

Workshops at CLIMA 2019

Workshop n. 18

REHVA-ISIAQ workshop on evidence-based ventilation needs and development process of future standards

Wednesday, 29 May, 10:30 - 12:00

Meeting Room TBC

Workshop organizer(s)

Jarek Kurnitski

REHVA
3E Federation of
European Heating,
Ventilation and
Air Conditioning
Associations
Additional information at:
www.rehva.eu

REHVA Technology and Research Committee

Pawel Wargocki

 INTERNATIONAL SOCIETY OF
INDOOR AIR QUALITY
AND CLIMATE
Additional information at:
<https://www.isiaq.org>

ISIAQ, the International Society of Indoor Air
Quality and Climate

Presenters

Chair(s)

Jarek Kurnitski

Tallinn University of Technology

Pawel Wargocki

Technical University of Denmark

Speakers

Pawel Wargocki

Technical University of Denmark

Bjarne Olesen

Technical University of Denmark

William Bahnfleth

Pennsylvania State University

Scope

Recent research findings, their interpretation and meaning for ventilation system sizing is discussed with the aim to establish evidence-based design criteria of ventilation rates for residential and non-residential buildings. The workshop attempts to summarize existing evidence, possible knowledge gaps and to specify further actions what are needed to implement evidence-based ventilation rate values into future indoor climate standards such as in EN 16798-1:2019 and possibly in some other ventilation system standards. More specifically, the workshop discusses would it be possible to set up ventilation criteria which is based on the ventilation effects on acute health symptoms and mental performance, making a difference to perceived air quality based common approach. Some new results for instance isolating the effects of bioeffluents have made it possible to distinguish ventilation rates needed for health and comfort. Another question discussed is how the research evidence typically available as ventilation rate L/s per person should be converted to residential ventilation design values which should be either in L/s per room or m² format, as occupancy is typically not known for designers. In this field, a recent REHVA residential ventilation guidebook has proposed new design values based on common occupancy assumptions and category II indoor climate ventilation rate. Similarly, in Finland, ventilation guidelines have been recently updated based on practical design problems and long-time experience of the use of mechanical ventilation.

Audience

Practitioners, researches, authorities and other private and public sector representatives working with ventilation systems and product and ventilation regulation are welcomed to the workshop.

Expected results

The workshop is expected to summarise the existing evidence on ventilation need being based on different criteria and should build understanding how this evidence can be used in the development of ventilation sizing and design principles with consequences to relevant indoor climate and ventilation standards.

Programme

12 min	Recent evidence on health and mental performance Pawel Wargocki, DTU
12 min	Performance criteria in ISO and EN standards Bjarne Olesen, DTU
12 min	ASHRAE 62.1 Indoor Air Quality Procedure vs. 62.2 approach William Bahnfleth, Pennsylvania State University
12 min	From performance criteria to design values: REHVA residential ventilation design procedure Jarek Kurnitski, TalTech
12 min	Principles of New Finnish Ventilation Guidelines Olli Seppänen, FINVAC
30 min	Open discussion
