

# Preface

Development of the material-technological base in the field of construction is progressing faster than in the previous periods. Based on the potential of new materials and technologies, it is possible to create advanced engineering building systems. Integration of advanced materials, technologies and construction systems creates a high-quality construction with optimum performance in the presence as well as in the future. Nevertheless, improper application of high quality materials in the wrong environment may cause a defect.

Research in the field of building materials, technologies and construction is currently primarily driven by energy efficiency, ecology and quality of the human environment. The importance of energy efficiency is affected secondarily by limited resources of fossil fuels. Another significant moment in this part is the price of energy and forecasts of its growth. Ecology of environment enters the problem through the external environment and ecology of artificially produced human environment. An important factor in terms of ecology is a comprehensive view of the construction work and its segments in the context of the production of pollution produced in the manufacture, transport, installation, exploitation and recycling or removal (rated as for example: primary energy of the material). Construction is currently focusing on higher energy standards using environmentally friendly materials and energy based on renewable resources. The quality of the internal environment has a direct impact on the users, on their health, abilities, well-being and safety.

Saving energy and increasing energy standard applied to buildings entails numerous problems related to energy and economic efficiency, thermal and technical features of building materials and construction, built-in moisture with operational moisture regime, indoor air quality connected with aerodynamic characteristics of the construction. By using a high-performance insulation, which is often flammable, fire safety problems may arise. By changing the scope and material-design solutions form different acoustic parameters of the works. Energy optimization of proportionality, transparent and non-transparent container structures housing brings light and technical problems.

For solutions to these issues is important choosing the right methodology solutions whether in the form of experimental verification, surveillance or computer modeling.

The aim of this international conference is to inform the general public with the results derived from research and practices related to the above-mentioned issues.

Topics:

- Degradation of Building Materials
- Energy Saving and Ecological Buildings
- Thermal Performance of Building Materials and Constructions
- Aerodynamic Characteristics of Buildings and Construction
- Indoor Air Quality and Air Exchange
- Fire Safety Materials, Spaces and Construction
- Noise Protection
- Daylight Conditions

Milan Palko

## Committees

Head of the conference: Ing. arch. Ing. Milan Palko, PhD.

### ABCM 2013 (Advanced Building Construction and Materials 2013) Conference Scientific Committee Members

Prof. Ing. Anton Puškár, PhD.  
Prof. Ing. Ivan Chmúrny, PhD.  
Prof. Ing. Peter Tomašovič, PhD.  
Doc. Ing. Boris Bielek, PhD.  
Doc. Ing. Imrich Mikolai, PhD.  
Doc. Ing. Juraj Žilinský, PhD.

Ing. arch. Ing. Milan Palko, PhD.  
Ing. Dušan Dlhý, PhD.  
Ing. Martin Jamnický, PhD.  
Ing. Milan Držka, PhD.

### ABCM 2013 Conference Organizing Committee Members

Ing. arch. Ing. Milan Palko, PhD.  
Ing. Daniel Urbán  
Ing. Andrej Moravčík  
Ing. Martina Jurigová  
Ing. arch. Paulína Šujanová  
Ing. Michal Franek

Ing. Karin Deáková  
Ing. Dagmara Čehelová  
Ing. Zsolt Nagy  
Ing. Peter Hýsek  
Ing. arch. Martin Hépal

### Reviewers

Prof. Ing. Anton Puškár, PhD.  
Prof. Ing. Ivan Chmúrny, PhD.  
Prof. Ing. Peter Tomašovič, PhD.  
Doc. Ing. Boris Bielek, PhD.  
Doc. Ing. Imrich Mikolai, PhD.  
Doc. Ing. Juraj Olbřímek, PhD.  
Doc. Ing. Juraj Žilinský, PhD.  
Ing. Peter Buday, PhD.  
Ing. Martin Jamnický, PhD.  
Ing. Viera Gašparovičová, PhD.  
Ing. Rastislav Ingeli, PhD.

Ing. arch. Ing. Milan Palko, PhD.  
Ing. Adela Palková, PhD.  
Ing. Dušan Dlhý, PhD.  
Ing. Mária Giecová, PhD.  
Ing. Monika Paučeková, PhD.  
Ing. Milan Držka, PhD.  
Ing. Boris Vavrovič, PhD.  
Ing. Stanislav Šutliak, PhD.  
Ing. Alena Pernišová, PhD.  
Ing. Rastislav Mendan, PhD.  
Ing. arch. Katarína Minarovičová, PhD.

### ABCM 2013 Conference Sponsors

ASFEU  
MŠVVaŠ the OP Research and Development  
for the project: Competence Center of smart  
technologies for computerization of intelligent  
technology systems and servis (INTELINSYS),  
ITMS 26240220072, co-funded by European  
Regional Development Fund.

