

FILTECH 2009

October 13 – 15, 2009 · Wiesbaden · Germany

Final Conference Programme Session Survey

Tuesday, 13.10.2009

08:30–09:45	Registration			
09:45–11:30	Opening Session / Plenary Lecture			
11:30–12:15	Walk Around – Fair			
12:15–13:15	Lunch			
	Room 2b	Room 2c	Room 1a/5	Room 1a/3
13:15–14:30	Survey Lecture 1	L1 Sedimentation Analysis in the Gravity Field	M1 Waste Water Treatment	G1 Air Filter I
14:30–15:00	Coffee Break – Fair			
15:00–16:15	Survey Lecture 2	L2 Sedimentation Analysis in the Centrifugal Field	M2 Produced Water Treatment	G2 Air Filter II
16:15–16:45	Coffee Break – Fair			
16:45–18:00	Survey Lecture 3	L3 Sedimentation and Flotation for Sorting	M3 Combined Processes	G3 Surface Filtration
18:00	Welcome Reception for Delegates + Exhibitors			

Wednesday, 14.10.2009

08:30–09:45	L4 Sedimentation in Centrifuges / Hydrocyclones	L5 Poster Session I	M4 Poster Session I	G4 Poster Session I
09:45–11:00	Coffee Break – Fair		Poster Presentation	Poster Presentation
11:00–12:15	L6 Filter Media Characterization	L7 Cake Filtration Analysis I	M5 Deposition Control	G5 Industrial Gas Cleaning
12:15–13:15	Lunch			
13:15–14:30	Survey Lecture 4	L8 Cake Filtration Analysis II	M6 Membrane Fouling	G6 Filter Test Systems I
14:30–15:00	Coffee Break – Fair			
15:00–16:15	L17 Depth Filtration Processes	L9 Cake Filtration Processes I	M7 Modelling and Simulation	G7 Filter Test Systems II
16:15–16:45	Coffee Break – Fair			
16:45–18:00	L10 Depth Filtration Analysis I	L11 Cake Filtration Processes II	M8 Special Membranes	G8 Hot Gas Cleaning

Thursday, 15.10.2009

08:30–09:45	L12 Washing of Particles and Cleaning of Media	L13 Poster Session II	M9 Poster Session II	G9 Poster Session II
09:45–11:00	Coffee Break – Fair		Poster Presentation	Poster Presentation
11:00–12:15	L14 Separation Enhancement by Magnetic Forces	L15 Depth Filtration Analysis II	G10 Monitoring and Control	G11 Filter Media Clogging
12:15–13:15	Lunch			
13:15–14:30	Survey Lecture 5	L16 – Separation Enhancement by Physical and Chemical Slurry Treatment	G12 Ab- and Adsorption	G13 Nanofibre Filter Media
14:30–15:00	Coffee Break – Fair			
15:00–16:15	L18 Backwashing Filtration Processes	L19 Precoat Filtration	G14 Modelling and Simulation I	G15 Special Filter Media
16:15–16:45	Coffee Break – Fair			
16:45–18:00	L20 Filter Media Development and Application	L21 Selective Separation and Classification	G16 Modelling and Simulation II	G17 Mist and Droplet Separation

Conference

FILTECH 2009 Conference features close to 200 papers from 34 Countries and will provide a representative survey of current research findings and state-of-the-art developments for the solution of separation targets in a wide range of sectors.

The Conference will feature once again the latest advances and techniques in liquid/solid and gas/particle separation (dust, gas & air filtration) in 3 days of in depth exposure. Technology and know-how transfer is a main target. The FILTECH Conference is informative for all those concerned with designing, improving, purchasing, selling or researching filtration and separation equipment and services. The Conference language is English.

Survey Lectures

FILTECH Conference features 5 survey lectures which will provide a survey of current research findings and state-of-the-art developments.

S1 – Advances in pore structure evaluation by porometry
Dr. Krishna Gupta, PMI – Porous Materials Inc. – USA

S2 – Membrane pore characterization techniques – Status Quo and future development
Prof. Kuo-Lun Tung, Chung Yuan Christian University – Taiwan

S3 – Towards predicting filtration and separation – Progress and challenges
Dr. Andreas Wiegmann, Fraunhofer Institute – ITWM - Germany

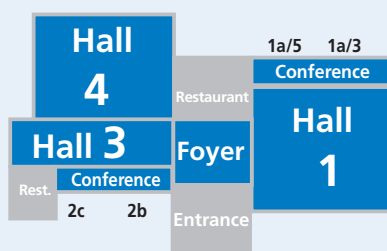
S4 – Development history and system integration aspects of diesel particle filters in commercial vehicles
Dr. Achim Dittler, Daimler AG – Germany

S5 – Development history and system integration aspects of exhaust gas aftertreatment applying diesel particulate filters in commercial vehicles
Prof. Matthias Kraume, Technical University of Berlin – Germany

Plenary Lecture

Introduction to the characterisation of products prior to formulating a solid-liquid separation problem
Dr. Christophe Peuchot, IFTS – Institute of Filtration and Separation Technology – France

Programme lists countries and regions.



Tuesday – October 13, 2009

Plenary Lecture 10:30-11:30

Introduction to the characterisation of products prior to formulating a solid-liquid separation problem, Dr. Christophe Peuchot, IFTS - Institute for Filtration and Separation, France

S1 - Survey Lecture: 13:15-14:30

Advances in pore structure evaluation by porometry, Dr. Krishna Gupta, Porous Materials Inc. - USA

L1 - Sedimentation Analysis in the Gravity Field 13:15-14:30

Evaluation of consolidation-sedimentation properties in batch gravity sedimentation of concentrated suspension, N. Katagiri*, T. Hashimoto, E. Iritani, Nagoya University, Japan

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

Photometric instrumentation for evaluation of dispersion stability and optimization of separation and stabilization of dispersions, T. Sobisch*, T. Detloff, U. Rietz, D. Lerche, LUM GmbH, Germany

M1 - Waste Water Treatment 13:15-14:30

Improved treatment of secondary effluent with ultrafiltration, T. Peters*, Dr.-Ing. Peters consulting for membrane technology and environmental engineering, Germany

Processing and characterization of ceramic membranes for efficient removal of lignin from bleaching effluents, M. Ebrahimi*, S. Kerker, A. Wienold, University of Applied Sciences Giessen-Friedberg; H. Neul, A. Ante, Bamag GmbH; M. Hilpert, Sappi Fine Paper Europe; P. Mund, Atech Innovations GmbH, Germany; P. Czermak, Kansas State University, USA

Electro-ultrafiltration of liposomal dispersions for the removal of trace micropollutants, H. Saveyn*, M. Hakimhashemi, B. De Bock, P. Saveyn, P. Van der Meeren, Ghent University, Belgium

G1 - Air Filter I 13:15-14:30

The effect of pleat count and air velocity on the initial pressure drop and fractional efficiency of HEPA filters, I. S. Al-Attar*, E. S. Tarleton, Loughborough University; R. J. Wakeman*, Consultant Chemical Engineer, UK; A. Husain, Kuwait Institute for Scientific Research KISR, Kuwait

Interaction of fluid with porous structure in filtration processes: Modelling and simulation of pleats deflection, H. Andrä, O. Iliev, M. Kabel*, Z. Lakdawala, K. Steiner, Fraunhofer Institute ITWM, Germany; V. Starikovicius, Vilnius Gediminas Technical University, Lithuania

Importance of mechanical filtration in HVAC bags and panel air filter applications, A. Boni*, Hollingsworth & Vose Europe, Germany; J. Manns, D. Healey, S. Cox, Hollingsworth & Vose, USA

S2 - Survey Lecture 15:00-16:15

Membrane Pore Characterization Techniques - Status Quo and Future Development, Prof. Kuo-Lun Tung, Chung Yuan Christian University, Taiwan

L2 - Sedimentation Analysis in the Centrifugal Field 15:00-16:15

Sedimentation and consolidation behaviour of flocculated suspensions characterized by different methods measuring transmission, T. Sobisch, A. Zierau*, D. Lerche, LUM GmbH; A. Bjeoumikov, IFG GmbH; M. Holke, IAP e.V., Germany

The use of analytical centrifugation for the assessment of particulate matter compressibility, P. Van der Meeren*, D. Curvers, H. Saveyn, Ghent University, Belgium; P. J. Scales, University of Melbourne, Australia

Characterization of sedimentation and consolidation behaviour of kaolin suspensions in presence of dispersant, C. Le Coeur, O. Larue, E. Vorobiev, University of Compiègne, France; T. Detloff, T. Sobisch*, A. Zierau, D. Lerche, LUM GmbH, Germany

M2 - Produced Water Treatment 15:00-16:15

Application of inorganic membrane technology in the efficient treatment of oilfield produced water, M. Ebrahimi*, D. Willershausen, L. Engel, University of Applied Sciences Giessen-Friedberg; P. Mund, P. Bolduan, Atech Innovations GmbH, Germany; P. Czermak, Kansas State University, USA

Treatment of hypersaline oilfield produced water in a membrane sequencing batch reactor, A. Fakhru'l-Razi*, A. R. Pendashteh, D. R. A. Biak, C. A. Lugman, Z. A. Zurina, University Putra Malaysia, Malaysia; S. S. Madaeni, Razi University, Iran; W. M. Zahid, King Saud University, Saudi Arabia

Peroxidase-peroxide system catalyzed the removal of phenol and total hardness from produced water, K. F. Mossallam*, F. M. Sultanova, N. A. Salimova, Azerbaijan State Oil Academy, Azerbaijan

G2 - Air Filter II 15:00 - 16:15

Experimental investigation of the particle distribution and rearrangement in filter media, T. Häusle*, A. Hammen, H. Sauter, Mahle Filtersysteme GmbH, Germany

Fungal colonization of fibrous air filter media: Influence on filter's permeability and fungal particles release, J. C. Bonnevie-Perrier, L. Le-Coq*, Y. Andrès, Ecole des Mines de Nantes, France

The Eurovent certification program of air filters, I. Bodenstaff*, AAF International, The Netherlands

S3 Survey Lecture 16:45 - 18:00

Towards predicting filtration and separation - Progress and challenges, Dr. Andreas Wiegmann, Fraunhofer Institute for Industrial Mathematics ITWM - Germany

L3 - Sedimentation and Flotation for Sorting 16:45 - 18:00

Use of colloidal gas aphrons for separation of water based printing inks and impurities from paper stock suspensions, D. Voß*, S. Schabel, University of Darmstadt, Germany

Separation of fibre fines and inorganic fines in recovered paper suspensions, G. Hirsch, S. Schabel, D. Voß*, University of Darmstadt; M. Feist; H. Nirschl, Karlsruhe University, Germany

Tracer studies of the flow structure in a DAF pilot plant, L. Jönsson*, University of Lund; M. Lundh, Kretsloppskontoret, Sweden

M3 - Combined Processes 16:45 - 18:00

Regeneration of stainless steel pickling solutions by a multi-stage process consisting of retardation, electro dialysis and membrane electrolysis, H. J. Rapp*, Osmo Membrane Systems; F. Rögener, M. Sartor, T. Reichardt, BFI, Germany

Total regeneration of mixed pickling acid from stainless steel production - Combination of nanofiltration and thermal processes, F. Rögener*, T. Reichardt, BFI; J. Schmidt, F. Knaup, Steuler Anlagenbau, Germany

Industry state of the art in membrane filtration of fruit juice and wine for product clarification, E. Zimmer*, D. Jermann, Bucher Processtech AG, Switzerland

G3 - Surface Filtration 16:45 - 18:00

Dust emission characteristics of pulse jet bag filters, H.-S. Park*, K. S. Lim, KIER - Korea Institute of Energy Research, Korea

Modeling of particle layer detachment under consideration of transient kinetic effects, Q. Zhang*, E. Schmidt, University of Wuppertal, Germany

Removal of fine particulate matter from exhaust gases by metallic microsieves, E. Stahl*, J. Robert, G. Deerberg, Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, Germany

Wednesday – October 14, 2009

L4 - Sedimentation in Centrifuges/Hydrocyclones 08:30 - 09:45

Flow patterns and sediment build-up in tubular bowl centrifuges, L. E. Spelter*, H. Nirschl, Karlsruhe University, Germany

CFD simulation of flow and sedimentation in centrifugal field, X. Romání Fernández*, H. Nirschl, Karlsruhe University, Germany

Separation efficiency determining parameters in high gradient magnetic centrifugation, K. Wagner*, M. Stolarski, C. Eichholz, H. Nirschl, University Karlsruhe, Germany

L5 - Poster Session I 08:30 - 09:45

· Cake Filtration ·
Green liquor sludge separation, a comparison between gasifier and recovery boiler produced liquors, T. Mattsson*, T. Richards, Chalmers University of Technology, Sweden

Pilot scale research on oily sludge compression treatment, X. Hu*, S. Chengzhi, Y. Shufan, D. Jun, C. Chaozhong, Northeastern University; L. Chonghua, et al., PetroChina Liaohe Petrochemical Company, P.R. China

·Separation Enhancement by Physical and Chemical Slurry Treatment. Fundamentals of stability of sulfur in iron chelate, K. Forsat*, K. Mohammadbeigy, Research Institute of Petroleum Industry (RIPI), Iran

Dairy effluent treatment plant with UASB reactor, E. Henríquez Díaz, O. Pérez Báez, A. Naranjo Ojeda, d. I. C. Ling Ling*, University of Las Palmas de Gran Canaria, Spain

The comparability and optimization of different process of sludge dewatering, Y. B. Li*, J. Jin, Liaoning Provincial Environmental Protection Bureau, P.R. China

M4 - Poster Session I 08:30 - 09:45

Effect of polymer swelling on the nanofiltration performance of poly(vinyl alcohol), O. Farid, J. P. Robinson*, University of Nottingham, UK

Preparation and characterization of aluminum oxide cermet microfiltration membrane using atmospheric plasma spraying, C.-C. Hsiung*, T.-C. Ling, K.-S. Chang, K.-L. Tung, T.-T. Wu, Y.-L. Li, C.-H. Kang, W.-Y. Chen, D. Nanda, Chung Yuan University, Taiwan

Preparation and characterization of novel hydrophile low pressure nanofiltration membranes for water softening, M. Jahanshahi, A. Rahimpour*, N. Mortazavian, Babol University of Technology, Iran

Nanoporous polyethersulfone membranes prepared with synthesized poly (sulfoxide-amide) as additive in the casting solution for milk filtration, A. Rahimpour*, Babol University of Technology; S. S. Madaeni, Razi University; A. Shockravi, S. Gorbani, Teacher Training University, Iran

Supported lipid membrane systems for commercial aquaporin water filtration applications, J. S. Groth*, M. Perry, T. Vissing, Aquaporin A/S; J. S. Hansen, J. Vogel, S. Ibragimova, C. H. Nielsen, O. Geschke, J. Emnéus, Technical University of Denmark; C. R. Hansen, Copenhagen University, Denmark

Drying of transformer oil with different filter techniques, C. Glasner*, J. Robert, G. Deerberg, Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT, Germany

Immobilization of fungal laccase on membranes and its use for decolorization of dye, N. Katagiri*, Y. Ogi, E. Iritani, Nagoya University, Japan

Membrane bioreactor with submerged ceramic flat membranes for the production of organic acids, T. Hahn*, Z. Kovacs, I. Hannemann, K. Grau, University of Applied Sciences Giessen-Friedberg; H. J. Schmidt, Membrane Engineering GmbH; M. Kraume, Technical University Berlin, Germany; P. Czermak, Kansas State University, USA

Long term experiences using microfiltration membranes for separation of bacterial biomass in recirculating aquaculture systems, A. Gerbeth*, B. Gemende, N. Pausch, M. Schwind, University of Applied Sciences Zwickau; A. von Bresinsky, Fischwirtschaftsbetrieb Andreas von Bresinsky; R.-P. Busse, Busse GmbH, Germany

Research & development in microfiltration technology (MF) at KISR, A. Alsaffar*, S. Bou-Hamad, A. Alsairafi, M. Alshimmiri, H. Alnaser, Kuwait Institute for Scientific Research, Kuwait

G4 - Poster Session I 08:30 - 09:45

Simulation of DPF media, soot deposition and pressure drop evolution, K. Schmidt*, S. Rief, A. Wiegmann, Fraunhofer Institute for Industrial Mathematics ITWM; S. Ripperger, TU Kaiserslautern, Germany

Modeling of particle layer detachment under consideration of transient kinetic effects, Q. Zhang*, E. Schmidt, University of Wuppertal, Germany

Theoretical considerations on optimization of fibrous filters structures for removal of fractal-like nanoaggregates, A. Podgórski*, M. Goszczynska, Warsaw University of Technology, Poland

Inertial deposition of aerosol particles in fibrous filters at low and intermediate Reynolds numbers, V. A. Kirsch*, Frumkin Institute of Physical Chemistry and Electrochemistry; D. A. Pripachkin, A. K. Budyka, Karpov Institute of Physical Chemistry, Russia

Theoretical study of the efficiency of nano-sized aerosol particles in a single fiber, J. M. Silva, F. O. Arouca*, J. A. S. Gonçalves, J. R. Coury, Federal University of São Carlos, Brazil

Experimental investigations of electrostatic precipitators with high flow velocities, M. Kaul*, E. Schmidt, University of Wuppertal, Germany

Investigation of regeneration mode in a compact granular bed filter for high temperature filtration, K. Pathmanathan*, J. E. Hustad, O. K. Sønju, NTNU Norwegian University of Science and Technology, Norway

Particle and H2S removal of ceramic filter system, K. S. Lim*, H.-S. Park, S. J. Park, KIER - Korea Institute of Energy Research, Korea

Recovery of VOCs using small scale prototype unit based on electrically conducting carbon monolithic adsorbents, P. Sklenickova*, S. Tennison, MAST Carbon International Ltd.; A. Wheatly, P. Row, Wellman Defense Ltd., UK

Venturi scrubber efficiency for collection of particulate pollutants emitted by the burning vegetal biomass fuel, M. A. Martins Costa, F. de Almeida Filho, S. Pupo de Moraes, B. de Araújo Lima, B. Santos Ferreira, D. Aparecido Silva Lopes, Paulista State University; M. Lopes Aguiar, N. A. Gómez-Puentes*, Federal University of São Carlos, Brazil

Trajectory of the liquid jet into the throat of a pease-anthony venturi scrubber, N. A. Gómez-Puentes*, V. G. Guerra, J. R. Coury, J. A. S. Gonçalves, Federal University of São Carlos, Brazil



L6 - Filter Media Characterization 11:00-12:15

Cartridge bubble point tester, A. Jena, K. Gupta*, Porous Materials Inc., USA

A new method of measuring pore size distributions using multimodal particle size standards, G. R. Rideal*, J. Storey, Whitehouse Scientific, UK; B. Schied, BS-Partikel, Germany

Microstructure simulation of virtual woven filter media, E. Glatt*, S. Rief, A. Wiegmann, Fraunhofer Institute for Industrial Mathematics ITWM, Germany

L7 - Cake Filtration Analysis I 11:00-12:15

Determination of pressure dependence of permeability characteristics from single constant pressure filtration test, E. Iritani*, N. Katagiri, Nagoya University, Japan

Characterization of packed beds obtained by filtration of colloidal suspensions, M. Hieke*, H. Anlauf, H. Nirschl, Karlsruhe University, Germany

Continuous pressure or discontinuous press filtration to separate slurries of very small particles – A theoretical comparison, H. Anlauf*, M. Hieke, Karlsruhe University, Germany

M5 - Deposition Control 11:00-12:15

Improved deposition control for membrane bioreactors with immersed flat sheet membrane modules, H. Prieske, L. Böhm*, A. Drews, M. Kraume, Technical University Berlin, Germany

Effects of water quality and antiscalants on silica scaling of reverse osmosis membranes, W. Hater, C. zum Kolk, P. Izquierdo, BKG Water Solutions; G. Braun*, T. Götz, C. Ependiller, Cologne University of Applied Sciences, Germany

Particle deposition in rotating filter disks, Y. Taamneh, Tafila Technical University, Jordan; L. Steinke, S. Ripperger*, University of Kaiserslautern, Germany

G5 - Industrial Gas Cleaning 11:00-12:15

Enhanced energy efficiency solutions for industrial baghouse filters, G.-M. Klein*, T. Schrooten, T. Neuhaus, R. Esser, F. Ott, T. Daniel, Intensiv-Filter GmbH & Co. KG, Germany

Conical lamina filter elements for higher filtration and energy efficiency and micro-fiber membrane filter media, K. Schumann*, Schumann Kompaktfilter, Germany

Improved performance of bag filters through fabric surface modification, A. K. Choudhary*, A. Mukhopadhyay, National Institute of Technology, India

S4 - Survey Lecture 13:15-14:30

Development history and system integration aspects of diesel particle filters in commercial vehicles, Dr. Achim Dittler, Daimler AG, Germany

L8 - Cake Filtration Analysis II 13:15-14:30

Constant pressure filtration of fibre/particle mixtures, K. Chellappah*, E. S. Tarleton, R. J. Wakeman, Loughborough University, UK

Multi-staged creep effect in consolidation of tofu and okara as soft colloids, E. Iritani*, T. Sato, N. Katagiri, Nagoya University, Japan

Filtration-consolidation analysis of solid/liquid expression from biological tissue, N. Grimi, E. Vorobiev*, Technical University of Compiègne, France; N. Lebovka, National Academy of Sciences of Ukraine, Ukraine; J. Vaxelaire, University of Pau and Pays de l'Adour, France

M6 - Membrane Fouling 13:15-14:30

Use of surface interaction free energy in the prediction of organic fouling of reverse osmosis (RO) membranes, R. Bai*, J. Miao, C. Liu, P. Tay, National University of Singapore, Singapore

Fouling transition in high molecular weight flexible polymer cross-flow ultrafiltration, L. Béguin*, IFTS Institute of Filtration and Techniques of Separation; H. Duval, M. Rakib, Ecole Centrale Paris, France

Effect of air-sparging on the performance of cross-flow microfiltration of yeast suspension, K.-J. Hwang*, C.-E. Hsu, P.-Y. Si, Tamkang University, Taiwan

G6 - Filter Test Systems I 13:15-14:30

Comparison of differently generated soots used for filter testing, S. Haep*, H. Fissan, H. Kaminski, C. Asbach, B. Stahlmecke, H. Finger, Institute of Energy and Environmental Technology (IUTA), Germany

Filtration of nanoparticles: Presentation of FANA test bench, N. Michielsen*, T. Lelandais, C. Brochot, S. Bondiguel, IRSN Institute for Radiological Protection and Nuclear Safety, France

Portable filtertester for nanometer and micrometer sized particles - the new all in one solution, lightweight, no consumables, no emissions, F. Schneider*, R. Hagler, M. Pesch, Grimm Aerosoltechnik GmbH, Germany

L17 - Depth Filtration Processes 15:00-16:15

The difficulty with filtering gel particles when producing man-made fibers and optical films, S. Strasser*, K. Brandt, Lenzing Technik GmbH, Austria

Development and characteristics of a new ion exchange filter cartridge made of phosphorylated hemp fibre yarn, B. Gemende*, N. Pausch, H. Mueller, A. Gerbeth, University of Applied Sciences Zwickau; M. Leiker, Produktions- und Umweltservice GmbH; J. Hofmann, U. Freier, K. König, Universität Leipzig; M. Feustel, A. Richter, Textilforschungsinstitut Thüringen-Vogtland e.V., Greiz, Germany

Media for water separation from biodiesel-ultra low sulfur diesel blends - Comparison with super absorbent monitor media, C. M. Stanfel*, F. Diani Pangestu, Ahlstrom Filtration, LLC, USA

L9 - Cake Filtration Processes I 15:00-16:15

Experimental study on the influence of process variables on the performance of a horizontal belt filter, M. Huhtanen*, A. Häkkinen, J. Kallas, Lappeenranta University of Technology; B. Ekberg, Larox Corporation, Finland

Design of a new high performance drum filter for the chemical industry, T. Langeloh, Bokela GmbH, Germany

Plate and frame pressure filter optimisation using plant load cell data: Advantages, challenges and outcomes, R. G. de Kretser, H. Saha, C. Biscoombe, P. J. Scales*, University of Melbourne, Australia

M7 - Modelling and Simulation 15:00-16:15

Modeling of enzymatic synthesis of fructooligosaccharides in continuous membrane reactors, Z. Kovacs*, L. Engel, K. Grau, T. Hahn, M. Ebrahimi, University of Applied Sciences Giessen-Friedberg, Germany; P. Czermak, Kansas State University, USA

Modelling the separation of protein solutions by means of cross flow filtration, T. Grein*, S. Ripperger, University of Kaiserslautern; A. Piry, W. Kühnl, U. Kulozik, Munich University, Germany

3D reconstruction of ultrafiltration cakes from binarised images, F. Courteille, F. Bourgeois*, M. Clifton, M. Meireles, Laboratoire de Génie Chimique UMR 5503, France

G7 - Filter Test Systems II 15:00-16:15

Filtration performance down to nano-particles, P. Tronville*, Politecnico di Torino, Italy; R. Vijayakumar, AERFIL LLC, USA

Essential improvements for a reliable fractional efficiency testing of air filters, M. Schmidt*, L. Mölter, Palas® GmbH, Germany

Investigation of the filtration behaviour of an artificial filtration test rig in comparison to an industrial filter unit – Differences and possibilities of scale up, G. Gasparin*, Evonik Fibres GmbH, Austria

L10 - Depth Filtration Analysis I 16:45-18:00

Advanced fibrous media simulations based on 3D structural data of real filter media, M. J. Lehmann*, S. Hiel, E. Nißler, P. Trautmann, MANN+HUMMEL GmbH, Germany

Analysis of the behaviour of an automotive fuel filter using a Brinkman-Darcy approximation and a probability density function for the two-phase flow, L. Valiño, R. Mustata, J. Hierro, Laboratorio de Investigación en Tecnologías de la Combustión; J. L. Hernández*, C. Blasco, Robert Bosch España Gasoline Systems S.A., Spain

On coupled particle level and filter element level simulation for filtration processes, Z. Lakdawala*, O. Iliev, S. Rief, A. Wiegmann, Fraunhofer Institute for Industrial Mathematics ITWM, Germany

L11 - Cake Filtration Processes II 16:45-18:00

Ultra-fine coal dewatering with hyperbaric disc filters, G. Krammer*, J. Kappel, R. Raberger, Andritz AG, Austria

Saving of wash liquid at filtration, R. Bott*, T. Langeloh, Bokela GmbH, Germany

Secondary-Dewatering of solid-liquid separation in sodium bi-carbonate separation applications, D.-E. Keller*, KMPT AG, Germany

M8 - Special Membranes 16:45-18:00

Catalyst crosslinked membranes for use in solvent resistant nanofiltration, K. T. Cliff*, S. Tarleton, Loughborough University, UK

Optimization of the channel form geometry of porous ReSiC ceramic membrane modules, S. Alexopoulos*, G. Breitbach, B. Hoffschmidt, University of Applied Sciences Aachen, Germany

Textiles for the filtration of activated sludge in membrane bioreactors (MBRs), L. Böhm*, V. Iversen, S. Hermann, A. Drews, J. Münz, M. Kraume, TU Berlin, Germany; E. Fatarella, Next Technology Tecnotessile, Società Nazionale di Ricerca Tecnologica r.l., Italy; B. Lesjean, Berlin Centre of Competence for Water, Germany

G8 - Hot Gas Cleaning

16:45 - 18:00

Use of CFD-software with simulation of particle formation and precipitation in high temperature processes, T. van der Zwaag*, C. Asbach, S. Haep, Institute of Energy and Environmental Technology IUTA; E. Kruis, University of Duisburg-Essen; K. Reuter-Hack, Karlsruhe University, Germany

Evaluation of filtration and recleaning performance of hot gas filter media, R. Mai*, H. Leibold, H. Seifert, Forschungszentrum Karlsruhe GmbH; P. Gäng, Fil T Eq GmbH, Germany

High Temperature Filtration of Pyrolysis Gases from Biogenic Feedstocks, H. Leibold*, R. Mai, J. Sitzmann, H. Seifert, Forschungszentrum Karlsruhe GmbH, Germany; A. Hornung, Aston University, UK; Y. Solantausta, VTT, Finland

Thursday – October 15, 2009

L12 - Washing of Particles and Cleaning of Media 08:30 - 09:45

Flushing – Cleaning of debris and filter cakes from organic solvents, M. Wilkens*, U. A. Peuker, Technical University Bergakademie Freiberg, Germany

The impact of centrifugal force on the quality of cake washing, F. Ruslim*, A. Erk, T. Danner, BASF SE, Germany

Dissolution of magnetite particles in acidic conditions, R. Salmimies*, A. Häkkinen, J. Kallas, Lappeenranta University of Technology; B. Ekberg, Larox Corporation, Finland

L13 - Poster Session II

08:30 - 09:45

· Washing of Particles ·

Influence of experimental parameters on local and filtrate properties of kraft pulp displacement washing, K. Dingwell*, J. Lindau, M. Sedin, H. Theliander, Chalmers University of Technology, Sweden

· Backwashing Filtration Processes ·

Enhancing classical effluent treatment plant efficiency by introducing BASP rotary wedge wire drum dewatering screens, B. Patil*, V. Patil, BASP Industries, India

Precious metal catalyst recovery in API processing, L. Vashishta*, Diva Envitec Europe Ltd., UK; D. Stöcker, GKN Sinter Metal Filters GmbH, Germany

· Depth Filtration Processes ·

Effects of biodiesel by-products on interfacial tension and water separation properties of biodiesel-ultra low sulfur diesel blends, F. D. Pangestu*, C. M. Stanfel, Ahlstrom Filtration, LLC, USA

· Chromatography ·

Preparative separation and purification of plasmid DNA nano-vectors using anion exchange expanded bed chromatography, M. Ebrahimpour, M. Jahanshahi*, Babol University of Technology, Iran

· Electrocoagulation ·

Removal of arsenic from wastewaters by batch airlift electrocoagulation, H. K. Hansen*, P. Nuñez, C. Guiterrez, L. M. Ottosen, Technical University Federico Santa María, Chile

· Filter Media ·

Choice and optimization of technical woven wire meshes in the solid liquid separation, M. Knefel*, P. Wirtz, GKD - Gebr. Kufferath AG, Germany

M9 - Poster Session II

08:30 - 09:45

Liquid-liquid extraction of ammonia using hollow fiber membrane contactors, M. Ulbricht*, J. Schneider, M. Stasiak, Membrana GmbH, Germany; J. Munoz, A. Sengupta, B. Kitteringham, Membrana Charlotte, USA

Achieving cleaner solutions, H. Williams*, Serfilco International, UK; J. H. Berg, Serfilco Ltd., USA

Development and large scale testing of water reuse process technologies in waste water free houses and companies based on ultrafiltration membranes of Microdyn-Nadir, A. Huber*, SCAUT Forschungsgesellschaft mbH; D. Swaboda, GFI GmbH, Germany

Purification and recycling of water at a food-processing plant based on the example of natural sausage casing production using a physical-chemical-biological system with ultrafiltration membranes from Microdyn-Nadir, A. Huber*, SCAUT Forschungsgesellschaft mbH, Germany

Integrated membrane process for treating desulfurization effluent, N. Yin*, F. Liu, Z. Zhong, W. Xing, Nanjing University, P.R. China

Recycle effect on double-pass concentric circular mass exchanger with an idealized membrane inserted, C.-D. Ho*, J.-W. Tu, Y.-C. Chuang, Tamkang University, Taiwan

Organic solvent nanofiltration in the pharmaceutical industry, H. Beckers, A. Buekenhoudt, P. Vandezande, R. Vleeschouwers*, VITO, Belgium

Iron removal by membrane contactor for assisting ilmenite leaching, E. A. Abdel-Aal*, M. H. H. Mahmoud, M. M. S. Sanad, Central Metallurgical R & D Institute, Egypt; A. Criscuoli, A. Figoli, E. Drioli, University of Calabria, Italy

Filtration of highly concentrated CaCO₃ suspensions using a rotating disk dynamic system, M. Loginov, O. Larue, L. H. Ding, E. Vorobiev*, University of Compiègne, France; N. Lebovka, National Academy of Sciences of Ukraine, Ukraine

Process intensification by using dynamic Krauss-Maffei Cross Flow Filtration (DCF) without recirculation of retentate, G. Grim*, KMPT AG, Germany

Bench-scale unit for characterisation of particle adhesion on ceramic membrane surfaces, T. Quadt*, E. Schmidt, University of Wuppertal, Germany

β-Cyclodextrin-Modified polysulfone membranes for the removal of endocrine disrupting chemicals (EDCs), S. Choi*, S.-Y. Kwak, Seoul National University - Korea

G9 - Poster Session II

08:30 - 09:45

Isobaric pressurised air filter testing under overpressure up to 10 bar in accordance with ISO 12500, S. Schütz*, L. Mölter, M. Schmidt, Palas® GmbH, Germany

Method of achieving more accuracy in testing air cleaners, A. G. Denysenko*, Kharkiv Petro Vasylenko National Technical University of Agriculture, Ukraine

Errors on measurements of size distributions of nano-sized aerosol particles using the SMPS spectrometer, F. O. Arouca*, N. R. Feitosa, J. R. Coury, Federal University of São Carlos, Brazil

Study of the behaviour of filter media used in high pressure filtration systems, E. H. Tanabe*, A. B. N. Brito, E. J. Ricco, J. R. Coury, M. L. Aguiar, University of São Carlos, Brazil

Determination of adhesion force of organic and inorganic particle in synthetic fiber fabric filters, M. M. Campos, E. H. Tanabe*, M. L. Aguiar, University of São Carlos, Brazil

Statistical study on the operational variables influence in the dust cake structure, S. M. S. Rocha, J. J. R. Damasceno*, C. R. Duarte, Federal University of Uberlândia; M. L. Aguiar, Federal University of São Carlos, Brazil

Numerical investigations of a content on thallium in the filter ash, O. Chizhko*, Moscow Environmental Center, Russia

Study of the influence of the thickness of the dust cake in drainage of the fluid, S. M. S. Rocha, J. J. R. Damasceno*, L. G. M. Vieira, Federal University of Uberlândia; M. L. Aguiar, Federal University of São Carlos, Brazil

Experimental investigations into the effects of post-coating on surface filtration, Q. Zhang*, E. Schmidt, University of Wuppertal, Germany

Virtual cyclone – as a pre-dust-collector of bag filters, H.-S. Park*, K. S. Lim, KIER Korea Institute of Energy Research, Korea

Collection efficiency of fiber filters on the filtration of nano-sized particles from aerosols, N. R. Feitosa, F. O. Arouca*, J. R. Coury, Federal University of São Carlos, Brazil

Investigations into the collection of fine dust by plants, D. Bracke*, G. Reznik, H. Mölleken, E. Schmidt, University of Wuppertal, Germany

L14 - Separation Enhancement by Magnetic Forces 11:00 - 12:15

Selective magnetic separation – A revolution in solid-liquid separation? H. Nirschl*, C. Wagner, C. Eichholz, University of Karlsruhe, Germany

DEM-Simulation of magnetic field effects in solid-liquid-separation, C. Eichholz*, H. Nirschl, University of Karlsruhe, Germany

Removal of pesticides and benzene from water by using nano-magnetic filtration, S. Alfadul*, A. Alabdulaa'aly, M. Kahn, KACST King Abdulaziz City for Science and Technology; M. Abdalla, Saud University, Saudi Arabia



L15 - Depth Filtration Analysis II 11:00-12:15

Comparing fibre composition of nonwovens: Filtration performance and sustainability potential, H. H. Kleizen*, Parker Filtration BV, Delft University of Technology, The Netherlands

Advanced CFD simulation of filtration processes, M. Dederling, IBS Filtran; O. Iliev*, Z. Lakdawala, Fraunhofer Institute for Industrial Mathematics ITWM, Germany; R. Ciegis, V. Starikovicius, Vilnius Gediminas Technical University, Lithuania; P. Popov, Texas A&M University, USA

Filtering of clay colloids in MX-80 detritus material, T. Richards*, Chalmers University of Technology; I. Neretnieks, Royal Institute of Technology, Sweden

G10 - Monitoring and Control 11:00-12:15

Monitoring and control of emission of particulate materials in industrial production of alcohol, M. A. Martins Costa, F. de Almeida Filho, M. L. Aguiar, F. Hiromitus, São Paulo State University; E. H. Tanabe*, Federal University of São Carlos, Brazil

Online quality control in for road tunnel air filters - The new dimension in performance and air quality, F. Schneider*, Grimm Aerosoltechnik; E. Deux, FILTRONtec GmbH, Germany

Fast online efficiency testing and emission measurement of cleanable filter elements, G. Lindenthal, Ingenieurbüro für Partikeltechnologie und Umweltmesstechnik; M. Weiß*, M. Schmidt, Palas® GmbH, Germany

G11 - Filter Media Clogging 11:00-12:15

Clogging of industrial high efficiency particulate air filter in case of fire, F.X. Ouf*, V.M. Mocho, Institute for Radiological Protection and Nuclear Safety, France

Effect of air humidity on the clogging of mini-pleated and plane HEPA filters by hygroscopic and non-hygroscopic and particles, A. Joubert*, J. C. Laborde, L. Bouilloux, IRSN; D. Thomas, S. Callé-Chazelet, Nancy University, France

Clogging mechanisms involved in the aging of cleanable filter media, J. Schuberth*, G. Mauschitz, W. Höflinger, Vienna University of Technology, Austria

L16 - Separation Enhancement by Physical and Chemical Slurry Treatment 13:15-14:30

Removal of colloidal particles from colloidal waste by use of particle immobilization in gel, M. Iwata*, Suzuka National College of Technology, Japan; M. S. Jami, International Islamic University Malaysia, Malaysia

Peroxidase catalyzed removal of phenol from synthetic waste water, K. F. Mossallam*, F. M. Sultanova, N. A. Salimova, State Oil Academy, Azerbaijan

Eshidiya industrial wastewater treatment, S. Emeish*, Al-Balqa' Applied University, Jordan

S5 - Survey Lecture 13:15-14:30

Membrane bioreactors in waste water treatment - Status and trends, Prof. Matthias Kraume, Berlin Technical University, Germany; Dr. Anja Drews, Oxford University, UK

G12 - Ab- and Adsorption 13:15-14:30

Fugitive dust suppression using water spraying systems with low water consumption in enclosed systems, J. Faschingleitner*, G. Mauschitz, W. Höflinger, Vienna University of Technology, Austria

Odour reduction by means of textiles - Innovative coatings, H. Finger*, F. Schmidt, St. Haep, D. Bathen, Institut für Energie- und Umwelttechnik e. V. (IUTA), Germany

The truly custom-made adsorbent system, S. Fichtner*, S. Kaemper, J.-M. Giebelhausen, B. Boehringer, A. Arnold, M. Mueller, Blücher GmbH, Adsor-Tech GmbH, Germany

G13 - Nanofibre Filter Media 13:15-14:30

Fabrication and performance evaluation of nano-fibrous filters for filtration of sub-micron aerosols, W. W.-F. Leung*, C.-H. Hung, P.-T. Yuen, The Hong Kong Polytechnic University, P.R. China

Improved filterefficiency through integrated nanofibers, W. Rupertseder*, T. Ertl, A. Seeberger, A. Jung, IREMA-Filter GmbH, Germany

Development of nonwoven composites air filters based on micro and nanofibers, J. Payen*, P. Vroman, M. Lewandowski, A. Perwuelz, Ecole Nationale Supérieure des Arts et Industries Textiles (ENSAIT), France

L18 - Backwashing Filtration Processes 15:00-16:15

RFF - Backwash fibre filter innovation in depth filtration, J. Baumgartinger*, Lenzing Technik GmbH, Austria

Internal filter for fischer-tropsch wax/catalyst separation, M. A. Khodaghali*, A. A. Rohani, M. R. Hemmati Mahmoudi, Research Institute of Petroleum Industry, Iran

Filtration and particle analysis for heavily contaminated engine lube oil, F. Gruschwitz*, M. Förster, N. König, MAN Diesel SE; H. Nirschl, H. Anlauf, Karlsruhe University, Germany

L19 - Precoat Filtration 15:00-16:15

Filtration of high density microbial fermentation biomass using BASP biotech filter, V. Patil*, B. Patil, BASP Industries, India; H. Katinger, University of Natural Resources and Applied Life Sciences, Austria

Filtration system for isolation of decoquinat bio molecules, B. Patil*, V. Patil, BASP Industries, India

Organic precoat filter aids - Update on current status and future developments, E. Gerdes*, J. Rettenmaier & Söhne, Germany

G14 - Modelling and Simulation I 15:00-16:15

Simulation of particle separation at woven wire filters, H. Rieger*, H. Sauter, Mahle Filtersysteme GmbH, Germany

Simulation of fluid flow and particle deposition in three dimensional nonwoven structures, T. Warth*, M. Piesche, University of Stuttgart, Germany

Penetration of aerosol particles through polydisperse fibrous filters - Model and experiment, A. Podgórski*, A. Jackiewicz, Warsaw University of Technology, Poland

G15 - Special Filter Media 15:00-16:15

Nano filtration media - Challenges of modelling and computer simulation, L. Cheng*, S. Rief, Fraunhofer Institute for Industrial Mathematics ITWM, Germany

Investigation of filter service life increased by collating high efficiency media, P. P. Tsai*, The University of Tennessee, USA

High-performance spunlace filter media for process air and liquid filtration, V. Lorentz*, Norafin GmbH, Switzerland

L20 - Filter Media Development and Application 16:45-18:00

Influence of filter cloth behaviour on the layout of cake forming filters, E. Ehrfeld, Bokela GmbH, Germany

Comparison of pore size distribution of non-woven fibrous filter evaluated by computer simulation with the distributions measured by DFM and microscopic observation, K. Matsumoto*, K. Nakamura, Yokohama National University; T. Yunoki, Tritec Corporation, Japan

Continuous welding and simultaneous edge sealing of pleated filter media, A. Korz*, K. Herzer, Textile Fusion Technologies GmbH, T. Westermann, Pfaff Industriesysteme und Maschinen AG, Germany

L21 - Selective Separation and Classification 16:45-18:00

"Bubble bobble" in the lauter tun - A new way for mash separation in the brewhouse, J. Tippmann*, H. Scheuren, J. Voigt, K. Sommer, Munich University, Germany

Performance of dynamic filtration in particle classification, L. Steinke*, Y. Taamneh, S. Ripperger, University of Kaiserslautern, Germany

Modeling sieving filtration using simple network models, U. Beuscher*, W. L. Gore & Associates Inc., USA

G16 - Modelling and Simulation II 16:45-18:00

Influence of an oscillating flow on single fibre efficiency, P. Kopf*, M. Piesche, University of Stuttgart, Germany

Deposition of nanoparticles in the composites of nano- and micro-sized fibers. The electrostatic effects, L. Gradon*, Warsaw University of Technology, Poland

Effect of slip flow on the pressure drop in fibrous filters, Z. Bin, Tongji University, P.R. China; V. Bertola, The University of Edinburgh, UK; E. Cafaro, P. Tronville*, Politecnico di Torino, Italy

G17 - Mist and Droplet Separation 16:45-18:00

Collection of oil droplets from pyrolysis gases by an electrostatic precipitator, A. Bologa*, H.-R. Paur, H. Seifert, K. Woletz, Forschungszentrum Karlsruhe, Germany

Measurements of metal working fluid mist emissions at high concentrations, T. Laminger*, W. Höflinger, Vienna University of Technology, Austria

A model for steady-state oil transport and saturation in a mist filter, D. Kampa*, J. Meyer, B. Mullins, G. Kasper, Karlsruhe University, Germany