



Newsletter

Air Infiltration and Ventilation Centre

Foreword



The organization of conferences, workshops and webinars has been one of AIVC's focus and key means of dissemination of information in order to stimulate the ventilation and infiltration community to foster exchanges in the field. The March 2020 issue of the AIVC newsletter is dedicated to sharing information on our past and future events.

Don't forget to mark your agenda for the following upcoming major events:

- The AIVC, venticool & IEA-EBC annex 62 Webinar "Ventilative Cooling – Design and examples" on 26 March 2020 (15:00-16:30 CET)
- The AIVC International Workshop on "Urban Home Ventilation" 6 May 2020 in Oslo, Norway
- The 40th AIVC Conference on 14-16 September 2020 in Athens, Greece

We wish you a pleasant reading and look forward to seeing you in our future events. We would also like to encourage you to visit our website, follow us on twitter and LinkedIn and subscribe to our monthly newspaper "Energy Efficiency and Indoor Climate in Buildings".

Enjoy your reading.



Peter Wouters, Operating Agent AIVC



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14 -16 September 2020 – 41st AIVC - ASHRAE IAQ joint conference in Athens, Greece

The conference "IAQ 2020: Indoor Environmental Quality Performance Approaches Transitioning from IAQ to IEQ", organized by ASHRAE and AIVC will take place September 14-16, 2020 in Athens, Greece. The conference will also be the 9th TightVent and 7th venticool conference.

Indoor Air Quality (IAQ) has been the core of ASHRAE'S IAQ series of conferences for the past 30 years. This conference will expand from Indoor Air Quality to Indoor Environmental Quality (IEQ). IEQ includes air quality, thermal comfort, acoustics, and illumination and their interactions. The particular focus of this conference is on performance approaches including the metrics, systems, sensors and norms necessary to implement them.

Conference topics

• Health and Well-being: Appropriate technical and operational definitions • Performance Metrics: For all aspects of IEQ • Interactions: Interactions between IEQ parameters • Occupant Behavior: How behavior impacts IEQ and how IEQ impacts behavior - psychological dimensions of IEQ • Smart Sensors and Big Data: Sensor properties, data management, cybersecurity, applications • Smart Controls: Equipment properties, commissioning, equivalence • Resilience and IEQ: Responding to climate change and disasters • Ventilation: Mechanical, passive, natural and hybrid systems • Air Tightness: Trends, methods and impacts • Thermal Comfort: Dynamic approaches, health impacts and trends • Policy and Standards: Trends, impacts, implications

Keynote Speakers

• Philomena Bluysen, Professor of Indoor Environment, TU Delft • Richard de Dear, Ph.D., Director, Indoor Environmental Quality Laboratory, University of Sydney • Mariana Figuero, Director of the Lighting Research Center, Rensselaer Polytechnic Institute • Benjamin Jones, Associate Professor, University of Nottingham • Cath Noakes, PhD, FIMechE, FIHEEM, Professor of Environmental Engineering for Buildings, University of Leeds • Stephanie Taylor MD, M Architecture, CIC, FRSPH(UK), MCABE, Taylor Healthcare Consulting, Inc.

For more information, please visit: <https://www.ashrae.org/conferences/topical-conferences/indoor-environmental-quality-performance-approaches> or contact meetings@ashrae.org.

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Feedback from the 40th AIVC Conference 2019 – Summaries of the 3 parallel tracks

The AIVC – TightVent - venticool 2019 joint Conference “From Energy crisis to sustainable indoor climate – 40 years of AIVC”, co-organized by Ghent University and the International Network on Ventilation and Energy Performance (INIVE) on behalf of the Air Infiltration and Ventilation Centre (AIVC), the Building and Ductwork Airtightness Platform (TightVent Europe), and the international platform for ventilative cooling (venticool), was held on 15-16 October in Ghent, Belgium. The event drew just over 200 participants - researchers, engineers & architects, policy makers or regulatory bodies, manufacturers & stakeholders and international organizations from 28 countries.

The programme included 3 parallel tracks of structured sessions with around 160 presentations covering the main conference topics namely: Smart Ventilation, Indoor Air Quality (IAQ) and Health relationships; Airtightness; Ventilative cooling – Resilient cooling. A special session i.e. “90 seconds industry presentations” was also organized and devoted to the sponsors of the event.

The Conference featured the official inauguration of the Indoor Environmental Quality Global Alliance (IEQ-GA) association during a ceremony held on the evening of the first day of the event. At the ceremony, the founding members celebrated with short speeches the establishment of the association and presented its mission and objectives to create a healthier indoor environment in the buildings sector.

The event has also been a major discussion place for on-going or recently launched projects such as, the IEA EBC annex 68 “Design and Operational Strategies for High IAQ in Low Energy Buildings” (<http://www.iea-ebc-annex68.org/>), the IEA EBC annex 78 “Supplementing Ventilation with Gas-phase Air Cleaning, Implementation and Energy Implications” (<http://annex78.iea-ebc.org/>), the IEA EBC annex 79 “Occupant-Centric Building Design and Operation” (<http://annex79.iea-ebc.org/>)

and the IEA EBC annex 80 “Resilient Cooling” (<http://annex80.iea-ebc.org/>).

Summaries of the main trends, ideas, considerations and conclusions that emerged from the two days of the conference for each one of the three tracks have been published.

- The summary of the “Ventilative cooling & HVAC” track can be downloaded here:

https://venticool.eu/wp-content/uploads/2019/12/AIVC2019_Summary_VCTrack.pdf

- The summary of the “Airtightness” track can be downloaded here:

<http://tightvent.eu/wp-content/uploads/2019/11/AirtightnessTrackSummary2019.pdf>

- The summary of the “Smart Ventilation, Indoor Air Quality (IAQ) and Health relationships” track can be downloaded here:

https://www.aivc.org/system/files/AIVC2019_Summary_SmartVentTrack.pdf

Upcoming Webinar – “Ventilative Cooling – design and examples”- 26 March 2020, 15:00-16:30 (CET)

The current development in building energy efficiency towards nZEB buildings represents a number of new challenges to design and construction. One of these major challenges is the increased need for cooling in these highly insulated and airtight buildings, which is not only present in the summer period but also in the shoulder seasons and in offices even in midwinter. Ventilative cooling can be an energy efficient solution to address this cooling challenge in buildings. This webinar presents the main outcomes of IEA EBC Annex 62 on ventilative cooling design as well as give examples of applications and lessons learned.

This webinar is organised by INIVE EEIG (www.inive.org) with the support of the IEA-EBC annex 62 on ventilative cooling (<https://venticool.eu/annex-62-home/>) and the venticool platform (www.venticool.eu), and in cooperation with the Air Infiltration and Ventilation Centre (www.aivc.org).

Presentations & Speakers:

- Introduction to Annex 62 | Hilde Breesch, KU Leuven, Belgium
- Ventilative cooling design | Guilherme

Carrilho da Graça, University of Lisbon, Portugal

- Ventilative cooling potential & operational strategies | Annamaria Belleri, EURAC, Italy

- Example ventilative cooling: CML Kindergarten (Portugal) | Guilherme Carrilho da Graça, University of Lisbon, Portugal

- Example ventilative cooling: University Seminar Room | Maria Kolokotroni, Brunel University London, UK

- Lessons learnt from ventilative cooling cases | Paul O’ Sullivan, Cork Institute of Technology, Ireland

Participation to the webinar is FREE but requires you to REGISTER for the event. Registration is available here:

<https://inive.webex.com/inive/onstage/g.php?MTID=e317a2ca270d7628e82f59e0f6ced8769>.

For further information please download the flyer at:

https://www.aivc.org/sites/default/files/Webinar_Flyer_20200326.pdf.

Webinars on durability of airtightness – Recordings now available!

The recordings and the slides of our recent webinars: “Durability of building airtightness: Assessment through field measurements” held on January 30th 2020 & “Durability of building airtightness: Assessment through laboratory testing” held on Friday 21st February 2020 and organised with the support of TightVent Europe and the Air Infiltration and Ventilation Centre, are now available online.

The full collection of past events' recordings and slides can be found at:

<http://aivc.org/resources/collection-publications/events-recordings>.

Check them out and **subscribe** to our YouTube channel to receive our latest video updates!



6 May 2020, International Workshop on Urban Home Ventilation, Oslo, Norway

Setting sustainable urban development goals and developing energy efficient solutions for buildings are crucial elements of climate action. Urban living is introducing new challenges both for architectural design and technical solutions. Ventilation systems have an important impact both on energy use as well as indoor climate and health in buildings. So, how can we develop good home ventilation solutions fit for urban living?

The Air Infiltration and Ventilation Centre (AIVC) together with the Oslo Metropolitan University (OsloMet) and the Sintef Community are organizing a 1-day workshop to provide insights from national and international experiences in the field. The workshop will be held on May 6th, 2020 in Oslo, Norway. It will start at 08:30 AM and finish at 04:00PM. It will take place at OsloMet (Pilestredet 46, Oslo, Norway).

Information on programme, speakers and registration can be found here:

<https://www.aivc.org/event/6-may-2020-workshop-oslo-urban-home-ventilation>

AIVC 2019 Conference – Recorded presentations on airtightness

We hope you enjoyed attending the 2019 AIVC- TightVent-venticool joint Conference “From energy crisis to sustainable indoor climate – 40 years of AIVC” held on 15-16 October 2019 in Ghent, Belgium. We are happy to announce that we have selected and recorded a few interesting presentations focusing on the topic of airtightness.

The list of available presentations follows together with a link to the recordings.

- Airtightness and energy impact of air infiltration in residential buildings in Spain (Irene Poza-Casado, Universidad de Valladolid, Spain) – Best poster award
- Assessment of long-term and mid-term building airtightness durability: field study of 61 French low energy single-family dwellings (Bassam Moujalled, CEREMA, France) – Best Paper award

- New findings on airtightness measurements of very airtight buildings and apartments (Stefanie Rolfmeier, BlowerDoor GmbH, Germany)

- Deviation of blower-door fans over years through the analysis of fan calibration certificates (Valérie Leprince, INIVE, France)

Please **subscribe** to our YouTube Channel to be sure you never miss out on our content.

40th AIVC Conference, 2019: Best paper, best poster awards

Paper and poster awards were given during the closing session of the joint 40th AIVC – 8th TightVent – 6th venticool conference: “From Energy crisis to sustainable indoor climate – 40 years of AIVC” held in Ghent, Belgium on 15-16 October 2019.

1. Best paper award

Title: “Assessment of long-term and mid-term building airtightness durability: field

study of 61 French low energy single-family dwellings”

Authors: Bassam Moujalled (Cerema, France), Sylvain Berthault (Cerema, France), Andrés Litvak (Cerema, France), Valérie Leprince (PLEIAQ, France), and Gilles Frances (Cetii, France)

2. Best poster award

Title: “Airtightness and energy impact of air infiltration in residential buildings in Spain”

Authors: Irene Poza-Casado (Universidad de Valladolid, Spain), Alberto Meiss (Universidad de Valladolid, Spain), Miguel Ángel Padilla-Marcos (Universidad de Valladolid, Spain), and Jesús Feijó-Muñoz (Universidad de Valladolid, Spain)

Note: Cited papers are available on AIVC's AIRBASE at:

<https://www.aivc.org/resources/collectionpublications/aivc-conference-proceedings-presentations>



Best paper award, Bassam Moujalled (left) & Max Sherman (right) at the 40th AIVC- 8th TightVent – 6th venticool joint conferences



Best poster award, Irene Poza-Casado (left) & Max Sherman (right) at the 40th AIVC- 8th TightVent – 6th venticool joint conferences



Air Infiltration and Ventilation Centre

Free access to AIVC's AIRBASE

AIRBASE (<https://www.aivc.org/resources/airbase>) is the Bibliographic Database of the AIVC. AIRBASE has grown and evolved over many years - 1979 to present day- and now includes over 22000 references and 16000 documents available online.

Entries are based on articles and reports published in journals, internal publications and research reports, produced both by university departments and by building research institutions throughout the world.

AIRBASE documents are now accessible to all website registered users for free! To register to our website please follow the link:

<https://www.aivc.org/user/register>.

Enjoy you reading!

40th AIVC Conference, 2019: Proceedings now available on AIRBASE

We are pleased to announce that the proceedings & PowerPoint presentations of the 2019 AIVC- TightVent-venticool joint Conference "From energy crisis to sustainable indoor climate – 40 years of AIVC" held on 15-16 October 2019 in Ghent, Belgium are now available to download for FREE on AIRBASE. All related documents can be found and downloaded here:

<https://www.aivc.org/resources/collection-papers/volume/40th-aivc-8th-tightvent-6th-venticool-conference-ghent-belgium-15?collection=34361>

AIVC's collection of papers on ventilative cooling

We have just released a new collection of papers linked to ventilative cooling and published during the period of 2012 to 2019! The collection includes papers presented at AIVC & venticool annual conferences and publications produced by the IEA-EBC annex 62 "Ventilative Cooling".

The collection is accessible at:

<https://www.aivc.org/resources/collection-publications/ventilative-cooling>

AIVC • List of board members

Australia: Mat Santamouris, University of New South Wales • Wendy Miller, Queensland University of Technology

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AIVC board guests

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Representatives of organisations

Takao Sawachi, IEA EBC, www.iea-ebc.org

Jaap Hogeling, REHVA, www.rehva.eu

Jan Hensen, IBPSA, www.ibpsa.org

Ben Hughes, IJV, <https://www.tandfonline.com/loi/tjov20>

Carsten Rode, IEA EBC Annex 68, <http://www.iea-ebc-annex68.org/>