FILTECH

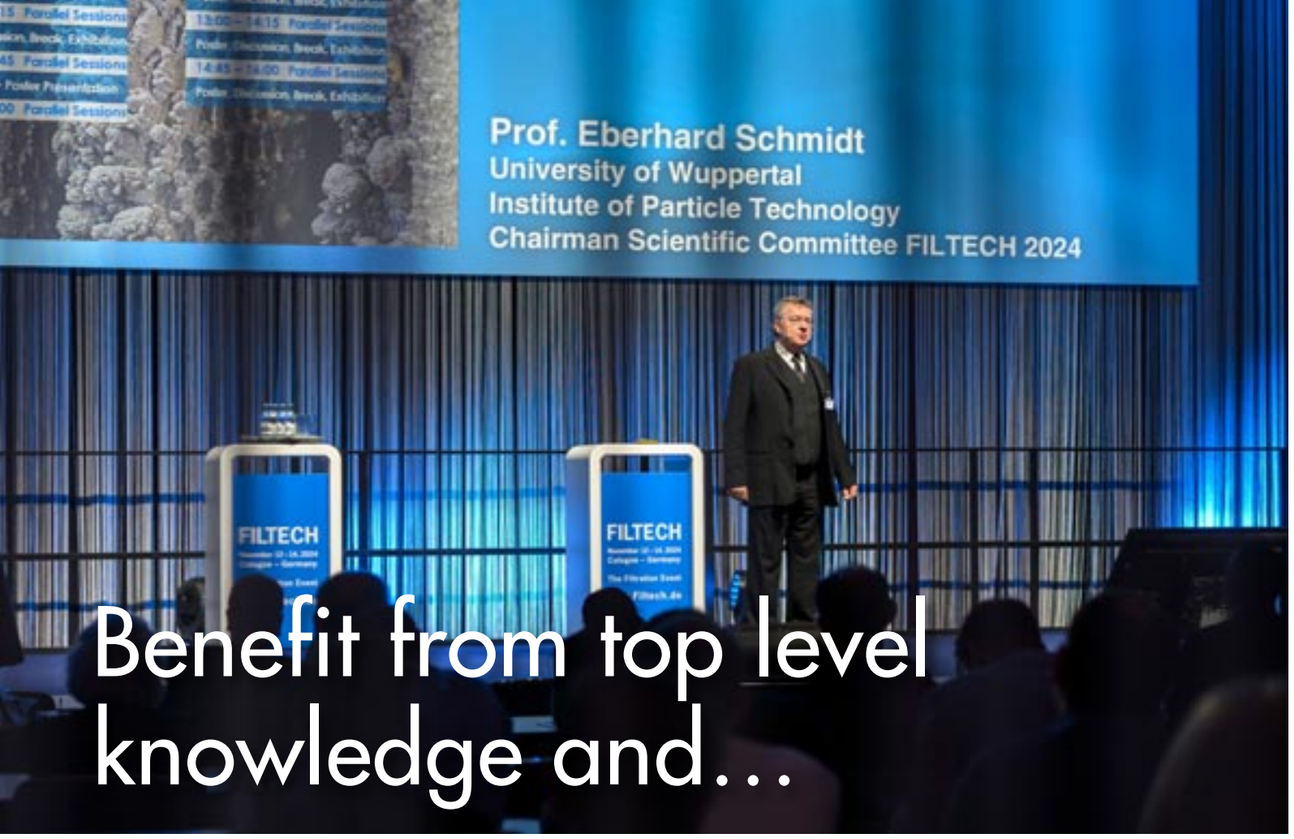
June 30 – July 02, 2026
Cologne – Germany

The Filtration Event
www.Filtech.de

Platform for your success

Conference Programme Short Courses & Trade Show

Koelnmesse
Cologne
Germany



Benefit from top level knowledge and…

… know-how transfer

The Filtration industry provides innovative solutions for current and future challenges. This dynamic industry is of further growing importance and turning into a key industry worldwide. At the FILTECH 2026 Show the latest innovations will be on display and will provide visitors an exclusive overview and insights into state-of the art science and technologies - no matter what sector they are in. The innovative power in the field of filtration and separation is strong. Particularly in air filtration, fine dust values and gases that affect the climate, germs that are harmful to our health, and other impacts are leading to ever new developments. But also for solids separation and solid-liquid separation there are always new developments with the striving for maximum efficiency, higher quality and sustainable solutions.

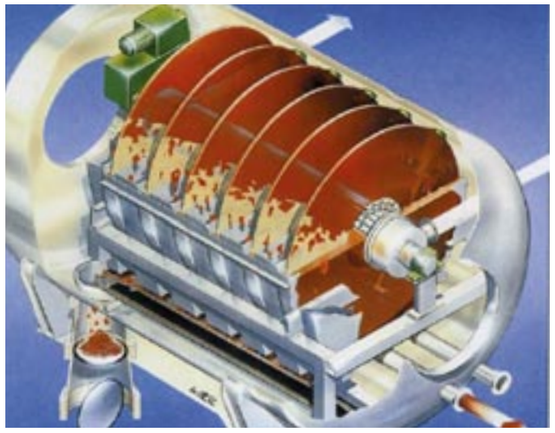
More than 160 Technical Papers

The programme gives a representative survey of the different procedures and applications of separation technology all across the industry, from the preparation of mineral raw materials, chemistry, environmental technology and water purification down to pharmaceutical and biotechnology, air cleaning and air monitoring technologies. Presentations also focus on the detection of micro pollutants, antibiotic-resistant bacteria/germs, micro plastics in water and their removal technologies. Also presented are new developments in battery manufacturing and recycling. On the basis of advanced hardware, most modern sensor techniques and deep understanding of physical fundamentals, AI applications are becoming more and more important also for separation technology. Digital twins and autonomous processes help to improve the solution of many separation problems. New approaches to face these and many other challenges are given at **FILTECH 2026** Conference.

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Short Course 1

Solid/Liquid Separation

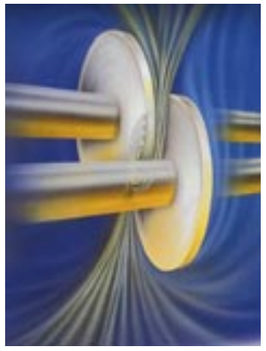


This 1-day Course "Solid/Liquid Separation" is of interest to engineers, scientists, managers and other technical personnel involved in solid-liquid separation in the process and other industries. They will find the course informative, regardless of whether they design, purchase, research or use filtration 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.



Course Presenter

Dr.-Ing. Harald Anlauf was till March 2020 Academic Director at the Karlsruhe Institute of Technology (KIT), Institute of Mechanical Process Engineering and Mechanics and and has amassed more than 40 years of experience. in the field of solid liquid separation technology. He earned his academic degrees as Chemical Engineer 1980 and 1985 at Karlsruhe University. 1999-2006 he was Chairman of the VDI-GVC working party „Mechanical Liquid Separation", since 2000 Co-Chairman of the FILTECH Congress Scientific Committee. 2004-2008 he was Chairman of INDEFI and President of the 10th World Filtration Congress 2008 in Leipzig, Germany. He published more than 190 technical papers, books etc. and is internationally active in giving consultations and lectures.



Topics:

- Characterisation of Particles & Particle Separation
- Density Separation - Static Thickeners and Solid Bowl Centrifuges
- Depth, Cross Flow and Cake Filters
- Filter Media
- Suspension Pretreatment to Enhance Separation Properties
- Alternative Separation Solutions & Apparatus Combinations
- Selection Criteria for Separation Equipment

8.30 h Welcome Coffee

9.00 h **Introduction and Overview**
Systematic survey of separation processes, apparatus examples and separation strategies

10.00 h **Particle Characterization**
Characterization of single particles, particle collectives and particle separation.

10.45 h Coffee Break

11.00 h **Density Separation – Static Thickeners and Solid Bowl Centrifuges**
Separation mechanisms, equipment, mode of operation, application.

12.00 h **Depth and Cross Flow Filtration**
Separation mechanisms, equipment, mode of operation, application

12.45 h Lunch

13.45 h **Cake Filtration – Formation, Washing, Demoisturing**
Separation mechanisms, consequences for practical use.

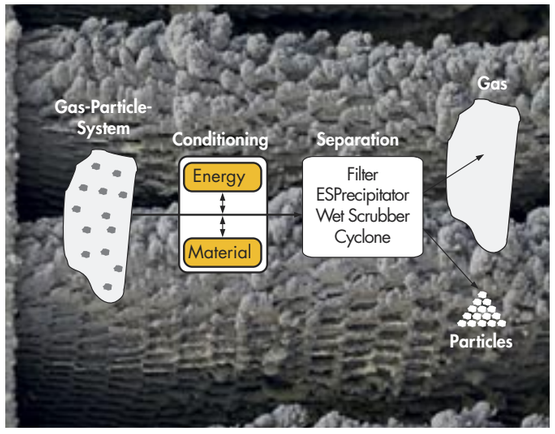
14.45 h Coffee Break

15.00 h **Cake Filters**
Equipment, mode of operation, application

16.00 h **Filter Media**
Overview and fields of application, influence of media properties on separation results.

16.30 h **Suspension Pretreatment to Enhance Separation Properties**
Additional techniques for enhancing solid-liquid separation processes, physiochemical influences on slurry stability, flocculation

17.00 h **Apparatus Combinations, Alternative Solutions and Apparatus Selection Criteria**
Strategies for process optimization & selection of suitable separation techniques.



Short Course 2

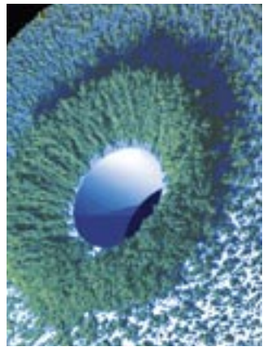
Air Cleaning & Dust Separation

This 1-day Short Course is of interest to engineers, technicians, scientists, managers, and other personnel involved in gas-solid separation in indoor air systems and the process industries. This Course is informative, regardless of whether you design, purchase, research, or use dust separation equipment for product recovery, emission control, air conditioning systems or process gas cleaning. This course is a comprehensive review of the processes involved in the separation of solid or liquid particles from gases.



Course Presenter

Prof. Dr.-Ing. habil. Eberhard Schmidt is Full Professor for Safety Engineering/Environmental Protection at Wuppertal University. His academic degrees he earned 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 consulted and lectured throughout the world.



Topics:

- Evaluation & Selection of Dust Collection Equipment
- Wet Scrubbers and Electrical Precipitators
- Centrifugal Collectors / Cyclones
- Fibrous Filters / Deep Bed Filters
- Raw Gas Characterisation and Conditioning
- Fabric Filters / Surface Filters
- Health, Safety, and Environment

8.30 h Welcome Coffee

9.00 h **Introduction** | Particulate Matter (PMx); Dust Separation; Air Cleaning; Overview of the course

9.15 h **Evaluation of Dust Collection Equipment**
Particle size characterisation, concentration measurement, overall and fractional collection efficiency

10.00 h **Centrifugal Collectors (Cyclones)** | Mode of operation, basic designs, application, collection efficiency, pressure drop

10.45 h Coffee Break

11.00 h **Fibrous Filters (Deep-Bed Filters)**
Mode of operation, basic designs, application, collection efficiency, pressure drop

11.45 h **Air and Gas Cleaning**
Indoor air purification, automotive application, respiratory protection

12.30 h **Questions and answers**
An open-floor question and answer session

13.00 h Lunch

14.00 h **Wet Scrubbers**
Mode of operation, basic designs, design calculations, application, droplet separation

14.45 h **Electrical Precipitators**
Mode of operation, basic designs, design calculations, application, operating characteristics

15.30 h Coffee Break

15.45 h **Fabric Filters (Surface Filters)**
Mode of operation, basic designs, operating characteristics, design calculations

16.30 h **Industrial Dust Separation**
Selection of dust collection equipment, sustainable process integration, raw gas conditioning

17.15 h **Discussion**
An open-floor question and answer session.

Short Courses | FILTECH 2026 | June 29, 2026

Short Course 3

The World of Nonwovens

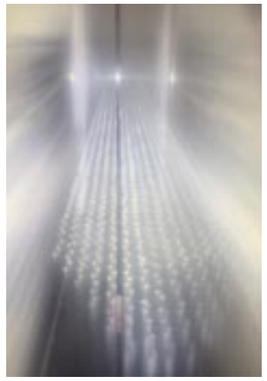
This 1-day Short Course can be helpful to anyone wanting to learn more about nonwovens and where they are used. It is an introductory course covering topics like raw materials, introduction to the different nonwoven manufacturing technologies, as well as characterization and testing of nonwovens. It will also offer a glimpse into new technologies and future opportunities for nonwovens. Potential applications for bio-based polymers and other ideas around sustainability will be discussed.
This will be a very interactive session with lots of time to ask questions and engage in helpful discussions surrounding these different topics.





Course Presenter

Prof. Raoul Farer serves as the Executive Director of The Nonwovens Institute (NWI) and a Professor in the Wilson College of Textiles at NC State University. With over 24 years of experience in the nonwovens industry, Dr. Farer has an extensive background in textile technologies, research and development, and innovation leadership. Prior to joining NWI, Dr. Farer held leadership positions at Freudenberg Performance Materials, where he worked across multiple countries, including Germany, Spain, and the United States. His expertise spans various nonwoven technologies, including wet-laid, dry-laid, meltblown, and spunbond processes, as well as bonding techniques such as thermal, chemical, hydroentanglement, and needle-punching. He played a critical role in modernizing nonwoven manufacturing processes with a strong focus on sustainability and energy efficiency.



Topics:

- Fundamentals of Fibers & Materials
- Web Forming Technologies
- Web Bonding Technologies
- Web Finishing Technologies
- Nonwoven Characterization & Testing
- Opportunities and Challenges for the Nonwovens Industry
- New Technologies

8.30 h Welcome Coffee

9.00 h **Introduction** | Can I do that with a Nonwoven? – The World of Nonwovens – Nonwoven Products & Markets

9.30 h **Fundamentals of Fibers & Materials**
Polymers for Melt-Spinning, Fibers for Dry-Laid / Carded N Nonwovens, Fibers for Air-Laid Nonwovens, Fibers for Wet-Laid Nonwovens, Natural Fibers and Bio-based materials.

10.45 h Coffee Break

11.00 h **Web Forming Technologies**
Principles of Spunbond, Meltblown, Dry-Laid, Wet-Laid and Air-Laid Technologies

12.30 h **Questions and answers**
An open-floor question and answer session

13.00 h Lunch

14.00 h **Web Bonding Technologies**
Principles of Needlepunching, Hydroentanglement, Thermal Bonding and Chemical Bonding

15.00 h **Web Finishing Technologies**
Value-Add finishes and different ways to apply them.

15.30 h Coffee Break

15.45 h **Nonwoven Characterization & Testing**
Uniformity Measurement, Standard Tests, and Specialty Tests

16.30 h **Opportunities and Challenges for the Nonwovens Industry**
Sustainability & Nonwovens

17.00 h **New Technologies**

17.30 h **Discussion**
An open-floor question and answer session.

FILTECH 2026 | Conference Program | Overview

Monday, 29.06.2026

09:00 18:00	SC	Short Course 1 – Solid/Liquid Separation, Dr. Harald Anlauf – Karlsruhe – Germany Short Course 2 – Air Cleaning and Dust Separation, Prof. Dr. Eberhard Schmidt - Wuppertal University – Germany Short Course 3 – The world of Nonwovens, Prof. Raoul Farer - Wilson College of Textiles at NC State University – USA

Tuesday, 30.06.2026

08:00 10:00		Registration – Welcome Coffee in the main lobby of the conference section					
10:15 10:45		Opening Session					
10:45 12:00	PL	Plenary Lecture – Prof. Dr.-Ing. habil. Ioannis Nicolaou, Owner and Director of the Company NIKIFOS – Cyprus Cake-Forming Filtration of Suspensions – Challenges and Solutions					
		Room 1		Room 2		Room 3	Room 4
13:00 14:15	F0	Tailored Filter Media for Advanced Filtration Applications	L1	Centrifugal Separation	G1	Face Masks	G2 Dust Separation
		Coffee Break					
14:45 16:00	K1	Keynote Lecture 1	F1	Sustainable Filter Elements and Media	G3	Air Purification	G4 Filter Test Systems
		Coffee Break					
16:45 18:00	K2	Keynote Lecture 2	F2	Advanced Materials for Filtration Technology	L2	Digital Simulation Techniques for Filtration Processes	L3 Novel Innovative Filtration Processes

Wednesday, 01.07.2026

09:00 10:15	L4	Continuous Vacuum Cake Filtration	L5	Filtration and Adsorption I	G5	Industrial and HVAC Applications	G6 Indoor Air Cleaners
		Coffee Break					
10:45 12:00	K3	Keynote Lecture 3	F3	Bio-based Polymers Versus Fossil Based Polymers	G7	Industrial Gas Cleaning	G8 Ambient Air Applications
		Lunch 1st Floor					
13:00 14:15	K4	Keynote Lecture 4	F4	Enhancement of Filter Media Performance I	L6	Press Filters I	L7 Filtration and Adsorption II
		Coffee Break					
14:45 16:00	F5	Room 1 Short Oral	L8 M1	Room 2 Short Oral	G9	Room 3 Short Oral	G10 Room 4 Short Oral
16:00 16:45		All Poster Presentations in the Poster Section in front of Hall 7.					
16:45 18:00	F6	Enhancement of Filter Media Performance II	G11	Adsorption	L9	Press Filters II	M2 Water Treatment

Thursday, 02.07.2026

09:00 10:15	F7	Filter Media for high performance and low environmental impact	G12	Pleated Filter	L10	Depth Filtration I	M3 Biotechnical Applications
Coffee Break							
10:45 12:00	F8	Filter Media Characterization	G13	Mist and Droplets	L11	Depth Filtration II	M4 Membrane Characterization
Lunch 1st Floor							
13:00 14:15	F9	Surface Functionalization of Filter Media I	G14	Modelling and Simulation I	L12	Filtration Fundamentals and Lab Scale Tests	M5 Ultrafiltration
Coffee Break							
14:45 16:00	F10	Surface Functionalization of Filter Media II	G15	Modelling and Simulation II	L13	Slurry Pretreatment - Thickening - Flocculation	

Scientific Committee Chairmen

Dr. Harald Anlauf - Karlsruhe - Germany
Prof. Eberhard Schmidt - Wuppertal - Germany

Scientific Committee

Prof. Mônica Lopes Aguiar - São Carlos - Brazil
Prof. Sergiy Antonyuk - Kaiserslautern - Germany
Dr. Harald Banzhaf - Ludwigsburg - Germany
Dr. Wu Chen - Freeport - USA
Prof. Liang-Yin Chu - Sichuan - China
Prof. Ching-Jung Chuang - Taoyuan - Taiwan
Prof. Kyung-Ju Choi - Seoul - Korea
Prof. Achim Dittler - Karlsruhe - Germany
Prof. Dr. Kunihiro Fukui - Hiroshima - Japan
Dr. Pascal Ginisty - Foulayronnes - France
Prof. Antti Häkkinen - Lappeenranta - Finland
Prof. Eiji Iritani - Nagoya - Japan
Prof. Gerhard Kasper - Karlsruhe - Germany
Dr. Karsten Keller - Milford - USA
Prof. Teemu Kinnarinen - Lappeenranta - Finland
Dr. Ralf Kirsch - Kaiserslautern - Germany
Prof. Gernot Krammer - Graz - Austria
Prof. Andrzej Krasinski - Warsaw - Poland
Dr. Martin Lehmann - Ludwigsburg - Germany
Prof. Markus Lehner - Leoben - Austria
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Prof. Woon-Fong Wallace Leung - Hong Kong - China
Dr. Tuve Mattsson - Aalborg - Denmark
Prof. Gerd Mauschitz - Vienna - Austria
Prof. Arunangshu Mukhopadhyay - Jalandhar - India
Prof. Ioannis Nicolaou - Larnaca - Cyprus
Prof. Jennifer Niessner - Heilbronn - Germany
Prof. Hermann Nirschl - Karlsruhe - Germany
Dr. Thomas Peters - Neuss - Germany
Prof. Urs Peuker - Freiberg - Germany
Prof. Pierre-Yves Pontalier - Toulouse - France
Prof. Sandra Mara Santana Rocha - Espirito Santo - Brazil
Dr. Christine Sun - Waterloo - Canada
Prof. Hans-Joachim Schmid - Paderborn - Germany
Dr. Anthony Stickland - Melbourne - Australia
Prof. Dominique Thomas - Nancy - France
Prof. Bhaskar N. Thorat - Mumbai - India
Prof. Paolo Tronville - Torino - Italy
Prof. Kuo-Lun Tung - Taipei - Taiwan
Prof. Eugène Vorobiev - Compiègne - France
Dr. Matthias Waldenmaier - Kaiserslautern - Germany
The Committee list lists countries and regions

Tuesday, 30 June 2026 – 10:15 - 12:00

Cake-Forming Filtration of Suspensions – Challenges and Solutions

PL



Opening and
Plenary Lecture
Prof. Dr.-Ing. habil. Ioannis Nicolaou
Owner and Director of the Company NIKIFOS
Cyprus

The cake-forming filtration of suspensions, which includes the optional steps of washing and deliquoring of the filter cake, is a key method in solid-liquid separation. It is found in a wide range of industries where diverse continuous and batch filter apparatuses are used. Such fields include the chemical, petrochemical, food and beverages, pharmaceutical, pulp and paper, electronics, metallurgical, waste water industries just to name some. It is common for all filter apparatuses to have a filter area covered by a filter medium and the formation of a filter cake. The driving potential for the cake formation can be a gas pressure difference: vacuum (continuous vacuum belt, drum, disc and pan filters) or overpressure (continuous pressure drum and disc filters, pressure nutsche filters), a hydraulic overpressure (candle and pressure leaf filters, filter presses, filter press automats) or a centrifugal pressure (all types of batch and continuous filter centrifuges).

Tuesday, 30 June 2026

13:00 - 14:15

Filter Media Session | Gas Session | Liquid Session | Membrane Session

F0 Tailored Filter Media for Advanced Filtration Applications

room 1

Session Chair: Raoul Farer

Composite-cloths as filter media: Combining smallest pore sizes and mechanical robustness in one filter medium

M. Müller*, SPÖRL KG, Germany

High-performance tullomer™ scrim for advanced industrial filtration

M. Zimmerman*, Z-Polymers Inc., USA

The next generation of nanofiber-based air filtration: Nanofiber media vs. glass fiber, V. Demirel*, HIFYBER, Turkey

L1 Centrifugal Separation

room 2

Session Chair: Karsten Keller

Recent developments in process modeling for solid-liquid separation in solid bowl centrifuges

M. Gleiß*, Karlsruhe Institute of Technology (KIT), Germany

Dynamic grey box modeling of decanter centrifuges via continual learning

M. Gleiß*, O. Zhai, Karlsruhe Institute of Technology (KIT), Germany

CFD as a tool for optimization of solid bowl centrifuges: Achievements and future challenges,

L. Künkler*, H. Nirschl, M. Gleiß, Karlsruhe Institute of Technology (KIT), Germany

Face Masks

G1

room 3

Session Chair: Jennifer Niessner

Next generation FFP2: Simulation-based optimization of processes and media for filtering face pieces

R. Kirsch*, C. Mercier, W. Arne, S. Antonov, Fraunhofer Institute for Industrial Mathematics (ITWM); E. Dahrmann, IMSTec GmbH; T. Kara, Reifenhäuser Reicofil, Germany

Limited gas protection in filtering facepiece respirators containing activated carbon

D. Tobjörk*, M. Sundqvist, FOI, Swedish Defence Research Agency, Sweden

Design and development of 3D structured personalised nose mask for better protection of human respiratory health from air pollutants in asthma patients

M. Basak*, S. Bakshi, S. Mukherjee, National Institute of Fashion Technology (NIFT); A. Mitra, Visva Bharati University; A. Mukhopadhyay, B.R. Ambedkar, National Institute of Technology Jalandhar, India

Dust Separation

G2

room 4

Session Chair: Achim Dittler

Flow field improvement for the optimization of the performances of a pulse-jet baghouse

A. Ginestet*, D. Pugnet, M. Robitu, CETIAT - Centre Technique des Industries Aérauliques et Thermiques, France

Operations for the bag filter system: PROJET MEGA®

M. Garg*, Intensiv-Filter Himenviro Gmbh, Germany

Enhancing hot gas filter performance in earthquake-prone regions and other extreme environments

A. Barker*, ALKEGEN, USA

Tuesday, 30 June 2026

14:45-16:00

Filter Media Session | Gas Session | Liquid Session | Membrane Session

K1 Insights into shear-enhanced dynamic filtration: Advancements and applications in solid–liquid separation

room 1

Session Chair: Harald Anlauf



Keynote Lecture 1
Prof. Su-En Wu
Chung Yuan Christian University
Taiwan

Membrane technology has been widely adopted for filtration and separation applications to enhance production quality and operational efficiency over the last decade. In practical chemical and biochemical separation processes, multicomponent suspensions often lead to membrane fouling, which becomes the primary contributor to filtration resistance. Therefore, reducing membrane fouling and filtration resistance is crucial for improving filtration performance and ensuring cost-effective membrane processes. Shear-enhanced dynamic filtration presents a promising alternative to traditional cross-flow filtration by introducing additional mechanical forces that significantly reduce cake-fouling resistance. Although the power consumption for dynamic filtration supply may be higher than the others in solid–liquid separation processing, there is more beneficial for preventing fouling from attaching to the membrane surface.
This presentation will provide an overview of recent developments and applications of dynamic filtration.

F1 Sustainable Filter Elements and Media

room 2

Session Chair: Rostand Tayong Boumda

Sustainable separations by membranes: From performance potential to industrial implementation, K. Tempelman-Bolt*, INNOMEM, Netherlands

Production of cellulose acetate nanofibers derived from sugarcane bagasse for application in air filtration membranes, L. A. Pimentel, P. A. M. Chagas, G. Cardoso da Mata*, M. L. Aguiar, Federal University of São Carlos, Brazil

From circular filtration materials to audit-proof sustainability data: Physical–digital traceability enabled by SMX and validated with CETI, P. Wijns*, CleverSustainability, Germany; D. Amsallem, SMX – Security Matters, Ireland; M. Marival - Centre Européen des Textiles Innovants, France

Air Purification

G3

room 3

Session Chair: Gerhard Kasper

Miniature electrostatic precipitator

H. Salmela*, I. Kulmala, A. Säämänen, VTT Technical Research Centre of Finland; K. Koljonen, LUT School of Engineering Sciences; S. Tella, LAB University of Applied Sciences, Finland

Aeromobil: Testing and mathematical modelling of bioaerosol decontamination and evaluation of infection risk in indoor spaces

V. Sharp*, C. Hartl, C. Kirchnawy, G. Ettenberger, OFI - Austrian Research Institute for Chemistry and Technology; R. Zweiler, M. Goritschnig, K. Paar, K. Plank, GET - Güssing Energy Technologies GmbH, T. Neuhuber, B. Glinsner, ZSI - Centre for Social Innovation Ltd., Austria

Patented rotating filterfan for drastic reduction of power consumption and noise in air filtering system

M. Gulliksen*, Peakvent AS, Norway

Filter Test Systems

G4

room 4

Session Chair: Achim Dittler

Testing of welding fume separators to ensure compliance with occupational exposure limits

D. Kochale*; R. Heidenreich, S. Herrmann, Institute of Air Handling and Refrigeration (ILK), Germany

Filter testing according to ISO 29461 – Air intake filter systems for rotary machinery

C. Kappelt, M. Neukirch*, J. Landgraf, R. Adam, J. Müller, Topas GmbH, Germany

Testing of human pathogenic microorganisms & allergens with a newly developed BSL 2 safety work bench compatible compact filter test rig

C. Hartl*, V. Sharp, C. Kirchnawy, G. Ettenberger, OFI - Austrian Research Institute for Chemistry and Technology; R. Zweiler, M. Goritschnig, K. Paar, K. Plank, GET - Güssing Energy Technologies GmbH; T. Neuhuber, B. Glinsner, ZSI - Centre for Social Innovation Ltd., Austria

Tuesday, 30 June 2026

16:45-18:00

Filter Media Session | Gas Session | Liquid Session | Membrane Session

K2 How can we bridge the gap between indoor air quality and energy efficiency?

room 1

Session Chair: Gerhard Kasper

Keynote Lecture 2
Prof. Dr. Jennifer Niessner
Heilbronn University of Applied Sciences
Heilbronn – Germany



We spend most of our time in indoor environments. Thus, indoor air quality is of paramount importance for our health and well-being. Ventilation and air purification are essential for maintaining good indoor air quality, addressing a wide range of contaminant sources such as wood treatment in furniture, building materials, cleaning agents, indoor combustion processes but also the occupants. While the energy crisis is increasing challenges with respect to energy efficiency window ventilation, stationary ventilation systems, and mobile air purifiers require energy for heating, cooling, and/or air circulation. To ensure a healthy and comfortable indoor environment with minimal energy consumption, advanced strategies are needed, which combine ventilation and air purification measures based on factors such as room occupancy, outdoor temperature, desired health levels, and other relevant parameters in a clever way.

F2 Advanced Materials for Filtration Technology

room 2

Session Chair: Vincent Edery

Polyurethane applications in filtration and regulation (EU) 2020/1149: Requirements, implications and recommendations for action. Challenge or opportunity?

F. Steegmanns*, Stockmeier Urethanes GmbH, Germany

Ensuring safety and performance in drinking water filtration through advanced resin formulations

L. Schifano*, F. Bertani, F. Campanini, ELANTAS Europe, Italy

Sustainability in cleanrooms: How regulatory pressure, energy demand, and chemical safety are transforming air filtration technology

F. Spehl*, A. Price, M. Alzaghari, M. Johnsson, Z-Y. Cui, MANN+HUMMEL GmbH, Germany

Digital Simulation Techniques for Filtration Processes L2

room 3

Session Chair: Hermann Nirschl

From theory to practice: Leveraging scientific methods in industrial applications

T. Dobler*, BOKELA GmbH, Germany

The potential of data-driven modelling in filtration processes

M. Fuhrmann*, H. Nirschl, M. Gleiß, Karlsruhe Institute of Technology (KIT), Germany

Towards 3D CFD-DEM simulation of solid-liquid multi-pass filter testing

K. Schmidt*, IT for Engineering (it4e) GmbH; G. M. Burhan, BinNova Microfiltration GmbH, Germany

Novel Innovative Filtration Processes L3

room 4

Session Chair: Harald Anlauf

Introduction of an innovative separation plant consisting of a sieve and magnetic filter for the reduction of radioactive waste

A. Heneka*, M.J. Chaudhry, S. Gentes, C.-O. Krauß, Karlsruhe Institute of Technology, Germany

A new continuous oligonucleotide reactor based on a filtration process

K. Keller*, R. Hillebrand, Freiberg University of Mining and Technology, USA/Germany

Development of a high-precision filtration and classification system using cross-flow filtration and centrifugal field

H. Satone*, K. Limura, S. Taguchi, T. Yamamoto, University of Hyogo, Japan

Wednesday, 01 July 2026

09:00-10:15

Filter Media Session | Gas Session | Liquid Session | Membrane Session

L4 Continuous Vacuum Cake Filtration

room 1

Session Chair: Bernhard Hoffner

Separation of fine non-ferrous metal sulfide precipitates by vacuum filtration

S. Jayasekara*, T. Kinnarinen, S. Virolainen, LUT School of Engineering Sciences, Finland

From idea to production – New XL352 high-performance disc filter – The biggest in tailings

J. Hahn*, T. Dobler, BOKELA GmbH, Germany

Development of an autonomous vacuum belt filter for the adaptive filtration of mining waste

P. Hartmann*, M. Gleiß, Karlsruhe Institute of Technology (KIT), Germany

L5 Filtration and Adsorption I

room 2

Session Chair: Hermann Nirschl

Advancement of 3D-printed filter via acetone treatment for enhanced CuHCF immobilization and selective ammonium capture

N. Dehbashi Nia*, T. Kim, B. Kim, Y. Park, Y. Hwang, Seoul National University of Science and Technology, Korea; E. Repo, A. Hurskainen, LUT Lappeenranta University of Technology, Finland

PFAS removal from the fuel cell exhaust stream using ion exchange resins

S. Leininger*, MANN+HUMMEL GmbH, Germany

Regenerable iron–alginate filter media for antibiotic removal from wastewater effluents

M. Khoder*, N. Azizeh, M. Fielder, S. Gould, H. Kadri, Kingston University London, M. Najlah, Anglia Ruskin University, UK; M. M. Nakipoglu, Bartin University; C. Eryilmaz, Zonguldak Bülent Ecevit University; S. U. Karaagaç, Karabuk University, Turkey

Industrial and HVAC Applications G5

room 3

Session Chair: Ralf Kirsch

Mathematical strategies for designing energy-efficient and sustainable air filtration systems: A review

M.S. Giri Nandagopal*, Excelair Filters, United Arab Emirates

Cerallec: Ceramic honeycomb hot gas filtration system for sustainable high temperature industrial processes

R. Torbati*, T. Schedlbauer, A. Wille, NGK Europe GmbH, Germany

Ageing of fine fiber polypropylene meltblown in dynamic conditions,

C. Desquilles*, Alkegen, France

Indoor Air Cleaners G6

room 4

Session Chair: Martin Lehmann

New standardized test methods for air cleaners – Influence of measurement instrumentation and test aerosol

S. Schumacher*, C. Asbach, N. Rudnik, A. Säämänen, Institute of Environment & Energy, Technology & Analytics e.V. (IUTA), Germany; I. Ehder-Gahm, H. Salmela, VTT Technical Research Centre of Finland, Finland

Controlled evaluation of performance degradation in stand-alone air cleaners under progressive particle loading

R. Rezaei*, Agentis Air LLC, USA

Optimizing the use of room air purifiers in combination with HVAC filters for IAQ and energy efficiency for PM2.5 and ultrafine particle removal, L. Rothenberg*, R. Rezaei, A. Viosca, R. Schell, Agentis Air LLC, USA

Wednesday, 01 July 2026

10:45-12:00

Filter Media Session | Gas Session | Liquid Session | Membrane Session

K3 The dirty side of filtration – Possibilities, limits, and new developments in filter cake washing

room 1

Session Chair: Anthony Stickland



Keynote Lecture 3
Prof. Dr.-Ing. Bernhard Hoffner,
Technical University of Applied Science
Mannheim – Germany

Prof. Dr. Urs Peuker,
TU Bergakademie
Freiberg – Germany

Filter cake washing is a critical process in mechanical solid-liquid separation, particularly in industrial applications where high purity, efficiency (time, equipment, wash liquid demand, ..) and process stability and predictability are required. Additionally, there are specific boundary conditions imposed on the washing process, since it is usually an integral part of the process chain cake formation – pre-deliquoring – cake washing – post-deliquoring on the same filter. As a consequence, there are a variety of process options with respect to stage numbers, type of wash fluid, etc. In the course of the washing process, a wash fluid penetrates the filter cake and displaces the pore liquid that contains dissolved substances (impurities, products) to be removed from the particle system.

F3 Bio-based Polymers Versus Fossil Based Polymers

room 2

Session Chair : Rostand Tayong Boumda

Biobased polymers for meltblown nonwovens

T. Hiller*, S. Ringger, L. Bonten, K.S. Koeck, M. Azimian, German Institutes for Textil- and Fiber Research (DITF), Germany

Antimicrobial biobased meltblown filter materials functionalized with inorganic nanoparticles

G. Masione*, M. Tichonovas, D. Ciužas, E. Krugly, D. Martuzevicius, Kaunas University of Technology, Lithuania

Reimagining filtration: Biopolymer-based woven and nonwoven media for a circular future

A. Mukherjee*, National Institute of Fashion Technology, India

Industrial Gas Cleaning G7

room 3

Session Chair: Jörg Meyer

How high efficiency fabric filtration enables stable amine based carbon capture: Insights from AWG Wuppertal

B. Karlsson*, M. Koller, ANDRITZ AB, Sweden

Industrial-scale field demonstration of integrated PM and NOx removal using pleated SCR pellet catalyst filter bags in a wood waste incineration boiler

Y.-O. Park*, D.-K. Shin, K.-D. Kim, Deahan PNC Co., Ltd; S.-D. Kim, KIER - Korea Institute of Energy Research, South Korea

Purenat, the new biomimetic media that reinvents photocatalysis

N. Kinadjian Caplat*, C. Teixeira, J. Karpiel, M. Terrasse, Purenat, France

Ambient Air Applications G8

room 4

Session Chair: Jennifer Niessner

Results of the aerosolfd project on how air purifiers can improve air quality at metro stations

M. Lehmann*, S. Kunze, K. Kedwell-Simmering, MANN+HUMMEL GmbH; C. Asbach, Institute of Environment & Energy, Technology & Analytics e.V. (IUTA), Germany; T. Canas, Metropolitano de Lisboa; Portugal; S. Agathokleous, T. Moreno, CSIC-IDAEA; C. Casado, Fundacion CARTIF, Spain; K. Alstrup-Jensen, The National Research Centre for the Working Environment, Denmark

Filtration performance of moss

S. Holfeld*; R. Heidenreich, M. Lauer, Institute of Air Handling and Refrigeration (ILK), Germany

Molecular filtration media, tailored to better air quality and new market needs

C. Prost*, S. Pigeot-Rémy, Ahlstrom Specialties SAS, France; L. Cerra, Ahlstrom Italia SpA, Italy

Wednesday, 01 July 2026

13:00-14:15

Filter Media Session | Gas Session | Liquid Session | Membrane Session

K4 PM removal from combustion fumes – How to tackle regulation, energy efficiency and decarbonation

room 1

Session Chair: Wilhelm Höflinger

Keynote Lecture 4

Prof. Dr. Laurence Le Coq
IMT Atlantique Nantes
Nantes – France



Manufacturing industry (excluding waste treatment) represents 20% of the greenhouse gas emission in France with 67 MteqCO2 in 2023 of which 80% or more comes from combustion processes in most sectors except cement and lime, where decarbonation processes play a predominant role. Considering waste treatment sector, it is worth to consider 7 MteqCO2 due to incineration plant.
The industry's decarbonization strategy must address environmental challenges by reducing GHG emissions by 35% by 2030, while complying with European regulations on other pollutants from combustion, such as particles, and taking into account the challenges related to industry and energy sovereignty. This decarbonization strategy must also address the issue of capturing CO_2 emitted by combustion or oxy-combustion processes, which requires improving existing flue gas treatment units or developing new ones to enable the separation of flue gas and CO_2.

F4 Enhancement of Filter Media Performance I

room 2

Session Chair: Harald Anlauf

Mission zero disruptive & sustainable water filtration media

T. Gerdes*, F. Edelmeier, F. Meyer, Haver & Boecker, Germany

AGXX – Clean and long-lasting filter performance through effective microbial prevention

O. Asmus*, M. Danz, T. Schwob, Heraeus Precious Metals, Germany

Sintered nonwovens: Using the advantages of hydro- entangled nonwovens and converting them into metal or ceramic sintered filter media

T. Thiem*, Norafin Industries GmbH , Germany

Press Filters I

L6

room 3

Session Chair: Gernot Krammer

A machine vision-based solution for cloth inspection and anomaly detection in filter presses,

F. Dalmonte*, D. Collini, Diemme Filtration Srl, Italy

Modeling non-uniformities in plate-and-frame filter press operations,

L. Dipilato*, G. Krammer, Graz University of Technology; J. Tausendschön, Research Center Pharmaceutical Engineering (RCPE), Austria

Advances in membrane filter plates for enhanced filter press efficiency

B. Fischer, H. Aust*, K. Podratzky, G. Börste, Lenser Filtration GmbH, Germany

Filtration and Adsorption II

L7

room 4

Session Chair: Teemu Kinnarinen

Bamboo based activated carbon - New products and applications development

M. Shen*, Huaqing Activated Carbon; H. Mingyu, Ningbo Tianyi Activated Carbon Co. Ltd., China

Enhancing commercial active carbon filters with locally sourced high-performance biomaterials

V. Rissanen*, A. Aguilar-Sánchez, K. Salminen, T. Tammelin, VTT Technical Research Centre of Finland; O. Manninen, J. Aalto, AQVA Finland, Finland; K.-Y. Lee, Imperial College London, UK

PAC-assisted precoat filtration for removal of micropollutants in sewage and industrial wastewater

T. Buchwald*, A. Klinkert, Hoffmann Maschinen- und Apparatebau GmbH, Germany

Wednesday, 01 July 2026

14:45-16:45

Filter Media Session | Gas Session | Liquid Session | Membrane Session

F5 Short Oral + Poster Session

room 1

Session Chair: Ioannis Nicolaou

Resin-Reinforced Biodegradable Lyocell Fiber Filters for High-Efficiency Air Purification

J. Cui*, T. You, G. Xu, Y. Liang, M. Tang, South China University of Technology, China

Effect of operating pressure on pore structure stability of polypropylene hollow fiber membranes evaluated by porometry

K.-S. Liao*, L.-W. Ku, Poretech Instrument Inc.; K.-Y. Lin, S.-E. Wu, Chung Yuan Christian University, Taiwan

Water interactions in nano- to macroscopic scale – Beyond state-of-the-art analytical tools for filter and membrane research

T. Virkkala*, A. Aguilar-Sanchez, V. Rissanen, T. Tammelin, VTT Technical Research Centre of Finland, Finland

Tailored filtration media for reliable and efficient industrial liquid purification,

J. Krauß*, MANN+HUMMEL GmbH, Germany

Fabrication of carboxylated lyocell micro/nano fibrils using deep eutectic solvent and their application in water filter paper

L. Tian*, M. Tang, G. Xu, Q. Song, Y. Liang, South China University of Technology, China

Short Oral + Poster Session

L8/M1

room 2

Session Chair: Marco Gleiß

Experimental and numerical investigation of surface-induced coalescence in liquid-liquid phase separators

S. Temiz*, R. Jesse, Franken Filtertechnik KG, Germany

Rational design of high-performance coalescer media for low-interfacial-tension diesel fuels

Q. Song, M. Tang, Y. Liang*, South China University of Technology; Y. Yao, Innovation Institute of Advanced Paper-based Materials, China

Adsorption of heavy metals using natural zeolites and bio-adsorbents

N. M. Azrin, A. Alfutimie*, University of Manchester, UK

A revolutionary approach for maximising process water reuse and resource recovery through a smart, circular and integrated solution

Alexey Khakalo*, VTT Technical Research Centre of Finland Ltd, Finland

Critical raw material recovery with tailor-made nanofiltration membranes,

M. Abel*, B. Bräsel, A. Limper, I. Rose, naion.tech, Germany

Membrane applications in agrochemical manufacturing

D. Clarke*, M. Chippendale, S. Genoud, Syngenta, UK

Establishment of a cost-effective pilot plant hollow-fiber membrane for water desalination

E.A. Abdel-Aal*, M.T. Sayed, H.M. Abdel-Ghafar, Central Metallurgical Research and Development Institute (CMRDI), Egypt

Pressure-based fouling index for evaluating membrane fouling in constant-rate filtration

Q. Zhang*, N. Katagiri, Meijo University, Japan

Biocide-free nanocellulose antifouling coatings: A scalable and renewable solution for water filtration

A. Aguilar-Sánchez*, T. Tammelin-Peltonen, V. Rissanen, VTT Technical Research Centre of Finland, Finland; B. Jalvo, Kemikalieinspektionen; J. Li, A. Mathew, E. Pesquet, Stockholm University, Sweden

Simulation and optimization of heat and mass transfer in direct contact membrane distillation modules

Y. Taamneh*, Jordan University of Science and Technology, Jordan

Wednesday, 01 July 2026

14:45-16:45

Filter Media Session | Gas Session | Liquid Session | Membrane Session

G9 Short Oral + Poster Session

room 4

Session Chair: Monica Lopes Aguiar

Wetting behavior of different liquids on electret filters and on the base material of the filters, D. Stoll*, S. Antonyuk, University of Kaiserslautern-Landau (RPTU); S. Schumacher, B. Kroll, C. Asbach, Institute of Environment & Energy, Technology & Analytics e.V. (IUTA), Germany

Scaling up the separation of fine dust from diffuse sources using electrically charged water spray mist, M. Weidemann ,F. Belter*, M. Kaul, E. Schmidt, University of Wuppertal, Germany

Adhesion force measurements between particles under variation of relative humidity, F. Belter*, E. Schmidt, University of Wuppertal; V. Brandt, H. Kruggel-Emden, Technische Universität Berlin, Germany

Fiber entanglement effects on filtration efficiency and aging of filter media for particulate control in the steel industry, A.C. Coelho Vieira*, L.A.F. Sartori, G.C. da Mata, M.L. Aguiar, Federal University of São Carlos; R. Sartim, Federal University of Espírito Santo, Brazil

Enhancement of a multi-layer construction model for describing dust separation throughout the entire filtration process by consideration of the interactions of the filtering elements, J. Ciesielski*, Q. Zhang, University of Wuppertal, Germany

A model-based study on the targeted preloading of depth filters for customized filter solutions for dust separatin, Q. Zhang, J. Ciesielski*, University of Wuppertal, Germany

Experimental evaluation of convergent–divergent geometries applied to natural gas treatment in the oil industry, K.R.B. Melo, L.L. X. Augusto, M.L. Aguiar*, G. C. Lopes, V. G. Guerra, Federal University of São Carlos, Brazil

Short Oral + Poster Session G10

room 5

Session Chair: Gerd Mauschitz

Evaluating the jump-channel model on full-scale oil mist filters under industrial conditions, E. Matteusson*, L. Brunzell, J. Samuelsson, Karlstad University, L. Dalemo, Absolent AB, Sweden

Determination of separation efficiency for a spray mist system for dust suppression in tunnel construction, T. Senfter, D. Hackl*, C. Mayerl, M. Berger, T. Kofler, E. Leusmann, M. Pillei, MCI - The Entrepreneurial School; T. Hochsteiner, R. Galler, Montanuniversität Leoben; M. Halwachs, PORR Bau GmbH, Austria; R. Antretter, G. Neumann, BeMo Tunnelling GmbH; J. Kegenhoff, Korfmann Lufttechnik GmbH, Germany; M. Schöll, Brenner Basistunnel BBT SE, Italy

Investigation of structural changes of particle agglomerates within the channels of a wall-flow filter under the influence of condensed water, M. Engelhardt*, E. Schmidt, University of Wuppertal, Germany

Experimental study on NO_2-assisted regeneration in a gas cleaning model filter channel, O. Desens*, M. Gerteis, F.P. Hagen, J. Meyer, A. Dittler, Karlsruhe Institute of Technology, Germany

Microstructural analysis of multicomponent hetero-agglomerates formed in a turbulent pipe flow, J. Witte, E. Schmidt, M. Engelhardt*, University of Wuppertal; V. Kolck, H. Kruggel-Emden, Technische Universität Berlin, Germany

Velocity-driven effects on the optimization of nanoaerosol filtration in electrospun nanofibers,G. Cardoso da Mata, M. Sirlene Morais, A. C. Coelho Vieira, P. A. Marques Chagas*, M.L. Aguiar, Federal University of São Carlos, Brazil

Sustainable antibacterial electrospun PAN nanofiber media for high-performance air filtration applications, M. M. Shirmohammadi*, Termeh Mask Co.; Z. Shafiei, F. Golbabei, V. Shahbazian, S. Kalantary, M. R. Pourmand, E. Masoorian, K. Azam, Tehran University of Medical Sciences, Iran

Wednesday, 01 July 2026

16:45-18:00

Filter Media Session | Gas Session | Liquid Session | Membrane Session

F6 Enhancement of Filter Media Performance II

room 1

Session Chair: Raoul Farer

Enhancing mechanical filtration performance of thermobonded media via proprietary fiber-level design

M. Ahmed*, Beaulieu Fibres International, Belgium

3D–textile based filters for biotechnological wastewater treatment, exhaust air purification, and microplastic filtration

J. Sarsour*, B. Ewert, T. Stegmaier, N. Krasteva, G.t. Gresser, German Institutes of Textile and Fiber Research (DITF), Germany

Simulation of the filter performance of wire meshes for the filtration of polymer melts

C. Mercier*, R. Kirsch, S. Osterroth, D. Niedziela, Fraunhofer Institute for Industrial Mathematics (ITWM), Germany

G11 Adsorption

room 2

Session Chair: Sergiy Antonyuk

Validated simulation of toluene sorption in 3D activated carbon for cabin air filtration

A. Stiefelmaier, P. Eichheimer, M. Luczak*, T. Sterbak, A. Wiegmann, Math2Market GmbH; F. Keller, MANN+HUMMEL GmbH, Germany

Combined filtration of contaminants in lithium-ion battery manufacturing,
D. Keßlau*, R. Heidenreich, D. Kochale, Institute of Air Handling and Refrigeration (ILK); M. Fardmostafavi*, S. Schlunke, B&S Filtration GmbH, Germany

Nanofiber-microporous activated carbon lamination: A structurally stable dual-phase filtration architecture

F. Tezcan*, HIFYBER, Turkey

Press Filters II

L9

room 3

Session Chair: Urs Peuker

Study of best condition on the filterability of thermally treated (HTC) bio-sludge from a tannery, through a filter press

D. Collini*, D. Pirini, B-PLAS Sbrl; S. Gilioli, Deltacque Srl, Italy

Combining constant pressure and declining rate filtration to model high pressure dewatering rolls

A. D. Stickland*, N. I. K. Ekanayake, S. Hassan, University of Melbourne; D. R. Lester, RMIT University, Australia

Shear-assisted high-solids filtration of red mud using high pressure dewatering rolls

S. Hassan*, R. Cavalida, A. D. Stickland, The University of Melbourne, Australia

Water Treatment

M2

room 4

Session Chair: Gerd Mauschitz

Coupling microfiltration with micropollutant degradation and adsorption through reactive membrane surface engineering

A. Schulze*, K. Fischer, Z. Niavarani, M. Schmidt, D. Breite; Leibniz Institute of Surface Engineering (IOM), Germany

Modular treatment solutions for the elimination of short- and ultra-short-chain pfas from industrial wastewater and groundwater

A. Brison*, F. Mushtaq, E. Morlas, Oxyle AG, Switzerland

Cornerstone: Integrated technologies and digital solutions for circular water, energy, and solute recovery from industrial wastewater

C. A. Quist-Jensen, I. Bousrih, H. F. Sulaiman*, S. Díaz-Quezada, A. Ali, Aalborg University

Thursday, 02 July 2026

9:00-10:15

Filter Media Session | Gas Session | Liquid Session | Membrane Session

F7 Filter Media for high performance and low environmental impact

room 1

Session Chair: Wilhelm Höflinger

Will ePTFE membrane be able to withstand PFAS and remain leading air/liquid filtration material for the next 30 years

K.-J. Choi*, Clean & Science Co., USA

Advanced filtration systems with micro-adsorbents for micropollutant and PFAS removal: Pile cloth media filtration and ceramic membrane filtration

T. Fundneider*, R. Schäfer, A. Hernández, Mecana AG, Switzerland; T. Reid, Aqua Aerobic Systems, Inc., USA

Sustainability-by-design in filtration: Pilot testing and fundamental research for sustainable filtration innovations, P. Wijns*, CleverSustainability, Germany; M. Marival, CETI - Centre Européen des Textiles Innovants, France

G12 Pleated Filter

room 2

Session Chair: Matthias Waldenmaier

Operating behavior of pleated filter medium geometries in a standardized test-rig with pulse-jet-cleaning

J. P. Knisley*, J. Meyer, A. Dittler, Karlsruhe Institute of Technology (KIT), Germany

Prediction of SO2 breakthrough curves of pleated filters in ansys fluent

A. Widmann*, K. H. Lepper, Hengst SE, Germany

An engineering-based approach for the optimization of pleat number in dust collection filters

O. Osmanagaoglu*, Tempo Filtre, Turkey

Depth Filtration I

L10

room 3

Session Chair: Dr. Lars Spelter

Nanofiber for fuel and oil filtration

J. Gao*, NFT Purification Technology Inc., USA

New liquid filter test methods at disposal for the fluid process industry

N. Petillon*, IFTS Institut de la Filtration et des Techniques Séparatives, France

Water Treatment

M3

room 4

Session Chair: Pierre-Yves Pontalier

Integrated continuous downstream processing for enzyme separation using aqueous two-phase flotation (ATPF and ultrafiltration,

K. C. Lohfink*, H. Nirschl, Karlsruhe Institute of Technology (KIT), Germany

Impact of microalgae-derived organic matter on membrane fouling and fouled-membrane characteristics,

Q. Zhang*, N. Katagiri, Meijo University, Japan

PES nanofibers for cost-effective, high efficiency prefiltration in bioprocessing,

K. Higginson*, J. Laastad, F. Rezaei, B. Swortzel, Hollingsworth & Vose, USA

Thursday, 02 July 2026

10:45-12:00

Filter Media Session | Gas Session | Liquid Session | Membrane Session

F8 Filter Media Characterization

room 1

Session Chair: Dietmar Lerche

Estimation of separation size of nonwoven metallic filter media based on probability mode

S. Ishikawa*, Y. Yoshida, Kansai Wire Netting Co., Ltd., Japan

Water permeability measurements of porous filter media with poroluxTM revo porometer

M. Ängeslevä*, W. Motyka, D. Dutczak, A. Sobolewska, I. Struzynska-Piron, E. Pattyn, Aptco Technologies GmbH, Germany

From µCT to digital twin: AI-based characterization of nonwoven filtration media

C. Kühnle*, A. Grießer, R. Westerteiger, E. Glatt, M. Luczak, T. Sterbak, A. Wiegmann, Math2Market GmbH, Germany

G13 Mist and Droplets

room 2

Session Chair: Matthias Waldenmaier

Multi-scale experimental approach for investigating the fundamental mechanisms of oil mist filtration under realistic operating conditions

B. Jaumann*, J. Meyer, A. Dittler, Karlsruhe Institute of Technology, Germany

Influence of filtration velocity and drainage material pore size on the spatio-temporal drainage behaviour of oil in oil mist coalescence filters

R. Mandic*, J. Meyer, A. Dittler, Karlsruhe Institute of Technology, Germany

Modeling of filtration process in complex filter structures using a physics-informed neural network coupled with smoothed particle hydrodynamic

A. Zargaran, F. Hartwig, F. Freese, U. Janoske*, University of Wuppertal, Germany

Depth Filtration II

L11

room 3

Session Chair: Vincent Edery

Filter media design for mitigation of gel shearing defects in optical polymer film processing

S. Vandendijk*, S. Van Landuyt, J. Ye, NV Bekaert, Belgium

Filtration pressure behavior during constant-rate filtration using string-wound cartridge filter media

S. Oguri*, K. Watanabe, M. Iwata, H. Yagishita, Sanshin Mfg. Co., Ltd., Japan

Review work on the leather-fibre filtration characterisation for wastewater treatment

R.B. Tayong*, M. Mortazavi, University of Bedfordshire, United Kingdom

Membrane Characterization

M4

room 4

Session Chair: Pierre-Yves Pontalier

State of the art on methods for analyzing pores and the filtration efficiency of microfiltration membranes

N. Petillon*, IFTS Institut de la Filtration et des Techniques Séparatives, France

New standards available to qualify ultra and nano filtration membranes

N. Petillon*, IFTS Institut de la Filtration et des Techniques Séparatives, France

Tracking microplastic transport in hollow fiber membranes by fluorescence and pore network modeling

R.I. Peinador*, IFTS - Institute of Filtration & Techniques of Separation, France

Thursday, 02 July 2026

13:00-14:15

Filter Media Session

Gas Session

Liquid Session

Membrane Session

F9 Surface Functionalization of Filter Media I

room 1

Session Chair: Lars Spelter

Functionalized PU foam as a platform for advanced filtration and microbial systems

S. Chavan*, P. Mayall, The Vita Group ; M. Lathbury, D. Carlotta-Jones, Byohm, UK

Dry impregnation solutions for MOFs

L. Monin*, S. Bouzouita, Fibroline S.A., France

Reducing total polar materials in frying oil using a functionalized filter pad

R. Rock*, Ahlstrom Filtration, USA; C. Läck, Ahlstrom Sweden AB, Sweden; S. Pigeot-Rémy, Ahlstrom Specialties, France

G14 Modelling and Simulation I

room 2

Session Chair: Jörg Meyer

Mathematical modelling of an ionizer-assisted filter system

A. Vora*, T. van der Zwaag, A. Bankodad, S. Haep, Institute of Environment & Energy, Technology & Analytics e.V. (IUTA), Germany

Numerical investigation on the influence of fiber bundles on the flow resistance and filtration efficiency of nonwovens

A. Charvet*, N. Bardin-Monnier, D. Thomas, Lorraine University; S. Bourrous, Autorité de Sûreté Nucléaire et de Radioprotection, France; R. Kirsch, Fraunhofer Institute for Industrial Mathematics (ITWM), Germany

CFD simulation of pulse-jet cleaning in fabric filters - Thermo-fluid-dynamic behavior and cooling effects

G. V. Messa, Politecnico di Milano; C. Maggi*, L. Montanelli, Clean Air Europe S.r.l., Italy

Filtration Fundamentals and Lab Scale Tests L12

room 3

Session Chair: Ioannis Nicolaou

Including pore channel tortuosity in ergun´s equation using spheres packing of different sizes, R. Pereira Dias*, Instituto Politécnico de Bragança, Portugal

Experimental benchmark tests for the validation of CFD-DEM simulation of cake filtration, N. Benz*, S. Antonyuk, RPTU University Kaiserslautern-Landau, Germany

The impact of mineralogical composition on tailings dewatering by pressure filtration: Emphasis on clay type and case study presentation, L. Bonanni*, A. Grosso, F. Kaswalder, Diemme Filtration Srl; M. Carpenito, University of Ferrara, Italy

Ultrafiltration M5

room 4

Session Chair: Qian Zhang

Mapping the performance of charged nanocellulose-enabled ultrafiltration membranes

T. Levä*, H. Ghimire, M. Mäkelä, T. Tammelin, A. Khakalo, VTT Technical Research Centre of Finland; J. Nieminen, LUT School of Engineering Sciences, Finland; C. Pflieger, Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany

Preventing biofilm and avoiding biofilm removal and maintenance in ultrafiltration in water treatment

J. Ronquillo*, Lam-X, Czech Republic

Fabrication of biobased electrospun and electrosprayed polymer membranes for water ultrafiltration

D. Martuzevicius*, G. Masione, D. Ciužas, M. Tichonovas, T. Prasauskas, I. Urniezaite, Kaunas University of Technology, Lithuania

Thursday, 02 July 2026

14:45-16:00

Filter Media Session | Gas Session | Liquid Session | Membrane Session

F10 Surface Functionalization of Filter Media II

room 1

Session Chair: Harald Anlauf

Plasma nanocoating strategies to replace halogens in advanced filtration media

F. Legein*, Plasmalex SAS, France

Reduction and functionalization of composite graphene oxide/PVA/PEG freestanding paper via atmospheric pressure plasma for use in filtration membranes

F. Zelenák*, S. Sihelník, M. Stupavská, Z. Moravec, D. Kováčik, R. Krumpolec, Masaryk University, Czech Republic

Impact of a charged plasma polymer deposit on heavy metal rejection and clogging of a polyamide nanofiltration membrane

D. Taleb*, S. Déon, P. Fievet, Université Marie et Louis Pasteur; A. Airoudj, V. Roucoules, F. Bally-Le Gall, Université de Haute-Alsace, France

G15 Modelling and Simulation II

room 2

Session Chair: Qian Zhang

3D simulation of aerosol deposition at a composite nonwoven of electrostatically charged wool and polypropylene fibers

V. Puderbach, K. Schmidt*, IT for Engineering (it4e) GmbH, Germany; V. Chan, Lanaco, New Zealand

A highly efficient flow-based surrogate for modeling particle deposition in filter structures

N. Jüngling*, J. Niessner, Heilbronn University of Applied Sciences, Germany

Effect of fine particle fraction on overall particle dynamics after their initial deposition on fibrous filter structures: Towards enhancing the computational efficiency of a comprehensive CFD-DEM modeling approach

J. Wieremiejczuk, S. Dande, J. Mačak*, C. Mehring, University of Stuttgart; C. Schulz, F. Hahn, MANN+HUMMEL GmbH, Germany

Slurry Pretreatment - Thickening - Flocculation L13

room 3

Session Chair: Marco Gleiß

Separation of ultrafine particles from tailings thickener overflow

E. Strand*, R. Salmimies, Sofi Filtration, Finland

Direct mechanical recycling: Influence of cross-flow filtration on the characteristics of lithium-ion battery recyclate

P. Wiechers*, M. Gleiß, H. Nirschl, Karlsruhe Institute of Technology, Germany

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