

MONTREAL 2006



revised dates

3rd International Building Physics/Science Conference

Research in Building Physics and Building Engineering

As the pioneer and promoter of building engineering in Canada, **Concordia University** is pleased to host the Third International Building Physics Conference in Montreal,

August 27 to 31st, 2006

The conference will build on the experience of the two previous conferences, Eindhoven 2000 and Leuven 2003, and will focus on the integration of knowledge in building physics.

CALL FOR ABSTRACTS

Deadline: **February 28th, 2005**

Introduction

People spend up to 95% of their lives in buildings, depending on outdoor climatic conditions, to work, live, study, or play. The indoor environment influences the productivity, health, and disposition of people. Annual capital expenditures for buildings vary

from 7% to 10% of GNP in industrialized countries. Operation and maintenance costs of buildings can exceed the capital investment over the lifespan of the building. More than one third of the total energy produced is consumed in buildings. Design for proper building performance and durability should address the complex combination of external generalized environmental loads and human requirements.

Over the last several decades, Building Engineering emerged as the discipline to address and manage all of these factors to render buildings more efficient, safe, and economical. Building Physics (Building Science in North America) is the body of knowledge that underpins most of the building engineering applications and provides design tools for achieving adequate building performance. The International Association of Building Physics (IABP) www.kuleuven.ac.be/bwf/projects/IABP/ was established in 2000 to advance this body of knowledge.

One of the venues to promote dialogue and disseminate knowledge in Building Physics/Science is its international conference, held every three years. The Third International Building Physics Conference is to take place in Montreal August 27 to 31, 2006 against a setting of long tradition and achievements in Building Engineering. The conference promises to add much to the endeavor of the International Association of Building Physics.

Objectives

This third conference of the IABP has as main objective to bring together researchers and research interested practitioners, who are active in building physics/science or in related fields such as building design, building services, environmental engineering and technology development and to advance the role of building physics/science in building engineering applications.

The conference will focus on the advances in research during the last decade and on the interactions between the various subjects covered in building physics/science through a well conceived performance approach.

Topics

The conference addresses most topics in building physics/science and should allow the attendees not only to deepen their knowledge but also to broaden their interest. Papers are invited on the subjects listed below. Papers that focus on measured results and compared with predictions, that address new developments in theory and modelling, that show results of a full performance approach are encouraged. Papers that concentrate on the application of existing software only or that do not go beyond experience based facts are discouraged.

Topic 1 Building materials

This topic deals with heat, air and mass flow in materials, emissions by materials and the interactions between heat and mass, sound and mechanical material properties. Papers dealing with new testing techniques and articles that provide a better understanding of the complex relationships between properties and driving forces are highly welcome.

Topic 2 Building envelope systems

This topic focuses on performance-based design, testing and development of building envelopes with an emphasis on the interaction between the heat, moisture and air response, noise reduction, daylight and durability, and the interaction of the building envelope with HVAC and other building systems. Advanced concepts such as risk analysis and probabilistic design are welcome.

Topic 3 Whole buildings

New advances in energy efficiency, evaluation of global hygrothermal performance, engaging a better thermal insulation, high tech glazing solutions, usage of passive and hybrid means, highly efficient building services and renewables are discussed. Overall sustainability is considered and better tools for both energy and sustainability optimizations are sought.

Topic 4 Interactions with the interior environment (usability, comfort, IAQ)

Many parameters shape the usability of an indoor environment. Are there new developments in the quantification of thermal, hygric, acoustical and visual comfort? Are there new facts to consider when discussing indoor air quality? Can we upgrade comfort and indoor air quality by a better usage of

passive means? Papers are called that consider these aspects. Studies on the boundary conditions of the envelope with regards of the interior environment are welcome.

Topic 5 Interactions with the exterior environment

The building is subjected to climatic loads. The interactions of the buildings with the exterior environment include such topics as the effects of sunlight and solar gains, the changes in wind, driving rain and snow patterns, traffic noise and its impact on sound conditions outside and inside, and the heat island effect.

Topic 6 Role of building physics (building science) in building engineering

The field of building engineering is fast evolving and includes structures, HVAC and building service systems, construction management and the application of building physics. What is the extent of knowledge in building physics required by future building engineers? Studies on design to manage loads and minimize their impact and on harnessing environmental forces (the sun and wind, for example) to move buildings towards sustainability are welcome.

Abstracts

The title and the abstract of the paper should be sent by e-mail to buildingphysics2006@bcee.concordia.ca before **February 28th, 2005**. The abstract should contain all information necessary to allow a judgement of the paper it summarises. Its length is restricted to 25 lines. Abstracts will be selected by the International Scientific Committee. Authors of abstracts will be notified by **April 1st, 2005**.

Program

Two workshops are planned:

1. A half day workshop on Sunday, August 27th, 2006, for PhD students, giving them an opportunity to present their PhD project, to discuss common concerns and to forge alliances with colleagues that work on related subjects;
2. A half day workshop on Thursday afternoon, August 31st, 2006, is devoted to heat, air and moisture tools, their usage and limitations.

Important Dates

Call for abstracts: November 1st, 2004
Submission of Abstracts: February 28th, 2005
Notification of acceptance: April 1st, 2005
Submission of papers: July 15th, 2005
Completion of peer review: December 15th, 2005
Submission of revised papers: April 1st, 2006
Conference: August 28-31st, 2006

Venue

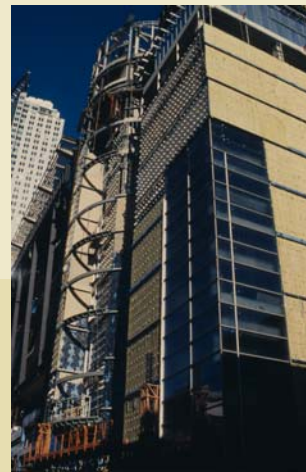
Montreal is a lively, cosmopolitan city. Founded in 1642, it was developed under the French and the English and is known for its multicultural backgrounds and many cultural and sport activities.

An international airport, Trudeau airport, is 20 minutes from downtown.

Future information

on the conference and on the preparation of papers will be posted at www.bcee.concordia.ca/ibpc3 and at www.kuleuven.ac.be/bwf/projects/IABP/

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