

L'OQAI accueille Andrew Persily et Pawel Wargocki

Jeudi 18 avril 2019, Centre scientifique et technique du bâtiment

Programme

- 13h30-14h00 : accueil
- 14h00-15h00 :
Dealing with ventilation in indoor air quality studies, and dealing with both in low-energy, sustainable buildings
Andrew Persily, NIST, USA
- 15h00-15h30 : échanges avec la salle
- 15h30-15h45 : pause
- 15h45-16h45 :
What we know and should know regarding the effects of indoor air quality and thermal environment on humans
Pawel Wargocki, DTU, Denmark
- 16h45-17h15 : échanges avec la salle
- 17h15-17h30 : clôture

Les conférences se tiendront en salle **65A, sur le site du CSTB de Champs/Marne** :

84, avenue Jean Jaurès

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Tél. : 01 64 68 82 82

Plan d'accès : <http://www.cstb.fr/doc/le-cstb/plan-acces-cstb-marne.pdf>

Participation à confirmer avant le 17 avril à Claudine.Seignole@cstb.fr

Dealing with ventilation in indoor air quality studies, and dealing with both in low-energy, sustainable buildings

Andrew Persily

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Building ventilation has significant impacts on energy use and in determining the indoor concentrations of airborne contaminants. Given that ventilation is so critical in achieving good indoor air quality (IAQ) and in interpreting concentration measurements, it is disconcerting how poorly ventilation concepts are understood in the IAQ field. It is also quite amazing how few IAQ field studies measure or otherwise characterize how the building(s) being studied is designed to be and actually is being ventilated. In a valiant attempt to address these shortcomings, this presentation summarizes the key parameters of interest in characterizing building ventilation, available methods for quantifying these parameters (including the use and abuse of occupant-generated carbon dioxide), and some examples of the applications of these methods to different types of building and ventilation systems. Along the way, several important findings from decades of research in building ventilation are highlighted.

As we design and construct low-energy and sustainable buildings, the importance of ventilation and IAQ become even more pronounced. But these buildings, as well as the programs and standards intended to facilitate them, tend to neglect both ventilation and IAQ despite the common reference to high performance buildings. This presentation also addresses how ventilation and IAQ are addressed in the design of low-energy and sustainable buildings, and some of the challenges in achieving truly high performance in terms of energy use, IAQ and ultimately occupant health and comfort.

Short bio

Dr. Persily received his PhD from Princeton University in Mechanical and Aerospace Engineering.

His research has focused on indoor air quality and ventilation in commercial and residential buildings, including the development and application of measurement techniques to evaluate airflow and air quality characteristics in a variety of building types. He has also been with the development and application of multi-zone airflow and contaminant dispersal models.

He was vice-president of the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) from 2007 to 2009, and is past chair of ASHRAE SSPC 62.1, responsible for the revision of the ASHRAE ventilation and indoor air quality standard. He is also a past chair of Standard 189.1, Design of High-Performance Green Buildings, past chair of ASTM Subcommittee E6.41 on Air Leakage and Ventilation Performance, and past vice-chair of subcommittee D22.05 on Indoor Air Quality.

He received the Department of Commerce Bronze Medal in December 1989 and Silver Medal in 2008, and was named Young Engineer of the Year by the D.C. Council of Engineering and Architectural Societies in 1990. He was named an ASTM Fellow and an ISIAQ Fellow in 2002, and an ASHRAE Fellow in 2004.

What we know and should know regarding the effects of indoor air quality and thermal environment on humans

Pawel Wargocki

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Short bio

Assoc. Prof. Pawel Wargocki graduated from Warsaw University of Technology. He received his PhD from the Technical University of Denmark, where he has been teaching and performing research ever since.

He has more than 20 years of experience in research on human requirements in indoor environments. He is best known for his seminal work demonstrating that poor indoor environmental quality affects performance of office work and learning. Other work influenced requirements for ventilation and air cleaning. Recent research includes studies on emissions from humans, on sleep quality and on performance of green buildings.

He has collaborated with leading research institutions, universities, and industrial partners around the world such as National University of Singapore, Jiaotong University in Shanghai, Syracuse Center of Excellence, United Technologies and Google. He was President and long-standing board member of the International Society of Indoor Air Quality and Climate (ISIAQ), Vice President of Indoor Air 2008, and Chair of ASHRAE committees. He has received several awards for his work including Rockwool Award for Young Researchers, ASHRAE Ralph Nevins Award, ISIAQ's Yaglou Award and Best Paper Award in Indoor Air. He is the secretary of Academy of Indoor Air Sciences. Published extensively.