions at high temperature and high pressure processes**, R. Bott\*, T. Langeloh, M. Schießl, BOKELA GmbH, Germany

**Filtration of toxic and explosive solvent containing suspensions with modern vacuum drum filters**, R. Bott\*, T. Langeloh, E. Ehrfeld, BOKELA GmbH, Germany



Poster Session I  
08:30 - 09:45

M1

**Electrically driven back flushing during membrane ultrafiltration of whey**, J. Pridal\*, J. Pridal, A. Urban, Mikropur s.r.o.; Z. Bubnik, V. Pour, ICT Institute of Chemical Technology Prague, Czech Republic

**Resuspensions' characterisation of membrane filter cake particles in liquid media via particle counter during a regeneration process**, T. Quad\*, E. Schmidt, University of Wuppertal, Germany

**Membrane filtration of hyaluronic acid solution in constant pressure cell**, T.-W. Cheng\*, C.-J. Hsu, Y.-L. Chiu, Tamkang University, Taiwan

**Membrane autopsy in paper industry wastewater treatment: an efficient tool for optimising filtration and cleaning strategies**, E. Meabe\*, J. Lopetegui, R. Gutiérrez, Likuid Nanotek; J. Olo, J. Etxeberria, L. Sancho, CEIT, Spain

**Mass transfer of TransMembraneChemieSorption using microporous hollow fiber membrane contactors**, M. Ulbricht\*, J. Schneider, M. Stasiak, Membrana, Germany; J. Munoz, B. Kitteringham, Membrana, USA

**Drinking water, cryptosporidium, membrane filtration and the "long term 2 enhanced surface water treatment rule"**, U. Kolbe\*, I. Lomax, Dow Water & Process Solutions, Germany; D.J. Gisch, The Dow Chemical Company Midland, USA

**Effects of membrane pore size on the performance of cross-flow microfiltration of BSA/Dextran mixtures**, K.-J. Hwang\*, P.-Y. Sz, Tamkang University, Taiwan

**Hollow fibre microfiltration membranes for long term application in aquaculture – stabilization of performance and comparison with alternatives**, B. Gemende\*, A. Gerbeth, M. Schwind, University of Applied Sciences Zwickau; A. von Bresinsky, Fischwirtschaftsbetrieb; R.-P. Busse, Busse GmbH; U. Meyer-Blumenroth, S. Krause, R. Voigt, Microdyn-Nadir GmbH, Germany

**Extraction of polyphenols from grape seeds by high voltage electrical discharges and extract concentration by membrane process**, D. Liu, E. Vorobiev\*, J.-L. Lanoisellé, University of Compiègne; R. Savoie, ESCOM - Ecole Supérieure de Chimie Organique et Minérale, France

**Dynamic cross-flow filtration for isolation of extracellular products**, G. Grim\*, ANDRITZ Environment & Process, Germany

**High-recovery reverse osmosis desalination using wastewater twice from Tigris river water**, O.A. Mohamed\*, University of Baghdad, Iraq



Poster Session I  
08:30 - 09:45

G4

**Velocity influence on the filtration regeneration of filter media**, S.M.S. Rocha\*, J.J.R. Damasceno, L.G.M. Vieira, University of Uberlândia; M.L. Aguiar, University of São Carlos, Brazil

**Performance of cellulose filter in gas filtration at high pressure conditions**, E. Tanabe\*, J.R. Coury, University of Uberlândia; M.L. Aguiar, University of São Carlos, Brazil

**Simulation of the dust cake build-up on regenerated surface filters**, S.M.S. Rocha, University of Uberlândia; E.R. Nucci\*, M.L. Aguiar, University of São Carlos, Brazil

**Evaluation of the influence of operational conditions on gas filtration cake removal**, P.M. Barros\*, A.L.R. Cezar, M.L. Aguiar, University of São Carlos, Brazil

**A study of the compressibility of gas filtration talc cakes on fabric filters**, A.G. Fagnoli\*, M.L. Aguiar, University of São Carlos, Brazil

**Effects of post-coating by generating a thin secondary particle layer on surface filtration**, Q. Zhang\*, E. Schmidt, University of Wuppertal, Germany

**Application for multi-function composite filter material**, T. Zeng\*, Melong Environment Protection Filter

Material Technology (Yingkou) Co., Ltd., P.R. China

**Oil repellent nano-coatings for increased filtration performance**, S.R. Coulson\*, D.R. Evans., P2I Ltd., UK

**New functionalities for textile media with GEA Tex technology**, M. Sauer-Kunze\*, GEA Delbag Lufttechnik GmbH; T. Stoffel, GEA Air Treatment Services GmbH, Germany

**Application for multi-function composite filter material**, T. Zeng\*, Melong Environment Protection Filter Material Technology (Yingkou) Co., Ltd., P.R. China

**Filtration of gases using textile filters**, V.K. Midha\*, National Institute of Technology Jalandhar, India

**Measuring the inline available adsorption capacity of Zorflex® activated carbon cloth using electro conductive techniques**, A. Smith\*, Chemviron Carbon Cloth Division, UK

Wet Particle Classification  
11:00 - 12:15

L9

**Wet particle classification below 1µm – Challenge for basic research and technical development**, H. Anlauf\*, Karlsruhe Institute of Technology (KIT), Germany

**Screening of colloidal particles in centrifuges**, L.E. Spelzer\*, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany

**Disc stack nozzle disc centrifuge use in wet classification in the fine grain range**, T. Hartmann\*, GEA Westfalia Separator Process GmbH, Germany

Cake Filtration – Cake Formation  
11:00 - 12:15

L10

**Downscaling cake-filtration – An investigation of a separation process for crystallized proteins**, B. Cornehl\*, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany

**Local filtration properties for hard-to-filter compressible materials**, T. Mattsson\*, M. Sedin, H. Theliander, Chalmers University of Technology; M.E. Lindström, Wallenberg Wood Science Centre - Royal Institute of Technology, Sweden

**A new approach to filtration and separation, apart from Darcy's formula**, S. Kuri\*, Kuri Chemical Engineers Inc.; T. Machida, GPE Engineering Co.Ltd., Japan



Cross Flow Techniques  
11:00 - 12:15

M2

**Process development, optimization and cycle-time reduction in clarification and concentration bio-process steps applying design of experiment (DoE) strategy**, L. Mathe\*, K. Kuss, GE Healthcare Europe GmbH, Germany

**Effect of colloidal interaction on the reversibility and structure of the concentration polarization layers**



**probed by in-situ SAXS during crossflow separation process of Laponite clay dispersions**, M. Abyan\*, F. Pignon, A. Magnin, University Joseph Fourier Grenoble; M. Sztucki, European Synchrotron Radiation Facility, France

**Influence of experimental parameters on (electro) filtration of positively charged particles**, M. Hakimhashemi\*, H. Saveyn, A.Y. Gebreyohannes, P. Van der Meeren, Ghent University, Belgium

**Particle Deposition**  
11:00 - 12:15

G5

**Simulation of dust loading of pleated air filters**, P. Hettkamp\*, J. Meyer, G. Kasper, Karlsruhe Institute of Technology (KIT), Germany

**Numerical and experimental investigation of soot deposition in wall-flow diesel particulate filters**, P. Kopf\*, T. Deuschle, M. Piesche, University of Stuttgart, Germany

**Deposition-dependant particle collection efficiency of model filter fibers in parallel arrays**, T.K. Müller\*, G. Kasper, J. Meyer, Karlsruhe Institute of Technology (KIT), Germany



13:15 - 14:30 Survey Lecture

S4

**Nonwovens in filtration**,

Dr. Jörg Sievert, Freudenberg Filtration Technologies KG, Germany

**Cake Filtration – Washing and Extraction**  
13:15 - 14:30

L11

**The influence of adsorption properties – effects on the filter cake washing**, M. Wilkens\*, U.A. Peuker, Technical University Bergakademie Freiberg, Germany

**Filter cake washing of mesoporous particles**, S. Noerpel\*, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany

**The non-aqueous filtration of oil sand – recovery of bitumen by organic solvents**, E. Schmidt\*, U.A. Peuker, S. Häder-Schmidt, Technical University Bergakademie Freiberg, Germany

**Membrane Bio Reactor**  
13:15 - 14:30

M3

**Investigation of mechanical membrane cleaning for enhanced MBR application**, S. Krause\*, A. Rach; W. Lamparter, Microdyn-Nadir GmbH, Germany

**Optimized hydrodynamics for membrane bioreactor with immersed flat sheet membrane modules**, L. AL-Shamary\*, L. Böhm, M. Kraume, Technical University of Berlin, Germany

**Highly efficient, low-energy membrane method in MBR technology with external tubular membranes**, E. Wildeboer, Berghof Membrane Technology GmbH & Co KG, Netherlands; U. Leitz, Berghof Membrane Technology GmbH & Co KG, Germany

**Modelling and Simulation**  
13:15 - 14:30

G6

**Studies of different numerical models for a turbulent particle flow in a square pipe with 90° bend**, D. Schellander\*, D. Kahrimanovic, S. Pirker, Johannes Kepler University Linz, Austria

**Flow and particle simulations of air cleaner filter media on microscopic scales**, C. Feuchter\*, MAHLE Filtersysteme GmbH, Germany

**Fugitive dust suppression by optimized bulk solids moistening**, J. Faschingleitner\*, W. Höflinger, Vienna University of Technology, Austria

15:00 - 16:15 Survey Lecture

S5

**Equipment selection and process design for solid/liquid separation processes**

Dr. Steven Tarleton, Loughborough University, Department of Chemical Engineering, UK

**Cake Filtration – Deliquoring**  
15:00 - 16:15

L12

**Experimental study of filter cake cracking during deliquoring**, A. Barua\*, F. Stepanek, Imperial College London; G. Giorgio, W. Eagles, GlaxoSmithKline Ltd., UK

**Comprehensive characterisation of material properties for dewatering: How much is enough?**, R.G. de Kretser\*, A. Stickland, S. Usher, P.J. Scales, University of Melbourne, Australia

**Experimental and numerical investigation of the dewatering process of sewage screenings**, H. Gregor\*, U. Janoske, University of Wuppertal; W. Rupp, University of Cooperative Education Mosbach; M. Kuhn, Kuhn GmbH, Germany



**Waste Water Treatment**  
15:00 - 16:15

M4

**Studies on separation of biomolecules present in the paper industry wastewater using membrane technology**, S.K. Singh\*, S. Ghnemi, D. Trebouet, IPHC University of Strasbourg, Frankreich

**Clever, economical solutions for process media and wastewater recycling with membrane technology**, W. Hochstrasser, L. Solinger\*, P. Messerli\*, Hottinger AG, Switzerland

**Zinc removal from aqueous effluents using micellar-enhanced ultrafiltration (MEUF) at pilot scale**, A.M. Maskooki\*, Khorasan Research Institute for Food Science & Technology KRIFST; B. Rahmani, M. Pakizeh; Ferdowsi University of Mashhad, Iran

**Surface Filtration**  
15:00 - 16:15

G7

**An L9 orthogonal design methodology to study the impact of operating parameters on pulse-jet**

**filtration process**, A. Mukhopdhyaya\*, National Institute of Technology Jalandhar, India

**Prediction of cake-structure and pressure-drop evolution during filtration of polydisperse nanoparticles**, T.D. Elmøe\*, Technical University of Denmark, Denmark; D. Werz, A. Tricoli, S.E. Pratsinis, ETH Zürich University, Switzerland

**Analysis of dust cakes deposited on filtration medium in a granular bed filter**, K.P. Gaarder\*, L. Wang, O.K. Sønju, J.E. Hustad, Norwegian University of Science and Technology, Norway

16:45 - 18:00 Survey Lecture

S6

**Simulation in the field of gas filtration and separation**,

Prof. Paolo Tronville, Politecnico di Torino, Dipartimento di Energetica, Italy



**Cake Filtration Technology**  
16:45 - 18:00

L13

**Pushing the limits - How to continue a success story - The BHS-high performance rotary pressure filter**, D. Steidl\*, BHS-Sonhofen, Germany

**Hi-Bar steam pressure filtration of an organic acid-process simplification by a hybrid separation process**, R. Bott\*, T. Langeloh, E. Ehrfeld, BOLEKA GmbH, Germany

**Exploring the influence of feed material properties on full cycle optimisation of fill, squeeze and blow plate and frame pressure filters**, R.G. de Kretser\*, P.J. Scales, University of Melbourne, Australia

**Electrostatic & Electrokinetic Effects in Separation Processes** 16:45 - 18:00

L14

**Electrokinetic flotation of wastewater in a kinetic model tank**, J.Q. Shang\*, Y. Xu, The University of Western Ontario, Canada

**Electrostatic enhancement of coalescence of oil droplets in water emulsion**, M. Hosseini\*, S. Zamani, R. Katal, Babol Noshirvani University of Technology, Iran

**Electrostatic charges in fuel filters**, X. Tao\*, SWRI Southwest Research Institute, USA

**Mist and Droplet Separation**  
16:45 - 18:00

G8

**Method of testing metal working fluid mist separators**, T. Laminger\*, M. Stecher, W. Höflinger, Vienna University of Technology, Austria

**Time evolution of the saturation profile of an oil-mist filter**, D. Kampa\*, J. Meyer, G. Kasper, Karlsruhe Institute of Technology (KIT), Germany; B. Mullins, Curtin University of Technology, Australia

**The importance of drainage in mechanical fibrous filters**, M. Dalemo\*, Absolent AB, Sweden



## Thursday, March 24, 2011

### Depth Filtration – Modelling and Simulation I 08:30 - 09:45 L15

**On some macroscopic models for depth filtration: analytical solutions and parameter identification,** O. Iliev, R. Kirsch\*, Z. Lakdawala\*, Fraunhofer Institute for Industrial Mathematics ITWM, Germany; V. Starikovicius, Vilnius Gediminas Technical University, Lithuania

**A novel experimental method to determine dirt particle distribution inside filter material samples,** G. Boiger\*, ICE Strömungsforschung GmbH; G. Reiss, W. Brandstätter, University of Leoben, Austria

**Nonwovens: Effect width fibre size distribution,** H.H. Kleizen, Parker Filtration BV & Delft University of Technology, Netherlands



### Poster Session II 08:30 - 09:45 L16

#### DEPTH FILTRATION

**Sorptive depth filtration of organic suspensions,** S. Lösch\*, U.A. Peuker, Technical University Bergakademie Freiberg, Germany

**The differences between the organic properties in the bulk and attached on the filters in the depths with three ozonated biofilters,** L.-F. Chen, Shu-Te University; J.-J. Chen, C.-Y. Chiu, S.-W. Liao, X.-R. He, W.-L. Lai\*, Tajen University, Taiwan

**Catalytic manganese removal in the neutral pH range,** U. Fischer\*, C. Höfer, Rheinkalk Akdolit GmbH & Co. KG; H. Vedder, AWA-Institut, Gesellschaft für Angewandte Wasserchemie mbH

**SEPARATION ENHANCEMENT BY CHEMICAL ADDITIVES**  
**Compaction of multiwalled carbon nanotubes at high centrifugal acceleration and in the presence of a surfactant,** N. Lebovka, M. Loginov, E. Vorobiev\*, University of Compiègne, France

**A new experimental set-up for high throughput screening of flocculents,** A.M.C. Janse\*, P. van Hee, J.A. Vente, M. Stefanov Stefanov, H. Robers, T. Verkaik, DSM Biotechnology Center, Netherlands

#### SORTING OF DIFFERENT MATERIALS

**A technical interpretation of three-phase system diagrams for KCl separation from carnallite using MATLAB software,** E.R. Borujeny\*, S. N. Khorasani, F.T. Esfahani, Isfahan University of Technology, Iran

### New Membranes 08:30 - 09:45 M5

**Innovative coating technologies for membrane media,** T. Kolbusch\*, C. Dittrich, J. Hanel, Coatema Coating Machinery GmbH, Germany

**Membranes in conjunction with functional water-soluble polymers to remove pollutant ions,** B.L. Rivas\*, S.A. Pooley, E.Pereira, M. Palencia, J. Sanchez, University of Concepción, Chile

**Gas permeation of tubular buckypaper membrane,** M.A. Davoodi\*, J. Towfighi, Tarbiat Modares University; M. Fotukian, A. Rashidi, RIPI, Iran

### Poster Session II 08:30 - 09:45 G9

**Application of electrostatic precipitators on road sweepers for fine dust reduction,** M. Kaul\*, E. Schmidt, University of Wuppertal, Germany

**Study of the electrostatic effect in the filtration of micrometer particles,** F.B. Fenara\*, M.L. Aguiar, University of São Carlos; M.V. Rodrigues, University of São João da Boa Vista, Brazil

**Measurement and simulation of nanoparticle deposition at microstructured filter media considering especially electrostatic,** A. Hellmann\*, K. Schmidt, S. Ripperger, Kaiserslautern University of Technology; S. Rief, A. Wiegmann, Fraunhofer Institute for Industrial Mathematics ITWM, Germany

**Validating the simulation of diesel soot agglomerate deposition in microstructured filter media by means of microsieve examinations,** K. Schmidt\*, S. Ripperger, Kaiserslautern University of Technology; S. Rief, A. Wiegmann, Fraunhofer Institute for Industrial Mathematics ITWM, Germany

**CFD simulation for solid adsorbents injection in hybrid collectors (ESP+ bag filters),** F. Vega\*, A. Plumed, B. Navarrete, F. Benjumea, Engineering School of Seville, Spain

**Reduction of NO<sub>x</sub>, SO<sub>2</sub> & Hg emission from coal fired fluidized bed boilers,** M. Jedrusik\*, M.A. Gostomczyk, A. Swierczok, Wrocław University of Technology, Poland

**Industrial sampling and gas emission monitoring in stationary source,** F. de Almeida Filho\*, M.A. Martins Costa, UNESP - São Paulo State University; M.L. Aguiar, E.H. Tanabe, F. Hiromitus, UFSCAR - Federal University of São Carlos, Brazil

**Investigations into the collection of fine dust by facade greenery,** D. Bracke\*, G. Reznik, E. Schmidt, University of Wuppertal, Germany

**A new approach to deriving particle size fractions from a laser optical dust cloud measurement,** S. Bach\*, E. Schmidt, University of Wuppertal; M. Weiß, Palas® GmbH, Germany



### Depth Filtration – Modelling and Simulation II 11:00 - 12:15 L17

**Modelling and simulation of filter media loading and of pleats deflection,** H. Andrä, O. Iliev, M. Kabel\*,

Z. Lakdawala, R. Kirsch, Fraunhofer Institute for Industrial Mathematics ITWM, V. Starikovicius, Vilnius Gediminas Technical University, Lithuania

**The influence of filter material deformation on permeability and pressure loss,** M. Mataln\*, G. Boiger, ICE Strömungsforschung GmbH; W. Brandstätter, University of Leoben, Austria

**Modelling of non-spherical dirt particle motion and deposition in fluid filtration processes,** G. Boiger\*, M. Mataln, ICE Strömungsforschung GmbH; W. Brandstätter, University of Leoben, Austria

### Regenerable and Non-Regenerable Filters for Cleaning of low concentrated Liquids I 11:00 - 12:15 L18

**Experimental studies of the superposed filtration mechanisms in a candle filter,** X. Romaní Fernández\*, H. Anlauf, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany

**New methods of boiler- and process water micro-filtration form an economical alternative to replace traditional sand filters,** S. Strasser\*, J. Baumgartinger, R. Größwang, Lenzing Technik GmbH; Austria

**Selection and design a multi-purpose filter with existing resources and technology for cost effective utility and operation,** K. Roy\*, Suzikline Group, India

### Special Applications 11:00 - 12:15 M6

**Dynamic washing of highly concentrated suspension with finest particles in rotating disc filters,** D. Goldnik\*, R. Weiler, S. Ripperger, Kaiserslautern University of Technology, Germany

**Reduction of membrane biofouling through effective removal of primary biofouling contaminant: transparent exopolymer particles (TEP),** R. Komlenic\*, Ahlstrom Filtration LLC, USA

**Forward osmosis in oilfield produced water treatment,** T.C. Shean Yaw\*, S.M. Soltani, University Putra Malaysia, Malaysia

### HEPA/ULPA Filters 11:00 - 12:15 G10

**The effect face velocity, pleat density and pleat orientation on the most penetrating particle size, pressure drop and fractional efficiency of HEPA filters,** I.S. Al-Attar\*, R.J. Wakeman, E.S. Tarleton, Loughborough University, UK; A. Husain, Kuwait Institute for Scientific Research, Kuwait

**Determination of integral and local efficiency of HEPA and ULPA filters by application of an automated scanning technique,** S. Große\*, C. Peters, A. Rudolph, Topas GmbH, Germany

**Improvements in the quick and reliable determination of HEPA and ULPA filter classes,** S. Schütz\*, M. Schmidt, Palas® GmbH, Karlsruhe, Germany

### Depth Filtration – Modelling and Simulation III 13:15 - 14:30 L19

**On the recent progress in predicting filtration efficiency for filter elements,** Z. Lakdawala\*, O. Iliev, Fraunhofer Institute for Industrial Mathematics (ITWM); M. Dederich\*, IBS Filtran, Germany; V. Starikovicius, Vilnius Gediminas Technical University, Lithuania



**Analysis of the filtration and dust retention process of a fuel filter simulated with a 3D model using an open source code**, L. Valino, R. Mustata, J. Hierro, Laboratorio de Investigación en Tecnologías de la Combustión; C. Blasco, J.L. Hernandez\*, M.J. Garcia, M. Busack, Robert Bosch España Gasoline Systems S.A., Spain

**Improved Control for Media-Scale Multipass Simulations**, J. Becker\*, S. Rief, A. Wiegmann, Fraunhofer Institute for Industrial Mathematics (ITWM); M. Lehmann, MANN+HUMMEL GmbH, Germany

**Regenerable and Non-Regenerable Filters for Cleaning of Low concentrated Liquids II**  
13:15-14:30 L20

**Treatment of highly viscous lubricants by high gradient magnetic separation technique**, K. Wagner\*, J. Lindner, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany

**Modeling and predicting clogging behavior of the filtration process with fibrous filter media for used engine lube oils**, F. Gruschwitz\*, M. Förster, N. König, MAN Diesel & Turbo SE; H. Nirschl, H. Anlauf, Karlsruhe Institute of Technology (KIT), Germany

**New tools to manage and optimize cleanliness of fluid systems**, C. Peuchot\*, IFTS Institute of Filtration and Techniques of Separation, France



**Cabin Air Filters**  
13:15-14:30 G11

**Cabin air filter media with bicomponent spunbond support layer**, A. Maltha\*, P. Zuuring, L. van de Molen, M. Koertjens, E. Berkhout, Colbond B.V., Netherlands

**Efficiency of electret cabin air filters using different test aerosols**, A. Breidenbach\*; F. Schmidt, University of Duisburg-Essen, Germany

**Loaded adsorption filter - a solution for purgeable, volatile components and odours in automotive interiors?**, F. Diederich\*, TAG COMPOSITES & CARPETS GmbH, Germany

**Filter Media Characterization**  
13:15-14:30 G12

**Dust emission behaviour of pulse cleaned needle felts a comparison between filter bags and flat filter discs in a VDI test rig**, O. Kurtz\*, J. Meyer, G. Kasper, Karlsruhe Institute of Technologie (KIT), Germany

**New test rig for compressed air filters: background, layout, first results**, W. Moelter-Siemens\*, G. Lauber, H. Finger, S. Haep, Institute for Energy and Environmental Technology IUTA; D. Bathen, University Duisburg-Essen, Germany

**Optimising life cycle costs – Sandler AG's new synthetic pocket filter media**, U. Hornfeck\*, Sandler AG, Germany

**Separation Enhancement by Coagulation**  
15:00-16:15 L21

**Numerical simulation of filtration and agglomeration of colloidal suspensions**, H. Nirschl\*, F. Keller, M. Feist, Karlsruhe Institute of Technology (KIT), Germany

**Effect of some additives on enhancing filtration rate of new valley oxidized phosphate concentrate**, E.A. Abdel-Aal\*, Central Metallurgical R&D Institute; E.A. Abdel Rahman, Egypt Phosphate Company; A.T. Kandil, Helwan University, Egypt

**Metal (Al, Fe)-hydroxide sols formation in the coagulation**, I. Licsko\*, Budapest University of Technology and Economics, Hungary

**Removal of Particles and Scales from Surfaces**  
15:00-16:15 L22

**Removal of calcium scales from the surface of a ceramic filter medium**, R. Salmimies\*, A. Häkkinen, Lappeenranta University of Technology; B. Ekberg, Outotec (Filters) Oy; Finland; J. Kallas, Tallinn University of Technology, Estonia; J.-P. Andreassen, R. Beck, Norwegian University of Science and Technology, Norway

**Investigations on the cleaning behaviour of polymer woven filter media in solid liquid separation**, C. Leipert\*, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany

**The effectiveness of antiscalants when used on multi stage flash distillers in Kuwait**, N.S. AL-Deffeeri\*, Ministry of Electricity and Water, Kuwait; S. Ghani, Qatar University, Qatar; M. J. Denman, Sheffield Hallam University, UK; M.H. AL-Hajeri, PAAET, Kuwait

**Industrial Gas/Air Cleaning I**  
15:00-16:15 G13

**Maximize turbine efficiency while minimizing service costs using innovative air intake systems**, M. Grochowski, M. Sauer-Kunze\*, GEA Delbag Lufttechnik GmbH, Germany

**Air Filtration System at the M5 East Tunnel Sydney**, E. Deux\*, K. Dickels, B. Markmann, FILTRONtec GmbH, t.b.a., Roads and Traffic Authority of NSW, Australia

**Influence of gas distribution and field velocity on separation efficiency at ESP's with regards to different power supply techniques**, D. Steiner\*, M. Lisberger, M. Lengauer, Scheuch GmbH; W. Höflinger, Vienna University of Technology, Austria

**Special Filter Media I**  
15:00-16:15 G14

**Comparison of the various filter media used in bag filters**, M. Sikka\*, National Institute of Technology Jalandhar, India

**Material for high temperature gas filtration**, A.K. Choudhary\*, A. Mukhopadhyay, National Institute of Technology Jalandhar, India

**Investigating the effect of degree of crystallinity on the charge retention behavior on electrostatically-charging polyester nonwovens**, P. P. Tsai\*, The University of Tennessee, USA; Y. Yan, South China University of Technology, P.R. China

**Separation Enhancement by Flocculation**  
16:45-18:00 L23

**FlocFormer technique – best conditioning for best dewatering and separation results**, C. Schroeder\*, aquen aqua-engineering GmbH, Germany; D. Takao, Tsukishima Kikai Co., Ltd (TSK), Japan

**New laboratory developments for belt thickener optimization**, P. Ginisty\*, C. Peuchot, IFTS Institute of Filtration and Techniques of Separation, France

**Relation between particle size distribution and filtration performance in biomass separation**, P. van Hee\*, A.M.C. Janse, J. Vente, H. Robers, T. Verkaik, DSM Biotechnology Center, Netherlands

**Removal of Pollutants by Biological and Encymatic Treatment**  
16:45-18:00 L24

**Treatment of pollutants by means of biofiltration: a review**, M. Rafati Atrii\*, S.N. Ashrafizadeh, Iran University of Science and Technology, Iran

**Removal of ammonia from vacuum-II stripper wastewater in Jordan petroleum refinery (JPR)**, S. Emeish\*, M. Tal, A. Khalil, S. AL-Muhteseb, Al-Balqa' Applied University, Jordan

**The effect of petroleum oil content on the enzymatic treatment of produced water**, K.F. Mossallam, N. A. Salimova, Azerbaijan State Oil Academy, Azerbaijan

**Industrial Gas/Air Cleaning II**  
16:45-18:00 G15

**Optimized cleaning systems for industrial baghouse filters**, P. Bai\*, T. Neuhaus, T. Schrooten, G.-M. Klein, Intensiv-Filter GmbH & Co. KG, Germany

**New filter lines for bulk solid handling in plastic, petrochemical and alumina industry**, P.J. Erasmus\*, Coperion GmbH, Germany

**The ESP-BF dust collector in China – Can be a substitute for ESP and BF?**, L. Wang\* The Chinese Society of Electrostatic Precipitation & Chindias Environment & Energy Technologies, Ltd.; T. Long, J. Xu, Tailong Special Ceramics Company, Ltd., P.R. China



**Special Filter Media II**  
16:45-18:00 G16

**Investigation of the filtration properties of on-line laminated MB fibers/membrane**, P.P. Tsai\*, C. Woods, J. Wyrick, The University of Tennessee, USA

**Layers of submicron fibers produced by melt electrospinning**, C. Hacker\*, P. Jungbecker, G. Seide, T. Gries, H. Thomas, RWTH Aachen University, Germany

**Energy efficiency vs. electrostatics – requirements for new synthetic filter media**, A. Seeburger\*, A. Jung, T. Ertl, W. Rupertseder, IREMA-Filter GmbH, Germany



