Newsletter
Air Infiltration and Ventilation Centre

Foreword

@AIVCnews

We are very pleased to welcome the UK as new AIVC country.

This is a positive signal showing the relevance of the AIVC to support research and international collaboration on ventilation and air infiltration in buildings. This is also confirmed by the number of papers that will be presented at the AIVC Conference in Madrid on September 23-24, and the diversity of the countries represented (92 papers, 23 countries). With various topical sessions, this conference will also help disseminating specific projects results and cross-fertilising ideas between these projects.

We are also pleased to announce the upcoming publication of an AIVC technical note prepared by AIVC board members on "Ventilation and Health", and briefly described in this newsletter.

We wish you a pleasant reading.

Peter Wouters, Operating Agent AIVC

no 8
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New AIVC Technical Note on ventilation and health

AIVC is preparing a Technote on Residential Ventilation and Health. The Technote is now under review by the AIVC. Providing good indoor air quality to home occupants can have a substantial impact on occupant health and ventilation is a key tool for achieving that goal.

Exposures in homes constitute the major part of exposures to airborne pollutants experienced through the human lifetime. Indoor pollutant sources include humans and their activities related with hygiene, house cleaning, food preparation, laundry, etc.; building construction materials, furnishing, and decoration materials; mould, bacteria, and fungi; tobacco smoking and combustion processes; as well as pets and pests.

In order to improve occupant health, we must identify the pollutants driving the health risks and identify the best control strategies for those pollutants. The Technote summarises studies that have attempted to prioritise pollutants for mitigation in the indoor environment and presents a summary of pollutants driving the health risks indoors and their sources. The Technote also describes methods to reduce exposures of contaminants using different control strategies with a special emphasis on ventilation which plays a key role in reducing exposures.

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AIVC Air Infiltration and Ventilation Centre

The UK joins the AIVC

The AIVC is very pleased to welcome the United Kingdom as new participating country! The UK will be represented in the board by Benjamin Jones, Assistant Professor at the University of Nottingham and Maria Kolokotroni, Professor at Brunel University London. The AIVC at present counts 18 countries composing the AIVC Board demonstrating the growing interest on air infiltration and ventilation issues in new and renovated buildings.

The UK's membership of the AIVC will be welcomed by all industrial and academic practitioners who are interested in ventilation, indoor environment quality, and energy demand reduction. It will give them formal links with umbrella organisations that produce guidelines and contribute to standards, access to its significant library of publications, and participation in the many seminars and conferences that it organises on topical issues. Membership is funded by the Chartered Institution of Building Services Engineers (CIBSE), and will be supported by its very active Natural Ventilation Group (www.cibse.org/nvg).

Outcomes of Lund workshop

Around 55 participants from 16 countries attended the international workshop on "Ventilation and Airtightness in Buildings: Voluntary and Regulatory Frameworks to Improve Quality and Compliance" which was held in Lund, Sweden on March 16-17, 2015, with AIVC as co-organiser.

A summary of the workshop and the PDFs of the presentations are freely available on the QUALICHeCK website at: www.qualicheck-platform.eu

September 12-14, 2016: 37th AIVC – ASHRAE – IAQ joint conference Alexandria, VA, USA

37th AIVC – ASHRAE – IAQ Conference:

Paper abstracts due November 2, 2015

The 2016 AIVC conference will be organised in collaboration with ASHRAE. It will be held in the Crowne Plaza hotel in Alexandria (10 km from Washington DC). The Conference title is "*ASHRAE IAQ 2016 Conference – Defining Indoor Air Quality: Policy, Standards and Best Practices*."

This joint conference will provide a unique opportunity for dialog among attendees to facilitate understanding of current indoor air quality policies, standards and best practices with themes such as regulatory vs. voluntary compliance for achieving Indoor Air Quality (IAQ), the role of IAQ in sustainable building programs and the relationship between IAQ and Indoor Environmental Quality (IEQ), etc.

The conference programme will include internationally acclaimed keynote speakers, original peer reviewed papers, the latest in indoor environmental quality control, plus workshops and panel discussion.

This conference will guide the researchers, experts, policy makers, building owners and operators, engineers, designers, IAQ professionals, commissioning agents, architects and other interested participants about what works and what really doesn't work when tackling major improvements in indoor air quality. Target facilities include residential and non-residential buildings.

Contributions are invited on the following themes and topics among others:

> Definitions and metrics

· Perception vs. performance

· Monetisation of IAQ

· DALY (disability adjusted life years) and related approaches

· Task performance/productivity

· Integrated IEQ metrics

> Regulatory vs. voluntary compliance for achieving IAQ

> IAQ certification programs

> Low energy/high performance buildings and IAQ

> IAQ in sustainable building programs

> Interactions—IEQ, climate change, energy efficiency

> Monitoring

· Sensors and big data

· Post occupancy evaluations

> Best practices

· Case studies with data

· Design, construction, operation

· Commissioning

> Ventilation and infiltration

· IAQ, energy and moisture impacts

· Mechanical and natural ventilation performance

· IEQ and natural ventilation

· IAQ and building/ductwork airtightness

> Residential IAQ standards and policies

> IAQ in Developing Economies

> IAQ in mobile environments—aircraft, trains, ships, motor vehicles

Please visit the conference website at: www.ashrae.org/membership--conferences/conferences/ashrae-conferences/iaq-2016 for more information.

Air Infiltration and Ventilation Centre

Collaboration between IEA EBC ventilation related annexes

Peter Wouters, INIVE eeig, Belgium

Ventilation and air infiltration into buildings represent a substantial energy demand which can account for between 25% to over 50% of a building's total space heating (or cooling) needs. Unnecessary or excessive air change can therefore have an important impact on global energy use. On the other hand insufficient ventilation may result in poor indoor air quality, with consequential health problems, or poor thermal comfort. Designing for optimum ventilation performance is hence a vital part of building design. This task is made especially difficult, however, by the complexities of airflow behaviour, climatic influences, occupancy patterns and pollutant emission characteristics.

The Air Infiltration and Ventilation Centre (AIVC) was established by the International Energy Agency (www.iea.org) as part of the Energy in Buildings and Communities Programme (EBC) (www.iea-ebc.org) as an IEA information centre in 1979 and emerged from a major R&D and awareness gap identified by the first EBC project. This recognised the significant impact of air infiltration and ventilation on energy use, combined with concerns over indoor air quality. The AIVC continues to disseminate information about energy efficient ventilation and exploits up-to-date communications to achieve this.

This cross-fertilisation of ideas is central to the EBC Programme as a whole and in fact the concepts for two running EBC R&D projects were developed with the help of the AIVC participants. These projects, 'Design and Operational Strategies for High Indoor Air Quality in Low Energy Buildings' and Ventilative cooling', both have strongly ventilation-related aspects.

There are several other EBC projects with a high relevance for and/or focus on ventilation related aspects, i.e.:

> Ventilative cooling (http://venticool.eu/);

> High Temperature Cooling & Low Temperature Heating in Buildings (www.annex59.com);

> New Generation Computational Tools for Building & Community Energy Systems (www.iea-annex60.org);

> Business and Technical Concepts for Deep Energy Retrofit of Public Buildings (iea-annex61.org);

> Occupant Behaviour Simulation (www.annex66.org);

> Strategy and Practice of Adaptive Thermal Comfort in Low Energy Buildings;

> Design and Operational Strategies for High IAQ in Low Energy Buildings; and

> Energy Flexible Buildings

23-24 September 2015: 36th AIVC conference, Madrid, Spain

Since 1980, the AIVC holds an annual conference in September/October in one of the AIVC participating countries-members, on a variety of topics in the field of air infiltration and/or ventilation. The conference consists of invited lectures, topics sessions and presentations resulting from the call for abstracts. The 36th AIVC conference "Effective ventilation in high performance buildings" will be held in Madrid, Spain together with the 5th TightVent and the 3rd venticool conferences on September 23-24, 2015. It will be a major international event in 2015 focusing on various topics relevant to ventilative cooling, airtightness, IAQ and health, as well as compliance, smart control, and BIMs.

The best papers presented in the conference will be selected and published in special issues of the "International Journal of Ventilation".

The conference is an initiative of:

– the International Network on Ventilation and Energy Performance (INIVE) on behalf of the Air Infiltration and Ventilation Centre (AIVC), TightVent Europe (the Building and Ductwork Airtightness Platform), and venticool (the international platform for ventilative cooling); and

– the Eduardo Torroja Institute for Construction Science - IETcc-CSIC

Visit the conference website at: www.aivc2015conference.org

Save the date: QUALICHeCK workshop on sustainable summer comfort technologies | 9-10 March 2016 | Athens, Greece

Organised with support from the European Cool Roof Council (ECRC), the European Solar-Shading Organization (ES-SO), venticool and AIVC. More information to come on the QUALICHeCK website at: www.qualicheck-platform.eu

AIRBASE publications

AIRBASE is the Bibliographic Database of the AIVC. It contains abstracts of articles and publications related to energy efficient ventilation. Where possible, sufficient detail is supplied in the bibliographic details for users to trace and order the material via their own libraries.

At present, AIRBASE contains abstracts of 21838 publications with more than 15000 related full documents. A substantial growth of full documents in AIRBASE has been achieved the previous months.

Visit the AIVC website for searching in our bibliographic database at:

www.aivc.org/resources/airbase

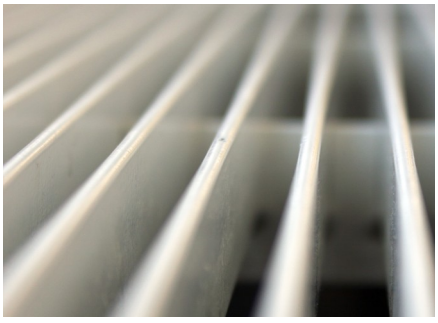
AIVC on Twitter

AIVC has now joined Twitter! Our account, @AIVCnews is the place to go for all the latest updates on air infiltration and ventilation related issues.

Join our LinkedIn group

AIVC is now on LinkedIn. The AIVC group now counts 314 members. It is available at:

www.linkedin.com/groups/AIVC-Air-Infiltration-Ventilation-Centre-1974550



AIVC • List of board members