RoomVent 2026

Printed Conference Program

15–18 September 2026

Prague, Czech Republic

Program version: 14 September 2026

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PLENARY SESSIONS

P1: Opening + Plenary Session: Keynote by Prof. Risto Kosonen

Tue 15/9/26, 4:00pm - 5:30pm, Location: Plenary room B 286, Session Chair: Miloš Lain

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Tue 15/9/26 B286 4:00pm - 5:30pm

Opening Ceremony — Conference Chair's Welcome Address

Karel Kabele *Faculty of Civil Engineering, CTU in Prague, Czech Republic; kabele@fsv.cvut.cz*

Tue 15/9/26 B286 4:00pm - 5:30pm

Welcome Address by the Dean of the Faculty of Civil Engineering, CTU in Prague

Petr Konvalinka *Faculty of Civil Engineering, CTU in Prague; petr.konvalinka@cvut.cz*

Tue 15/9/26 B286 4:00pm - 5:30pm

SCANVAC welcome & presentation of the John Rydberg Gold Medal

Risto Kosonen *Aalto university, Finland; risto.kosonen@aalto.fi*

Tue 15/9/26 B286 4:00pm - 5:30pm

Meet ATREA, Your Main Sponsor

Daniel Morávek *ATREA, Czech Republic; daniel.moravek@atrea.cz*

Tue 15/9/26 B286 4:00pm - 5:30pm

User-centric Approach for Air Distribution: How to enhance indoor climate and users' perception simultaneously

Risto Kosonen *Aalto university, Finland; risto.kosonen@aalto.fi*

PLENARY SESSIONS

P2: Plenary Session: Keynote by Prof. Philomena Bluyssen

Wed 16/9/26, 9:00am - 9:45am, Location: Plenary room B 286, Session Chair: Daniel Adamovsky

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Wed 16/9/26 B286 9:00am - 9:45am

What is needed to go beyond the mainly comfort-based dose-related indicators in our IEQ-guidelines?

Philomena M. Bluyssen *TU Delft, Netherlands, The; p.m.bluyssen@tudelft.nl*

PARALLEL SESSIONS

S11: Performance measurement and verification

Wed 16/9/26, 10:00am - 11:45am, Location: Room C 215, Session Chair: Karel Kabele, Session Chair: Fatos Pollozhani

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Wed 16/9/26 C215 10:00am - 10:15am

Field Evaluation of Under-Floor Air Distribution System with Personal and Variable Airflow Diffusers

Tomohiro Kameda1, Yuta Takahashi2, Eriko Yoshimoto2, Hiroki Yokoyama2, Junta Nakano1 *1: Hosei University; 2: KUME SEKKEI Co. Ltd; tomohiro.kameda.2e@stu.hosei.ac.jp*

Wed 16/9/26 C215 10:15am - 10:30am

A Novel Self-Cleaning Air Filter with On-Demand Dust Removal through Mechanical Actuation of an Elastic Membrane

HOUHUA WU1, CHUN CHEN1,2 *1: Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong, Shatin, N.T. 999077, Hong Kong SAR China; 2: Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong, Shatin N.T. 999077, Hong Kong SAR, China; hhwu23@link.cuhk.edu.hk*

Wed 16/9/26 C215 10:30am - 10:45am

Experimental Analysis of Condensing Boiler Efficiency under Multi-Zone Conditions

Chan Kyu Kim1, Hyu San Jang1, Yong Min Song2, Seung Hyo Baek3, Myoung Souk Yeo4,5 *1: Seoul National University, Department of Architecture and Architectural Engineering, Seoul, Republic of Korea; 2: KyongDong Navien R&D Center, Seoul, Korea; 3: Mokwon University, Division of Architecture, Daejeon, Republic of Korea; 4: Seoul National University, Department of Architecture, Seoul, Republic of Korea; 5: Institute of Construction and Environmental Engineering, Republic of Korea; kck980420@snu.ac.kr*

Wed 16/9/26 C215 10:45am - 11:00am

Analysis of Operational Performance and Improvement Strategies for a Solar Thermal System with a Thermal Storage Tank

Kousei Tomita, Katsuhiro Miura *Yamaguchi University, Japan; g068veu@yamaguchi-u.ac.jp*

Wed 16/9/26 C215 11:00am - 11:15am

Uncertainty and Sensitivity in CO2-Based Steady-State Ventilation Estimates in Classrooms

Fatos Pollozhani1, Robert Scot McLeod1, Matej Gustin1, Laura Villanova2, Christina Johanna Hopfe1 *1: Institute of Building Physics, Services, and Construction, Graz University of Technology, Graz, Austria; 2: Faculty of Technical Chemistry, Chemical and Process Engineering and Biotechnology, Graz University of Technology, Graz, Austria; fatos.pollozhani@tugraz.at*

Wed 16/9/26 C215 11:15am - 11:30am

Comfort assessment of hybrid cooling in an office building in France: comparison between measures and votes

Simon BAL-FONTAINE1,2, Arnaud JAY2, Simon ROUCHIER1 *1: Université Savoie Mont-Blanc, CNRS, LOCIE, 73000 Chambéry, France; 2: Université Grenoble Alpes, CEA LITEN, INES, Le Bourget du Lac, France; simon.bal-fontaine@univ-smb.fr*

Wed 16/9/26 C215 11:30am - 11:45am

A transferable digital twin methodology for climate-risk assessment and HVAC capacity sizing under the EU Taxonomy: a case study

Karel Kabele, Zuzana Veverkova *Czech Technical University in Prague, Czech Republic; kabele@fsv.cvut.cz*

PARALLEL SESSIONS

S12: School ventilation

Wed 16/9/26, 10:00am - 11:45am, Location: Room C 217, Session Chair: Miloš Lain, Session Chair: Manuel Carlos Gameiro da Silva

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Wed 16/9/26 C217 10:00am - 10:15am

Analyzing the Indoor-Outdoor Air Quality Relation in a School Building Living Lab

John Omomoluwa Ogundiran1, Richard Chanda3, Manal Makkaoui2, Tayyab Waheed1, James Ogundiran1, Hicham Mastouri2, **Manuel Gameiro da Silva1** *1: University of Coimbra, ADAI, Department of Mechanical Engineering, Rua Luís Reis Santos, Polo II, 3030-788 Coimbra, Portugal; 2: Mohammed VI Polytechnic University, Lot 660, Hay Moulay Rachid Ben Guerir, 43150, Morocco; 3: School of Architecture, Planning & Design, Mohammed VI Polytechnic University, Lot 660, Hay Moulay Rachid Ben Guerir, 43150, Morocco; manuel.gameiro@dem.uc.pt*

Wed 16/9/26 C217 10:15am - 10:30am

Performance analysis of decentralized classroom ventilation systems with respect to indoor air quality and indoor environmental conditions under real operating conditions

Aleksandra Lipczynska1, **Jan Kaczmarczyk1**, Mariusz Skwarczynski2 *1: Silesian University of Technology, Poland; 2: The National Centre for Research and Development, Poland; jan.kaczmarczyk@polsl.pl*

Wed 16/9/26 C217 10:30am - 10:45am

Spatial Non-Uniformity of CO_2 Concentration in Displacement-Ventilated Classrooms: Implications for Indoor Air Quality Assessment

Aleksandra Lipczynska, Maria Hurnik, Zbigniew Popiołek *Department of Heating, Ventilation and Dust Removal Technology; Silesian University of Technology, Poland; aleksandra.lipczynska@polsl.pl*

Wed 16/9/26 C217 10:45am - 11:00am

Ventilation rate estimation from single CO_2 measurements in an elementary school classroom and its spatial variability during a two-month experimental campaign

Martín Draper, **Matís Izquierdo**, Mariana Mendina *Instituto de Mecánica de los Fluidos e Ingeniería Ambiental, Facultad de Ingeniería, Universidad de la República, Uruguay; mizquierdo@fing.edu.uy*

Wed 16/9/26 C217 11:00am - 11:15am

Spatial variability of CO2 in a natural ventilated school classroom and its impact on airborne infection risk estimation: an LES study

Matias Izquierdo, Mariana Mendina, Martin Draper *Facultad de Ingeniería, Universidad de la República de Montevideo, Uruguay; mizquierdo@fing.edu.uy*

Wed 16/9/26 C217 11:15am - 11:20am

Experimental study of the thermal behaviour of schools during hot and occupied periods: A case study of two French schools

Mona Noroozi1, Nolwenn Hurel2, Monika Woloszyn1, Bassam Moujalled2 *1: Université Savoie Mont Blanc, CNRS, LOCIE, Solar Academy, 73000, Chambéry, France; 2: Cerema, BPE Research Team, 46, rue St Théobald, F-38080, L'Isle d'Abeau, France; Mona.Noroozi@univ-savoie.fr*

Wed 16/9/26 C217 11:20am - 11:25am

Indoor Air Quality and the Effectiveness of Air Cleaners in Kindergartens

Sampo Saari1, Kai Lindberg1, Inga Ehder-Gahm2, Piia Sormunen3, Kimmo Teinilä4, Hilkka Timonen4, Topi Rönkkö3 *1: Tampere University of Applied Sciences, Finland; 2: VTT Technical Research Centre, Finland; 3: Tampere University, Finland; 4: Finnish Meteorological Institute, Finland; sampo.saari@tuni.fi*

Wed 16/9/26 C217 11:25am - 11:30am

Ventilation Performance Assessment Using Carbon Dioxide Decay Measurements

Sampo Saari *Tampere University of Applied Sciences, Finland; sampo.saari@tuni.fi*

Wed 16/9/26 C217 11:30am - 11:45am

Long Short-Term Memory (LSTM) networks for Fault Detection and Severity Predection in a Simulated Fan Coil Unit

Youssef Saleh, **Karsten Tawackolian**, Martin Kriegel *Technische Universität Berlin, Hermann-Rietschel-Institute, Germany; tawackolian@gmx.de*

PARALLEL SESSIONS

S13: Industrial and special ventilation

Wed 16/9/26, 10:00am - 11:45am, Location: Room C 219, Session Chair: Anna Bogdan, Session Chair: Yanqiu Huang

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Wed 16/9/26 C219 10:00am - 10:15am

GPU-Accelerated Modeling of DBD Plasma for Indoor Air Purification

Zhenyu Zou1, Yufeng Wei2, Chun Chen1,3 *1: Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong, Hong Kong S.A.R. (China); 2: Department of Mathematics, Hong Kong University of Science and Technology, Hong Kong S.A.R. (China); 3: Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong, Hong Kong S.A.R. (China); zyzou@link.cuhk.edu.hk*

Wed 16/9/26 C219 10:15am - 10:30am

CFD-DEM Simulation Study on the Impact of Particles-Droplets Collision and Coalescence on Dust Suppression Efficiency in High-Temperature Smoke-Spray Fields

Shengnan Guo1, **Yanqiu Huang1,2**, Xutao Chen1, Dingwei Huang1 *1: Xi'an University of Architecture and Technology, China.; 2: State Key Laboratory of Green Building, Xi'an University of Architecture and Technology, Shaanxi 710055, China; huangyanqiu@xauat.edu.cn*

Wed 16/9/26 C219 10:30am - 10:45am

A respiration parameter for adaptive control of refrigerated transport CA systems

Petra Stavova *Trane Technologies, Czech Republic; Petra.Stavova@tranetechnologies.com*

Wed 16/9/26 C219 10:45am - 11:00am

Impact of operational and geometric factors on the containment performance of laboratory fume hoods in the presence of movement-induced drafts

Sullivan Lechêne, **Emmanuel Belut** *INRS, France; emmanuel.belut@inrs.fr*

Wed 16/9/26 C219 11:00am - 11:15am

Data Center Waste Heat Recovery with Discharge Water Temperature Restoration using Water-to-Water Heat Pumps

Jiung Han1, Hyunwoo Lim2 *1: Department of Architecture, Graduate school of Konkuk University, Seoul, South Korea; 2: School of Architecture, College of Architecture, Konkuk University, Seoul, South Korea; hjw2001@konkuk.ac.kr*

Wed 16/9/26 C219 11:15am - 11:30am

Understanding the Scalar Dispersion Mechanisms within Enclosed Space through CFD-based Ventilation Efficiency Analysis

Ryu Itokazu1, Naoki Ikegaya2, Kazuki Kuga2, Alan Kbanshi3, Mats Sandberg3, Kazuhide Ito2
1: Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan; 2: Faculty of Engineering Sciences, Kyushu University, Japan; 3: Department of Building, Energy and Environmental Engineering, University of Gävle, Sweden; itokazu@kyudai.jp

Wed 16/9/26 C219 11:30am - 11:35am

Energy-Efficient Liquid Cooling Concepts for High-Density Modular Data Centers

Jinkyun Cho, Sangwoo Byun, Jihyuk Ahn, Haram Kim *Hanbat National University, Korea, Republic of (South Korea); jinkyun.cho@hanbat.ac.kr*

Wed 16/9/26 C219 11:35am - 11:40am

Mechanical Ventilation Strategies for Controlling SF6 Dispersion in GIS Rooms: A Parametric Study

Ying Zhang1,2, Zhijian Zhao1,2, Jinhan Liu1,2, Angui Li1,2 *1: Xi'an University of Architecture and Technology; 2: International Joint Laboratory on Low Carbon Built Environment, Ministry of Education of China; zhangying@xauat.edu.cn*

PARALLEL SESSIONS

S14: Computational Fluid Dynamics (CFD) for ventilation analysis

Wed 16/9/26, 10:00am - 11:45am, Location: Room C 221, Session Chair: Risto Kosonen, Session Chair: Diana Lemian

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Wed 16/9/26 C221 10:00am - 10:15am

Infection probability of different air distribution and exhaust strategies in classroom environments

Risto Kosonen, Humamed Ejaz, Simo Kilpeläinen *aalto university, Finland; risto.kosonen@aalto.fi*

Wed 16/9/26 C221 10:15am - 10:30am

Bi-Directional Digital Twin of a Thermal Manikin for Real-Time CFD-Based Thermal Comfort Assessment in Vehicle Cabins

Diana Lemian, Florin Bode, Paul Danca, Matei Georgescu, Alexandru Cernei, Ilinca Nastase *Technical University of Civil Engineering of Bucharest, Romania; diana.lemian@phd.utcb.ro*

Wed 16/9/26 C221 10:30am - 10:45am

Influence of geometrical parameters of a supply terminal on its air distribution

Peng Qin1, Twan van Hooff1, Peter Vilhelm Nielsen2, Marcel Loomans1 *1: Physics and Services, Department of the Built Environment, Eindhoven University of Technology, Eindhoven, The Netherlands; 2: Department of the Built Environment, Aalborg University, Copenhagen, Denmark; p.qin@tue.nl*

Wed 16/9/26 C221 10:45am - 11:00am

A General Neural Solver for Efficient Urban Wind Prediction

Houzhi Wang1, Wei Ma2, Jianlei Niu1, Ruoyu You1 *1: Department of Building Environment and Energy Engineering, The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); 2: Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); 22053286r@connect.polyu.hk*

Wed 16/9/26 C221 11:00am - 11:15am

High-Fidelity Urban Flow Reconstruction via Scanning Stereo PIV for Machine Learning-Assisted Turbulence Modelling

Rui Zhao1, Alessandro Stocchino2, Ruoyu You1 *1: Department of Building Environment and Energy Engineering, The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); 2: Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); 22123599r@connect.polyu.hk*

Wed 16/9/26 C221 11:15am - 11:30am

Multi-objective optimization of indoor environmental quality using genetic algorithm-driven CFD simulations

Alicia Murga1, Haruki Nakagawa1, Rahul Bale1,2, Makoto Tsubokura1,2 *1: Graduate School of System Informatics, Kobe University, Japan; 2: RIKEN Center for Computational Sciences, Japan; alicia.murga@harbor.kobe-u.ac.jp*

Wed 16/9/26 C221 11:30am - 11:35am

Exploring spatial thermal and IAQ assessment in an educational building during heatwaves: a coupled BS–CFD approach

Peihang An1, Douaa Al Assaad1,2, Chen Zhang3, Hilde Breesch1 *1: KU Leuven, Belgium; 2: Eindhoven University of Technology, Netherlands; 3: Aalborg University , Denmark; peihang.an@kuleuven.be*

Wed 16/9/26 C221 11:35am - 11:40am

From CFD to Immersive Reality: A Lagrangian-Based Immersive Workflow for Real-Time Visualization of Contaminant Dispersion in Operating Rooms

Rahmat Rizal Andhi1,2, Yang Bi4, Guangyu Cao3,2, Gabriel Hanssen Kiss1,2, Jan Gunnar Skogås2, Liv Inger Stenstad2 *1: NTNU, Department Computer Science, Trondheim, Norway; 2: St. Olav's Hospital, Future Operating Room, Trondheim, Norway; 3: NTNU, Department Energy and Process Engineering, Trondheim, Norway; 4: Shanghai Jiao Tong University, Department of Mechanical Engineering, Shanghai, China; rahmatra@stud.ntnu.no*

Wed 16/9/26 C221 11:40am - 11:45am

Evaluation of Indoor Environmental Conditions in a Large Open-Plan Office with a Ducted HVAC System Using CFD Analysis

Yuna Maruo1, Yasuyuki Shiraishi1, Hideaki Kido2 *1: The University of Kitakyusyu, Japan; 2: Maeda Corporation; g5mbb030@eng.kitakyu-u.ac.jp*

PARALLEL SESSIONS

S15: Energy efficient ventilation strategies and systems

Wed 16/9/26, 10:00am - 11:45am, Location: Room C 223, Session Chair: Mohamed El Mankibi, Session Chair: Panu Mustakallio

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Wed 16/9/26 C223 10:00am - 10:15am

Evaluation of Energy Conservation Effects of a Geothermal Outdoor Air Treatment System in Japan

Ayumi Umetsu, Katsuhiro Miura *Yamaguchi University, Japan; g054veu@yamaguchi-u.ac.jp*

Wed 16/9/26 C223 10:15am - 10:30am

Novel slim 1-way active chilled beam unit for spacious office design

Panu Mustakallio1,2, Emmanuel Bizien1, Tuomas Kaukola1 *1: Halton Oy, Finland; 2: Aalto University, Finland; panu.mustakallio@halton.com*

Wed 16/9/26 C223 10:30am - 10:45am

Assessing passive technologies integrated with active cooling in air-handling units under cooling design conditions: a multi-climate analysis

Alanis Zeoli1, Anna Pacak2, Vincent Lemort1, Samuel Gendebien1 *1: University of Liège, Belgium; 2: Wrocław University of Science and Technology, Poland; alanis.zeoli@uliege.be*

Wed 16/9/26 C223 10:45am - 11:00am

Multiple swirling jets for enhanced displacement ventilation in large spaces

Chunwen Xu, Mengxi Xie, Shuquan Yi, Long Wang, Mengzhu Dou *China University of Petroleum (East China), China, People's Republic of; cxu@upc.edu.cn*

Wed 16/9/26 C223 11:00am - 11:15am

Dynamic Control of Air Recirculation for Energy Efficiency and Indoor Air Quality in Cold-Climate Buildings

Maria Justo Alonso1, Hans Martin Mathisen2, **Rikke Bramming Jørgensen3** *1: Department of Architecture, Materials and Structures, SINTEF Community, Trondheim, Norway; 2: Department of Energy and Energy and Process Engineering, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; 3: Department of Industrial Economics and Technology Management, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; rikke.jorgensen@ntnu.no*

Wed 16/9/26 C223 11:15am - 11:30am

A critical review of entropy generation minimization in building ventilation and HVAC systems

Alan Kabanshi, Mats Sandberg *Faculty of Engineering and Sustainable Development, University of Gävle, Sweden; alan.kabanshi@hig.se*

Wed 16/9/26 C223 11:30am - 11:35am

Research on Estimating Indoor Ventilation Rates Using Image Analysis Technology

Jewon OH, Hyuntae Kim *Kurume Institute of Technology, Japan; ohjewon@kurume-it.ac.jp*

Wed 16/9/26 C223 11:35am - 11:40am

Energy Efficiency Evaluation and Design Optimization of a Chalet in Umm Qais Using DesignBuilder

Dania AlMarafi, Raya Katawneh, Tala malkawi, Rafat Alwaked *German Jordanian University, Jordan, Hashemite Kingdom of; d.almarafi@gju.edu.jo*

Wed 16/9/26 C223 11:40am - 11:45am

Development and evaluation of an autonomous ventilation control strategy for energy-efficient operation of residential HRV systems

Sanghwan Bae, Jungyeon Yu *Korea Institute of Civil Engeering and Building Technology, Korea, Republic of (South Korea); sanghwan@kict.re.kr*

PARALLEL SESSIONS

S17: Thermal comfort parameters and human perception

Wed 16/9/26, 10:00am - 11:45am, Location: Room A 230, Session Chair: Zuzana Veverkova, Session Chair: Arturs Palcikovskis

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Wed 16/9/26 A230 10:00am - 10:15am

Air conditioning tests in the Regio-Shuttle RS1 railcar units

Pavla Pechova1,2, Lenka Zuská2, Hana Pechova2 *1: Czech Technical University in Prague, Czech Republic; 2: National Institute of Public Health, Czech Republic; pavla.pechova@fsv.cvut.cz*

Wed 16/9/26 A230 10:15am - 10:30am

Experimental comparison of thermal comfort measurement techniques

Tobias Dehne, Daniel Schmeling, **Pascal Lange** *German Aerospace Center DLR Site Göttingen: Deutsches Zentrum fur Luft- und Raumfahrt DLR Standort Gottingen, Germany; pascal.lange@dlr.de*

Wed 16/9/26 A230 10:30am - 10:45am

Social Influence in Shared Indoor Spaces: Application to Thermal Comfort Perception

Haneen AlAmirah1,2, Kheira Tabet Aoul1, Hilde Breesch2, Douaa Al-Assaad2 *1: United Arab Emirates University, AlAin, United Arab Emirates; 2: KU Leuven, Belgium; haneenny.alamirah@student.kuleuven.be*

Wed 16/9/26 A230 10:45am - 11:00am

Evaluation of ventilation systems based on field measurements and investigation of indoor air quality in schools

Thomas Schoberer1, Kathrin Schuller2 *1: Hochschule für Angewandte Wissenschaften Burgenland GmbH, Austria; 2: Forschung Burgenland GmbH, Austria; thomas.schoberer@hochschule-burgenland.at*

Wed 16/9/26 A230 11:00am - 11:15am

Assessment of Thermal Comfort and Indoor Air Quality in Secondary School Classrooms: Sensor Measurements and Student Survey

Arturs Palcikovskis1, Ilja Borodinecs2, Anna Petermane3 *1: Riga Technical University, Latvia; 2: Rix Dimensija LTD, Latvia; 3: Riga State Gymnasium No. 1; arturs.palcikovskis@rtu.lv*

Wed 16/9/26 A230 11:15am - 11:30am

Numerical and experimental investigation of clothing-dependent thermal plumes around a thermal manikin

Alexandru Cernei1,2, Diana Lemian1, Matei Georgescu1, Paul Danca1, Marie Verielle2, Frédéric Thevenet2, Ilinca Nastase1 *1: Technical University of Civil Engineering of Bucharest, Romania; 2: Institut Mines Telecom Nord Europe, Frnce; alexandru.cernei@imt-nord-europe.fr*

Wed 16/9/26 A230 11:30am - 11:45am

From measurements to perception: insights into residential indoor environments

Laura Carnieletto, Carla Proaño, Wilmer Pasut *Department of Environmental Sciences, Informatics and Statistics, University of Venice Ca' Foscari, Italy; laura.carnieletto@unive.it*

Wed 16/9/26 A230 11:45am - 11:50am

Dynamic Thermal Comfort in HVAC Demand Response: Why Static Comfort Evaluation Underestimates Building Flexibility

Michal Svoboda1, Vojtěch Zavřel1,2 *1: České vysoké učení technické v Praze – Fakulta strojní, Czech Republic; 2: České vysoké učení technické v Praze – UCEEB, Czech Republic; michal.svoboda@fs.cvut.cz*

PARALLEL SESSIONS

S16: Airflow around the human body

Wed 16/9/26, 10:00am - 11:45am, Location: Plenary room B 286, Session Chair: Guangyu Cao, Session Chair: Twan van Hooff

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Wed 16/9/26 B286 10:00am - 10:15am

In silico Modeling Framework for Airway Absorption and Organ Disposition of Inhaled Indoor Particle-associated SVOCs

Dang Khoa Nguyen, Kazuki Kuga, Kazuhide Ito *Kyushu University, Japan; ndkhoa@kyudai.jp*

Wed 16/9/26 B286 10:15am - 10:30am

Is CO2 appropriate tracer for assessing airborne transmission risk?

Arsen Melikov1, Detelin Markov2 *1: Technical University of Denmark, Denmark; 2: Technical University of Sofia, Bulgaria; akme@dtu.dk*

Wed 16/9/26 B286 10:30am - 10:45am

IMPACT OF BREATHING BOUNDARY CONDITIONS AND CFD MODELING APPROACHES ON SIMULATIONS OF EXHALED VIRUS TRANSPORT

Bin Zhou1, Bin Yang2, **Arsen Melikov3** *1: Xi'an University of Architecture and Technology, Xi'an, China; 2: Tianjin Chengjian University, Tianjin, China; 3: Technical University of Denmark, Kongens Lyngby, Denmark; akme@dtu.dk*

Wed 16/9/26 B286 10:45am - 11:00am

A comparative analysis of breathing zone formations in indoor environments between a two-year-old child and an adult

Yuichiro Suda1, Kazuki Kuga1, Kunio Hashimoto2, Kazuhide Ito1 *1: Kyushu University, Japan; 2: Nagasaki University, Japan; suda@kyudai.jp*

Wed 16/9/26 B286 11:00am - 11:15am

Effect of body thermal plume and exhaled air temperature on exhalation flow dynamic: A PIV based experimental study

Wenhui Yuan1, Chen Zhang1, Peter Vilhelm Nielsen1, Li Liu2, Chunwen Xu3, Simon Pommerencke Melgaard1 *1: Department of the Built Environment, Aalborg University, Copenhagen, 2450, Denmark; 2: Department of Building Science, School of Architecture, Tsinghua University, Beijing, 100084, China; 3: College of Pipeline and Civil Engineering, China University of Petroleum (East China), Qingdao, 266580, China; weyu@build.aau.dk*

Wed 16/9/26 B286 11:15am - 11:30am

Effects of ventilation rate, layout, and source location on aerosol dispersion and decay in long-term care common spaces

Er Ding1, Anneloes de Lange2, Karin Kompatscher2, Philomena M. Bluyssen1 *1: Faculty of Architecture and the Built Environment, Delft University of Technology, Delft, the Netherlands; 2: Department of Buildings and Energy Systems, TNO Netherlands Organization for Applied Scientific Research, Delft, the Netherlands; e.ding@tudelft.nl*

Wed 16/9/26 B286 11:30am - 11:45am

The importance of nose and mouth exhalation on airborne cross-infection

Peter V Nielsen1, Chen Zhang1, Chunwen Xu2, Wenhui Yuan1, Christoffer M Brødsgaard1, Anastasia K Hansen1, Jonas H Iversen1, Oscar K M Pedersen1, Thomas Juul1 *1: Aalborg University, Denmark, Denmark; 2: China University of Petroleum, China; pvn@build.aau.dk*

WORKSHOPS

W11: Indoor Air Quality and Energy Efficiency - DOGU Workshop

Wed 16/9/26, 10:00am - 11:45am, Location: Room B 168

Wed 16/9/26 B168 10:00am - 11:45am

Indoor Air Quality and Energy Efficiency - DOGU Workshop

Murat Akyar *DOGU, Turkiye; murat@dogu.com.tr*

WORKSHOPS

W12: Integrating circularity into design, installation and operation of HVAC systems

Wed 16/9/26, 10:00am - 11:45am, Location: Room B 169

Wed 16/9/26 B169 10:00am - 11:45am

Integrating circularity into design, installation and operation of HVAC systems

Atze Boerstra1, **Mikael Börjesson2**, **Jacopo Famiglietti3**, Chalotte Nyholm4, Pablo Carero Melero5
1: TU Delft, The Netherlands; 2: Swegon Group AB; 3: Dipartimento di Energia - Politecnico di Milano;
4: Granlund Oy; 5: REHVA; a.c.boerstra@tudelft.nl, Mikael.Borjesson@swegon.se, jacopo.famiglietti@polimi.it

PLENARY SESSIONS

P3: Plenary Session: Keynote by Prof. Tham Kwok Wai

Wed 16/9/26, 12:30pm - 1:15pm, Location: Plenary room B 286, Session Chair: Michal Kabrhel

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Wed 16/9/26 B286 12:30pm - 1:15pm

Partnership Within and Across Scales: Trilogue among Technology, Data and Humans

Kwok Wai Tham *National University of SIngapore, Singapore; bdgtkw@nus.edu.sg*

PARALLEL SESSIONS

S21: Thermal comfort prediction models

Wed 16/9/26, 1:30pm - 3:00pm, Location: Room C 215, Session Chair: Jan Hensen, Session Chair: Atze Boerstra

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Wed 16/9/26 C215 1:30pm - 1:45pm

Expanding the office-comfortzone with ceiling fans

Atze Boerstra1, Alessandra Luna Navarro1, Wei Wei1,2 *1: TU Delft, Netherlands, The; 2: Oosterhoff Group, Netherlands, The; a.c.boerstra@tudelft.nl*

Wed 16/9/26 C215 1:45pm - 2:00pm

Opportunities and constraints of multi-sensor passive manikins for expanding research in built and outdoor environments, occupational safety and medtech

Agnes Psikuta1, Zhuqiang Hu1,2, Anna Bogdan3, Stanisław Kocik4, Cheng Gao1,2, Yan Liang1,5 *1: Swiss Federal Laboratories for Materials Science and Technology - Empa, Laboratory for Biomimetic Membranes and Textiles, St. Gallen, Switzerland; 2: Department of Health Sciences and Technology, ETH Zurich, Zürich, Switzerland; 3: Faculty of Environmental Engineering, Warsaw University of Technology, Warsaw, Poland; 4: Department of Heating, Ventilation and Dust Removal Technology, Silesian University of Technology, Gliwice, Poland; 5: Integrated Comfort Engineering Laboratory (ICE), Ecole Polytechnique Fédérale de Lausanne (EPFL), Fribourg, Switzerland; agnes.psikuta@empa.ch*

Wed 16/9/26 C215 2:00pm - 2:15pm

How Model Selection Affects Thermal Comfort Assessment in Naturally Ventilated Buildings

Joanna Ferdyn-Grygierek1, Agnes Psikuta2, Aleksandra Lipczynska1, Stanislaw Kocik1, **Mirella Fuhrmann1**, Krzysztof Grygierek1, Cheng Gao2 *1: Silesian University of Technology, Poland; 2: Empa - Swiss Federal Laboratories for Material Technology and Science; Mirella.Fuhrmann@polsl.pl*

Wed 16/9/26 C215 2:15pm - 2:30pm

Mitigating Draft Discomfort in unsteady indoor Environments: An Occupant-Centric Control Strategy Using the Transient Effective Draft Temperature for Packaged Air Conditioning Systems

Yunqing Fan1, Takuya Furuhashi1, Kazuhide Ito2 *1: Mitsubishi Electric Corporation, Japan; 2: Faculty of Engineering Sciences, Kyushu University; Fan.Yunqing@ak.MitsubishiElectric.co.jp*

Wed 16/9/26 C215 2:30pm - 2:45pm

Assessment of window retrofit strategies for energy and thermal comfort improvement: a case study simulation of a fully glazed office building

Monika Pendaroska, Michele De Carli *University of Padova, Italy; monika.pendaroska@studenti.unipd.it*

Wed 16/9/26 C215 2:45pm - 3:00pm

ANN-Based View Factor Estimation for Efficient Human Thermal Comfort Analysis in Indoor Environments

Krzysztof Grygierek, Ibrahim Tajuddeen, Joanna Ferdyn-Grygierek, **Stanislaw Kocik** *Silesian University of Technology, Poland; Stanislaw.Kocik@polsl.pl*

PARALLEL SESSIONS

S22: School ventilation

Wed 16/9/26, 1:30pm - 3:00pm, Location: Room C 217, Session Chair: Zbigniew Popiołek, Session Chair: Katarína Harčárová

Wed 16/9/26 C217 1:30pm - 1:45pm

Investigating health- and occupant behaviour related IAQ risks in a naturally ventilated child-care facility

Zsofia Deme Belafi, Edit Barna *Department of Building Services and Process Engineering, Faculty of Mechanical Engineering, Budapest University of Technology and Economics, Műegyetem rkp. 3., H-1111 Budapest, Hungary; deme.zsofia@gpk.bme.hu*

Wed 16/9/26 C217 1:45pm - 2:00pm

On-site Measurements of Ventilation Effectiveness in Two Newly Constructed School Buildings

Renate Jaanus1, **Alo Mikola1**, Karl-Villem Võsa1, Martin Kiil1, Jarek Kurnitski1,2 *1: Tallinn University on Technology, Estonia; 2: Aalto University, Finland; alo.mikola@taltech.ee*

Wed 16/9/26 C217 2:00pm - 2:15pm

Indoor Environment in a Classroom with Respect to Draft Risk for Different Air Distribution Systems

Zbigniew Popiołek, Maria Hurnik, Aleksandra Lipczyńska *Silesian University of Technology in Gliwice, Poland; zbigniew.popiolek@polsl.pl*

Wed 16/9/26 C217 2:15pm - 2:30pm

CO2-monitoring as a benchmark for future Berlin school ventilation systems

Birgit Mueller1, Felix Held2, Pilipp Krimmel2, **Olaf Zeidler2**, Kathrin Richter-Kowalewski3, Manuel Bagans3 *1: HTW Berlin Germany and KTH Stockholm Sweden, Germany; 2: HTW Berlin; 3: SenStadt; olaf.Zeidler@htw-berlin.de*

Wed 16/9/26 C217 2:30pm - 2:45pm

School Classrooms as Exposure Environments from an Indoor Environmental Quality Perspective

Katarína Harčárová, Silvia Vilčeková, Eva Kridlová Burdová, Jana Budajová *Technical University of Košice, Slovakia; katarina.harcarova@tuke.sk*

Wed 16/9/26 C217 2:45pm - 3:00pm

Beyond Temperature and CO_2: Integrated Thermal Comfort Assessment in a Mechanically Ventilated University Lecture Hall

Zuzana Veverkova, **Adam Palkovič** *Czech Technical University in Prague, Czech Republic; adam.palkovic@icloud.com*

PARALLEL SESSIONS

S23: Contaminant transport mechanisms in indoor environments

Wed 16/9/26, 1:30pm - 3:00pm, Location: Room C 219, Session Chair: Lada Hensen Centnerova, Session Chair: Inga Ehder-Gahm

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Wed 16/9/26 C219 1:30pm - 1:45pm

Indoor Air Quality Intervention Study – The Impact of Supply Air Route and Filtration on Indoor Air Quality

Inga Ehder-Gahm1, Jani Hakala1, Mikko Kultanen1, Ilpo Kulmala1, Mohamed Elsayed2, Hilkka Timonen3, Sami Harni3, Laura Salo2, Topi Rönkkö2, Sampo Saari4, Arto Säämänen1 *1: VTT Technical Research Centre of Finland Ltd, Finland; 2: Tampere University; 3: Finnish Meteorological Institute; 4: Tampere University of Applied Sciences; inga.ehder-gahm@vtt.fi*

Wed 16/9/26 C219 1:45pm - 2:00pm

Beyond Averages: Dynamic Exposure Metrics for Improved Ventilation Resilience

Mikael Sundberg1, Elisabet Linden1, Dario Senkic1, Mats Sandberg1, Ryu Itokazu2, Mikael Björling1, Alan Kabanshi1 *1: Department of Building Engineering, Energy Systems and Sustainability Science, University of Gävle, Sweden; 2: Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan; mikael.sundberg@hig.se*

Wed 16/9/26 C219 2:00pm - 2:15pm

Exhaust Possibilities: A Preliminary Experimental Study on Exhaust Optimization for Indoor Airborne Infection Control.

Alan Kabanshi1, Elisabet Linden1, Mikael Sundberg1, Mikael Bjorling1, Dario Senkic1, Ryu Itokazu2, Kazuhide Ito3, Mats Sandberg1 *1: Faculty of Engineering and Sustainable Development, University of Gävle, Sweden; 2: Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan.; 3: Faculty of Engineering Sciences, Kyushu University; alan.kabanshi@hig.se*

Wed 16/9/26 C219 2:15pm - 2:30pm

A Study on Ventilation Effectiveness of Ceiling-Supplied Displacement Ventilation from Theoretical Viewpoint of Buoyant Jet and Impinging Jets

Toshio Yamanaka1, Tomohiro Kobayashi1, Narae Choi1, Haruna Yamasawa1, Noriaki Kobayashi1, Taiki Nonaka1, Nobuki Matsui2, Tetsuya Okamoto2, Mari Kuranaga2, Yuta Nagai3 *1: The University of Osaka, Japan; 2: Daikin Industries LTD, Japan; 3: Former The University of Osaka, Japan; yamanaka@arch.eng.osaka-u.ac.jp*

Wed 16/9/26 C219 2:30pm - 2:45pm

Thermal Comfort of Ceiling-Supplied Displacement Ventilation System by Full-scale Experiment using Thermal Manikin

Mari Kuranaga1, Tomohiro Kobayashi2, Toshio Yamanaka3, Narae Choi2, Haruna Yamasawa2, Noriaki Kobayashi2, Taiki Nonaka2, Minari Tanaka2, Nobuki Matsui1, Tetsuya Okamoto1 *1: Daikin Industries LTD, Japan; 2: The University of Osaka, Japan; 3: The University of Osaka, Japan; mari.kuranaga@daikin.co.jp*

Wed 16/9/26 C219 2:45pm - 3:00pm

Ventilation Effectiveness of Ceiling-Supplied Displacement Ventilation System for Office Room (Part 3) Comparison of Temperature and Contaminant Concentration Distributions

under Different Heating Load Countermeasures using Full-Scale Experimental Chamber and CFD Analysis

Yuki Yamoto1, Tomohiro Kobayashi2, Toshio Yamanaka2, Haruna Yamasawa2, Narae Choi2, Noriaki Kobayashi2, Ryoyo Kato2, Nobuki Matsui1, Tetsuya Okamoto1, Shogo Otaka1 *1: Daikin Industries, Ltd., Japan; 2: The University of Osaka; yuuki.yamoto@daikin.co.jp*

PARALLEL SESSIONS

S24: Computational Fluid Dynamics (CFD) for ventilation analysis

Wed 16/9/26, 1:30pm - 3:00pm, Location: Room C 221, Session Chair: Szymon Caban, Session Chair: Saif Ahmad

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Wed 16/9/26 C221 1:30pm - 1:45pm

RANS based modeling of infiltration of airflow in buildings using porous media.

Saif Ahmad, Stefanie Gillmeier, Twan van Hooff *Unit Building Physics and Services, Department of the Built Environment, Eindhoven University of Technology, the Netherlands; s.ahmad1@tue.nl*

Wed 16/9/26 C221 1:45pm - 2:00pm

Does standalone air purifier decrease airborne transmission of respiratory viruses for all room occupants?

Szymon Caban1, Arsen Melikov2, Mariya Bivolarova2, Anna Bulińska1, Zbigniew Buliński1 *1: Silesian University of Technology, Poland; 2: Technical University of Denmark, Denmark; szymon.caban@polsl.pl*

Wed 16/9/26 C221 2:00pm - 2:15pm

Multi-objective optimization of flexible PV façade systems and outdoor wind environment assessment

Mana Kobayashi, Sihwan Lee, Hong Hu *Tokyo University of Science, Japan; 4126527@ed.tus.ac.jp*

Wed 16/9/26 C221 2:15pm - 2:30pm

CFD analysis of particle distribution in a large room: Impact of source location

Peng Qin1, Anneloes de Lange2, Twan van Hooff1, Roberto Traversari2, Marcel Loomans1 *1: Physics and Services, Department of the Built Environment, Eindhoven University of Technology, Eindhoven, The Netherlands; 2: Department of Building Physics and Systems, TNO Netherlands Organization for Applied Scientific Research, Delft, The Netherlands; p.qin@tue.nl*

Wed 16/9/26 C221 2:30pm - 2:45pm

Understanding indoor airflow patterns to reduce airborne transmission: A comparative study of hospital and face-to-face restaurant settings

Arghyanir Giri, Clara García-Sánchez, Philomena Bluyssen *Delft University of Technology, The Netherlands; a.giri@tudelft.nl*

PARALLEL SESSIONS

S25: Energy savings

Wed 16/9/26, 1:30pm - 3:00pm, Location: Room C 223, Session Chair: Michal Kabrhel, Session Chair: Blanka Cabovská

Wed 16/9/26 C223 1:30pm - 1:45pm

Impact of the EPBD implementation in Swedish educational buildings

Blanka Cabovská, Despoina Teli, Jan-Olof Dalenbäck *Chalmers University of Technology, Sweden; blanka.cabovska@chalmers.se*

Wed 16/9/26 C223 1:45pm - 2:00pm

Sustainability assessment focused on ventilation systems in residential buildings

Michaela Karlová, Michal Kabrhel *CTU in Prague, Czech Republic; michaela.karlova@fsv.cvut.cz*

Wed 16/9/26 C223 2:00pm - 2:15pm

Effects of ventilation regimes on IAQ and thermal conditions of school classrooms: a pilot study

Hsing-Yu Ou, Philomena M. Bluyssen, Er Ding *Faculty of Architecture and the Built Environment, Delft University of Technology, Delft, the Netherlands; h.y.ou@tudelft.nl*

Wed 16/9/26 C223 2:15pm - 2:30pm

Thermal Comfort Evaluation in a Densely Occupied Multi-Purpose Railway Compartment under Seasonal Conditions

Pascal Lange, Daniel Schmeling, Tobias Dehne, André Volkmann, Felix Werner *German Aerospace Center (DLR), Germany; pascal.lange@dlr.de*

Wed 16/9/26 C223 2:30pm - 2:45pm

Human-centred air conditioning technology – wishful thinking or reality?

Christian Friebe *Institut für Luft- und Kältetechnik gemeinnützige Gesellschaft mbH, Germany; christian.friebe@ilkdresden.de*

Wed 16/9/26 C223 2:45pm - 3:00pm

Energy retrofit priorities for historic buildings under climate change

Hyeonseong Yuk, Won Duk Suh, Jae Hyuck Jung, Sumin Kim *Department of Architecture and Architectural Engineering, Yonsei University, Seoul 03722, Republic of Korea; 6ixhs2@yonsei.ac.kr*

PARALLEL SESSIONS

S27: Contaminants and Polutants

Wed 16/9/26, 1:30pm - 3:00pm, Location: Room A 230, Session Chair: Pavla Dvořáková, Session Chair: Anna Bogdan

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Wed 16/9/26 A230 1:30pm - 1:45pm

Thermal Comfort Evaluation by Estimating Convective and Radiative Heat Flux on a Human Body Using a Thermal Manikin and Spherical Thermography

Shohei Yasuda1,2, Takashi Asawa2, Tsuyoshi Ueno1 *1: Central Research Institute of Electric Power Industry, Japan; 2: School of Environment and Society, Institute of Science Tokyo, Japan; yasuda3809@criepi.denken.or.jp*

Wed 16/9/26 A230 1:45pm - 2:00pm

Thermal insulation performance of medical drapes used during surgical procedures

Anna Bogdan1, Ewa Zender-Świercz2, Marcin Michalski1, Dominika Kwiecińska1 *1: Warsaw University of Technology, Poland; 2: Kielce University of Technology; anna.bogdan@pw.edu.pl*

Wed 16/9/26 A230 2:00pm - 2:15pm

Influence of body postures on clothing insulation and thermal sensation prediction in building simulation

Cheng Gao1,2, Agnes Psikuta1, René Rossi1,2 *1: Swiss Federal Laboratories for Materials Science and Technology (Empa), Laboratory for Biomimetic Membranes and Textiles, St. Gallen, Switzerland; 2: Department of Health Sciences and Technology, ETH Zurich, Zürich, Switzerland; cheng.gao@empa.ch*

Wed 16/9/26 A230 2:15pm - 2:30pm

Exploring the influence of the acoustic landscape on people's perception of indoor environmental quality

Christiane Berger1, Antje Heyselberghs1, Irene Martínez-Muñoz2, Ardeshir Mahdavi2,3 *1: Department of Architecture, Design and Media Technology, Aalborg University, Aalborg, Denmark; 2: Institute of Building Physics, Services, and Construction, Faculty of Civil Engineering Sciences, Graz University of Technology, Graz, Austria; 3: Sustainable Computing Lab, Vienna University of Economics and Business, Vienna, Austria; chbe@create.aau.dk*

Wed 16/9/26 A230 2:30pm - 2:45pm

Supply-Air-Based Cooling as a Retrofit Strategy for Overheating Control

Kätriin Onemar1, Martin Kiil1, Raimo Simson1, Jarek Kurnitski1,2, Karl-Villem Vosa1 *1: Tallinn University of Technology, Estonia; 2: Aalto University, Finland; katriin.onemar@taltech.ee*

Wed 16/9/26 A230 2:45pm - 3:00pm

Aeroseal-technology for sealing ventilation ducts

Daniel Adamovský1, Jan Smejkal2, **Dalimil Petrilák3** *1: ČVUT, Czech Republic; 2: VUT, Czech Republic; 3: Alkion service s.r.o., Czech Republic; dalimil.petrilak@alkion.eu*

PARALLEL SESSIONS

S26: Flow pattern solution

Wed 16/9/26, 1:30pm - 3:00pm, Location: Plenary room B 286, Session Chair: Alexandre Jenft, Session Chair: Olena Kalyanova Larsen

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Wed 16/9/26 B286 1:30pm - 1:45pm

Influence of air shower design on the risk of inhaling toxic dust

Alexandre Jenft, Nicolas Veith *INRS, France; alexandre.jenft@inrs.fr*

Wed 16/9/26 B286 1:45pm - 2:00pm

Non-Isothermal Radial Wall Jets: CFD Calculation Results

Maria Hurnik, Zbigniew Popiołek, Jan Kaczmarczyk *Silesian University of Technology in Gliwice, Poland; maria.hurnik@polsl.pl*

Wed 16/9/26 B286 2:00pm - 2:15pm

Inverse design the shape of local exhaust hoods for flow resistance reduction with adjoint methods

Fei Liu1,2, Peilin Li3, Zhiyong Zhang3, **Wei Liu4** *1: Key Lab of Industrial Fluid Energy Conservation and Pollution Control (Ministry of Education), Qingdao University of Technology, Qingdao, 266033, China; 2: School of Environmental and Municipal Engineering, Qingdao University of Technology, Qingdao, 266033, China; 3: Zhongye Dongfang Engineering Technology Co., Ltd., Qingdao, 266555, China; 4: Tianjin Key Laboratory of Indoor Air Environmental Quality Control, School of Environmental Science and Engineering, Tianjin University, Tianjin, 300072, China; weiliu@tju.edu.cn*

Wed 16/9/26 B286 2:15pm - 2:30pm

Optimizing Aerosol Control in Dental Operatories: Emission Mapping and Source Capture Efficiency during High-Speed Drilling

Jonathan Chéron1, Alexandre Jenft1, Jean-Arthur Schaeffer2, Lucas Simonklein2, Alexandre Baudet2 *1: Institut National de Recherche et de Sécurité, Department of Process Engineering, 54500 Vandœuvre-lès-Nancy, France; 2: Université de Lorraine, Faculté d'Odontologie de Lorraine, CHRU-Nancy, 54500 Vandœuvre-lès-Nancy, France; jonathan.cheron@inrs.fr*

Wed 16/9/26 B286 2:30pm - 2:45pm

Towards a Design Tool for Diffuse Ceiling Ventilation: Mapping Performance Evidence and Design Parameters

Chen Zhang, **Olena Kalyanova Larsen**, Anastasia Kjærlund Hansen, Just Salling Buchhave, Sui Hoi *Aalborg University, Department of the Built Environment, Denmark; ok@build.aau.dk*

Wed 16/9/26 B286 2:45pm - 2:50pm

How to measure airflow rate in a duct with reduced straight-length requirements and improved reliability

Sullivan Lechêne, **Nicolas Veith** *INRS, France; nicolas.veith@inrs.fr*

Wed 16/9/26 B286 2:50pm - 2:55pm

The impact of non-green roof and green roof on the air temperature entering the air handling unit

Martin Kováč *Technical university of Kosice, Slovak Republic; martin.kovac@tuke.sk*

Wed 16/9/26 B286 2:55pm - 3:00pm

The effects of cold temperatures when pressurizing fire fighter elevators – Problem identification and possible solutions

Axel Mossberg2, **Hans Nyman1**, David Ronstad2 *1: Brandskyddslaget, Sweden; 2: Bengt Dahlgren AB, Sweden; hans.nyman@bsl.se*

WORKSHOPS

W21: ATREA - From Design Intent to Real Indoor Air Quality

Wed 16/9/26, 1:30pm - 3:00pm, Location: Room B 168

Wed 16/9/26 B168 1:30pm - 3:00pm

ATREA Workshop

Bohumil Cimbál *Atrea s.r.o.; bohumil.cimbal@atrea.cz*

WORKSHOPS

W22: Measurement and CFD Simulation of Contaminant Transport and Control in Indoor Environments: A Panel Discussion

Wed 16/9/26, 1:30pm - 3:00pm, Location: Room B 169

Wed 16/9/26 B169 1:30pm - 3:00pm

Measurement and CFD Simulation of Contaminant Transport and Control in Indoor Environments

Chunwen Xu1, **Yanqiu Huang2** *1: China University of Petroleum (East China), China, People's Republic of; 2: Xi'an University of Architecture and Technology, China, People's Republic of; cxu@upc.edu.cn, huangyanqiu@xauat.edu.cn*

PARALLEL SESSIONS

S31: Thermal comfort prediction models

Wed 16/9/26, 3:30pm - 5:00pm, Location: Room C 215, Session Chair: Jun Shinoda, Session Chair: Zuzana Veverkova

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Wed 16/9/26 C215 3:30pm - 3:45pm

Development of a local thermal sensation chart based on total heat loss

Jun Shinoda1, Kan Shindo2, Mizuho Akimoto2, Futa Watanabe3, Kazuhiro Minami3, Takahiro Mochizuki3, Takayoshi Iida3, Bjarne W. Olesen1, Shin-ichi Tanabe2, Ongun B. Kazanci1 *1: Technical University of Denmark, Denmark; 2: Waseda University, Japan; 3: Mitsubishi Electric, Japan; junshi@dtu.dk*

Wed 16/9/26 C215 3:45pm - 4:00pm

Evaluating an Equivalent Temperature Sensor System for Assessment of Local and Overall Thermal Sensation

Anas Hussin, Kai Rewitz, Dirk Müller *RWTH Aachen University, E.ON Energy Research Center, Institute for Energy Efficient Buildings and Indoor Climate, Mathieustraße 10, 52074 Aachen, Germany; anas.hussin@eonerc.rwth-aachen.de*

Wed 16/9/26 C215 4:00pm - 4:15pm

Discrepancies between PMV Predictions and Subjective Thermal Sensation: A Gender-Differentiated Climate Chamber Study

Zuzana Veverkova, Karel Kabele *Czech Technical University in Prague, Czech Republic; zuzana.veverkova@fsv.cvut.cz*

Wed 16/9/26 C215 4:15pm - 4:30pm

Assessing Overheating Risk in Terraced Houses in the Netherlands

Shivani Dolas, Philomena M Bluyssen, AnneMarie Eijkelenboom *TU Delft, Netherlands, The; s.dolas@tudelft.nl*

Wed 16/9/26 C215 4:30pm - 4:45pm

Influence of building envelope materials on outdoor thermal comfort and urban heat exposure

Jihee Nam, Dongchan Jin, Yongjun Choi, Sumin Kim *Yonsei University, Korea, Republic of (South Korea); namghee@yonsei.ac.kr*

Wed 16/9/26 C215 4:45pm - 5:00pm

Assessment of Mould Growth Risk in Externally Insulated Brick Masonry Walls Using In-Situ Measurements

Jaberswamy S1, Aakash C. Rai1,2 *1: Department of Sustainable Energy Engineering, Indian Institute of Technology (IIT), Kanpur, Uttar Pradesh, 208016, India; 2: Chandrakanta Kesavan Center for Energy Policy and Climate Solutions, IIT, Kanpur, Uttar Pradesh, 208016, India; jaberswamy22@iitk.ac.in*

PARALLEL SESSIONS

S32: Hospital and healthcare facility

Wed 16/9/26, 3:30pm - 5:00pm, Location: Room C 217, Session Chair: Sasan Sadrizadeh, Session Chair: Simo Kilpeläinen

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Wed 16/9/26 C217 3:30pm - 3:45pm

Combined Effect of Ionizer and Ventilation on Protecting Occupants from PM1 Particles and Pathogens in a Hospital Patient Room Setting

Simo Kilpeläinen, Minzhou Chen, Weixin Zhao, Risto Kosonen *Department of Civil Engineering, School of Engineering, Aalto University, Finland; simo.kilpelainen@aalto.fi*

Wed 16/9/26 C217 3:45pm - 4:00pm

Effect of Room Pressure Difference on Air-Curtain Performance During Door-Opening Events

Hassan Ali, Yunus Emre Cetin, Martin Kriegel *Hermann-Riestchel-Institut, Technische Universität Berlin, Berlin, Germany, Germany; h.ali@tu-berlin.de*

Wed 16/9/26 C217 4:00pm - 4:15pm

Ventilation Effectiveness in Hospital Patient Rooms: Zoning with Curtains and Extract Locations

Renate Jaanus1, Margus Must1, Alo Mikola1, Jarek Kurnitski1,2 *1: Tallinn University of Technology, Estonia; 2: Aalto University, Finland; renate.jaanus@taltech.ee*

Wed 16/9/26 C217 4:15pm - 4:30pm

Multi-zone indoor pollutant source localization with sparse sensors: an inverse optimization framework based on SFIFM model

Mingrui Jiang, Xinda Zhou, Weiwei Huang, Xiaohong Zheng, Hua Qian *School of Energy and Environment, Southeast University, Nanjing, China; mingrui_jiang@seu.edu.cn*

Wed 16/9/26 C217 4:30pm - 4:45pm

Experimental Evaluation of Local Exhaust Ventilation Combined with Different Air Distribution Systems for Airborne Infection Risk Reduction

Jun Yoshihara1, Toshio Yamanaka1, Tomohiro Kobayashi1, Haruna Yamasawa1, Noriaki Kobayashi1, Hisako Nagata2, Sigeru Okamoto2, Saori Yasui2, Kazuki Sugita2, Aoi Fujiwara1 *1: The University of Osaka, Japan; 2: Tohata Architects & Engineers, Inc. Japan; yoshihara_jun@arch.eng.osaka-u.ac.jp*

Wed 16/9/26 C217 4:45pm - 5:00pm

Characterizing Particulate Matter Emissions from Surgical Personnel in the Surgical Microenvironment of Operating Rooms: Effects of Staff Movements and Ventilation Modes

Dorsa Sadat Rabizadeh, Kunal Bairwa, Laurent Georges, Guangyu Cao *Norwegian University of Science and Technology(NTNU), Norway; dorsa.s.rabizadeh@ntnu.no*

PARALLEL SESSIONS

S33: Contaminant transport mechanisms in indoor environments

Wed 16/9/26, 3:30pm - 5:00pm, Location: Room C 219, Session Chair: Jixuan Bao, Session Chair: Elisabet Linden

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Wed 16/9/26 C219 3:30pm - 3:45pm

Local tracer emission mimicking air-borne disease spreading in an office space with mixing ventilation

Mikael Björling1, Alan Kabanshi1, Elisabet Linden1, Mikael Sundberg1, Dario Senkic1, Mats Sandberg1, Ryu Itokazu2, Ito Kazuhide2 *1: University of Gävle, Sweden; 2: Kyushu University; mbg@hig.se*

Wed 16/9/26 C219 3:45pm - 4:00pm

Impact of airflow model accuracy on model-based control in natural and mixed-mode ventilation

Jun Jiang, Kai Rewitz, Dirk Müller *RWTH Aachen University, E.ON Energy Research Center, Institute for Energy Efficient Buildings and Indoor Climate, Aachen, Germany; jun.jiang@eonerc.rwth-aachen.de*

Wed 16/9/26 C219 4:00pm - 4:15pm

Influence of Thermal Stratification and Occupant Plumes on Contaminant Exposure

Elisabet Linden1, Mikael Sundberg1, Dario Senkic1, Mats Sandberg1, Ryu Itokazu2, Mikael Björling1, Alan Kabanshi1 *1: Department of Building engineering, Energy Systems and Sustainability Science, University of Gävle, Sweden; 2: Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan; elisabet.linden@hig.se*

Wed 16/9/26 C219 4:15pm - 4:30pm

Assessing airborne transmission risk in a simulated patient room during visiting activities: A chamber study

Jixuan Bao1, Risto Kosonen1, Simo Kilpeläinen1, Kim Hagström2, Jukka Vasara3 *1: Department of Civil Engineering, Aalto University, Finland; 2: Halton Oy, Finland; 3: Granlund Oy, Finland; jixuan.bao@aalto.fi*

Wed 16/9/26 C219 4:30pm - 4:45pm

Impacts of Air Infiltration and Occupant-Driven Natural Ventilation on Indoor Air Quality in a Rural Single-Family Dwelling during a One-Year Study

Mateja Dovjak1, Bruno Kovač1, Janja Vaupotič2 *1: University of Ljubljana, Faculty of Civil and Geodetic Engineering, Slovenia; 2: Jožef Stefan Institute, Slovenia; mdovjak@fgg.uni-lj.si*

Wed 16/9/26 C219 4:45pm - 4:50pm

Assessment of indoor air quality and heating and cooling energy impacts of room-level ventilation control in residential buildings

Chanhyung Shim, **Goopyo Hong** *Kanagwon National University, Korea, Republic of (South Korea); goopyoh@kangwon.ac.kr*

PARALLEL SESSIONS

S34: Computational Fluid Dynamics and Zonal modeling

Wed 16/9/26, 3:30pm - 5:00pm, Location: Room C 221, Session Chair: Parham Ahranjani Mirzaei, Session Chair: Miloš Lain

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Wed 16/9/26 C221 3:30pm - 3:45pm

Smoke spread in Swedish Office Building Ventilation system – a comparison between hand calculation models and CFD of fire induced flows.

Hans Nyman, Johan Nilsen, Alexander M. Elias *Brandskyddslaget, Sweden; hans.nyman@bsl.se*

Wed 16/9/26 C221 3:45pm - 4:00pm

Vertical thermal stratification and directional airflow attenuation of non-uniform environments created by column attachment ventilation in large-space buildings

Xue Tian, Haiguo Yin, Jiamin Du *Xi´an University of Architecture and Technology, China, People's Republic of; xuetian@xauat.edu.cn*

Wed 16/9/26 C221 4:00pm - 4:15pm

Energy-Efficient Ventilation Strategies for Indoor Pools: A Flow Simulation Study

Omkar Pawar, Philipp Ostmann, Dirk Müller *RWTH Aachen University, Germany; omkar.pawar@eonerc.rwth-aachen.de*

Wed 16/9/26 C221 4:15pm - 4:30pm

Impact of HVAC system placement on building energy demand: an integrated zonal modeling approach in BES

Nisrine LAGHMICH1, Zaid Romani2, Abdeslam Draoui3 *1: Laboratory of Intelligent Systems and Applications, LSIA Team, Moroccan School of Engineering Sciences (EMSI), Tangier, Morocco; 2: Laboratory of Built Environment and Landscape (LaBEL), National School of Architecture, Tétouan, Morocco; 3: FSTT - Materials, Systems and Energy Engineering Laboratory (MaSEEL), - ETTE (UAE/U10FST) - Abdelmalek Essaâdi University, BP 416 Tangier, Morocco; n.laghmich@emsi.ma*

Wed 16/9/26 C221 4:30pm - 4:45pm

The Sensitivity Analysis of Air Ventilation Rate Elements in Thermal Dynamic Models

Dalibor Vytlačil *Czech Technical University in Prague, Czech Republic; vytlacil@fsv.cvut.cz*

Wed 16/9/26 C221 4:45pm - 5:00pm

Effects of Make-up Supply on Capture Effectiveness of Commercial Kitchen Hood

Tong Lin1,2, Ian Herrmann1,2, Meng Kong3, **Jianshun Zhang1,2** *1: Department of Mechanical and Aerospace Engineering, Syracuse University, United States of America; 2: Syracuse Center of Excellence in Environmental Energy Systems, Syracuse University, United States of America; 3: GTI Energy, United States of America; jszhang@syr.edu*

PARALLEL SESSIONS

S35: Residential buildings

Wed 16/9/26, 3:30pm - 5:00pm, Location: Room C 223, Session Chair: Werner Stutterecker, Session Chair: Daniel Schmeling

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Wed 16/9/26 C223 3:30pm - 3:45pm

Ventilation of a Densely Occupied Multi-Purpose Railway Compartment: Subjective Thermal Comfort Assessment

Daniel Schmeling1, Panja Goerke2, Oliver Zierke2, Pascal Lange1, Tobias Dehne1, André Volkmann1, Claudia Marggraf-Micheel2, Julia Maier2 *1: German Aerospace Center (DLR), Institute of Aerodynamics and Flow Technology, Göttingen, Germany; 2: German Aerospace Center (DLR), Institute of Aerospace Medicine, Hamburg, Germany; daniel.schmeling@dlr.de*

Wed 16/9/26 C223 3:45pm - 4:00pm

Overheating Risks in Canadian Code-Built Single-Detached Houses: Role of Design Features

Sébastien A. Brideau1,2, Adam D. Wills3 *1: Natural Resources Canada, CanmetENERGY-Ottawa, 1 Haanel Drive, Ottawa, ON, K1A 1M1, Canada; 2: Carleton University, Department of Civil and Environmental Engineering, 1125 Colonel By Drive, Ottawa, ON, K1S 5B6, Canada; 3: National Research Council, Construction Research Centre, 1200 Montreal Road, Ottawa, Ontario K1A 0R6, Canada; sebastien.brideau@NRCan-RNCan.gc.ca*

Wed 16/9/26 C223 4:00pm - 4:15pm

Evaluation Method for Building Air Leakage and Long-Term Airtightness Performance: A 13-Year Study of Two Detached Houses

Yoshihiro Toriumi *Tokyo Denki University, Japan; toriumi@g.dendai.ac.jp*

Wed 16/9/26 C223 4:15pm - 4:30pm

Techno-economic analysis of residential building energy resilience in cold climates using thresholds developed through a human-centered survey

Hassam ur Rehman, Rakesh Ramesh, Suvisanna Correia *VTT Technical Research Centre of Finland, Finland; hassam.rehman@vtt.fi*

Wed 16/9/26 C223 4:30pm - 4:45pm

A global performance assessment of three ventilation systems in an experimental, retrofitted, single-family home.

Franck ALESSI1, François Machefert1, Nicolas Négri1, Ophélie Ouvrier_Bonnaz1, Vincent Chanal-Bertaud1, Bassam Moujalled2, Sylvain Berthault2, Nolwenn Hurel2, Chloé Martin3 *1: CEA, France; 2: CEREMA, France; 3: DOREMI, France; franck.alessi@cea.fr*

Wed 16/9/26 C223 4:45pm - 5:00pm

Indoor air quality in 21st century buildings

Luděk Špidla *ATREA, Czech Republic; ludek.spidla@atrea.cz*

PARALLEL SESSIONS

S37: Thermal comfort parameters and human perception

Wed 16/9/26, 3:30pm - 5:00pm, Location: Room A 230, Session Chair: Alexandre Jenft, Session Chair: Yan Liang

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Wed 16/9/26 A230 3:30pm - 3:45pm

Impact of Autonomous PMV-Based Cooling Control on Occupants' Thermal Comfort and Physiological Response in Residential Buildings

Hyemin Ha, Gil-Tae Kim, Byung-Hee Lee, Young-Ae Lee, Young Kwon Yang *Center for Housing Environment Research and Innovation, Korea Land & Housing Corporation, South Korea; hahyemin@lh.or.kr*

Wed 16/9/26 A230 3:45pm - 4:00pm

From Heat Flux to Heat Transfer Coefficients: A Human-Level Framework for Evaluating Personalized Environmental Control Systems

Yan Liang1,2, Agnes Psikuta1, Dolaana Khovalyg2 *1: Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Biomimetic Mem-branes and Textiles, CH-9014, St. Gallen, Switzerland; 2: Integrated Comfort Engineering Laboratory (ICE), Ecole polytechnique fédérale de Lausanne (EPFL), 1700 Fribourg, Switzerland; yan.liang@empa.ch*

Wed 16/9/26 A230 4:00pm - 4:15pm

Convective heat transfer coefficients over human body under non-uniform approaching airflow conditions

Xinzi XU1, Yichen YU1, Hao HONG2, Gang HU2,3, **Jianlei NIU1** *1: Department of Building Environment and Energy Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong; 2: Artificial Intelligence for Wind Engineering (AIWE) Lab, School of Civil and Environmental Engineering, Harbin Institute of Technology, Shenzhen 518055, China; 3: Guangdong Provincial Key Laboratory of Intelligent and Resilient Structures for Civil Engineering, Harbin Institute of Technology, Shenzhen 518055, China; jian-lei.niu@polyu.edu.hk*

Wed 16/9/26 A230 4:15pm - 4:30pm

Indoor thermal environment and energy performance implications of CLT-based façade systems in public buildings

Yujin Kang, Ji Hun Park, Seong Taek Kang, Sumin Kim *Department of Architecture and Architectural Engineering, Yonsei University, Seoul 03722, Republic of Korea; yujin.k@yonsei.ac.kr*

Wed 16/9/26 A230 4:30pm - 4:45pm

Evaluating Indoor Environmental Quality and Health Risk Implications in Mixed-Mode Ventilated Primary School Classrooms in Taiwan

Yun-Jie Zeng1, Pei-Lun Fang2, Ruey-Lung Hwang1, Wei-An Chen3, Kuo-Tsang Huang2 *1: Department of Industrial Technology Education, National Kaohsiung Normal University, Kaohsiung, Taiwan; 2: Department of Bioenvironmental Systems Engineering, National Taiwan University, Taipei, Taiwan; 3: Department of Multidisciplinary Engineering, Texas A&M University, College Station, TX U.S.A.; 411371201@mail.nknu.edu.tw*

Wed 16/9/26 A230 4:45pm - 4:50pm

Dynamic Thermal Comfort

Jan Říha, Karel Kabele *Czech Technical University in Prague, Faculty of Civil Engineering, Czech Republic; jan.riha@fsv.cvut.cz*

PARALLEL SESSIONS

S36: Pollutants

Wed 16/9/26, 3:30pm - 5:00pm, Location: Plenary room B 286, Session Chair: Arsen Melikov, Session Chair: Romain Guichard

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Wed 16/9/26 B286 3:30pm - 3:45pm

Ventilation strategies for reduction risk of airborne transmission

Arsen Melikov1, Detelin Markov2 *1: Technical University of Denmark, Denmark; 2: Technical University of Sofia, Bulgaria; akme@dtu.dk*

Wed 16/9/26 B286 3:45pm - 4:00pm

Experimental exploration of Enterobacterales transmission and exposure in hospital toilets

Chen Zhang1, Philip Kjettinge Thomsen2, Wenhui Yuan1, Alireza Afshari1, Peter V. Nielsen1
1: Department of the Built Environment, Aalborg University, Denmark; 2: Department of Clinical Microbiology, Aalborg University Hospital, Denmark; cz@build.aau.dk

Wed 16/9/26 B286 4:00pm - 4:15pm

Emission rates of stored tires: effects of the indoor environment and scale changes from a ventilated chamber to a logistics warehouse

Romain Guichard, Laurence Robert, Jennifer Klingler *Process Engineering department, National Institute for Research and Safety (INRS), France; romain.guichard@inrs.fr*

Wed 16/9/26 B286 4:15pm - 4:30pm

Fine and ultrafine outdoor particle penetration and deposition in a residential building

Arto Säämänen, Niko Siilin, Inga Ehder-Gahm, Mikko Kultanen, Jani Hakala, Aku Karvinen, Ilpo Kulmala
VTT Technical Research Centre of Finland, Finland; arto.saamanen@vtt.fi

Wed 16/9/26 B286 4:30pm - 4:45pm

Emission characteristics of pollutants during the restoration of ceramic cultural relics

Jing Xiong1,2, Ziqi Guo1, Huiying Wang1, Weisha Du3, Changqing Yang1,2, Yin Xia3, Yu Ma3 *1: School of Building Services Science and Engineering, Xi'an University of Architecture and Technology; 2: International Joint Laboratory on Low Carbon Built Environment, Ministry of Education of China (Xi'an University of Architecture and Technology); 3: Key Scientific Research Base of Ancient Polychrome Pottery Conservation, Emperor Qin Shihuang's Mausoleum Site Museum; xiongjing@xauat.edu.cn*

Wed 16/9/26 B286 4:45pm - 5:00pm

Linking LAI and Solar Attenuation to UTCI-Based Thermal Comfort on Tree-Shaded Outdoor Environment

Pei-Lun Fang1, Wen-Mei Shih2, Ruey-Lung Hwang3, Kuo-Tsang Huang1 *1: Department of Bioenvironmental Systems Engineering, National Taiwan University, Taipei, Taiwan; 2: Department of Interior Design, Asia University, Taichung, Taiwan; 3: Department of Industrial Technology Education, National Kaohsiung Normal University, Kaohsiung, Taiwan; fangloon1221@gmail.com*

WORKSHOPS

W31: Are We Ready for Human-Centric Ventilation in Healthcare Facilities? Bridging Research, Practice, and Implementation

Wed 16/9/26, 3:30pm - 5:00pm, Location: Room B 168

Wed 16/9/26 B168 3:30pm - 5:00pm

Are We Ready for Human-Centric Ventilation in Healthcare Facilities? Bridging Research, Practice, and Implementation

Risto Kosonen2, Guangyu Cao3, Yunus Emre Cetin4, Hassan Kotb4, Dorsa Rabizadeh3, Vasco Vasconcelos1, Kunal Bairwa3, Jixuan Bao2, Fang Hou6, Kim Hagstrom7, Denise D'Elia9, Muhammad Tayyab Waheed5, Jiyeong Jung8, Manuel Gamerio da Silva5, Simo Kilpelainen2, Sasan Sadrizadeh6, Marcin Michalski1, Dominika Kwiecińska1, Peter Hojerback10, Tani Angiero11, Anna Bogdan1 *1: Warsaw University of Technology, Poland; 2: Aalto University, Finland; 3: Norwegian University of Science and Technology, Norway; 4: Technische Universität Berlin, Germany; 5: University of Coimbra – Pólo II, Portugal, Spain; 6: KTH Royal Institute of Technology, Sweden; 7: Halton Oy, Finland; 8: University of Leeds, UK; 9: Fundación Para la Investigación Biomédica Hospital Gregorio Marañón, Spain; 10: Avidicare AB, Sweden; 11: Universidad Carlos III de Madrid; risto.kosonen@aalto.fi*

WORKSHOPS

W32: Greening Research Infrastructures through Digitalization and Smart Facility Management

Wed 16/9/26, 3:30pm - 5:00pm, Location: Room B 169

Wed 16/9/26 B169 3:30pm - 5:00pm

Greening Research Infrastructures through Digitalization and Smart Facility Management

Patrícia Bugáňová, **Jakub Urban** *ELI ERIC, Czech Republic; jakub.urban@eli-beams.eu*

PARALLEL SESSIONS

S41: Ventilation Systems and Energy Performance

Thu 17/9/26, 9:00am - 10:45am, Location: Room C 215, Session Chair: Jakub Kolarik, Session Chair: AnneMarie Eijkelenboom

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Thu 17/9/26 C215 9:00am - 9:15am

Long term adaptability of buildings to increasing hot weather in temperate climate

AnneMarie Eijkelenboom *TU Delft, Netherlands, The; a.m.eijkelenboom@tudelft.nl*

Thu 17/9/26 C215 9:15am - 9:30am

Exploring Interventions For More Circular HVAC Design

Sasja van Andel, Vincent Gruis, Atze Boerstra *Delft University of Technology, The Netherlands; s.m.vanandel-1@tudelft.nl*

Thu 17/9/26 C215 9:30am - 9:45am

Inspections of mechanical ventilation systems in Greenlandic dwellings

Jakub Kolarik, Martin Kotol *Technical University of Denmark, Denmark; jakol@dtu.dk*

Thu 17/9/26 C215 9:45am - 10:00am

A framework for assessing BEMS readiness in existing apartment buildings based on the evolution of residential design standards

Young-Ae Lee, Gil-Tae Kim, Byung-Hee Lee, Hyemin Ha, Young Kwon Yang *Center for Housing Environment Research and Innovation, Korea Land Housing Institute, Sejong, South Korea; youngae622@lh.or.kr*

Thu 17/9/26 C215 10:00am - 10:15am

Next-generation circular ventilation systems, conceptualising an integrated design framework

Arjan Schrauwen, Paul Chan, Atze Boerstra *TU Delft, Netherlands, The; a.p.w.m.schrauwen@tudelft.nl*

Thu 17/9/26 C215 10:15am - 10:30am

How to help buildings occupants in the use of windows openings and solar shading to optimize thermal comfort, IAQ and energy consumption? Principle of the coach Wind'ose and feedbacks on a real case in summer

Pierre Bernaud, **Arnaud Jay**, Simon Bal-Fontaine *CEA Liten, France; arnaud.jay@cea.fr*

Thu 17/9/26 C215 10:30am - 10:45am

Precooling energy savings from variable-airflow displacement ventilation for a representative UK theatre

Poorya Shaghaghi, Nicola Mingotti, Andrew W. Woods *Institute for Energy and Environmental Flows, University of Cambridge, Madingley Road, Cambridge, UK.; ps2024@cam.ac.uk*

PARALLEL SESSIONS

S42: Ventilation Systems and Energy Performance

Thu 17/9/26, 9:00am - 10:45am, Location: Room C 217, Session Chair: Nick Kelly, Session Chair: Daniel Adamovsky

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Thu 17/9/26 C217 9:00am - 9:15am

Characterising building fabric leakage magnitude and directionality using a novel contaminant-based approach

Nick Kelly1, Graeme Flett1, Gavin Lavery1, Mohamad Rida1, Carol-Anne Duthie2, John Farquhar3
1: University of Strathclyde, Glasgow, Scotland; 2: SRUC, Scotland's Rural College, Edinburgh, Scotland; 3: SAC Consulting, Edinburgh, Scotland; nick@esru.strath.ac.uk

Thu 17/9/26 C217 9:15am - 9:30am

Experimental study of the impact of ventilation on the in situ performance of portable air cleaners (PACs)

Ülar Palmiste, Joosep Heinla, Martin Thalfeldt, Kalle Kuusk *Department of Civil Engineering and Architecture, Tallinn University of Technology, Estonia; ular.palmiste@taltech.ee*

Thu 17/9/26 C217 9:30am - 9:45am

Climate Impact of Ventilation Systems in Renovation Projects under Swedish Conditions

Björn Berggren1,2, Ulla Janson2 *1: Public Housing Sweden, Sweden; 2: Lund University, Faculty of Engineering - Department of Building and Environmental Technology; bjorn.berggren@sverigesallmannytta.se*

Thu 17/9/26 C217 9:45am - 10:00am

Buoyancy-Driven Ventilation and Heat Transfer in Double-Skin Façades: CFD Validation and Full-Scale Seasonal Analysis

Hong Hu1, Sihwan Lee1, Yuka Egashira1, Makiko Ukai2, Kiho Tanaka2 *1: Tokyo university of Science, Japan; 2: Nagoya university, Japan; kokou00@rs.tus.ac.jp*

Thu 17/9/26 C217 10:00am - 10:15am

Coupling IDA ICE with a Quanta-Based Infection-Risk Model for Economizer–Recirculation Optimization in a School Sports Hall

Amar Aganovic1, Mehrdad Rabani2, Maria Justo Alonso3 *1: UiT The Arctic University of Norway, Norway; 2: OsloMet - Oslo Metropolitan University; 3: SINTEF; amar.aganovic@uit.no*

Thu 17/9/26 C217 10:15am - 10:30am

Real-time sensor tracking velocimetry (STV): Use cases in room ventilation

Benjamin Rembold, Andrin Landolt *streamwise gmbh, 8708 Männedorf, Switzerland; rembold@streamwise.ch*

Thu 17/9/26 C217 10:30am - 10:45am

RIO 40°C: Adaptive and integrated technologies for the building envelope

Clélia Mendonca De Moraes1, Sara Zamprogno Barbieri2, Everson de Castro Rodrigues3, Anderson André Lima de Souza4, GabrIela de Franca Fernanda5 *1: City Hall Araraquara Brazil; 2: BIM Building Information Modeling Recife Brazil; 3: Civic Engineering BIM Project Construction Manager Pará, Brazil; 4: Project Coordinator and BIM Manager at WORKFLOW ENG Pará Brazil; 5: Student Archict, Para Federal University, Pará, Brazil; arqclelia@hotmail.com*

PARALLEL SESSIONS

S43: Office buildings

Thu 17/9/26, 9:00am - 10:45am, Location: Room C 219, Session Chair: Dušan Petráš, Session Chair: Jennyfer Karam

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Thu 17/9/26 C219 9:00am - 9:15am

Analysis of the heating output of a trench convector with fresh air supply

Mariusz Skwarczynski *Polish Association of Sanitary Engineers and Technicians, Poland; mariusz.skwarczynski@pzits.pl*

Thu 17/9/26 C219 9:15am - 9:30am

Development of an agent-based control for personalized environmental control systems (PECS) in an office environment

Fatemeh Nabilou1, Anna Deriks2, Kai Rewitz1, Marc Syndicus2, Christoph van Treeck2, Dirk Müller1 *1: RWTH Aachen University, E.ON Energy Research Center, Institute for Energy Efficient Buildings and Indoor Climate; 2: RWTH Aachen University, Institute of Energy Efficiency and Sustainable Building E3D; fatemeh.nabilou@eonerc.rwth-aachen.de*

Thu 17/9/26 C219 9:30am - 9:45am

Experimental investigation of the influence of a desk mounted push-pull system on thermal sensation and comfort

Jennifer Karam, Ihab Jabbar Al-Rikabi, Conrad Voelker, Hayder Alsaad *Bauhaus-University, Weimar, Germany; jennyfer.karam@uni-weimar.de*

Thu 17/9/26 C219 9:45am - 10:00am

Evaluating Filtration Performance Beyond Standard Metrics: Insights for Indoor Air Quality and COVID-19 Guidelines

Clothilde Brochot, Ali Bahloul *Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST), Canada; Clothilde.brochot@irsst.qc.ca*

Thu 17/9/26 C219 10:00am - 10:15am

A DALY-Based Harm Assessment of Non-Optimal Indoor Temperatures in Offices

Giobertti Morantes1, Akshit Gupta1, Francesco Babich1, Pawel Wargocki2 *1: Eurac Research, Italy; 2: International Centre for Indoor Environment and Energy, Department of Environmental and Resource Engineering (DTU Sustain), Technical University of Denmark, 2800 Kongens Lyngby, Denmark; gmorantesquintana@eurac.edu*

Thu 17/9/26 C219 10:15am - 10:30am

Numerical Optimisation of a Novel Desk-Mounted Push–Pull System for Cross-Contamination Control

Ihab Al-Rikabi1, Jennifer Karam1, Nesreen Ghaddar2, Conrad Voelker1, Hayder Alsaad1 *1: Bauhaus Universität Weimar, Germany; 2: American University of Beirut, Department of Mechanical Engineering, Beirut, Lebanon; ihab.al-rikabi@uni-weimar.de*

Thu 17/9/26 C219 10:30am - 10:45am

Local Thermal Sensations as Predictors of Overall Thermal Perception and Acceptability: A Multi-Season Field Study in Office Buildings

Aleksandra Lipczynska1, Stanisław Kocik1, Mirella Fuhrmann1, Joanna Ferdyn-Grygierek1, Krzysztof Grygierek2, Agnes Psikuta3 *1: Silesian University of Technology; Department of Heating, Ventilation and Dust Removal Technology, Poland; 2: Silesian University of Technology; Department of Mechanics and Bridges, Poland; 3: mpa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Biomimetic Membranes and Textile; aleksandra.lipczynska@polsl.pl*

PARALLEL SESSIONS

S44: Building energy modeling and simulation

Thu 17/9/26, 9:00am - 10:45am, Location: Room C 221, Session Chair: Li Angui, Session Chair: Michal Krajcik

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Thu 17/9/26 C221 9:00am - 9:15am

Comparative assessment of air- and water-dominant heating systems: comfort perception and energy performance in a controlled environment

Beatrice Riccardi1,2, Andrea Giuliano1, Alessandro Salmaso1, Giacomo Tognon1, Marco Marigo1, Michele De Carli1 *1: Department of Industrial Engineering, University of Padova, Italy; 2: PhD in Sustainable Development and Climate Change, Scuola Universitaria Superiore IUSS Pavia, Italy; beatrice.riccardi.1@studenti.unipd.it*

Thu 17/9/26 C221 9:15am - 9:30am

Physics-informed behavioural modeling: a hybrid framework to differentiate Natural and Mechanical Ventilation driven behaviours

Nicola Borgato1, **Giacomo Tognon1**, Beatrice Riccardi1,2, Jacopo Vivian1, Michele De Carli1 *1: Department of Industrial Engineering - Applied Physics Section, University of Padova, Via Venezia 1 35131, Italy; 2: Scuola Universitaria Superiore IUSS Pavia, Piazza della Vittoria 15 27100, Italy; giacomo.tognon@unipd.it*

Thu 17/9/26 C221 9:30am - 9:45am

Assessing the impact of renovating a typical family house on its indoor environmental conditions

Angelika Václavová1, Karel Kabele2, Michal Krajčík1 *1: Slovak University of Technology in Bratislava, Slovak Republic; 2: Czech Technical University in Prague, Czech Republic; angelika.vaclavova@stuba.sk*

Thu 17/9/26 C221 9:45am - 10:00am

A Predictive Control Framework for Complex Buildings with Dynamic User Requirements: Balancing Indoor Conditions and Rapid Solar Dynamics

Tobias Jacobskoetter1, Felix Held1, Olaf Zeidler1, Birgit Mueller1, Katja Biek2, Joël Czarny2, Miriam Ziebarth2, Dave Morgenthaler2, Maria Kuzminskaia2 *1: Hochschule für Technik und Wirtschaft Berlin, Germany; 2: BAnTec GmbH; tobias.jacobskoetter@htw-berlin.de*

Thu 17/9/26 C221 10:00am - 10:15am

A multizone indoor air quality modeling for multifamily buildings: comparison with experimental data

Zohreh kiani1,2,3, Kátia Cordeiro Mendonça3,4, Ali Alexander Nour Eddine1, Marc Abadie2,3 *1: Eurovent Certita Certification, Paris, France; 2: LaSIE UMR CNRS 7356, University of La Rochelle, La Rochelle, France; 3: RUPEE Lab, Lagord, France; 4: Tipee Plateforme Technologique du Bâtiment Durable, Lagord, France; z.kiani@eurovent-certification.com*

Thu 17/9/26 C221 10:15am - 10:20am

Operational Control of Ceiling-suspended PCM Radiant Panels Using MPC

Takumi Ishizawa, Yasuyuki Shiraishi *Kitakyusyu Univercity, Japan; g5mbb001@eng.kitakyu-u.ac.jp*

Thu 17/9/26 C221 10:20am - 10:25am

Evaluation of the Thermal Performance of Underfloor Heating Structures in Apartment Buildings Using Dynamic Energy Analysis

Bohye Choi *Department of Architectural & Urban Systems Engineering / Ewha Womans University, Korea, Republic of (South Korea); bhchoi@ewha.ac.kr*

Thu 17/9/26 C221 10:25am - 10:30am

Performance Assessment of Passive and Hybrid Cooling Strategies in Temperate Climate Office Buildings

Krzysztof Grygierek, Joanna Ferdyn-Grygierek, **Mirella Fuhrmann**, Aleksandra Lipczynska, Stanislaw Kocik *Silesian University of Technology, Poland; Mirella.Fuhrmann@polsl.pl*

Thu 17/9/26 C221 10:30am - 10:35am

Zone aggregation errors in grey-box models of commercial building air-conditioning energy consumption

Kundra Oosthuizen, Anton Basson, Gerhard Venter, Clint Steed *Stellenbosch University, South Africa; 23711590@sun.ac.za*

Thu 17/9/26 C221 10:35am - 10:40am

ENERGY PERFORMANCE ANALYSIS AND SUSTAINABILITY ASSESSMENT OF A GUEST HOUSE IN JORDAN USING DESIGNBUILDER SIMULATION

Haneen Daradkeh, Nassar Telfah, Mohammad Smadi, Rafat Alwaked *German Jordanian University, Jordan, Hashemite Kingdom of Jordan; H.Daradkeh1@gju.edu.jo*

PARALLEL SESSIONS

S45: Indoor Air Quality

Thu 17/9/26, 9:00am - 10:45am, Location: Room C 223, Session Chair: Jianshun Jensen Zhang, Session Chair: Jiri Hirs

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Thu 17/9/26 C223 9:00am - 9:15am

Transient and Steady-State Assessment of Cubicle Office Airflow and Exposure under PECS and Background Ventilation

Chengbo Du, **Jianshun Zhang** *Syracuse University, United States of America; jszhang@syr.edu*

Thu 17/9/26 C223 9:15am - 9:30am

Toward a Regulatory Framework for Indoor Air Quality Management in the Democratic Republic of Congo

Jean- paul kapuya Bulaba Nyembwe1,2, Léon Balekelayi Mulumba1, Maurice Samuntu Sakaji Tshibola1, Gael Majambo Kamenga1, Gloria Mukajimuenyi Ntumba1, fortunat Ngandu Maweja1, John Omomoluwa Ogundiran2, Manuel Gameiro da Silva2 *1: University Official of Mbuji-Mayi, Department of Civil Engineering, Congo, Democratic Republic of the; 2: Department of Mechanical Engineering, ADAI, University of Coimbra, Pólo II, Rua Luís Reis Santos, 3030-788 Coimbra, Portugal; jeanpaulkapuya@uom.cd*

Thu 17/9/26 C223 9:30am - 9:45am

Improving Building Resilience to Climate-Driven Air Quality Hazards in Eastern DRC

Jean- Paul Kapuya Bulaba Nyembwe1,2, Oliver Kayembe Nyembwe1, Manuel Gameiro da Silva2 *1: University Official of Mbuji-Mayi, Department of Civil Engineering, Av Kalonji no 27, Q/ Kansele, 8330 Mbuji-Mayi Kasai-Oriental, Congo, Democratic Republic of the; 2: Department of Mechanical Engineering, ADAI, University of Coimbra, Pólo II, Rua Luís Reis Santos, 3030-788 Coimbra, Portuga; jeanpaulkapuya@uom.cd*

Thu 17/9/26 C223 9:45am - 10:00am

Indoor air quality in four exhibition rooms of a cultural center using recirculated air

Therese Nitter Moazami1, **Ingrid Bakke2**, Rikke Bramming Jørgensen3, Pål Graff2, Maria Justo-Alonso4 *1: Department of Built Environment, Oslo Metropolitan University (OsloMet), Oslo, Norway; 2: Division of Occupational Chemistry, National Institute of Occupational Health (STAMI), Oslo, Norway; 3: Department of Industrial Economics and Technology Management, Norwegian University of Science and Technology (NTNU), Trondheim, Norway; 4: Department of Architecture, Materials and Structures, SINTEF Community, Trondheim, Norway; ingrid.bakke@stami.no*

Thu 17/9/26 C223 10:00am - 10:15am

Application of an Infection Risk Model to Train and Aircraft Travel: a Comparison

Daniel Schmeling1, Florian Webner1,2, Andrei Shishkin1, Philipp Bahavar1 *1: German Aerospace Center (DLR), Institute of Aerodynamics and Flow Technology, Göttingen, Germany; 2: Institute of Thermodynamics and Fluid Mechanics, TU Ilmenau, Ilmenau, Germany; daniel.schmeling@dlr.de*

Thu 17/9/26 C223 10:15am - 10:30am

Indoor PM2.5 emission rates from domestic wood heating estimation based on laboratory measurements – A preliminary pilot study for Uruguay

Mauro D'Angelo1, Giorgio Buonanno2, Yamila Falero1, Silvana D'Intino1, José Cataldo1 *1: Instituto de Mecánica de los Fluidos e Ingeniería Ambiental, Facultad de Ingeniería, Universidad de la República,*

Uruguay; 2: Department of Civil and Mechanical Engineering, University of Cassino and Southern Lazio, Cassino, FR, Italy; mdangelo@fing.edu.uy

Thu 17/9/26 C223 10:30am - 10:35am

An Integrated Framework for Indoor Air Quality Assessment

Candida Duarte Manuel1,2, Carla S. Cordeiro3, Diogo Mendes3, Kalina Samardjieva1 *1: BioRG - Bioengineering and Sustainability Research Group, FCNET - Faculty of Natural Sciences, Engineering and Technology, Lusófona University, Portugal; 2: Intrepid Lab, FCESE, Lusófona University; CETRAD, Centre for Transdisciplinary Development Studies, UTAD, Portugal; 3: FCNET - Faculty of Natural Sciences, Engineering and Technology, Lusófona University, Portugal; candida.manuel@ulusofona.pt*

Thu 17/9/26 C223 10:35am - 10:40am

Applying Equivalent Clean Airflow to Infection Control in a Historic Hotel

James Bennett *Bennett Air Engineering; jbennett073164@gmail.com*

PARALLEL SESSIONS

S47: Indoor air quality monitoring and assessment techniques

Thu 17/9/26, 9:00am - 10:45am, Location: Room A 230, Session Chair: Chunwen Xu, Session Chair: Pavla Dvořáková

Thu 17/9/26 A230 9:00am - 9:15am

Improved indoor climate and reduced infection risk in health care settings via ventilation strategies and informed decisions based on a continuous monitoring system

Muhammad Tayyab Waheed, John O. Ogundira, Adélio Manuel Rodrigues Gaspar, Manuel Gameiro Da Silva *University of Coimbra, Portugal; tayyabwaheed@dem.uc.pt*

Thu 17/9/26 A230 9:15am - 9:30am

Effect of Honeycomb Design on Turbulence and Aerosol Transmission in Personalized Ventilation

Ali Abuelnour, Conrad Voelker, Hayder Alsaad *Bauhaus-Universität Weimar, Germany; ali.abuelnour@uni-weimar.de*

Thu 17/9/26 A230 9:30am - 9:45am

Hygrothermal risk assessment of building envelop retrofitting measures

Xavier Faure1, Lucile Soudani2, Amandine Piot3, Francois Demouge1 *1: CSTB, Santé, Ambiance et Mobilité, 44323 Nantes, France; 2: CSTB, Enveloppe du Bâtiment, 38400 Grenoble, France; 3: Univ. Grenoble Alpes, CEA, Liten, INES, 73375 Le Bourget du Lac, France; xavier.faure@cstb.fr*

Thu 17/9/26 A230 9:45am - 10:00am

Design and Deployment of an Automated ATP Bioluminescence System for Real-Time Airborne Microbial Detection

Ziming Tu1, Chun Chen1,2, Kangqi Guo1, Wenjie Huang1 *1: The Chinese University of Hong Kong, Hong Kong S.A.R. (China); 2: Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong; zmtu@link.cuhk.edu.hk*

Thu 17/9/26 A230 10:00am - 10:15am

Comparative Analysis of Indoor Air Quality in Hospital and Educational Spaces Using Long-Term Environmental Monitoring

Antti Mäkinen1, Sampo Saari1, Liv-Inger Stenstad2, Guangyu Cao3 *1: Faculty of Built Environment and Bioeconomy, Tampere University of Applied Sciences, Tampere, Finland; 2: St.Olavs Hospital, Trondheim, Norway; 3: Department of Energy and Process Engineering, NTNU, Trondheim, Norway; antti.j.makinen@tuni.fi*

Thu 17/9/26 A230 10:15am - 10:30am

Seasonal IEQ in sports halls: Measurements and future simulations

Karolína Gábrišová, Zuzana Straková *Slovak University of Technology in Bratislava, Faculty of Civil Engineering, Slovak Republic; karolina.gabrisova@stuba.sk*

Thu 17/9/26 A230 10:30am - 10:45am

The influence of surrounding temperatures on cross-infection risks in cold climates

Peter V Nielsen1, Alireza Afshari1, Chen Zhang1, Hua Qian2, Jianchao Ma3 *1: Aalborg University, Denmark; 2: Southeast University, China; 3: Changzhou University, China; pvn@build.aau.dk*

PARALLEL SESSIONS

S46: Thermal comfort

Thu 17/9/26, 9:00am - 10:45am, Location: Plenary room B 286, Session Chair: Ardeshir Mahdavi, Session Chair: Miloš Lain

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Thu 17/9/26 B286 9:00am - 9:15am

Exploring building occupants' cross-individual diversity of thermal comfort preferences

Jia Du1, **Ardeshir Mahdavi2,3** *1: Department of Civil Engineering, Dalian University of Technology, China; 2: Institute of Building Physics, Services, and Construction, Faculty of Civil Engineering Sciences, Graz University of Technology, Graz, Austria; 3: Sustainable Computing Lab, Vienna University of Economics and Business, Vienna, Austria; a.mahdavi@tugraz.at*

Thu 17/9/26 B286 9:15am - 9:30am

A literature review on alternative cooling technologies for buildings in tropical climates.

Majid Sapar1,2, **Zuraimi Sultan1** *1: Singapore University of Social Sciences, Singapore; 2: Building and Construction Authority, Singapore; zuraimi@suss.edu.sg*

Thu 17/9/26 B286 9:30am - 9:35am

Study on the Natural Ventilation Performance of City Halls with the Atriums

Urara Yoshimatsu, Ryoichi Kuwahara *Yamaguchi University, Japan; g080veu@yamaguchi-u.ac.jp*

Thu 17/9/26 B286 9:35am - 9:50am

Comparison between CFD calculations and experimental tests of a black globe to develop a predictive model as a function of solar load

Laurence ROBERT, **François-Xavier KELLER** *INRS, France; keller@inrs.fr*

Thu 17/9/26 B286 9:50am - 9:55am

Historical and sociocultural drivers of overheating regulations in residential buildings: cross-country comparison

Despoina Teli1, Kleoniki Axarli2, Runa Hellwig3, Patrick James4, Rajan Rawal5, Susan Roaf6, Antonio Serrano-Jiménez7, Jonathon Taylor8, Cecilia J Bergstad9, Martine Buser1, Paula Femenias1, Kaj Granath1, Mats Persson1, Joel André Slunitschek1, Marli Swanepoel1 *1: Chalmers University, Sweden; 2: Aristotle University of Thessaloniki (AUTh); 3: TU Berlin; 4: University of Southampton; 5: CEPT University; 6: Heriot-Watt University; 7: University of Granada; 8: Tampere University; 9: University of Gothenburg; teli@chalmers.se*

Thu 17/9/26 B286 9:55am - 10:00am

Evaluation of the Performance of Ventilated Embalming Tables

Jonathan Chéron1, Francis Bonthoux1, Kévin Bance2, Ludovic Hainoz2, Dorothée Lesouef2, Vincent Corlier2 *1: Department of Process Engineering, Institut National de Recherche et de Sécurité, 54500 Vandœuvre-lès-Nancy, France; 2: Center for Physical Measurement and Control, Caisse Régionale d'Assurance Maladie d'Île-de-France, 75019 Paris, France; jonathan.cheron@inrs.fr*

Thu 17/9/26 B286 10:00am - 10:15am

Improving the accuracy of building simulations through calibration: a case study of a passively cooled office with an open-door policy.

Stanislaw Kocik1, Krzysztof Grygierek1, Joanna Ferdyn-Grygierek1, Agnes Psikuta2, Aleksandra Lipczynska1 *1: Silesian University of Technology, Poland; 2: Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland; stanislaw.kocik@polsl.pl*

Thu 17/9/26 B286 10:15am - 10:30am

Instant Fungal Detection: Evaluation of a Rapid Method for Early Contamination Assessment

Denise D'Elia1,2, Elena Reigadas1,2,3,4, Jesus Guinea1,2,3,4, Itsaso Artetxe5, Emilio Bouza1,2,3,4, Patricia Munoz1,2,3,4 *1: Instituto de Investigación Sanitaria Hospital Gregorio Marañón, Madrid, Spain; 2: Clinical Microbiology and Infectious Diseases Department, Hospital General Universitario Gregorio Marañón, Madrid, Spain; 3: Medicine Department, School of Medicine, Universidad Complutense de Madrid, Madrid, Spain; 4: CIBER Enfermedades Respiratorias-CIBERES (CB06/06/0058), Madrid, Spain; 5: Engineering Service, Hospital General Universitario Gregorio Marañón, Madrid, Spain; denisedelia@outlook.it*

WORKSHOPS

W41: SYSTEMAIR workshop

Thu 17/9/26, 9:00am - 10:45am, Location: Room B 168

Thu 17/9/26 B168 9:00am - 10:45am

Going beyond efficiency: Energy recovery for healthy, low-energy, and resilient indoor climates

Dominik Flikweert1, **Rikard Lindbom1**, **Khoa Ngo1**, **Karel Kabele2** *1: Systemair AB, Sweden; 2: Czech Technical University in Prague; dominik.flikweert@systemair.com, rikard.lindbom@systemair.com, khoa.ngo@systemair.com, kabele@fsv.cvut.cz*

WORKSHOPS

W42: Personal control in indoor environments as a moderator of comfort and health and in extreme events: learnings for building design and experimental set-ups

Thu 17/9/26, 9:00am - 10:45am, Location: Room B 169

Thu 17/9/26 B169 9:00am - 10:45am

Personal control in indoor environments as a moderator of comfort and health and in extreme events: learnings for building design and experimental set-ups

Runa T. Hellwig1, Atze Boerstra2, Despoina Teli3 *1: Technische Universität Berlin, Chair of Building Physics, Germany; 2: TU Delft, Chair of Building Services Innovation, The Netherlands; 3: Chalmers University, Division of Building Services Engineering, Sweden; runa.hellwig@tu-berlin.de*

PARALLEL SESSIONS

S51: Ventilation Systems and Energy Performance

Thu 17/9/26, 11:15am - 12:30pm, Location: Room C 215, Session Chair: Daniel Adamovsky, Session Chair: Andrea Alongi

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Thu 17/9/26 C215 11:15am - 11:30am

Modelling Energy Need and Perceived Indoor Air Quality with Demand Controlled Ventilation

Everyn Mieler1, Raimo Simson1, Martin Thalfeldt1, Jarek Kurnitski1,2 *1: Tallinn University of Technology, Estonia; 2: Aalto University, Finland; everyn.mieler@taltech.ee*

Thu 17/9/26 C215 11:30am - 11:45am

Experimental study of the convective heat transfer in a ventilated cavity inside a Breathing Wall component

Andrea Alongi, Adriana Angelotti, Alice Cereda, Livio Mazzarella *Politecnico di Milano, Italy; andrea.alongi@polimi.it*

Thu 17/9/26 C215 11:45am - 12:00pm

Investigation heat transfer performance of gyroid structure as regenerative heat exchanger

Alper Mete Genç *Bosch Thermotechnology, Turkiye; alpermete.genc@tr.bosch.com*

Thu 17/9/26 C215 12:00pm - 12:15pm

Towards climate-friendly ventilation: Efficiency measures for R744-driven heat pumps in AHUs

Tobias Froehlingsdorf1, Jonathan Lutz1, Katja Wenselau2, Tim Klebig1, Philipp Ostmann1, Dirk Müller1 *1: RWTH Aachen University, Germany; 2: TROX SE; tobias.froehlingsdorf@eonerc.rwth-aachen.de*

Thu 17/9/26 C215 12:15pm - 12:30pm

Thermoelectric exchanger for heat recovery and thermal comfort control in a meeting room

Daniel Adamovsky, Jan Vitouš, Martin Kny, Aleš Vodička, Pavel Mlejnek *Czech Technical University in Prague, Czech Republic; daniel.adamovsky@fsv.cvut.cz*

PARALLEL SESSIONS

S52: Hospital and healthcare facility

Thu 17/9/26, 11:15am - 12:30pm, Location: Room C 217, Session Chair: Vladimir Zmrhal, Session Chair: Tani Angiero

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Thu 17/9/26 C217 11:15am - 11:30am

Development and commissioning of a buoyancy-preserving scaled operating-room facility for PIV measurements

Tani Angiero, Stefano Discetti, Andrea Ianiro *Department of Aerospace Engineering - Universidad Carlos III de Madrid, Spain; tangiero@ing.uc3m.es*

Thu 17/9/26 C217 11:30am - 11:45am

Thermal Environment and Surgeon Comfort: A Review of Environmental and Physiological Determinants in the Operating Rooms

Vasco de Vasconcelos, Anna Bogdan *Warsaw University of Technology, Poland; vasco.vasconcelos@pw.edu.pl*

Thu 17/9/26 C217 11:45am - 11:50am

Disruption of the Surgical Microenvironment by Human Presence in Unidirectional and Mixing Ventilation systems.

Marcin Michalski, Anna Bogdan, Dominika Kwiecińska *Warsaw University of Technology, Dept. of Envionmental Engineering, Poland; marcin.michalski4.stud@pw.edu.pl*

Thu 17/9/26 C217 11:50am - 11:55am

Effect of operating room ventilation on patient's physiological parameters

Dominika Kwiecińska, Anna Bogdan, Marcin Michalski *Warsaw University of Technology, Poland; kwiecinska.dm@gmail.com*

Thu 17/9/26 C217 11:55am - 12:10pm

A CFD Framework for Evaluating the Chemical Reactions of Hexamethyldisilazane (HMDS) with Water Vapor in a Cleanroom Environment

Takeru Ito1, Ryu Itokazu1, Kazuhide Ito2 *1: Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan.; 2: Faculty of Engineering Sciences, Kyushu University, Japan.; ito.takeru.291@s.kyushu-u.ac.jp*

PARALLEL SESSIONS

S53: Pollutant sources

Thu 17/9/26, 11:15am - 12:30pm, Location: Room C 219, Session Chair: Ilinca Nastase, Session Chair: Atze Boerstra

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Thu 17/9/26 C219 11:15am - 11:30am

Experimental Assessment of Bioaerosol Emissions during Surgical and Percutaneous Tracheostomy in a Controlled Indoor Environment

Jeanne Malet1, Evelyne Géhin2, Pierre Haen3, Corinne Prevost1, Lyes Ait Ali Yahia2 *1: ASNR, France; 2: UPEC, France; 3: Hôpital Laveran, France; jeanne.malet@asnr.fr*

Thu 17/9/26 C219 11:30am - 11:45am

Indoor airborne infection control through localized ventilation: A literature review

Mohamed M. Abdelraziq, Marcel G.L.C. Loomans, Peng Qin, Matias Duran Matute, Twan van Hooff *Eindhoven University of Technology, The Netherlands; m.m.m.a.zayed@tue.nl*

Thu 17/9/26 C219 11:45am - 12:00pm

Effective Mitigation Strategies for Airborne Infection Control

Atze Boerstra, Elham Maghsoudi Nia *TU Delft, Netherlands, The; a.c.boerstra@tudelft.nl*

Thu 17/9/26 C219 12:00pm - 12:15pm

Attributing acute harm to short-term particulate exposures in office settings

Giobertti Morantes1, Akshit Gupta1, Francesco Babich1, Benjamin Jones2 *1: Eurac Research, Italy; 2: Department of Architecture and Built Environment, University of Nottingham Nottingham, NG7 2UH, UK; gmorantesquintana@eurac.edu*

Thu 17/9/26 C219 12:15pm - 12:20pm

Microbial Monitoring of the Indoor Environment

Hana Kabrhelová, Eliška Srbová, Veronika-Natálie Lopourová *CTU in Prague, Czech Republic; hana.kabrhelova@fsv.cvut.cz*

PARALLEL SESSIONS

S54: Building energy modeling and simulation

Thu 17/9/26, 11:15am - 12:30pm, Location: Room C 221, Session Chair: Pawel Wargocki, Session Chair: Maitreyee Saini

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Thu 17/9/26 C221 11:15am - 11:30am

Rethinking Personal Environmental Control Systems (PECS) Effectiveness Through Multi-Level Energy Quantification

Maitreyee Saini1, Yan Liang1,2, Agnes Psikuta2, Dolaana Khovalyg1 *1: Laboratory of Integrated Comfort Engineering (ICE), School of Architecture, Civil and Environmental Engineering (ENAC), Ecole Polytechnique Fédérale de Lausanne (EPFL), Fribourg, Switzerland; 2: Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Biomimetic Membranes and Textiles, CH-9014, St. Gallen, Switzerland ; maitreyee.saini@epfl.ch*

Thu 17/9/26 C221 11:30am - 11:45am

Impact of the elevator shaft cooling system on the heating load of high-rise office buildings

Junghyun Cho1, Hyunwoo Lim2 *1: Department of Architecture, Graduate school of Konkuk University, Seoul, South Korea, Korea, Republic of (South Korea); 2: School of Architecture, College of Architecture, Konkuk University, Seoul, South Korea; whwjdgus1854@konkuk.ac.kr*

Thu 17/9/26 C221 11:45am - 12:00pm

Analysis of possible overheating countermeasures applied to a Romanian military tent by means of numerical simulations

Manea-Andrei Damian, Tiberiu Catalina, Ana Andreea Vartires, Dragos Mihai *Technical University of Civil Engineering Bucharest, Romania; andrei.damian@utcb.ro*

PARALLEL SESSIONS

S55: Energy efficient systems

Thu 17/9/26, 11:15am - 12:30pm, Location: Room C 223, Session Chair: Dušan Petráš, Session Chair: Ashraf Mkhayber

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Thu 17/9/26 C223 11:15am - 11:30am

Energy Optimization of Ship HVAC Systems: Analysis of Marine Aerosol Effects on Filter Performance

Ashraf MKHAYBER, David CHALET, Matisse LESAGE, Georges SALAMEH *Nantes Université,Ecole Centrale Nantes,CNRS, LHEEA,UMR 6598,F-44000 Nantes, France; ashraf.mkhayber@ec-nantes.fr*

Thu 17/9/26 C223 11:30am - 11:45am

Data Centre Cooling and Waste Heat Utilization

David STANĚK, Michal KABRHEL *Czech Technical University in Prague, Czech Republic; david.stanek@fsv.cvut.cz*

Thu 17/9/26 C223 11:45am - 12:00pm

Comparison of vertical temperature distribution for three radiant cooling systems under actual outdoor conditions

Martin Šimko1, Michal Krajčík1, **Dušan Petráš1**, Martin Sokol1, Daniel Szabó2 *1: Department of Building Services, Slovak University of technology, Faculty of Civil Engineering, Slovak Republic; 2: Department of Building Construction, Slovak University of technology, Faculty of Civil Engineering, Slovak Republic; petras.tzb@gmail.com*

Thu 17/9/26 C223 12:00pm - 12:15pm

Study on the Influence of Vortex-Zone Parameters on the Performance of Vortex Ventilation Systems

Chen Zhang1, Yuqing Bai1, Zhixiang Cao1,2, Yi Wang1,2 *1: School of Building Services Science and Engineering, Xi'an University of Architecture and Technology, Xi'an, PR China; 2: State Key Laboratory of Green Building, Xi'an University of Architecture and Technology, Xi'an, PR China; zhangcn@xauat.edu.cn*

Thu 17/9/26 C223 12:15pm - 12:30pm

SPHINX - THE HYDRAULIC FIRE VALVE

Arnaud BOIRON, Jerome DUCOS *CEA, France; arnaud.boiron@cea.fr*

PARALLEL SESSIONS

S57: Indoor air quality

Thu 17/9/26, 11:15am - 12:30pm, Location: Room A 230, Session Chair: Jarek Kurnitski, Session Chair: Sarka Langer

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Thu 17/9/26 A230 11:15am - 11:30am

Natural ventilation in residential buildings in Nordic countries: Challenges and solutions for indoor air quality and thermal comfort

Sarka Langer1,2, Despoina Teli2, Lars Ekberg2 *1: IVL Swedish Environmental Research Institute, Göteborg, Sweden; 2: Chalmers University of Techology, Göteborg, Sweden; sarka.langer@ivl.se*

Thu 17/9/26 A230 11:30am - 11:45am

VOC transfer in rotary heat exchangers: experimental validation of a new test method

Stephan Zuber, **Simone Dugaria**, Heinrich Huber *Lucerne School of Engineering and Architechture, Switzerland; simone.dugaria@hslu.ch*

Thu 17/9/26 A230 11:45am - 12:00pm

Preliminary assessment of overheating Risks in Recently Built Multi-Apartment Buildings in Latvia

Guna Bebre, Anatolijs BORODINECS, Kristina Lebedeva, Arturs Palcikovskis *Riga Technical University, Latvia; guna.bebre@rtu.lv*

Thu 17/9/26 A230 12:00pm - 12:15pm

Impact of ventilation airflow rates on indoor air quality and electricity consumption in a new mechanically ventilated residential apartment

Raimonds Bogdanovics, Arturs Palcikovskis, **Jurgis Zemitis** *Riga Technical University, Latvia; Jurgis.Zemitis@rtu.lv*

Thu 17/9/26 A230 12:15pm - 12:30pm

Experimental Assessment of Ventilation Strategies to Enhance Indoor Air Quality and Energy Efficiency

Teddy Gresse, Myriam Bahrar, Mohamed El Mankibi *ENTPE LTDS UMR CNRS 5513 Univ Lyon Vaulx-en-Velin Cedex France; teddy.gresse@entpe.fr*

PARALLEL SESSIONS

S56: New calculation methods

Thu 17/9/26, 11:15am - 12:30pm, Location: Plenary room B 286, Session Chair: Howard Goodfellow, Session Chair: Arnaud JAY

Thu 17/9/26 B286 11:15am - 11:30am

Building Energy Performance Under Future Climate Scenarios: Comparing Community – Scale and Building – Scale Retrofit Effectiveness

Mohammad Hamdan1, Hanen Ibdah1, **Parham Mirzaei2** *1: Middle East University, Jordan; 2: Aarhus University, Denmark; au725674@uni.au.dk*

Thu 17/9/26 B286 11:30am - 11:45am

Octree grid refinement for lattice Boltzmann method-based LES in non-isothermal turbulent indoor convective airflow

Mengtao Han1, Hideki Kikumoto2, Ryozo Ooka2 *1: Huazhong University of Science and Technology, China, People's Republic of; 2: Institute of Industrial Science, The Univeristy of Tokyo, Japan; hanmt@hust.edu.cn*

Thu 17/9/26 B286 11:45am - 12:00pm

Reconstruction of three-dimensional outdoor airflow using super resolution

Zhenyu Sun, **Wei Liu** *Tianjin Key Laboratory of Indoor Air Environmental Quality Control, School of Environmental Science and Engineering, Tianjin University, 92 Weijin Road, Tianjin 300072, China; weiliu@tju.edu.cn*

Thu 17/9/26 B286 12:00pm - 12:05pm

Multi-agent path finding for facade-integrated ductwork

Matthieu Chaigneau1, Shafi Shaik1, Awwab Hassan1, Sven Auerswald1, Olaf Knospe2 *1: Fraunhofer-Institut fur Solare Energiesysteme ISE, Germany; 2: Westaflexwerk GmbH, Germany; matthieu.chaigneau@ise.fraunhofer.de*

Thu 17/9/26 B286 12:05pm - 12:10pm

Quantification of energy stored and released in walls and slabs when coupled to natural ventilation. Impact of thermal inertia materials and furnitures

Arnaud JAY1, Ahmad FOUANI2, Simon BAL-FONTAINE1,2, Aurelie FOUCQUIER1 *1: Univ. Grenoble Alpes, CEA LITEN, INES, Le Bourget du Lac, France; 2: Université Savoie Mont-Blanc, CNRS, LOCIE, 73000 Chambéry, France; arnaud.jay@cea.fr*

Thu 17/9/26 B286 12:10pm - 12:25pm

Assessing the potential of energy savings with personalised environment control systems: combining field data with building simulation

Stefano Agnoli1, Agnese Chiucchiù2, Martina Botticelli1, **Michele Zinzi1** *1: ENEA, Italy; 2: CIRIAF - University of Perugia; michele.zinzi@enea.it*

WORKSHOPS

W51: Breathing life below: Innovations and strategies for underground space environment control

Thu 17/9/26, 11:15am - 12:30pm, Location: Room B 168

Thu 17/9/26 B168 11:15am - 12:30pm

Breathing life below: Innovations and strategies for underground space environment control

Angui Li1,2, Arsen Melikov3, Alan Kabanshi4, Haiguo Yin1,2, Ying Zhang1,2, Jing Xiong1,2 *1: Xi'an University of Architecture and Technology; 2: International Joint Laboratory on Low Carbon Built Environment, Ministry of Education of China; 3: Technical University of Denmark; 4: University of Gävle; liag@xauat.edu.cn*

WORKSHOPS

W52: Demand-oriented Non-uniform Indoor Environment

Thu 17/9/26, 11:15am - 12:30pm, Location: Room B 169

Thu 17/9/26 B169 11:15am - 12:30pm

Demand-oriented Non-uniform Indoor Environment

Xianting Li1, Zhang Lin2, Risto Kosonen3, Guangyu Cao4, Bin Yang5, Haiguo Yin6, Haidong Wang7, Xiaoliang Shao8, Sheng Zhang9, Huan Wang1 *1: Tsinghua, China; 2: City University of Hong Kong, China; 3: Aalto University, Finland; 4: Norwegian University of Science and Technology, Norway; 5: Tianjin Chengjian University, China; 6: Xi'an University of Architecture and Technology, China; 7: University of Shanghai for Science and Technology, China; 8: University of Science and Technology Beijing, China; 9: Xi'an Jiaotong University, China; xtingli@mail.tsinghua.edu.cn*

PARALLEL SESSIONS

S61: Natural and hybrid ventilation strategies

Thu 17/9/26, 1:15pm - 2:45pm, Location: Room C 215, Session Chair: Izabella Milto, Session Chair: Riku Izumiyama

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Thu 17/9/26 C215 1:15pm - 1:30pm

Impact of Building Airtightness and Ventilation Systems on Planned Ventilation in Japanese Wooden Houses

Riku Izumiyama, Yoshihiro Toriumi, Shin Iwasaki *Tokyo Denki University, Japan; 25rmg02@ms.dendai.ac.jp*

Thu 17/9/26 C215 1:30pm - 1:45pm

Using Natural Ventilation with Ceiling Fans in Retrofitted Office Buildings in Italy: From Implementation to Optimization and Thermal Comfort Assessment.

Izabella Milto2,1, Michał Przybylski3, Andrea Sangalli1, Shayan Shahrestani1, Abdelaalim Mabrouki1, Jose Ary Da Silva Junior1, Roberto Armani1, Stefano Schiavon4, Lorenzo Pagliano1 *1: Polytechnic University of Milan, Italy; 2: University School for Advanced Studies IUSS Pavia, Italy; 3: University of Zielona Góra, Poland; 4: University of California, Berkeley, USA; izabella.milto@iusspavia.it*

Thu 17/9/26 C215 1:45pm - 2:00pm

Effects of Wing Walls on Single-Sided Ventilation Performance in Apartment Units: Wind Tunnel Experiments Using a Movable Measurement Unit

Ryuichiro Yoshie1, Napoleon Enteria2 *1: Tokyo Polytechnic University, Japan; 2: Mindanao State University, Philippines; yoshie@arch.t-kougei.ac.jp*

Thu 17/9/26 C215 2:00pm - 2:15pm

Experimental Investigation of Temperature and Flow Characteristics of a Double-roof Natural Ventilation Device

Haruna Yamasawa, Tomohiro Kobayashi, Narae Choi, Ryota Kago *The University of Osaka, Japan; yamasawa@arch.eng.osaka-u.ac.jp*

Thu 17/9/26 C215 2:15pm - 2:30pm

Buoyancy and velocity field synergy principle for enhancing buoyancy-driven ventilation and natural smoke venting

Feilong Chen2, Zhaoju Duan2, Dong Yang1 *1: School of Resources and Safety Engineering, Chongqing University, Chongqing, 400045, China; 2: School of Civil Engineering, Chongqing University, Chongqing, 400045, China; chenfeilongcarlos@163.com*

Thu 17/9/26 C215 2:30pm - 2:45pm

The ventilation system in French dwellings

Eliane Assy1,2, Olivier Ramalho1,2, Emma Lafaurie1,2, Vincent Binot1,2, Anthony Grégoire1,2, Virginie Desvignes1,2, **Xavier Faure1,2** *1: Scientific and Technical Center for Building (France); 2: Observatory of indoor environmental quality (France); Xavier.FAURE@cstb.fr*

PARALLEL SESSIONS

S62: Ventilation Systems and Energy Performance

Thu 17/9/26, 1:15pm - 2:45pm, Location: Room C 217, Session Chair: Jiri Hirs, Session Chair: Beatrice Riccardi

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Thu 17/9/26 C217 1:15pm - 1:30pm

1.Ventilation analysis during the energy deep renovation of municipal residential buildings in South Moravia

Jiri Hirs, Twiza Sichone, Jan Smejka *Brno University of Technology, Faculty of Civil Engineering, Czech Republic; hirs.j@fce.vutbr.cz*

Thu 17/9/26 C217 1:30pm - 1:45pm

A Novel Solid-Attachment Method for Measuring Linear Thermal Transmittance at Building Wall-Floor Junctions

MinSung KIM, Dong Kyu Lee, Woong June Chung *Gachon University, Korea, Republic of (South Korea); grace5922@gachon.ac.kr*

Thu 17/9/26 C217 1:45pm - 2:00pm

Numerical and experimental analysis of a Fixed-Bed Regenerator for decentralized residential ventilation

Beatrice Riccardi1,2, Alessandro Salmaso1, Giacomo Tognon1, Marco Marigo1, Angelo Zarrella1
1: Department of Industrial Engineering, University of Padova, Italy; 2: PhD in Sustainable Development and Climate Change, Scuola Universitaria Superiore IUSS Pavia, Italy; beatrice.riccardi.1@studenti.unipd.it

Thu 17/9/26 C217 2:00pm - 2:15pm

Ventilation energy and global warming potential

Jiri Hirs, Twiza Sichone, Milan Kubín, Lenka Maurerová *Brno University of Technology, Faculty of Civil Engineering, Czech Republic; hirs.j@fce.vutbr.cz*

Thu 17/9/26 C217 2:15pm - 2:30pm

A novel PCM-based radiant floor cooling system using hybrid cooling mode in the hot and humid climate of Indonesia

Haruka Kitagawa1, Tianxing Zhang2, Muhammad Emir Hanif Rasyadi3, Takashi Asawa2 *1: Shimizu Corporation, Japan; 2: Institute of Science Tokyo, Japan; 3: Ministry of Public Works and Housing, Indonesia; kitagawa.h@shimz.co.jp*

PARALLEL SESSIONS

S63: AI and Smart Technologies in IEQ Design and Control

Thu 17/9/26, 1:15pm - 2:45pm, Location: Room C 219, Session Chair: Myriam Bahrar, Session Chair: Michal Kabrhel

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Thu 17/9/26 C219 1:15pm - 1:30pm

Machine learning for predicting indoor airflows: State-of-the-art methods and future challenges

Thomas Oppelt *Institut für Luft- und Kältetechnik gemeinnützige Gesellschaft mbH, Germany; thomas.oppelt@ilkdresden.de*

Thu 17/9/26 C219 1:30pm - 1:45pm

Development of Representative Forms of Office Buildings in Seoul

Doyeon LEE1, Hyunwoo Lim2 *1: Department of Architecture, Graduate school of Konkuk University, Seoul, South Korea; 2: School of Architecture, College of Architecture, Konkuk University, Seoul, South Korea; zxoromio5@konkuk.ac.kr*

Thu 17/9/26 C219 1:45pm - 2:00pm

Superhydrophobic Condensation-Driven Self-Cleaning of Electrostatic Precipitators

Chengzhong Deng, Chun Chen *The Chinese University of Hong Kong, Hong Kong S.A.R. (China); 1155209821@link.cuhk.edu.hk*

Thu 17/9/26 C219 2:00pm - 2:15pm

Experimental Characterization of Sensors and Mechanical Ventilation Systems' Faults Under Respective Control Strategies

Joud Aldakheel1, Mohamed El Mankibi2, Myriam Bahrar2, Nassim Sebaibi3 *1: BUILDERS Ecole d'ingénieurs, Unité de Recherche "Builders Lab", Campus Lyon, Vaulx-En-Velin, France; 2: ENTPE LTDS UMR CNRS 5513 Univ Lyon Vaulx-en-Velin Cedex France; 3: BUILDERS Ecole d'ingénieurs, Unité de Recherche "Builders Lab", Campus Caen, Epron, France; joud.aljumaa-aldakheel@builders-ingenieurs.fr*

Thu 17/9/26 C219 2:15pm - 2:30pm

Assessment of Indoor Environmental Quality and Sustained Attention in Office Environments: A Multi-Site Field Study

Michael Tesfaye Solomon1, Giorgio Buonanno1, Luca Stabile1, Raul Simonetti2, Biagio Lamanna2, Miriam Solana2 *1: University of Cassino and Southern Lazio, Italy; 2: Carel Industries SpA, Padua, Italy; michaeltesfaye.solomon@unicas.it*

Thu 17/9/26 C219 2:30pm - 2:45pm

Optimizing Ventilative Cooling in Temperate Climates using AI-Based Predictive Control

Michal Kabrhel *CVUT FSV TZB, Czech Republic; michal.kabrhel@fsv.cvut.cz*

PARALLEL SESSIONS

S67: Indoor air quality

Thu 17/9/26, 1:15pm - 2:45pm, Location: Room C 221, Session Chair: Ardeshir Mahdavi, Session Chair: Zuraimi Sultan

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Thu 17/9/26 C221 1:15pm - 1:30pm

Impact of personal factors on people's perception of indoor-environmental quality

Irene Martínez-Muñoz1, Christiane Berger2, **Ardeshir Mahdavi3** *1: TU Graz, Austria; 2: Aalborg University, Denmark; 3: TU Graz, Austria and WU Vienna, Austria; a.mahdavi@tugraz.at*

Thu 17/9/26 C221 1:30pm - 1:45pm

The Impact of Ventilation on Microorganism Sterilisation Using Gaseous Disinfectants

Zuraimi Sultan1, Irvan Luhung2 *1: Singapore University of Social Sciences, Singapore; 2: Yale University; zeems72@gmail.com*

Thu 17/9/26 C221 1:45pm - 2:00pm

Experimental Validation and CFD Modeling of Far-UVC Disinfection under High Ventilation Conditions in Railway Cabins

Xudong Wang, Chun Chen *The Chinese University of Hong Kong; 1155252841@link.cuhk.edu.hk*

Thu 17/9/26 C221 2:00pm - 2:15pm

Applying absolute and cost-based approaches to setting acceptable limits to harm from exposure to indoor air

Jelle Laverge *Ghent University, Belgium; jelle.laverge@ugent.be*

Thu 17/9/26 C221 2:15pm - 2:30pm

Experimental Residential Module for Testing Integrated Innovative Building Services and Predictive Data Models: Introduction and Pilot Measurements

Zuzana Smoláriková, Michal Krajčík, Rastislav Ingeli *Stavebná fakulta STU v Bratislave, Slovak Republic; Zuzana.smolarikova@stuba.sk*

Thu 17/9/26 C221 2:30pm - 2:35pm

Distance- and Size-Resolved Experimental Characterization of Airborne H1N1 Virus Release and Transport

Huiling Zeng1, Huixiu Wang2, Lijun Liang1, Hui Li1, Dawei Guan1, **Li Liu3** *1: Guangdong Provincial Center for Disease Control and Prevention, Guangzhou , China; 2: Jinan University, Guangzhou, China; 3: Department of Building Science, Tsinghua University, Beijing, China; Laboratory of Eco-Planning & Green Building, Ministry of Education, Tsinghua University, Beijing, China.; liuli_archi@tsinghua.edu.cn*

WORKSHOPS

W62: REHVA: Circular HVAC System Design. REHVA Working Meeting

Thu 17/9/26, 1:15pm - 2:45pm, Location: Room B 168

WORKSHOPS

W61: Awards Committees Meeting (members only)

Thu 17/9/26, 1:15pm - 2:45pm, Location: Room B 169

PLENARY SESSIONS

P4: Plenary Session: Keynote by Prof. Francis Allard + Closing session

Thu 17/9/26, 3:00pm - 4:30pm, Location: Plenary room B 286, Session Chair: Karel Kabele

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Thu 17/9/26 B286 3:00pm - 4:30pm

What do we know of Indoor Air Quality in Indoor Environments? 25 years experience of the Indoor Air Observatory in France.

Francis Allard *Tipee /La Rochelle Univ., France; francis.allard@univ-lr.fr*

Gaining a better understanding of indoor environments to prevent and improve indoor air quality represents the main mission of the Indoor Air Quality Observatory launched in 2011.

Much more than an "observatory", the OQAI has been a vast networked research "program" to better understand indoor environments and to take action.

TECHNICAL TOURS

TT1: Technical Tour 1 - UCEEB (separate ticket required)

Fri 18/9/26, 9:00am - 12:00pm

The meeting point is in front of the main entrance of the Faculty of Civil Engineering (conference venue). Registered participants will receive the details by email. Transport to the meeting point is individual.

TECHNICAL TOURS

TT2: Technical Tour 2 - National Library of Technology (separate ticket required)

Fri 18/9/26, 9:00am - 10:30am

The meeting point is in front of the main entrance of the National Library of Technology (the building next to the conference venue). Registered participants will receive the details by email. Transport to the meeting point is individual.

TECHNICAL TOURS

TT3: Technical Tour 3 - Prague Congress Centre (separate ticket required)

Fri 18/9/26, 9:00am - 10:30am

The meeting point is in front of the Prague Congress Centre. Registered participants will receive the details by email. Transport to the meeting point is individual.

TECHNICAL TOURS

TT4: Technical Tour 4 - National Theatre (separate ticket required)

Fri 18/9/26, 9:30am - 11:30am

The meeting point is in front of the main entrance of the National Theatre building. Registered participants will receive the details by email. Transport to the meeting point is individual.