

FILTREX™ ASIA 2022: Programme

Thursday 1st December 2022

09.00 – 09.15 INTRODUCTION AND WELCOME



Marines Lagemaat, Scientific and Technical Affairs Director, **EDANA** (Belgium)

SESSION 1 HEALTH

09.15– 10.00

KEYNOTE SPEECH: Health topics in relation to air quality. Becoming more proactive and preventing: healthy living is key



- Health as the most important societal pillar
- Health as an investment
- The need of keeping people healthy
- Providing health in and outside of the health sector
- The home as the health catalysator

Joe-Max Wakim

Vice Director of Health, **Copenhagen Institute for Future Studies** (Denmark)

10.00 – 10.30

STUDY ON THE BREATHING RESISTANCE OF PLEATED THREE-DIMENSIONAL MASKS



- A pleated three-dimensional filtration mask with a restricted drawstring
- Three-dimensional simulation model of mask breathing
- The influence of pleat structure such as pleat interval, pleat height and pleat shape on the breathing resistance of the mask under different breathing conditions

Huixin Yuan,

President, **Wuxi Taihu University, Changzhou University** (China)

10.30 – 11.00

USING VIRUS SURROGATE BACTERIOPHAGE PH16 AND HUMAN CORONAVIRUS 229E FOR DETERMINATION OF VIRAL REDUCTION EFFICACY IN AIR AND ON SURFACES



- Biological test approach using bioaerosols within air filtration testing standards
- Real-life in car testing using viral aerosols and determination of viral reduction efficacy
- Test set-up using human coronavirus 229E regarding the evaluation of interaction of the virus with textiles, filter media and surfaces

Bernadette Führer

Senior Scientist, **OFI Technology & Innovation** (Austria)

SESSION 2

MOBILITY

11.00 – 11.30

WITH SAFETY AND SUSTAINABILITY ABOARD - THE FIRST HL3 CERTIFIED BAG FILTERS FOR RAILWAY APPLICATIONS



- Relevance of air filtration on railway application
- Fire protection on railway
- Air filtration solutions to accommodate fire protection in rail

Thorsten Stoffel

M.A. | Global Product Manager, **Delbag** (Germany)

11.30 – 12.00

WHERE IS THE TRUTH IN HEPA CABIN AIR?



- What is HEPA Filtration, and why does it matter?
- Importance of clean air in vehicles
- What is in the market today
- New synthetic technologies enable “real” HEPA filtration in Cabin Air

Dr. Ingrid Rückert

Product Marketing Manager, **Hollingsworth and Vose** (Germany)

12.00 – 13.00

BREAK

13.00 – 13.30

CLEAR AIR EVERYWHERE – FILTRATION TECHNOLOGY FOR ENHANCED CABIN AIR QUALITY



- Overview on air quality data and regulations outside and inside vehicle cabins
- Development of filter media technology ensuring best cabin air quality
- Impact on cabin air quality of different technologies (lab & field trials results)
- Outlook on future solutions for cabin air filtration

Thomas Heininger

Director Engineering Cabin Air Filtration, **MANN+HUMMEL** (Germany)

13.30 – 14.00

ELECTRET NONWOVENS FOR CABIN AIR FILTRATION/FACE MASKS: INVESTIGATION OF SUBMICRON AEROSOL DEPOSITION USING EXPERIMENTS AND SIMULATIONS



- Investigation of particle deposition in electret filters/nonwovens for cabin air filtration/face masks
- Innovative simulation method that considers fibre charge modeling, particle-fibre charge interaction (and slip flow)
- Investigation of the electret filter/nonwoven wetting behaviour as an influencing factor in liquid particle deposition
- Novel method for local and global optimization of nonwovens for face masks

Daniel Stoll

Scientific Researcher, **Institute of Particle Process Engineering | Technische Universität Kaiserslautern** (Germany)

14.00 – 14.45

EV READINESS INDEX



- Evaluating the EV (electric vehicle) market
- Introducing the EV Readiness Index
- Focusing on sustainability in the EV space
- Analysing the infrastructure needs of EVs
- Assessing supply chains and EV batteries

Fransua-Vytautas Razvadauskas

Cities and Mobility Senior Consultant, **Euromonitor International** (Lithuania)

SESSION 3

TESTING

14.45 – 15.15

ON THE 16890 SALT AEROSOL GENERATOR CLOGGING, CRYSTALLIZATION RESEARCH SOLUTIONS AND THE IMPACT ON TEST EFFICIENCY



- Analysis of blockage of salt aerosol generator. The effects of different types of aerosols on MPPS efficiency and the efficiency of 0.3 µm particle size
- Solutions for blocking and crystallization of salt aerosol generator
- The effect of clogging and crystallization on the test efficiency

Tengfei Wu

Director of Test Center, **Suzhou Suxin Environmental Technology Co., Ltd.** (China)

15.15 – 15.45

MEASURING PORE SIZE (DISTRIBUTION) IN NONWOVEN FILTER AND SEPARATION MEDIA



- Insights into capillary flow porometry and the relevant data it generates for nonwoven filter media
- Explanation of different measurement methods within gas-liquid porometry
- Attention points and recommendations when measuring non-wovens

Dana Dutczak

Sales & Application Manager, **Porometer** (Belgium)

15.45 – 16.15

NEW ISO 10121-3 - FIRST CLASSIFICATION SYSTEM FOR MOLECULAR FILTERS FOR GENERAL VENTILATION



- Test set-up & classification system for efficiencies against key molecular pollutants
- Impact on the requirements on composite-media with activated carbon or other adsorbents
- Timeline for implementation & impact on other guidelines

Tobias Zimmer

Vice President Global Product Management & International Standards, **Camfil** (Germany)

Friday 2nd December 2022

SESSION 4 SUSTAINABILITY

09.00 – 09.30



PROFILED BICOMPONENT FIBRES FOR COALESCENCE FILTER MEDIA

- Liquid aerosols such as oil droplets endanger human health and can lead to severe lung diseases
- Coalescing filters are used to separate these oil droplets from air
- A pressure loss of 2-5 %, residual emissions of more than 20,000 particles/m³ and clogging occurs at the filter media
- Profiled bicomponent fibres as a solution

Leonie Beek

Researcher, **Institut für Textiltechnik of RWTH Aachen University** (Germany)

09.30 – 10.00



THE RESEARCH PROGRESS ON PREPARATION AND FUNCTIONALIZATION OF HIGH EFFICIENCY AIR FILTER MEDIA

- Introduction to the research progress of high efficiency air filter media.
- In terms of high efficiency and low resistance, this study discussed different solutions.
- The study of functionalization of filter media was also discussed.

Min Tang

Associate Professor, **South China University of Technology** (China)

SESSION 5 MEDIA AND MEMBRANE TECHNOLOGY

10.00 – 10.30



APPLICATIONS OF MICRO-NANO FIBER MATERIALS IN AIR FILTRATION AND OIL-WATER SEPARATION

- Nanofiber-based composite materials which was prepared with the combined technologies of electrospinning and electrification, could be used as a novel air filter media having high filtration efficiency at low resistance.
- Micro- and nano-fiber materials were also investigated for their potential applications in oil/water separation industry, in the forms of hydrophobic MB nonwoven materials, staple fibrous foam, and cellulosic nanofiberaerogels.
- Test results indicated that they all have good-excellent performance in oil/water separation or oil absorbency, showing great potential as the substitutes to currently used technologies.

Yanbo Liu

Professor, **School of Textile Science and Engineering, Wuhan Textile University** (China)

10.30 – 11.00

ENHANCING FILTRATION PERFORMANCES OF WET-LAID SYNTHETIC NONWOVENS DUE TO IMPROVED STRUCTURES AND DIGITAL PRODUCT DEVELOPMENT



- Multi-layer filtration media
- Gradient, Digital design
- Geodict
- Trinitex® development

Elise Ruiz, R&D Filtration Engineer, **Ahlstrom** (France)

11.00 – 11.30

DEVELOPMENT AND APPLICATION OF DYNAMIC MEMBRANE FILTRATION TECHNOLOGY



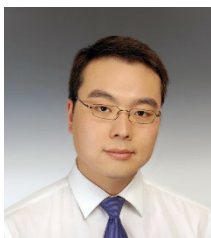
- The principle of dynamic membrane filtration and its advantages and disadvantages comparing with traditional cross flow filtration
- Main dynamic membrane filtration types and related equipment
- Hydraulic characteristics of dynamic membrane filtration process and its correlation with filtration performance
- Energy consumption assessment according to operating conditions
- Main domain of dynamic filtration and it's prospect

Shiyong Wang

Senior Engineer, Process and Equipment Department, **Shanghai Research Institute of Chemical Industry Co., Ltd.** (China)

11.30 – 12.00

BROADENING THE PLA PORTFOLIO BY INTRODUCING A SPECIFIC GRADE FOR MELTBLOWN, SUITABLE FOR FILTRATION APPLICATIONS



- A new 100% PLA grade is being developed, specifically dedicated for the use in meltblown applications
- PLA product applications requiring microfiber structures can now also be produced
- Combined with other PLA grades, these can be combined into complex biobased nonwoven products, attaining air filtration levels comparable to incumbent materials

Yaoqi Shi

Sr. Technical Manager China, **TotalEnergies Corbion** (China)

12.00 – 12.30

HIGH EFFICIENCY LOW PRESSURE (HELP) GLASSFIBER FILTER MEDIA--HELP CLEAN THE AIR IN THE POST-EPIDEMIC ERA



- The “scientific and technological ammunition” - high efficiency and low resistance glass fiber air filter paper, was delivered in the fight against the epidemic by Nanjing Fiberglass Research & Design Institute Co., Ltd.
- High efficiency and low resistance glass fiber air filter paper help the filter to save energy and protect environment, and prolong service life of the filter.
- By means of numerical simulation, pulping process simulation, microstructure design and other technologies and methods, high efficiency and low resistance filter paper was successfully developed.

Xiaoyan Chen

Manufacturing Director, **Nanjing Fiberglass Research & Design Institute Co., Ltd.—
Microfiber Company** (China)

12.30 – 12.35

CLOSING WORDS



Marines Lagemaat, Scientific and Technical Affairs Director, **EDANA**