



SLOVAK UNIVERSITY OF  
TECHNOLOGY IN BRATISLAVA  
FACULTY OF CIVIL ENGINEERING

Slovak Society of Environmental Technology (SSTP)

Slovak University of Technology in Bratislava, Faculty of Civil Engineering

Invite you to 24th annual and 8th International conference

## INDOOR CLIMATE OF BUILDINGS 2013



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**1. - 3. December 2013**

Štrbské pleso – Hotel PATRIA\*\*\*\*, Slovakia

(SSTP 1328)

Dear Madam, Dear Sir,

It is my pleasure to invite you to ICB 2013 Conference.

ICB 2013 is the 24th annual and 8th International conference organized by Slovak Society of Environmental Technology (SSTP), held in Slovakia.

The conference will examine thermal comfort, indoor air quality, ventilation, exposure and related environmental health concerns associated with building design, construction, retrofit and operation, energy efficiency of buildings.

It is a forum mainly for PhD. students and young researchers to exchange of their knowledge and ideas. It is great opportunity to gain contacts for future cooperation.

The conference program will include internationally speakers; original peer reviewed conference papers and extended abstract presentations. The topics of conference will cover following areas:

- Indoor air quality and health
- Indoor climate and comfort of buildings
- Indoor built environment and evaluation
- Energy efficiency of Buildings
- Energy Performance of HVAC-R systems
- Outdoor Environment and Renewable Energy

#### International Scientific Committee:

Budiaková Mária, *Slovakia*  
Kabele Karel, *Czech Republic*  
Krajčík Michal, *Slovakia*  
Magyar Zoltán, *Hungary*

Petráš Dušan, *Slovakia*  
Piecková Elena, *Slovakia*  
Wagner Gernot, *Austria*  
Wargocki Pavel, *Denmark*

#### Conference Steering Committee:

**Dušan Petráš** - prezident ICB  
Slovak University of Technology in Bratislava  
Faculty of Civil Engineering  
Radlinského 11  
813 68 Bratislava  
[dusan.petras@stuba.sk](mailto:dusan.petras@stuba.sk)

**Hana Pustayová** – secretary ICB  
Slovak University of Technology in Bratislava,  
Faculty of Civil Engineering  
Radlinského 11  
813 68 Bratislava  
[icb.conference@gmail.com](mailto:icb.conference@gmail.com)

#### Organizing committee:

**Diana Haberova**  
SSTP, Kocelova 15  
815 94 Bratislava  
[sstp@stonline.sk](mailto:sstp@stonline.sk)  
[www.sstp.sk](http://www.sstp.sk)

**Zuzana Švecová**  
SSTP, Kocelova 15  
815 94 Bratislava  
[sstp@sstp.sk](mailto:sstp@sstp.sk)

## **1. 12. 2013    Sunday**

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14:00 - 19:00	Registration
16:00 - 16:30	Opening
16:30 - 18:30	Plenary session
19:00 - 23:00	Welcome Reception

## **2. 12. 2013    Monday**

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8:00 - 19:00	Registration
8:30 - 10:30	I. Session: Indoor Air Quality and Health
10:30 - 11:00	Coffee Break
11:00 - 13:00	II. Session: Indoor Climate and Comfort of Buildings
13:00 - 15:00	Lunch break
15:00 - 17:00	III. Session: Indoor Built Environment and evaluation
17:00 - 17:30	Coffee break
17:30 - 19:30	IV. Session: Energy Efficiency of Buildings

## **3. 12. 2013    Tuesday**

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8:00 - 8:30	Registration
8:30 - 10:30	V. Session: Energy Performance of HVAC-R Systems
10:30 - 11:00	Coffee Break
11:00 - 13:00	VI. Session: Outdoor Environment and Renewable Energy
13:00 - 14:00	Lunch break
14:00 - 16:00	Workshop for PhD students

## 1. 12. 2013 Sunday

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14:00 – 19:00 Registration

16:00 – 16:30 Opening  
PETRÁŠ D., President of SSTP

### 16:30 – 18:30 Plenary session

**Principles for guidelines for health – based ventilation in Europe**  
WARGOCKI P.: DTU, Denmark

**Energy Efficiency of HVAC systems: Design and Operation**  
KABELE K.: CTU Prague, Czech Republic

**ISIAQ**  
WARGOCKI P., President of ISIAQ

**REHVA**  
KABELE K., President of REHVA

**SIEMENS, s.r.o.**

19:00 - 23:00 Welcome Reception

## 2. 12. 2013 Monday

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8:00 - 19:00 Registration

### 8:30 – 10:30 I. Session: INDOOR AIR QUALITY AND HEALTH

Chairman: Piecková, Mečiarová

- 1. Indoor Fungal Aerosol and Its Health Effects**  
Piecková, E.: Slovak Medical University, Slovakia
- 2. The current knowledge of measurement of volatile organic compounds in indoor environment**  
Mečiarová L., Vilčeková S., STU, Kosice, Slovakia
- 3. Tombs' Environment - Specific Indoors with Possible Negative Health Impact: a Mycological Approach**  
Majorošová, M., Piecková, E.: Slovak Medical University, Slovakia
- 4. Evaluation of indoor air quality in residential buildings**  
Foldvály V., Petráš D.: STU, Bratislava, Slovakia
- 5. The effect of selected building material - refractory ceramic fibers - and cigarette smoke on the respiratory tract**  
Hurbánková M., Černá S., Wimmerová S., Hrašková D., Marcišiaková J., Moricová Š.: Slovak Medical University in Bratislava, Slovak Republic

**6. Differences in the perception of sound between men and women**

Hájková L., Cifrinec I.: CUT Brno, Czech Republic

**7. Effects of Seismic waves on the indoor climate of building and comfort**

Žiaran S., Musil M.: STU, Bratislava, Slovakia

**10:30 – 11:00 Coffee break**

**11:00 – 13:00 II. Session: INDOOR CLIMATE AND COMFORT OF BUILDINGS**

Chairman: Kabele, Verhaart

**1. The importance of MRT for assessment of indoor environmental quality in buildings**

Veverková Z., Kabele K.: CUT Prague, Czech Republic

**2. Non-invasive detection of thermal discomfort in an office environment**

Verhaart J, Veselý M., Zeiler W.: TU/e, Netherland

**3. Thermal comfort of office buildings with low temperature heating / high temperature cooling and a heat pump**

Bugáň J., Petráš D.: STU, Bratislava, Slovakia

**4. The use of Design Builder for the evaluation of the indoor environment**

Dobiášová L., : CTU, Prague, Czech Republic

**5. Measurements of indoor climate parameters in indoor swimming pool**

Turza R., Furi B.: STU, Bratislava, Slovakia

**6. A Stereo temperature – The Value for Evaluation Non-uniformity of the Indoor Environment**

Zuská L., Kabrhel M. : CTU, Prague, Czech Republic

**7. Evaluation of Thermal Comfort in Dwelling Buildings in Process of Refurbishment**

Pustayová H : STU, Bratislava, Slovakia

**8. Determination of air temperature using enthalpy, relative humidity and total pressure only**

Nehasil O., Adamovský D: CTU, Prague, Czech Republic

**13:00 - 15:00 Lunch break**

**15:00 – 17:00 III. Session: INDOOR BUILT ENVIRONMENT AND EVALUATION**

Chairman: Budiaková, Špegelj

**1. Securing thermal comfort in buildings with double skin façade**

Budiaková M. : STU Bratislava, Slovakia

**2. Natural ventilation of the double skin transparent façade cavity**

Valoušková K.: CTU Prague, Czech Republic

**3. Concepts of efficient building envelopes**

Jedinák R. : STU Bratislava, Slovakia

4. **Development of timber-glass upgrade modules for refurbishment of existing energy inefficient-buildings**  
Špegelj T., Leskovar V., Premrov M., : Rihter d.o.o., TU Maribor, Slovenia
5. **The modernization of energy economy in national theatre Prague funded by EPC method**  
Linhartová V.: CUT Prague, Czech Republic
6. **Energy rating of the active house in the Czech Republic**  
Velisková E., Hirš J.: CTU Brno, Czech Republic
7. **Evaluation of the quality of hot water supply in the apartment building**  
Krippelová Z., Peráčková J. : STU, Bratislava, Slovakia
8. **Cost Optimal Evaluation of Energy Saving Measures for Refurbishment of Dwellings Buildings**  
Borisová L.: STU, Bratislava, Slovakia

**17:00 - 17:30**      **Coffee break**

**17:30 – 19:30**      **IV. Session: ENERGY EFFICIENCY OF BUILDINGS**

Chairman: Magyar, Bartoňová

1. **Implementation of EPBD**  
Magyar Z: TU Budapest, Hungary
2. **An investigation of the energy performance in commercial buildings**  
Harmati N., M Magyar Z.: TU, Novi Sad, Serbia; TU Budapest, Hungary
3. **Evaluation of energy efficiency of reconstructed residential building**  
Budiaková M.: STU, Bratislava, Slovakia
4. **The assessment of the air-conditioning function by PPD method**  
Michnová L., Martiník L., Galda Z.: TU Ostrava, Czech republic
5. **Evaluation of energy performance of ventilation and air conditioning in the office building**  
Hurtíková D.: STU, Bratislava, Slovakia
6. **CFD Simulation of Flow in Optimized Ducts with Different RANS Turbulence Models**  
Czétány L., Szánthó Z.: TU Budapest, Hungary
7. **Effect of control of warm-water heating system on consumption of auxiliary energy**  
Bartoňová J.: CTU Prague, Czech Republic
8. **Technical- economic assessment of complex renovation of an apartment building**  
Kmeťková J., Petráš D.: STU Bratislava, Slovakia

**Company presentation: Camfil, s.r.o.**  
**Poor, s.r.o.**

**20:00 – 23:00**      **Conference Slovak Dinner**

## 3. 12. 2013 Tuesday

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08:00 - 08:30 Registration

### 8:30 – 10:30 V. Session: ENERGY PERFORMANCE OF HVAC-R SYSTEMS

Chairman: Krajčík, Czétany

- 1. Thermal comfort and ventilation effectiveness of combined ventilation and radiant heating/cooling systems for low-energy buildings**  
Krajčík M.: STU Bratislava, Slovakia
- 2. Investigation of the ventilation efficiency and draft of a tangential air distribution system**  
Both B., Goda R.: TU Budapest, Hungary
- 3. Analyses and tests of diffuse ceiling ventilation in test building**  
Václavík R., Mikeška T.: DTU, Denmark
- 4. Heat load elimination during summer period by application of natural and mechanical ventilation systems**  
Knížová K., Kováč M.: STU Košice, Slovakia
- 5. Determining the Airflow Rate of Different Flow Elements in Zonal Models**  
Czétany L., Csoppenszky G., Szanthó Z.: TU Budapest, Hungary
- 6. HVAC Energy savings and building exterior aerodynamics**  
Kohoutková A.: CTU Prague, Czech Republic
- 7. Interaction between the smart grid and smart building**  
Belic E., Sukič P., Štumberger G.: TU Maribor, Slovenia
- 8. Energy Analysis of Circulating Pumps in Heating Systems of Residential Buildings and Determinating the Energy Efficiency Index**  
Rácz L., Takács J.: STU Bratislava, Slovakia

10:30 - 11:00 Coffee break

### 11:00 – 13:00 VI. sekcia: OUTDOOR ENVIRONMENT AND RENEWABLE ENERGY

Chairman: Petráš, Stutterecker

- 1. Renewable Energy Systems with Low Temperature Heating and High Temperature Cooling**  
Petráš D.: STU Bratislava, Slovakia
- 2. Integrated heating and cooling with a focus on electrically and thermally driven heat pumps and chillers**  
Stutterecker W.:
- 3. Case study of the use of renewable energy sources to ensure quality of the indoor environment in the new building of the Centre of Architecture and Design in Prague**  
Balounova M., Kabele K.: CUT Prague, Czech Republic
- 4. The Energy Performance Certificate of Apartment Building with a Heat Source - Geothermal Energy**  
Bukoviansky M.: STU Bratislava, Slovakia

5. **Internal fluid behavior in storage tanks used in solar appliances**  
Magyari I.: TU Budapest, Hungary
6. **Methodology of solar energy systems efficiency evaluation in buildings**  
Skalík L., Lulkovičová O.: STU, Bratislava, Slovakia
7. **Absorption solar cooling**  
Bejček M., Urban M.: CUT Prague, Czech Republic
8. **Wastewater as the Source for Renewable Energy**  
Podobeková V., Peráčková J.: STU, Bratislava, Slovakia

**13:00 - 14:00**      **Lunch break**

**14:00 - 16:00**      **WORKSHOP FOR PHD STUDENTS**

Partners:



**SIEMENS**

Media Partner:



## REGISTRATION FEE PAYMENT

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### REGISTRATION FEES:

- ICB Regular participant 71,00 + 20% VAT = 85,00 €
- ICB Reduced fee participant (Member of SSTP) 58,00 + 20% VAT = 70,00 €
- Student 50,00 + 20% VAT = 60,00 €
- Proceedings book 21,00 + 20% VAT = 25,00 €
- Proceedings on CD 10,00 + 20% VAT = 12,00 €
- Presenting company 208,00 + 20% VAT = 250,00 €

### REGISTRATION INCLUDES:

Access to Sessions

Breaks

Welcome Reception

Conference Slovak Dinner

### WIRE TRANSFER INFORMATION

Registration fees must be paid in EUR by wire transfer to:

SSTP, Kocel'ova 15

815 94 Bratislava, Slovakia

Company ID: 00896918

Tax ID: SK2021491241

**Account NO.:** 1307192857/ 0200

**Variable symbol:** 28 + your company ID

**Details of payment:** Name of company / Forename and Surname of participant\*

**IBAN:** SK67 0200 0000 0013 0719 2857

**SWIFT/BIC:** SUBASKBX

\*The participant's name should be clearly legible otherwise the payment cannot be identified.

All payments made by bank transfer have to be net of all bank charges. The payer pays the bank charges of their bank, and the beneficiary pays the charges of their bank, if any.

We will send the Invoice after conference.

The refund of registration fee is not available.

If you should be prevented from attending, you will be given the opportunity to send a colleague in your place.

**VENUE:**

1. - 3. december 2013, Hotel PATRIA, Štrbské Pleso – High Tatras



**Conference dates:** Sunday -Tuesday, December 1. - 3. 2013

**Accommodation:** Hotel PATRIA

**Rate:** € 45 single room  
€ 65 double room

**Local tax** has to be paid at the check-in – 1 €/person/day.

Following services are included in the price: overnight stay, breakfast, taxes, entry to Wellness Patria Aqua Paradise. Swimming in the hotel indoor swimming pool is for free as well as the entry to the fitness, table tennis and internet.

Accommodation is paid by participant of conference and it is not included in registration fees. Accommodation must be paid in EUR by credit card or cash in the Hotel Patria.

The programme and registration form can be found on the webpage [www.sstp.sk](http://www.sstp.sk). More information is provided by the organisation guarantor [Hana Pustayová](#) :

Please send the registration form to the following e-mail address: [icb.conference@gmail.com](mailto:icb.conference@gmail.com)

**The deadline for applications is 27.11 2013**

Contact address:

SSTP, Kocel'ova 15

815 94 Bratislava, Slovakia

[icb.conference@gmail.com](mailto:icb.conference@gmail.com)

**REGISTRATION FORM**  
**8th International Conference INDOOR CLIMATE OF BUILDING 2013**  
**December 1 – 3, 2013, Štrbské Pleso – High Tatras, Slovakia**

<b>Forename(s), Surname, Title:</b>	
<b>Other participants:</b>	
<b>Name of the company (society):</b>	
<b>Address of the company (society), Post code:</b>	
<b>Phone number:</b>	<b>Company ID:</b>
<b>Mobile phone number:</b>	<b>Tax ID:</b>
<b>E-mail:</b>	<b>VAT:</b>

Registration fee must be sent no later than 27.11 2013 to account of SSTP in VÚB bank Bratislava.

**Account NO.:** 1307192857/ 0200

**Variable symbol:** 28 + your company ID

**Details of payment:** Name of company / Forename and Surname of participant\*

**IBAN:** SK67 0200 0000 0013 0719 2857

**SWIFT/BIC:** SUBASKBX

REGISTRATION FEE:

ICB Regular participant	71,00+ VAT =	85,00 €	<input style="width: 100%; height: 20px;" type="text"/>
ICB Reduced fee participant (Member of SSTP)	58,00 + VAT =	70,00 €	<input style="width: 100%; height: 20px;" type="text"/>
Student	50,00 + VAT =	60,00 €	<input style="width: 100%; height: 20px;" type="text"/>
Proceedings book	21,00 + VAT =	25,00 €	<input style="width: 100%; height: 20px;" type="text"/>
Proceedings on CD	10,00 + VAT =	12,00 €	<input style="width: 100%; height: 20px;" type="text"/>
Presenting company	208,00 +VAT=	250,00 €	<input style="width: 100%; height: 20px;" type="text"/>

**Payment Confirmation**

Participation fee in the amount of ..... €, was paid on.....

We will send from account number:.....to account number of SSTP in VÚB bank Bratislava, account number: 1307192857/0200; Variable symbol 28 + Your company ID : .....