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 catalyst

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 PHI6 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)

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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)

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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