

Detailed program for RoomVent 2024

General:

For all **oral presentations**: 2 minute presentation by the moderator and change of presenting author + 12 minute presentation by the author + 4 minutes for questions/discussion - **in all 18 minutes per article**

For all **poster presentations**: 2 minute presentation by the moderator and change of presenting author + 3 minute presentation by the author - **in all 5 minutes per article and 15 + 15 minutes for questions/discussion**

Monday 22 April

17:00 **Registration** (*as in check-in, getting name tags - not signing up for the conference*) opens

18:00 **Official opening of the conference and get-together with refreshments**

20:30 *Get-together ends*

Tuesday 23 April

09:00 **Introduction to the conference**

09:30 **Keynote speech 1, Jarek Kurnitski: Post-COVID ventilation**

10:00 *Coffee break*

10:15 **All presenting authors of the sessions 1 - 3 + poster session 1 gather in their respective rooms**

Session 1 - Room K1

Chair:

10:30 **Indoor climate: Health aspects**

Risto Kosonen

10:30 364 Effect of ventilation and wearing a facemask in reducing indoor aerosol transmission Brochot, Clothilde

10:48 535 Infection Risk-Based Ventilation Effectiveness Assessment in Cruise Ship Common Spaces Using Tracer Gas Measurements Vösa, Karl-Villem

11:06 391 Experimental investigation of ventilation and breathing and their effect on the spread of exhaled aerosols between occupants Al-Rikabi, Ihab Jabbar

11:24 474 Airflow network modeling of a virtually renovated school in Iceland to study the optimal design and regulation of ventilation systems Rong, Li

11:42 522 Performance of local ventilation system under three different underfloor air distribution systems in consulting room Yoshihara, Jun

Session 2 - Room K2

Chair:

10:30 **Indoor climate: IAQ**

Manuel Carlos Gameiro da Silva

10:30	429	An exploratory study on the influence of indoor-air parameters on discomfort and cognition performance in schools.	LITVAK, Andrés
10:48	469	CO ₂ , temperature and RH in Swedish primary school classrooms with and without automatic window operation	Cabovská, Blanka
11:06	467	The Effects of Nightly Shutdown of Ventilation on Indoor Air Pressure Difference Conditions and TVOC and radon concentrations in Finnish	Raunima, Tuomas
11:24	502	Evidence of outdoor air quality events in classroom IAQ, RoomVent 2024	Wood, Samuel G. A.
11:42	521	Field investigation of perceived air quality : study case in Norwegian secondary school with Demand-Controlled Ventilation	Alam, Azimil Gani

Session 3 - Room K11

Chair:

10:30	Ventilation & energy efficiency: Wind and natural ventilation		Tomohiro Kobayashi
10:30	409	Influence of Internal Partition with an Opening on Purging Flow Rate of Wind-Induced Ventilation	Toyosawa, Kota
10:48	435	Computational fluid dynamics of airflow rates for natural ventilation with opposing wind and buoyancy	Jiang, Zitao
11:06	375	Comprehensive testing of indoor ventilation in underground transit hubs and microclimate in adjacent sunken plazas	Wang, Chenxing
11:24	371	Effects of adjoining building structures on wind pressure coefficients	Torun Widström
11:42	516	Windcatcher: A Sustainable Alternative for Improving Indoor Air Quality and Thermal Comfort in Educational Spaces in Germany	Nejat, Payam

Poster presentations 1 - Room K16

Chair:

10:30	Indoor climate: Health aspects, pollution, IAQ		Svein Ruud
10:30	384	Investigation on airflow distribution for operating rooms through numerical simulation and field measurement	Agharid, Alya Penta
10:35	473	Experimental and numerical study on the deflected wall-jet ventilation in an airborne infection isolation room (AIIR)	Zhang, Ying
10:40	484	Analysis of the input parameters for the infection risk model from CO ₂ measurements	Mäkinen, Antti Jaakko
10:45	501	CFD Analysis of a V-Shaped Desktop Fan for Near-field Control of Infected Respiratory Cloud	Rasam, Hamed



10:50	525	Effect of Infector's location and occupants' activity level on airborne spread in a gym – an experimental and CFD study	Ejaz, Muhammad Farhan
10:55	421	Three-stage analysis of the synergistic impact of electrosmog, positive ions and ultrafine particles on air quality and people's health in urban	Alic, Fikret
11:00		Questions/discussion	
11:15	427	Impact of temperature on the dust/gas partitioning of semi-volatile organic compounds in indoor environments	Mansouri, Aya
11:20	381	Analysing the Impact of Data Normalization on LMBP Neural Network Predictions for Indoor Air Quality	Kim, Moon Keun
11:25	404	Development of an indoor air quality index for continuous monitoring in French dwellings	Wei, Wenjuan
11:30	453	An investigation on CO2 concentration, energy use and differential performance of mixed-mode ventilation control strategies in a lecture	Moghadam, Talie Tohidi
11:35	495	QAI-Sport project: Indoor air quality in sports facilities - Characterization of exposure to emerging VOCs and SVOCs and to micro-organisms	Desauziers, Valérie
11:40	520	Recommendations for residential kitchen hood solutions and airflow rates	Thunshelle, Kari
11:45		Questions/discussion	

Workshop 1 - Room K12

10:30	Ventilation and energy performance	Workshop leaders:
	432 Challenges related to Demand Controlled Ventilation	Maripuu, Mari-Liis Mustakallio, Panu Olesen, Bjarne W.

Workshop 2 - Room K15

10:30	Indoor climate	Workshop leaders:
	599 Understanding Requirements for Ventilation and Indoor Climate	Afshari, Ali

Ekberg, Lars
Persily, Andrew
Kurnitski, Jarek
Sekhar, Chandra

12:00 *Lunch break*

13:20 *Keynote speech 2, main sponsor 1, Systemair: Dr. Iyad Al Attar: No one can expect extraordinary air quality from ordinary ventilation systems*

13:50 *All presenting authors of the sessions 4 - 7 gather in their respective rooms*

Session 4 - Room K1

Chair:

14:00 **Indoor climate:** Health aspects

Pawel Wargocki

14:00 464 Design and testing of an emergency humanitarian tent for airborne risk mitigation with natural ventilation

Gentile, Vincenzo

14:18 419 Aerosol particle spreading in an operation room under dynamic condition

Schmeling, Daniel

14:36 564 Reducing patient to patient airborne exposure in patient and isolation rooms with 2 patients

Hagström, Kim

14:54 463 Contaminant exposure in a pharmacy cleanroom with mixing ventilation: Impact of air-change rates

Qin, Peng

15:12 442 Optimized Air Distribution for Contaminant Control in a Cleanroom: A Numerical Study

Bivolarova, Mariya P.

Session 5 - Room K2

Chair:

14:00 **Indoor climate:** IAQ

Sarka Langer

14:00 458 Enhancing indoor learning environments through intelligent air conditioning control

Oppelt, Thomas

14:18 537 Effect of heat source conditions on vertical temperature distribution characteristics for attachment ventilated spaces

Han, Ou

14:36 555 An Interactive Biological Contaminant and CO2 Exposure Dose Calculation Tool

Gameiro da Silva, Manuel Carlos

14:54	451	Calculation tool for co-evaluating ventilation energy performance and indoor air quality	Siilin, Niko
15:12	567	The impact of inlet and obstacle conditions on the indoor environment with impinging jet ventilation system	Yamasawa, Haruna

Session 6 - Room K16 **Chair:**

14:00 Ventilation & energy efficiency: Wind and natural ventilation			Magnus Mattsson
14:00	517	Experimental studies of Single-sided Ventilation for Semi-enclosed models with Horizontal Opening	Lin, Yuanyuan
14:18	438	Point-to-Point Scalar Transfer Efficiencies within a Cross-Ventilated Room Model Sheltered by Urban-Like Block Arrays	Itokazu, Ryu
14:36	395	Experimental validation of single-sided natural ventilation models on building simulation	Jiang, Jun
14:54	479	Measurements of ventilation airflow from pivot and side hung opened windows	Johansson, Dennis
15:12	568	Unsteady indoor airflow analysis of non-isothermal natural ventilation using domain decomposition technique with LES	Kobayashi, Tomohiro

Session 7 - Room K12 **Chair:**

14:00 Modelling & measuring: Control & data usage			Guangyu Cao
14:00	407	A novel Monte Carlo modelling method to support control strategies development in building ventilation	Zhang, Chen
14:18	539	Data analysis and modelling on a monitoring activity of social housing in the North-East of Italy	Tognon, Giacomo
14:36	538	Data-driven approach for assessing ventilation thermal performance based on main heat meter readings	Vasman, Sofia
14:54	440	Smart Indoor Air Quality (IAQ) measurement to enhance occupancy comfort in campus buildings	Shirazi, Arezoo
15:12	511	Effects of unsteady room ventilation on flow structures and the velocity field in a model room	Mesenhöller, Eva

Workshop 3, sponsor workshop - Room K11

14:00 Main sponsor: Systemair	Chair:
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IAQ by design, not demand

Morten Schmelzer

After embarking on a 'Back to Basic Principles' journey, our panel will discuss IAQ governance, monitoring, inclusivity, and sensitivity. Considering practicality and a global outlook, the panel will go beyond a mere academic discourse, focusing on actionable steps to elevate IAQ to the level of worldwide awareness and legal recognition it rightfully deserves.

Panel:
Iyad Al-Attar
Mark McMullan
Stijn Renneboog
Martin Dahlgren

Panel:

Dr. Iyad Al-Attar, Visiting Fellow, Cranfield University (Academic and global IAQ practitioner and advocate)

Mark McMullan, Chartered Senior Mechanical Engineer, Arup (a globally leading building design and engineering company)

Stijn Renneboog, Deputy Secretary General, Eurovent (Europe's primary HVACR sector association and related certification body)

Martin Dahlgren, VP Products & Technologies, Systemair Group (a leading global supplier of high-quality ventilation, filtration, heating, and cooling products and systems)

Together, we will explore how we can collaboratively shape a future where healthy indoor air is not a mere demand but an inherent aspect of our built environment.

Workshop 4, sponsor workshop - Room K11

14:50 Gold sponsor: Bevent Rasch

VAS Visible Air System for energy and IAQ analyses in real time

Chair:

Anders Freyschuss

Anders Hedström, IAQ Sweden (Will speak about the VAS system)

Anders Olsson, IAQ Sweden (Will show the on line measuring)

Speakers:

Anders Hedström

Kent Östby, KRO Produksjon (Will speak about the Kitchen application)

Anders Olsson
Kent Östby

15:30 *Coffee break*

15:45 All presenting authors of the sessions 8 - 11 gather in their respective rooms

Session 8 - Room K1

Chair:

16:00 Indoor climate: Health aspects

Philomena M. Bluysen

16:00 575 Ventilation Effectiveness of Ceiling-Supplied Displacement Ventilation System for Office Room (Part 1) Comparison of Temperature and Contaminant Concentration Distributions under Different Ventilation Systems using Full-Scale Experimental Chamber

Yamanaka, Toshio

16:18 410 Ventilation Effectiveness of Ceiling-Supplied Displacement Ventilation System for Office Room (Part 2) A Parametric Study on the Indoor Environment Examined by CFD Analysis

Kuranaga, Mari

16:36 528 Feasibility of using mobile air cleaners in school classrooms to remove respiratory aerosols

Ding, Er

16:54 531 Ventilation effectiveness measurements and CFD simulations in classrooms for infection risk control

Võsa, Karl-Villem

17:12 414 The characteristics of airborne transmission and thermal comfort with the micro-environment systems and perforated duct system

Zhao, Weixin

Session 9 - Room K2

Chair:

16:00 Indoor climate: IAQ

Caroline Markusson

16:00 485 Numerical Investigation of Indoor Air Quality in a Multi-Storey building due to Traffic sources

Murali Mohan, Midhun

16:18 518 Input data for moisture profiles in multi-family residential buildings.

Holøs, Sverre Bjørn

16:36 482 Towards a new index to qualify indoor air quality and thermal comfort in storage areas

Guichard, Romain

16:54 494 QAI-Sport project : characterization of Indoor Air Quality in sports facilities

Desauziers, Valérie

17:12	556	Can different convective local cooling devices satisfy the demands of elderly people in warm conditions? Based on the air velocity and heat	Chen, Minzhou
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Session 10 - Room K11

Chair:

16:00 Ventilation & energy efficiency: Energy efficiency

Jan-Olof Dalenbäck

16:00	566	Set-up and calibration methodology for real-scale twin test cells HYBCELL: A comprehensive approach for energy efficiency and indoor air	Taibi, Laila
16:18	431	Simulative design method for decentral air handling unit including air-to-air heat pump	Froehlingsdorf, Tobias
16:36	477	Capacity of a cooling system with active chilled beams at different air flow rates	Lukastsuk, Jevgeni
16:54	393	Comparison of multi-stage air treatment process divided by the same temperature and enthalpy difference	Wang, Wentao
17:12	388	A YEAR-ROUND ENERGY-EFFICIENT FRESH AIR HANDLING SYSTEM WITH TWO-STAGE HEAT PUMPS AND LAKE WATER PRE-TREATMENT	Liang, Chenjiyu

Session 11 - Room K16

Chair:

16:00 Modelling & measuring: Measuring

Panu Mustakallio

16:00	459	Aerosol Transmission and Air Quality in a Generic Conference Room - Comparison of Aerosol- and Tracer-Gas-Based Methods	Mommert, Michael
16:18	549	FAST-AIR: Fast Analytic Systems for Tracer-gas Assessment in Indoor Research - Development and Testing of CO2 Tracer-gas System	Andersson, Harald
16:36	559	Evaluating airflow dynamics in operating rooms: a comparative study of low-cost and high-end air velocity sensors	Rosti, Behnam
16:54	448	Carbon dioxide conditions in the classroom and sensor location—CASE study	Uusitalo, Sakari
17:12	558	Performance investigation of staircase pressure differential systems in Norwegian high-rises - local practice and functionality	Lundblad, Jonathan

Workshop 5 - Room K12

16:00 Indoor climate

Workshop leaders:

372 Occupant Targeted Ventilation

Melikov, Arsen K.
Li, Xianting

Li, Angui
Lin, John
Kosonen, Risto
Cao, Guangyu
Yang, Bin

Workshop 6 - Room K15

16:00 Indoor climate

574 Ventilation and Air Distribution in Bedrooms

Workshop leaders:

Wargocki, Pawel
Bivolarova, Mariya
Sekhar, Chandra

17:45 *Bus to the Vasa Museum, for those who have signed up for it*

18:45 ***Guided tour and dinner at the Vasa Museum, separate tickets***

Wednesday 24 April

09:00 ***Keynote speech 3, Angui Li: Advances in Attachment Ventilation - Theory, Design and Applications***

09:30 ***Keynote speech 4, Paula Olsiewski: Using Model Law to Promote Indoor Air Quality***

10:00 *Coffee break*

10:15 ***All presenting authors of the sessions 12 - 14 + poster session 2 gather in their respective rooms***

Session 12 - Room K1

Chair:

10:30 Indoor climate: Health aspects

John Saunders

10:30 428 Enhancing Airborne Transmission Modelling of Respiratory Viruses in Enclosed Spaces through a CO2 Concentration Fitting Algorithm

Aleixo, Luis

10:48 423 Numerical modeling of upper-room UV germicidal irradiation — Validation and performance comparison under various airflow regimes

Alanis Ruiz, Claudio

11:06	529	A Household Air-conditioner Adopting Low-Temperature Atmospheric Plasma (LTAP) for Sterilization of Airborne Microbes	Zhang, Tengfei
11:24	394	Displacement ventilation in conjunction with breathing zone air supply: Experimental study on distributions of droplet nuclei and gaseous	Choi, Narae
11:42	392	Numerical modeling of airborne transmission from airway mucosa of infected person to that of uninfected individual via indoor airflow	Ito, Kazuhide

Session 13 - Room K2

Chair:

10:30	Indoor climate: IAQ		Linda Hägerhed
10:30	398	Evaluation of indoor environmental quality of civil aircraft cabins based on published data	Cao, Xiaodong
10:48	416	Local and individual demand-controlled ventilation in a passenger train	Schmeling, Daniel
11:06	418	Impact of walking passengers on the aerosol spreading in a passenger train	Schmeling, Daniel
11:24	460	Study on indoor air quality in wooden houses in Japan	Matsumoto, Yuuka
11:42	557	Are we on the right path towards indoor environmental well-being?	Rohde, Lasse

Session 14 - Room K11

Chair:

10:30	Ventilation & energy efficiency: Energy efficiency		Mari-Liis Maripuu
10:30	425	Study on Energy Saving Effects of ZEB Retrofit in University Facilities - Based on the Impact of the Pandemic -	Maki, Tanimoto
10:48	405	Performance 2 project - Winter IAQ campaigns in 13 dwellings equipped with Humidity-based DCV systems: analysis of the ventilation	Mélois, Adeline
11:06	443	INFLUENCE OF WORKING FROM HOME SCENARIOS ON ANNUAL HEATING ENERGY DEMAND FOR GERMAN RESIDENTIAL BUILDINGS	ElMokadem, Mahmoud
11:24	563	Possible effects of new Swedish ventilation regulations for residential buildings	Berggren, Björn
11:42	476	Building services and adaptive reuse – an overview of the regulations and potential in Swedish context.	Iarkov, Ilia

Poster presentations 2 - Room K16

Chair:

10:30	Indoor climate: IAQ, Thermal comfort, Ventilation & energy efficiency	Despoina Teli
10:30	551 Evaluation of air exchange rate and PM deposition rate in a classroom.	Gameiro da Silva, Manuel Carlos
10:35	553 Think global, act local: How well does local climatization align with current indoor environmental quality standards?	Syndicus, Marc
10:40	433 Testing and comparing of portable air cleaners for indoor aerosol particle removal in laboratory environments	Xia, Lili
10:45	436 Rethinking clean air – How the composition of indoor air may differ and change based on four ventilation strategies	Li, Yiqun
10:50	472 Using portable air cleaners to restrict airborne transmission in an open plan office – a field measurement and CFD study	Kilpeläinen, Simo
10:55	445 Thermal environment evaluation of rural dwellings on the Tibetan Plateau based on room seasonality and temporality	Chen, Luyao
11:00	Questions/discussion	
11:15	570 Comfort aspects in buildings supplied by radiant systems with mechanical ventilation	Marigo, Marco
11:20	411 Cooling performance of direct expansion system using multiple stages and adjustable heat exchange areas for fresh air handling	Zha, Fuhai
11:25	571 Thermal performance simulation of buildings' envelope with micro encapsulated Phase Change Materials (mPCMs)	Thomas Olofsson
11:30	417 Bayesian network-based fault detection and diagnosis of heating components in heat recovery ventilation	Wang, Ziao
11:35	580 Evaluation of international ventilation and air cleaning guidance generated during the covid pandemic	Atze Boerstra
11:40	Questions/discussion	



Workshop 7 - Room K12

10:30	Ventilation and energy performance	Workshop leaders:
	498 Ventilation effectiveness in the infection risk control	Kurnitski, Jarek Aganovic, Amar Nielsen, Peter Kosonen, Risto

Workshop 8 - Room K15

10:30 Ventilation and energy performance

456 Performance gap for ventilation in buildings in cold climate

Workshop leaders:

Kempe, Per
Widström, Torun
Ruud, Svein

12:00 *Lunch break*

13:20 *Keynote speech 5, main sponsor 2, Camfil, Tobias Zimmer: Clean Air a human right? – New WHO air quality guidelines and its impact on new guidelines for ventilation and filtration*

13:50 *All presenting authors of the sessions 15 - 18 gather in their respective rooms*

Session 15 - Room K1

Chair:

14:00 Indoor climate: Health aspects

Jarek Kurnitski

14:00 497 Propagation characteristics of exhaled flow and its role in indoor airborne transmission-A review

Xiao, Lingjun

14:18 396 Airborne transmission of infectious diseases in rooms ventilated by mixing ventilation

Nielsen, Peter V.

14:36 540 Assessing Airborne Infection Risk through a Model of Airflow Evacuation & Recirculation Dynamics

Kabanshi, Alan

14:54 471 Effect of Aerosols on Hazardous Species Dispersion

Tripathi, Amita

15:12 546 Flooding Of Ventilation Air and its Consequences

Sandberg, Mats Gunnar

Session 16 - Room K2

Chair:

14:00 Modelling and measuring: Modelling and measuring

Angui Li

14:00	380	Experimental measurement and validation of louvred opening for ventilation	Rong, Li
14:18	508	CFD-aided ventilation design for a large experimental chamber to study aerosol dispersion and removal	Kang, Luyang
14:36	408	Ventilation flow reconstruction in a simplified airplane cabin model using measured mean velocities and physics-informed neural networks	Kikumoto, Hideki
14:54	534	Ventilation rate in three types of opening ratio at the domestic kitchen	Lee, Jeffrey
15:12	382	Field measurement analyses and improvement simulation of airflow parallelism in a wafer-grinding cleanroom	Permana, Indra

Session 17 - Room K16

Chair:

14:00	Ventilation & energy efficiency: Energy efficiency		Alireza Afshari
14:00	569	Impact of design conditions on energy use: the case study of a health care facility	Carnieletto, Laura
14:18	387	Evaluation of dehumidification and energy-saving effects for a passive dehumidification system combined with energy recovery ventilation	Chen, Yulu
14:36	397	Energy cost of clean air delivery with portable air cleaners - a case study in two kindergartens	Säämänen, Arto
14:54	545	Moisture-proof Control of Balanced Ventilation Systems with Rotary Wheel Heat Recovery in Single Family Detached Houses	Ruud, Svein
15:12	554	Life cycle assessment and comparison of an evaporative cooling system and a conventional vapour-compression cooling system for an office	Heuvelmans, Ruud

Session 18 - Room K12

Chair:

14:00	Special applications: Fire safety, smoke extraction, asbestos, preservation		Dennis Johansson
14:00	462	Engineering tool for designing a ventilation strategy for small school fires based on the comfort ventilation system	Haukø, Anne-Marit
14:18	524	The impact of smoke extraction strategy on indoor air quality and ventilation components	Aamodt, Andreas
14:36	487	Case study of ventilation solutions and strategies for Li-ion battery rooms	Olsø, Brynhild Garberg
14:54	481	Towards a maximum wind speed for ventilated asbestos removal worksites	Guichard, Romain

15:12 478 Field test of dehumidifiers for avoiding condensation in unheated historical wooden houses Mattsson, Magnus

Workshop 9, sponsor workshop - Room K11

14:00 Main sponsor: Camfil

Air Filtration: Reducing energy cost whilst investing in better Indoor Air Quality – a contradiction or an opportunity?

Workshop Summary

With energy prices soaring, small changes can have a big financial impact on a building's total energy cost. Research shows that better indoor air quality leads to happier, more creative and productive occupants, a win-win for employers and property owners. Join our workshop where insights will be shared on how to tackle the equation. This is also a positive part of the sustainability agenda but who should drive this in a company? At Camfil we have appointed more than 100 Chief Aironomics Officers – individuals who gives clean air a voice within our company. Let us share our story and inspire you to do the same in your organization.

Workshop Facilitator Introduction

Anders Sundvik, Vice President of R&D at Camfil, brings over two decades of experience in product development and operational excellence. Since his appointment as Vice President of R&D in 2009, he has played a pivotal role in driving innovation and shaping the future of air filtration solutions at Camfil. Anders is recognized for his forward-thinking mindset and deep understanding of industry dynamics. With a focus on strategic planning and execution, he continues to lead Camfil towards new heights of success. Anders holds an M.Sc in Production Technologies from KTH Royal Institute of Technology and has received Executive Business Training from KTH Executive School

Workshop leader:

Anders Sundvik

Workshop 10, sponsor workshop - Room K11

14:50 Silver sponsors:

Sponsor 1, **IV Produkt**: Good indoor climate and energy saving

Sponsor 2, **Lindinvent**:

Sponsor 3, **Indoor Energy**: What is the real estate sector's potential contribution to the Swedish energy transition?

Discussion

Workshop leaders:

Magnus Lind

Thomas Lindborg

Mats Bjelkevik

15:30 *Coffee break*

15:45 All presenting authors of the sessions 19 - 22 and poster session 3 gather in their respective rooms

Session 19 - Room K1

Chair:

16:00 Indoor climate: Health aspects

Amar Aganovic

16:00 454 Vertical transmission of aerosols in building drainage pipes: A review

Chang, Min

16:18 486 Impacts of ventilation designs on airborne particle transportation

Chen, Huijuan

16:36 468 Sensors for ventilation: evaluation of indoor air quality sensors measuring volatile organic compounds

Markusson, Caroline

16:54 430 Evaluation of various improvements to an innovative wet scrubber concept to increase particle removal efficiency

Nguyen, Nhat

Session 20 - Room K2

Chair:

16:00 Modelling and measuring: Modelling and measuring

Sasan Sadrizadeh

16:00 533 CFD simulation study of the performance of personalized ventilation system with coaxial air supply device

Dong, Song

16:18 513 Towards eddy resolving CFD in room ventilation: a comparative precursor study of LES and SAS models

Jacobs, Steffen

16:36	562	Influence of the inlet boundary conditions on the LES performance for the cavity flow benchmark	Georges, Laurent
16:54	365	A statistical approach combined with numerical simulations for ventilation problems	Wargocki, Pawel

Session 21 - Room K11

Chair:

16:00	Ventilation & energy efficiency: Energy efficiency		Lars Ekberg
16:00	504	Improvement of the Performance of Mechanical Ventilation Systems with Earth-Air Heat Exchangers (EAHEs) for Detached Rural Houses in	Hu, Xinyi
16:18	512	Stepwise verification of functions and energy use for central residential AHU in apartment buildings	Kempe, Per
16:36	514	Moisture loads in apartment buildings and their impact on central AHU functions and energy use	Kempe, Per
16:54	424	Development of a control strategy for air handling units equipped with membrane-based enthalpy exchangers	Kremer, Martin
17:12	452	Energy and exergy analysis of an energy system based on an earth-air heat exchanger.	Lapertot, Arnaud

Session 22 - Room K16

Chair:

16:00	Technical articles: Indoor climate, Ventilation & energy eff., Industrial vent.		Thomas Olofsson
16:00	483	A practical feedback on the ventilation of portable site sheds	Guichard, Romain
16:18	406	Thermal Performance Evaluation of Cooling Solutions with Three ITE Power Densities	Cho, Jinkyun
16:36	523	Urban design with the wind: pedestrian-level wind field in the street canyons	Lai, Chi-Ming
16:54	573	Comparison of local exhaust ventilation with other exposure controls used in electrolytic nickel plating	Saunders, Christopher John
17:12	499	Evaluation of the Efficiency of Source Control for the Capture of Aerosols Generated by Dental Care	Alexandre Jenf

Poster presentations 3 - Room K12

Chair:

16:00	Ventilation & energy efficiency, Modelling & measuring		Zhang, Tengfei
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16:00	An emissions barrier can be used to stop the spread of harmful emissions 377 from building into the indoor air	Larsson, P Lennart
16:05	Number of ambulacnce transpotation due to indoor heatstroke classified 441 by perception time	Tokairin, Takayuki
16:10	Ventilation Behaviour Changes by Employing Environmental Monitoring 447 Systems in Schools in Japan	Fujii, Ryohei
16:15	Effect of solar shielding and thermal insulation for comfortable energy- 506 efficient residential building in mild climate	Kawamura, Tomoka
16:20	496 User comfort in a laboratory assessed though CFD simulation	Tripathi, Amita
16:25	Performance assessment and improvement of mixing in ventilation 488 outlets using CFD simulation	Tripathi, Amita
16:30	475 Air Cleaning Technologies for Bus and Rail Applications	Stavova, Petra
16:45	Questions	

Workshop 11 - K12

17:00 Debate

The future of ventilation and indoor climate

Chair:

Torun Widström

17:30 *Time off before the Gala Dinner*

18:45 ***Gala Dinner, in Victoriahallen, at Stockholmsmässan, separate tickets***

Thursday 25 April

09:00 ***Keynote speech 6, Andrew Persily: Ventilation Requirements in Educational Buildings and How to Know they are Actually Happening***

09:30 **Keynote speech 7, Runa T. Hellwig:** *Appropriate indoor environmental control - Where are we and where do we want to be on the scale from automatic to personal control?*

10:00 *Coffee break*

10:15 **All presenting authors of the sessions 23 - 25 + poster session 4 gather in their respective rooms**

Session 23 - Room K1

Chair:

10:30 Indoor climate: Thermal comfort

Wenjuan Wei

10:30 389 Correlation between indoor and outdoor temperatures during hot summers in Finnish residential buildings

Farahani, Azin

10:48 434 Assessment of thermal comfort performance of membrane-assisted radiant cooling outdoors

Yang, Junran

11:06 505 Experimental study on overall and local thermal comfort under different radiation intensities

Zeng, Yingqi

11:24 565 Impact of Recirculation Rates on Indoor Environment and Occupant Comfort: A Case Study in Norway

Justo Alonso, Maria

11:42 507 A comparative study of extreme and typical weather on indoor thermal performance of a residential building

Lall, Shweta

Session 24 - Room K2

Chair:

10:30 Modelling and measuring: Modelling and measuring

Arsen Melikov

10:30 422 Large eddy simulation of thermal effect on flow field around a building model with a scale ratio of 1:1:2

Zhao, Yi

10:48 426 Numerical analysis of hygrothermal environment and energy conservation in biophilic building by coupling zonal energy simulation

Yang, Xianzhe

11:06 444 Numerical Investigation of the Aeroacoustic Properties of a Slot Diffuser

Krüger, Lisa

11:24 446 Simulating air-conditioning use in Office Buildings by Modeling the Relationship between Psychological Factors and Occupants' Behavior in

He, Qingyi

11:42 455 Evaluation of ventilation performance and occupants' ventilation practice in a renovated multi-floor apartment building with hybrid

Chen, Liguo

Session 25 - Room K11

Chair:

10:30 Industrial ventilation:

Romain Guichard

10:30	412	Numerical study on the effects of pollution source surface roughness on vortex ventilation performance	Bai, YuQing
10:48	470	Air showers: can they help prevent dust exposure of workers?	Jenft, Alexandre
11:06	399	Experimental characterization of the aeraulic behaviour of centrifugal fans in specific functioning modes and numerical comparisons with the	Le Roux, Nicolas
11:24	490	Development of an Experimental Cell to Study the Thermo-aeraulic Behavior of an Electrical Cabinet Room	Moulouel, Rafik

Poster presentations 4 - Room K16

Chair:

10:30 Ventilation & energy efficiency, Modelling & measuring

Zhang, Ying

10:30	449	The effects of wind speed and wind angle on the PM2.5 removal efficiency using different protection window screens	Lee, Wen-Hua
10:35	552	Evaluation of Indoor Air and Natural Ventilation Complexity in Hospital Wards in the Democratic Republic of Congo (DRC.)	Nyembwe, Jean-Paul kapuya Bulaba
10:40	400	Capacity Design Method for Integrated Convective/Radiant Terminals to Guarantee Overall and Local Environment	Chi, Junjie
10:45	420	Combining perforated ceiling and attic ventilation for night cooling in a single-zone building: CFD analysis	Sudirman, Mutmainnah
10:50	491	Analysis of the Optimal Air Curtain Outlet Velocity for a Convenience Store	Bo-Huei Wu
10:55	526	Aerodynamic design optimization of a bell-mouth shaped air outlet	Lv, Wenchao

11:00 Questions/discussion

11:15	527	Research on Air Distribution in Restricted Space Based on Multi-perturbation Jet Flow	Li, Huimei
11:20	572	Potential of heat and moisture recovery to reduce future dehumidification and humidification demands in Swiss office buildings	Dugaria, Simone
11:25	536	Improving the measurement of air change rates using the decay method: Quantifying the uncertainty of the well-mixed assumption and	Qi, Dahai
11:30	550	Development of an optical, real time measurement method for Air Change Rates in indoor areas	Friebe, Christian
11:35	560	Impact of cable length on the performance of low-cost sensors in single-board computer monitoring systems	Rosti, Behnam

11:40 *Questions/discussion*

Workshop 12 - Room K12

10:30 Ventilation and energy performance

598 New perspective to analyze ventilation based on trajectories using particle tracking

Workshop leaders:

Sandberg, Mats Gunnar
Tomohiro, Kobayashi
Kabanshi, Alan
Jian, Zitao
Toyosawa, Kota

12:00 *Lunch break*

13:20 *Keynote speech 8, main sponsor 3, Swegon, Prof. Philomena M. Bluysen: Understanding of indoor environment, occupants, interactions, and effects*

13:50 *All presenting authors of the sessions 26 - 29 gather in their respective rooms*

Session 26 - Room K1

Chair:

14:00 Indoor climate: Thermal comfort

Martin Thalfeldt

14:00 439 Development of Low-Cost IoT Units for Thermal Comfort Measurement and AC Energy Consumption Prediction System

CHEN, YUTONG

14:18 450 Thermal responses and comfortable evaluations under variable dynamic environment: a case study of MAV

Zhang, Weijia

14:36 548 Assessment of thermal comfort at the building level: Evaluation of aggregation methods with a Danish case study of a campus building

Melgaard, Simon P.

14:54 413 Analysis of Air-Conditioning Usage Behavior in Residential Buildings in Hot and Humid Climates: Evidence from Vietnam

Wang, Yuanchen

15:12 543 Innovative thermal manikin for assessing local thermal comfort - development of a new hardware architecture

Cernei, Alexandru

Session 27 - Room K2

Chair:

14:00 Modelling and measuring: Modelling and measuring

Alan Kabanshi

14:00	466	Numerical simulation of a moisture leak	Faure, Xavier
14:18	509	Parametric simulation to optimize moisture removal from urban apartment blocks	Aamodt, Andreas
14:36	493	Summary statistics for quasi-stationary air velocity timeseries based on asynchronous velocity components	Mamulova, Eugene
14:54	515	The role of vegetation in outdoor thermal comfort for traditional alleyways in hot arid areas	Al Hashim, Jawahar Abdul Sattar
15:12	480	Assessment of transport methodologies for dispersion modelling for Indoor Air Quality analysis	Murali Mohan, Midhun

Session 28 - Room K16

Chair:

14:00 Industrial ventilation:

Alexandre Jenft

14:00	373	Physiological evaluation of the cognitive performance under sustained hot-humid exposure	Zhu, Hui
14:18	378	Minimizing the flow resistance of an exhaust system by shaping the exhaust hood with a discrete adjoint method	Zhang, Tengfei
14:36	492	Investigation on the storage performance of expanded volume exhaust hood for intermittent high-temperature smoke	Rong, Junhao
14:54	500	Preliminary Study on Estimating the High-temperature Particles Concentration from Smoke Images in Industrial Sites	Rong, Junhao

Session 29 - Room K12

Chair:

14:00 Technical articles: Industrial ventilation, Special applications

Thomas Olofsson

14:00	363	New pre-ventilation techniques to eliminate hazardous chemicals in container air	Johanson, Gunnar
14:18	401	SYLVIA - a software to study ventilation network, fire and airborne contamination	JORET-GALY, Jean-Paul
14:36	402	Smoke spread in a ventilation system - Room fire experiments and technical solutions in a prison environment with active ventilation	Nyman, Hans
14:54	483	A practical feedback on the ventilation of portable site sheds	Guichard, Romain

Workshop 13, sponsor workshop - Room K11

14:00 Main sponsor: Swegon

IEQ - occupant preferences and needs

Professor Philomena M. Bluysen, Technical University Delft,
Professor Pawel Wargocki, DTU,
Mikael Börjesson, Sustainability Director Swegon
Moderated by Åsa Norén Lundh IECC Manager Swegon

Chair:

Åsa Norén Lundh

Speakers:

Philomena M. Bluysen
Pawel Wargocki
Mikael Börjesson

Workshop 14 - Room K15

14:00 Indoor climate

385 Energy and Indoor Environmental Quality Performance of Personalised Environmental Control Systems (PECS) - IEA Annex 87

Presentations, to be followed by round table discussion:
Marco Perino, Politecnico di Torino – Introduction/Annex 87 presentation/PECS and their pros/cons/open questions,
Eric Teitelbaum, Princeton University, Andlinger Center for Energy and the Environment - PECS for Radiative cooling, example and potentialities,
Vincenzo Gentile, Politecnico di Torino - Micro HP for stand alone PECS applications,
Marc Syndicus, RWTH Aachen University - PECS testbed and future lab studies
Joon-Ho Choi, USC School of Architecture - Controls and PECS integration – Potentialities and barriers

Workshop leaders:

Perino, Marco
Gentile, Vincenzo
Eric Teitelbaum
Marc Syndicus
Joon-Ho Choi

Workshop 15 - Room K11

14:50 Sponsor: RISE

Workshop leaders:



Presentation of RISE

Per Kempe
Svein Ruud

15:30 *Coffee break*

16:00 ***Keynote speech 9, Chandra Sekhar: HVAC Systems and Climate Change – A Paradigm Shift towards Well and Green Buildings***

16:30 ***Closing session, official closing of RoomVent 2024 and announcement of RoomVent 2026***