

































bacteriological tests; gas tracer; Isolation rooms

*Beato Arribas, B. , McDonagh, Dr.A. , Noakes, Dr. C. , Sleigh, Dr. P.A. , McDonagh, Dr.A. ,*

[Paper ID538](#) **ENERGY EFFICIENT MODERNIZATION OF HOUSING STOCK: DEMONSTRATION OF IMPACTS ON INDOOR ENVIRONMENTAL QUALITY IN NORTHERN EUROPE**

Exposure assessment; Indoor environmental quality; Residential buildings

*Martuzevicius, D. , Prasauskas, T. , Du, L. , Taubel, M. , Leivo, V. , Kiviste, M. , Haverinen-Shaughnessy, U. ,*

[Paper ID539](#) **INDOOR AIR QUALITY IMPROVEMENT BY PHOTOCATALYTIC OXIDATION**

Coating; Photocatalysis; Titanium dioxide

*Lorencik, S. , Yu, Q.L. , Brouwers, H.J.H. ,*

[Paper ID540](#) **REVOLUTION/EVOLUTION—DNA SEQUENCING TO IDENTIFY INDOOR MICROORGANISMS**

bioinformatics; indoor microbiome; metagenomics

*Peccia, JP. ,*

[Paper ID541](#) **PM2,5 MEASUREMENT PROTOCOL FOR OFFICES**

Offices; Protocol; Yearly average PM2,5

*Jacobs, P. , Voogt, M*

[Paper ID542](#) **EVALUATING THE CONSEQUENCES OF RETROFITTING RESIDENTIAL MULTI-FAMILY BUILDINGS ON INDOOR ENVIRONMENTAL QUALITY, COMFORT, HEALTH AND USER SATISFACTION**

Comfort; Health; Indoor environmental quality

*Kluizenaar, Y. , Jong, P de, Cornelissen, HJM , Vliet, MRA van*

[Paper ID543](#) **ASSESSMENT TOOL FOR BUILDING MATERIALS**

assessment tool; building material; sustainability

*Lima Vasconcelos, SLV. ,*

[Paper ID544](#) **DEVELOPMENT OF AN ASSESSMENT PROTOCOL: THE IMPACT OF ENERGY RETROFITS ON INDOOR ENVIRONMENTAL QUALITY AND PUBLIC HEALTH IN THE EXISTING BUILDING STOCK**

Assessment protocol; Indoor environmental quality; Retrofits

*Du, L. , Leivo, V. , Martuzevicius, D. , Turunen, M. , Prasauskas, T. , Kiviste, M. , Haverinen-Shaughnessy, U. ,*

[Paper ID545](#) **AN ALTERNATIVE VENTILATION SYSTEM FOR OPERATING THEATRES: A FULL-SCALE EXPERIMENTAL STUDY ON THE PERFORMANCE OF A LOCAL VENTILATION SYSTEM**

Air quality; Relative particle concentration; Surgical site infection

*Visser, IM. , Loogman, J., Loomans, M.G.L.C. , Kort, H.S.M. , Sanden, N.P.M. van der, Noor, R.J.R. , Burgmeijer, E.R.T. , Wieren, P. van*

[Paper ID546](#) **ON ASSOCIATIONS BETWEEN EXPOSURE TO HOUSEHOLD CHEMICAL PRODUCTS AND ASTHMA AND ALLERGIES AMONG CHILDREN IN TIANJIN, CHINA**

Chemical products; Children; Health

*Hou, J. , Sun, YX , Kong, XR , Wang, P , Zhang, QN , Sundell, J*





[Paper ID547](#) **LONG TERM PERFORMANCE OF PARTICULATE AIR-FILTER IN AN OFFICE ENVIRONMENT**

efficiency of a filter; ionizer; Particulate air filter  
*Afshari, ALA. , Iqbal, AHI , Bergsøe, NCB ,*

[Paper ID548](#) **BEDROOM ENVIRONMENTAL CONDITIONS IN AIRTIGHT MECHANICALLY VENTILATED DWELLINGS**

Bedroom ventilation; Carbon dioxide; Indoor air quality  
*McGill, G.M. , Oyedele, L.O , Keeffe, G.K , Mc Allister, K.M , Sharpe, T ,*

[Paper ID549](#) **INSUFFICIENT AIR SUPPLY RATES IN NEW BUILT APARTMENTS WITH ENERGY EFFICIENT VENTILATION – INCLUDING ASPECTS OF HUMAN PERCEPTION AND BEHAVIOR**

Air supply rates; apartments; user interaction  
*Nordquist, BN. , Fransson, VF*

[Paper ID550](#) **IMPROVING SCHOOL INDOOR AIR QUALITY**

IAQ enhancement; Source control; source identification  
*Stranger, M.. , Constandt, K.C. , Staelens, J.S. , Maes, F.M. , Lazarov, B.L. , Lor, M.L. , Goelen, E.G. ,*

[Paper ID551](#) **INDEX OF INDOOR AIRBORNE FUNGAL SPORES POLLUTION IN BRUSSELS HABITAT**

Green Ambulance; Habitat; Indoor Airborne Moulds  
*CHASSEUR, CC. , Bladt, . , Wanlin, . ,*

[Paper ID552](#) **DETERMINATION OF RADON EXHALATION FROM BUILDING MATERIALS IN DYNAMICALLY OPERATED TEST CHAMBERS BY USE OF COMMERCIALY AVAILABLE MEASURING DEVICES**

Building material; Radon exhalation; VOC emission test chamber  
*Hofmann, MH. , Richter, MR , Jann, OJ ,*

[Paper ID553](#) **THERMAL COMFORT OF DISPLACEMENT VENTILATION IN ENVIRONMENTS WITH DIFFERENT TEMPERATURE GRADIENTS**

displacement ventilation; indoor climate; thermal comfort  
*Möhlenkamp, M.. , Schmidt, M. , Wick, A. , Gores, I. , Müller, D. ,*

[Paper ID554](#) **QUANTIFYING THE IMPACT OF ENVIRONMENTAL PARAMETERS ON THE FORMATION OF SECONDARY REACTION PRODUCTS FROM TERPENE/OZONE REACTIVE CHEMISTRY UNDER CONTROLLED ATMOSPHERES**

Environmental test chamber (ETC); Monoterpenes; Secondary reaction products (SRP)  
*Maes, FM. , Stranger, Marianne , Lor, Marc , Poelmans, David , Swinnen, Rudi , Goelen, Eddy*

[Paper ID555](#) **ASSESSING THE RELATIONSHIP BETWEEN OUTDOOR AIR POLLUTION AND INDOOR AIR QUALITY IN NATURALLY VENTILATED CLASSROOMS: A CASE STUDY FROM CHILE**

IAQ; Naturally ventilated schools; Particulate matter (PM)  
*Caceres-Araya, C.. , Shrubsole, CS , Altamirano-Medina, HA ,*

[Paper ID556](#) **ENHANCE TOTAL HEAT RECOVERY FOR VENTILATION WITH FLASH EVAPORATIVE COOLING**

enaporative cooling; total heat recovery; ventilation  
*Fang, FL. , Yuan, YS , Yang, Dr. ,*



- [Paper ID557](#) **THE ASSESSMENT OF ODOUR ANNOYANCE IN INDOOR ENVIRONMENT – A NEW CONCEPT USING STATISTICALLY DERIVED ACCEPTANCE LIMITS**  
naphthalene; odour threshold; PD-value  
*Schmidt, MS. , Thumulla, J. T. , Kroczyk, C. K. , Lisow, W. , Mertens, J. M. , Weis, N. W. , Pilgramm, M. P. ,*
- [Paper ID559](#) **EXPERIMENTAL ANALYSIS OF SINGLE-SIDED VENTILATION THROUGH A CENTRE PIVOT ROOF WINDOW**  
centre-pivot roof window; onsite experiments; Single-sided ventilation  
*Iqbal, A.H.I. ,*
- [Paper ID560](#) **A MODEL FULL-SCALE EXPERIMENT FOR NATURAL VENTILATION IN A CUBIC STRUCTURE: THE REFRESH PROJECT.**  
Turbulence; Urban areas; Ventilation  
*Gough, H L. , Halios, C.H , Barlow, J.F ,*
- [Paper ID561](#) **MOISTURE AND THE INDOOR MICROBIOME**  
  
Fungi; Measurement; Moisture  
*Siegel, JA. ,*
- [Paper ID562](#) **THE ROLE OF SURFACES IN THE TRANSMISSION OF BIOAEROSOLS FROM SOURCE TO PATIENT IN HOSPITAL SINGLE AND MULTI-BED ROOMS**  
Airflow; bioaerosols; infection modelling  
*King, MFK. , Noakes, CJN , Sleight, PA ,*
- [Paper ID563](#) **IMPACT OF SENSOR POSITION IN A ROOM ON THE ENERGY PERFORMANCE OF SPACE HEATING AND COOLING SYSTEMS**  
coupled simulation; energy performance; sensor position  
*Rösler, MR. , Felsmann, CF , Gritzki, RG , Kandzia, CK*
- [Paper ID564](#) **ROOM AIRFLOW MEASUREMENTS IN A SIMPLIFIED ROOM GEOMETRY**  
  
benchmark; experimental investigations; room air flow structures  
*Kandzia, CK. ,*
- [Paper ID565](#) **MEASUREMENTS OF VOCs IN A LOW ENERGY BUILDING USING PTR-TOF-MS: COMPARISON OF INDOOR AND OUTDOOR BTEX MEASUREMENTS**  
Low energy building; Proton Transfer Reaction Mass Spectrometry; Volatile Organic Compounds  
  
*Ward, M.K.M.. , Schoemaeker, C. , Locoge, N. , Dusanter, S. , Hanoune, B ,*
- [Paper ID566](#) **VOC EMISSIONS FROM OZONE INITIATED SURFACE REACTIONS WITH PVC FLOORING FROM A CLASSROOM**  
Ozone uptake; Proton transfer reaction mass spectrometry; Volatile Organic Compounds  
*Ward, M.K.M.. , Mendez, M , Schoemaeker, C. ,*
- [Paper ID567](#) **A CASE STUDY OF AIR QUALITY AND VENTILATION HABITS IN A SCHOOL / OFFICE BUILDING WITH NATURAL VENTILATION**  
Indoor air quality; Tracer gas measurements; Ventilation habits  
*Krajčík, M.. ,*



[Paper ID568](#) **THE ROLE OF DESIGN IN HEALTHY BUILDINGS – AN ACTORNETWORK PERSPECTIVE**

Actor-network theory; Housing design; Indoor environment practices  
*Oeien, TBO. ,*

[Paper ID569](#) **OLFACTOMETRIC DETERMINATION OF THE ODOUR DETECTION THRESHOLD AND THE IDENTIFICATION THRESHOLD OF NAPHTHALENE**

Naphthalene; odour detection threshold; PAH  
*Lisow, W.. , Schmidt, MS , Mertens, JM , Thumulla, JT , Weis, NW , Köhler, MK , Pilgramm, MP ,*

[Paper ID570](#) **SENSORIC ODOUR TESTING ACCORDING TO DIN 16000-28 FOR THE EVALUATION OF BUILDING PRODUCTS - FIRST RESULTS**

Building products; Sensoric odour testing; VOC emissions  
*Hofmann, HH. , Weis, NW , Mertens, Mt , Köhler, MK , Siemers, US , Neuweger, BN , Nitschke, FN ,*

[Paper ID571](#) **ESTIMATING HUMAN THERMAL SENSATION REGARDING INHOMOGENEOUS INDOOR ENVIRONMENTS USING LOCAL ENERGY BALANCE EQUATIONS: A NEW APPROACH**

energy balance; heat conduction; thermal sensation  
*Schmidt, C. , Wölki, D.W. , Grün, G. G. , Treeck, CvT van*

[Paper ID572](#) **IMPROVING AIR TIGHTNESS OF STRUCTURES TO IMPROVE INDOOR AIR QUALITY**

Air leakages; Improving air tightness; Repair method  
*Laine, KL. ,*

[Paper ID574](#) **DEVELOPMENT OF A NEW INDEX FOR INDOOR PM2.5**

air quality; fine particles; index  
*Säteri, J O. , Rantala, V*

[Paper ID575](#) **SUBJECTIVE EXPERIMENTS ON RELATIONSHIPS BETWEEN INDOOR ENVIRONMENT AND AROUSAL STATE AND BETWEEN AROUSAL STATE AND WORK PERFORMANCE**

Arousal state; Productivity; Work performance  
*Goto, T. , Koganej, M , Hiramatsu, M ,*

[Paper ID576](#) **SUBJECTIVE EXPERIMENT ON CAUSAL RELATIONSHIP BETWEEN INDOOR TEMPERATURE AND OCCUPANTS' PERFORMANCE MEDIATED BY AROUSAL STATE**

Arousal state; Productivity; Work performance  
*Goto, T. , Koganej, M , Hiramatsu, M ,*

[Paper ID577](#) **INTRODUCTION OF THE EUROPEAN COMMISSION'S 7TH ENVIRONMENTAL ACTION PROGRAMME FOR VEHICLE INTERIOR AIR QUALITY - VIAQ**

(S)VOC; 7th Framework; VIAQ  
*Widdowson, Caroline. , Calder, Hannah , Williams, James ,*

[Paper ID578](#) **HARMONISING ANALYSIS OF VOCs FROM SPRAY POLYURETHANE FOAM INSULATION**

Microchamber; SPF; VOC  
*Widdowson, Caroline. ,*



[Paper ID579](#) **RADON EQUILIBRIUM FACTOR MEASUREMENTS IN AN AIR-CONDITIONED AUDITORIUM**

Air-conditioning; Equilibrium factor; Radon progeny

*Polednik, PB. , Grzadziel, GD , Dudzinska, DM , Bilaska, BI , Kozak, KK , Mazur, MJ , Skwarczynski, M , Skwarczynski, M*

[Paper ID580](#) **THE METHODS FOR EVALUATION OF INDOOR AIR QUALITY**

carbon dioxide; evaluation; indoor air quality

*Dobiášová, L.D. ,*

[Paper ID581](#) **OPERATIVE TEMPERATURE DRIFTS AND OCCUPANT SATISFACTION WITH THERMAL ENVIRONMENT IN THREE OFFICE BUILDINGS USING RADIANT HEATING/ COOLING SYSTEM**

Operative temperature drift; Radiant heating/cooling; Thermal comfort

*Kolarik, J. , Toftum, J , Olesen, B. ,*

[Paper ID583](#) **ANALYSIS OF TOTAL CELL COUNT IN BUILDING MATERIAL - A NEW WAY TO ASSESS MICROBIAL CONTAMINATION AFTER WATER DAMAGES - DETERMINING THE MICROBIOLOGICAL TOTAL CELL COUNT IN BUILDING MATERIAL, USING FLUORESCENCE MICROSCOPY WITH ACRIDINE ORANGE**

fluorescence; mold; total cell count

*Meider, JM. , Dr. Palmgren, UP*

[Paper ID584](#) **MEASUREMENTS OF THE PERCEIVED AIR QUALITY IN SHOPPING CENTERS**

emissions from goods; perceived air quality; perceived intensity

*Müller, D. , Panaskova, JP , Hegemann, D. , Dr. Braunstein, VB*

[Paper ID585](#) **CHANGES OF RADON AND ITS DECAY PRODUCT CONCENTRATIONS IN AN AIR-CONDITIONED AUDITORIUM**

Aerosol particles; Radon; Radon progeny

*Bilaska, IB. , Polednik, BP , Dudzinska, MD , Kozak, KK , Mazur, JM , Grzadziel, DG , Siuta-Olcha, ASO , Skwarczynski, MS*

[Paper ID586](#) **THE OPTIMISATION OF A NEW LOW VOLUME AIR SAMPLING METHOD FOR THE DETERMINATION OF FLAME RETARDANTS**

Air monitoring; Flame retardants; Mixed bed sampling

*Lazarov, BL. , Stranger, MS , Maes, FM , Lor, ML , Swinnen, RS , Spruyt, MS , Goelen, EG , Covaci, AC*

[Paper ID587](#) **DESIGN IN THE WORKPLACE - THE BIOPHILIA IMPERATIVE**

Biophilic; Health; Productivity

*Arkel, J.G. ,*

[Paper ID588](#) **INDOOR AIR QUALITY IN 34 NURSERIES IN BRUSSELS**

Green Ambulance; Indoor Air Quality; Nurseries

*Bladt, S. , Wanlin, M , Lecointre, C , Liebens, C , Vanderslagmolen, S , Chasseur, C*



[Paper ID589](#) **AN ANALYSIS OF INTEGRATED EXTERIOR SHADING AND INDOOR LIGHTING CONTROL FROM OPERATION LEVEL**

Daylight utilization; Dimmable lighting control; Energy Efficiency  
*Sun, J. , Li, Z. Xiao, F.*

[Paper ID590](#) **A MEASUREMENT SETUP TO TEST INSTRUMENTS FOR DETECTING SWEAT**

comfort; sweat detection; thermal neutral zone  
*Verhaart, J. , Snoeren, R. , Li, R. , Zeiler, W.*

[Paper ID591](#) **REDUCING THE RISK OF VOC EMISSIONS: A PRODUCT EMISSIONS REVIEW**

Certification; Standards; VOCs  
*Black, MSB. ,*

[Paper ID593](#) **BENCHMARK AND REQUIREMENT TO COMFORT LEVELS BY USE OF ACTIVE HOUSE TOOLS**

Air quality, Daylight evaluation,; Nearly Zero Energy Buildings; Thermal comfort, Guideline,  
*Eriksen, KEE. ,*

[Paper ID594](#) **MEASUREMENTS OF CAPTURE EFFICIENCY OF RANGE HOODS IN HOMES**

Capture efficiency; home; Range hood  
*Simone, A. , Sherman, M.H.S. , Walker, I.S.W. , Singer, B.C.S. , Delp, W.W.D. , Stratton, J.C.S.*

[Paper ID596](#) **THE PSYCHOLOGY OF THERMAL COMFORT: INFLUENCES OF THERMO-SPECIFIC SELF-EFFICACY AND CLIMATE SENSITIVENESS**

climate sensitiveness; specific self-efficacy; thermal comfort  
*Hawighorst, MH. , Schweiker, MS , Wagner, AW ,*

[Paper ID597](#) **REVISITING VALIDATION METHODS OF OCCUPANT BEHAVIOUR MODELS**

building performance simulation; Model validation; Occupant behaviour modelling  
*Wolf, S.W. , Schweiker, M.S. , Wagner, A.W. , Treeck, C. van*

[Paper ID598](#) **URBAN POLLUTION AND INDOOR AIR QUALITY, AN UNDISPUTED RELATIONSHIP: CFD MODELLING OF SINGLE-SIDED POLLUTANT INGRESS**

Building CFD; pollutant ingress;  
*King, MFK. , Noakes, CJN , Barlow, JFB ,*

[Paper ID599](#) **AIR EXCHANGE RATES AND MIGRATION OF VOCs IN BASEMENTS AND RESIDENCES**

Air Exchange Rates; Basements; VOCs  
*Batterman, A. , Du, Liuliu , Godwin, C , Rowe, Zachary , Chin, JY , Breen, M*

[Paper ID600](#) **REQUIREMENTS AND TESTING TO SECURE INDOOR AIR QUALITY – MALODOROUS POLYPROPYLENE FOIL – A METHOD STUDY**

Odour; Test methods; VOC  
*Jönsson, M. , Gustavsson, PEG , Bude, MB , Larsen, AL*

[Paper ID601](#) **EXPOSURES IN HOMES, SCHOOLS AND COMMUTING MICROENVIRONMENTS: THE SIGNIFICANCE OF TRAFFIC-RELATED AIR POLLUTANTS FOR CHILDREN**



Air exchange rates; Exposure; Schools

*Batterman, A. , Breen, M*

[Paper ID602](#)

**ENERGY CONSERVATION AND IMPROVED IAQ WITH EXISTING VENTILATION STANDARDS**

energy conservation; indoor air quality; ventilation

*Muller, C. O. , Bennett, D. , Edeling, A. , Zougari, Y.*

[Paper ID603](#)

**A PRACTICAL DATABASE APPROACH FOR LEVERAGING CATALOGUES OF FLUORESCENT SIGNATURES FOR REAL-TIME BIOAEROSOL ASSESSMENTS OF THE BUILT ENVIRONMENT**

Bioaerosol; Fluorescence; Monitoring

*Hernandez, T. ,*

[Paper ID604](#)

**A PERSPECTIVE ON LEVERAGING NEW GENERATION SEQUENCING FOR BIOAEROSOL ASSESSMENTS OF THE BUILT ENVIRONMENT: DIFFERENCES AND COMMONALITIES OF PROCESSING PIPELINES AND DATABASES**

Bioaerosol; DNA Sequencing; Ecology

*Hernandez, T. , Robertson, E*

[Paper ID605](#)

**DEVELOPMENT OF AN ENVIRONMENTAL OBSERVATION SCALE FOR THE INDOOR VISUAL ENVIRONMENT.**

environmental factors; low vision; nursing home

*Sinoo, MM. ,*

[Paper ID608](#)

**INDOOR AIR QUALITY VS. ENERGY USE IN A BEER BREWERY: ASSESSMENT OF VENTILATION METHODS AND SYSTEMS USING CFD**

CFD simulations; CO2 emission; Indoor airflow modelling

*Hooff, T. , Blocken, B.*

[Paper ID609](#)

**RETROFITTING WITH SUSTAINABLE BUILDING MATERIAL - VOC, RADON AND THORON IN INDOOR AIR AFTER HOME ENERGY SAVING REFURBISHMENT**

IAQ; Radon; Refurbishment

*Daeumling, ChD. , Brenske, KHB , Hoffmann, BH ,*

[Paper ID610](#)

**INFUENCE OF A BREATHING PROCESS ON DISTRIBUTION OF AIR FROM A PERSONAL VENTILATION OUTLET**

breathing process; personalised ventilation; thermal manikin

*Bogdan, AB. , Koelblen, B , Chludzinska, M ,*

[Paper ID611](#)

**LABORATORY TESTS OF IN SITU METHODS OF PCB EXTRACTION FROM CONTAMINATED BUILDING MATERIALS**

concrete; NMTS paste; remediation

*Frederiksen, MFR. , Gunnarsen, LBG , Andersen, H.V. ,*

[Paper ID612](#)

**PREDICTION OF POLLUTANT DISPERSION IN BUILDINGS: ANALYSIS OF THE GRADIENT-DIFFUSION HYPOTHESIS**

CFD modeling; Pollutant transport modeling; Turbulent flows

*Hooff, T. , Blocken, B. , Gousseau, P , Heijst, GJF van*

[Paper ID613](#)

**PROPOSAL OF THE CEMENTS' ECO-LABELLING CRITERIA EXTENSION**

Barium; Hexavalent chromium; Lead

*Estokova, AE. , Palascakova, L , Kridlova-Burdova, E ,*



- [Paper ID614](#) **BUILDING FOR HEALTH; BEYOND SATISFACTION**  
health; ICF; indoor environmental quality  
*Kort, HSM. ,*
- [Paper ID615](#) **SUMMER THERMAL COMFORT COMPLIANCE ASSESSMENT IN APARTMENT BUILDINGS**  
building simulation; summer thermal comfort; verification methods  
*Simson, R.S. ,*
- [Paper ID616](#) **REVIEW OF DERMAL EXPOSURE FACTORS CONCERNING THE PHTHALATES IN CONSUMER PRODUCTS**  
Consumer product; Dermal exposure; Phthalates  
*Mizukoshi, A. , Azuma, K. dr., Banba, IB dr., Okumura, JO dr.*
- [Paper ID619](#) **THE FEASIBILITY OF VENTILATION TOWER TO ENHANCE CROSS-VENTILATION PERFORMANCE IN A DETACHED HOUSE LOCATED IN URBAN AREA**  
Computational fluid dynamics; Cross-ventilation; Ventilation rate  
*Kamioka, H.K. , Kurabuchi, T.K. , Lee, S.L. ,*
- [Paper ID621](#) **HOUSING, EQUITY, ENERGY AND CLIMATE CHANGE**  
Climate change; Equity; Housing and energy  
*Braubach, M. ,*
- [Paper ID622](#) **THE IMPACT OF INCREASED AIRFLOW RATES ON INDOOR TEMPERATURES OF PASSIVE HOUSE IN THE NETHERLANDS**  
overheating; Passive house; Ventilative cooling  
*Barbosa, R. , Loomans, M.G.L.C. , Hensen, J.L.M. , Barták, M*
- [Paper ID623](#) **AN INTERVENTION STUDY ON INDOOR AIR POLLUTION SOURCES IN MODERN OFFICE BUILDINGS: RESULTS FROM THE OFFICAIR PROJECT**  
cleaning products; intervention; Offices  
*Carrer, P. , Fossati, SF , Piazza, SP , Dell'Ombra, ND , Pasqual, EP , Cattaneo, AC , Cavallo, DC , Mabilia, RM , Bartzis, JB ,*
- [Paper ID625](#) **ON THE EFFECT OF THE NUMBER OF PERSONS IN ONE OFFICE ROOM ON OCCUPANTS PHYSIOLOGICAL AND SUBJECTIVE RESPONSES UNDER SUMMER CONDITIONS**  
Perceived control; Performance; Thermal comfort  
*Schweiker, Ms. , Wagner, aw*
- [Paper ID626](#) **RELATIONSHIP BETWEEN HEALTH SYMPTOMS AND INDOOR AIR QUALITIES OF DIFFERENT AGE GROUPS**  
Indoor Air Parameters; Indoor Air Quality; Sick Building Syndrome  
*Bhattacharjee, S. , Wachter, HPW*
- [Paper ID627](#) **DEVELOPMENT OF A NOVEL SAMPLING METHOD FOR NICOTINE IN SECONDHAND TOBACCO SMOKE**  
Nicotine; Tobacco;  
*Noguchi, M.N. , Yamasaki, A.Y. , Arashidani, K.A , Suzuki, Y.S , Fukushima, Y.F , Tanaka, F.T*



[Paper ID628](#) **PERCEIVED CONTROL OVER INDOOR CLIMATE AND ITS IMPACT ON DUTCH OFFICE WORKERS**

adaptive comfort; individual control; usability of controls

*Boerstra, A.C. , Loomans, M.G.L.C. , Hensen, J.L.M. ,*

[Paper ID629](#) **IMPROVING INDOOR AEROSOL EXPOSURE ASSESSMENT BY EXCLUDING NON-OCCUPANCY DATA SEQUENCES**

exposure assessment; particles;

*Wierzbicka, A. , Bohgard, M , Pagels, J.H. , Dahl, A. , Löndahl, J. , Hussein, T. , Swietlicki, E. , Gudmundsson, A.*

[Paper ID631](#) **HOUSE OWNERS' EXPERIENCE AND SATISFACTION WITH DANISH LOW-ENERGY HOUSES**

Low-energy houses; Occupant satisfaction; Perceived indoor climate

*Knudsen, H. , Kragh, J.*

[Paper ID632](#) **ADVANCED AIR DISTRIBUTION METHOD COMBINED WITH DEODORANT MATERIAL FOR EXPOSURE REDUCTION TO BIOEFFLUENTS CONTAMINANTS IN HOSPITALS**

air cleaning; hospital environment; local air distribution

*Bivolarova, M. P. B. , Chiyomi, C. M. , Melikov, A. K. M. , Zhecho, Z. D. B.*

[Paper ID633](#) **PERFORMANCE ASSESSMENT OF A VENTILATED MATTRESS FOR POLLUTION CONTROL OF THE BED MICROENVIRONMENT IN HEALTHCARE FACILITIES**

advanced local ventilation; bed microenvironment; pollution control

*Bivolarova, M. P. B. , Melikov, A. K. M. , Zhecho, Z. D. B. ,*

[Paper ID634](#) **EFFICIENT LOCAL PERSONAL COOLING WITH FLUCTUATING AIRFLOWS**

air movement; local cooling; thermal comfort

*Bakker, L.G. , Hoes-van-Oeffelen, E.C.M. , Hordijk, G.J. , VandenHam, E.R.*

[Paper ID635](#) **CHARACTERIZATION OF VOLATILE COMPOUNDS EMISSIONS DURING INCENSE BURNING**

benzene; formaldehyde; incense

*Maupetit, F. , NICOLAS, MN*

[Paper ID636](#) **COMPARISON OF TWO HUMAN THERMOREGULATION MODELS USING STABLE AND TRANSIENT CONDITIONS**

Mutinode model; Thermoregulation; Transient condition

*Ogata, O. , Streblow, S , Tanabe, S , Müller, D*

[Paper ID637](#) **THE EFFECT OF ENERGY PERFORMANCE LEGISLATION ON OVERHEATING OF DUTCH OFFICE BUILDINGS: EXPLORATORY STUDY OF FIELD STUDY DATA OF THE LAST 15 YEARS**

EPC; Overheating; Thermal Comfort

*Beuker, T.C. , Boerstra, A.C.*

[Paper ID639](#) **IINFLUENCE OF PUPIL ACTIVITIES AND CLEANING PRODUCTS ON INDOOR AIR QUALITY IN SCHOOLS**

cleaning products; pupil supplies; VOC emission

*Nicolas, MN. , MANDIN, CM , MAUPETIT, FM , DERBEZ, MD*

[Paper ID640](#) **EFFECTS OF THE LOCATIONS OF AIR CLEANER, AIR SUPPLY, EXHAUST, AND HUMAN ON CLEAN AIR AMOUNT INHALED BY THE HUMAN; A COMPUTATIONAL STUDY**





Air cleaning; CFD; Human-based ventilation

*Abolfazl, Mr. , Ardkapan, Mr. , Rahimi, M ,*

[Paper ID641](#) **ADSORPTION CHARACTERISTICS OF SEMI-VOLATILE ORGANIC COMPOUNDS ON SETTLED DUST**

Adsorption; House dust; Semi Volatile Organic Compounds (SVOC)

*Nomura, K.N. , Kagi, N.K , Namiki, N.N , Kondo, K.K , Tanaka, Y.T , Fujii, S.F*

[Paper ID643](#) **OPTIMIZATION OF AIR CURTAIN PERFORMANCE BY PARTICLE IMAGE VELOCIMETRY MEASUREMENTS AND COMPUTATIONAL FLUID DYNAMICS SIMULATIONS: TURBULENCE MODEL VALIDATION**

Air curtain; Impinging jet; PIV measurements

*Khayrullina, A.A. , Hooff, T.A.J. van, Blocken, B.J.E. , Heijst, G.J.F. van*

[Paper ID644](#) **SECONDARY ORGANIC AEROSOL COMPOSITION FORMED FROM VOLATILE ORGANIC COMPOUNDS ON VARIOUS ENVIRONMENTAL CONDITIONS.**

indoor environment; secondary organic aerosol (SOA); volatile organic compound (VOC)

*Arai, M.A. , Kagi, N. , Fujii, S. , Namiki, N. , Sekiguchi, K. , Azuma, K. , Suwa, Y. , Tamura, H.*

[Paper ID645](#) **A NEW AND IMPROVED LIVING ENVIRONMENT FOR PEOPLE WITH DEMENTIA**

dementia; design solution; user-centered

*Vermeulen, E.A.F. , Hordijk, G.J.*

[Paper ID646](#) **CFD ANALYSIS OF VENTILATIVE COOLING IN A GENERIC ISOLATED BUILDING EQUIPPED WITH VENTILATION LOUVERS**

Air exchange efficiency; CFD simulations; Heat removal effectiveness

*Kosutova, K. , Hooff, T.A.J van, Blocken, B.J.E , Hensen, J.L.M*

[Paper ID647](#) **IMPACTS OF PARTICLE PENETRATION COEFFICIENT AND DEPOSITION RATE IN BUILDING AS A STABLE CONDITION**

Deposition rate; Particle; Penetration coefficient

*Lee, B.H.L. , Yeo, M.S.Y.*

[Paper ID648](#) **CONTROLLING POLLUTANTS DURING NEW CONSTRUCTION TO REDUCE EXPOSURE UPON OCCUPANCY**

Chemical; Construction; Particulate

*Grimes, CEG. ,*

[Paper ID649](#) **LAWS, REGULATIONS AND THEIR INTERPRETATION: THE CASE OF HIGH INDOOR TEMPERATURES IN GERMANY**

Indoor environmental quality; litigation; overheating

*Hellwig, RTH. , Dr. Bux, K*

[Paper ID650](#) **THE INFLUENCE OF THE INDOOR ENVIRONMENT ON SLEEP QUALITY**

indoor air quality; sleep quality; thermal environment

*Urlaub, S. , Grün, G , Foldbjerg, P , Sedlbauer, K*

[Paper ID651](#) **PSYCHOACOUSTIC AND PEOPLE-CENTRED APPROACH**

acoustic comfort; office planning; Psychoacoustics



*Oseland, N. , Hodsmann, P.*

[Paper ID652](#)

**CONCRETE CORE ACTIVATION AND SUSPENDED CEILINGS: DESIGNING FOR COMFORT, ENERGY EFFICIENCY AND GOOD ACOUSTICS**

Acoustics; Concrete core activation; Thermal capacity

*Vercammen, M.L.S. ,*

[Paper ID653](#)

**INDOOR ENVIRONMENT QUALITY: LEGISLATION AND REGULATIONS IMPLEMENTATION IN THE UNITED KINGDOM**

Indoor environmental quality; legislation; mould

*Sassi, P. ,*

[Paper ID654](#)

**IEQ PERFORMANCE GAPS: FAILURE MODES, LITIGATION RISKS, AND THE NEED FOR QUALITY.**

IEQ; performance gap; quality

*Tuohy, P.G. ,*

[Paper ID655](#)

**THE CHALLENGE OF MEETING BOTH ACOUSTIC AND THERMAL COMFORT IN 21ST CENTURY SCHOOL**

Classrooms, Reverberance; Sound, Absorption; Thermal Mass

*Klamerek, G. , Campbell, C. , Svensson, C. , Nilsson, E.*

[Paper ID656](#)

**NATIONWIDE ESTIMATES OF SEMI-VOLATILE ORGANIC COMPOUNDS CONCENTRATIONS IN SETTLED DUST AND SUSPENDED PARTICLES IN FRENCH DWELLINGS**

airborne particles; settled dust; SVOCs

*Mandin, CM. , Mercier, FM , Lucas, JPL , Ramalho, OR , Blanchard, OB , Bonvallot, NB , Raffy, GR , Gilles, EG , Glorennec, PG , Le Bot, BLB , Le Bot, BLB ,*