

## CONFERENCE PROGRAMME

**MONDAY, 23th APRIL 2018**

FACULTY OF CIVIL ENGINEERING & ARCHITECTURE

OPOLE UNIVERSITY OF TECHNOLOGY

Katowicka 48, 45-061 Opole, Poland

**14.00 - 15.30** **Registration:** Lobby near the Assembly Hall of Prof. Oswald Mateja  
at the Faculty of Civil Engineering and Architecture

**15.30 - 16.00** **Opening ceremony:** Assembly Hall of Prof. Oswald Mateja

**Chairman:** Zbigniew PERKOWSKI, Dominika PILARSKA

**Opening ceremony speeches:**

Representatives of the authorities of Opole University of Technology and  
Opole Voivodeship, the organizers of ECCE 2018

**16.00 - 17.30** **Plenary session:** Assembly Hall of Prof. Oswald Mateja

**Chairman:** Damian BĘBEN, Adam RAK

**Keynote lectures:** (3x30 min)

**Maciej CHOJNACKI (Poland):**

*Environmental engineering aspects based on construction of 2 x 900 MW  
coal fired units in Opole Power Plant*

**Giovanni BOSCO, Lucia SIMEONI (Italy):**

*Environmental impact of intensive farming in sloping areas*

**Pranshoo SOLANKI, Samikaran BHATTARAI (USA):**

*Strength and permeability of pervious composite prepared by using  
post-consumer plastic waste bottles*

**17.30 - 18.00 Presentation of companies:** Assembly Hall of Prof. Oswald Mateja

1. ThermoShield Poland Ltd. Spółka z o.o.
2. Górażdże Group

**18.00 - 18.15 Coffee break**

**18.15 - 19.15 Poster session\*:** The second floor of the Faculty of Civil Engineering and Architecture

**Chairman:** Zbigniew PERKOWSKI, Peter HÄUPL, Dominika PILARSKA

**19.15 Welcome Reception:** Hall in the new wing of the Faculty of Civil Engineering and Architecture

**Note:** \* The full list of the presented posters is attached at the end of the conference programme.

## CONFERENCE PROGRAMME

TUESDAY, 24th APRIL 2018

HOTEL MERCURE OPOLE  
Krakowska 57/59, 45-018 Opole

### Thematic groups of sessions:

- Group 1.** Sustainable civil engineering, impact on environment, durability and protection of buildings and structures, energy consumption in civil engineering, unconventional energy sources.
- Group 2.** Material engineering, waste management in civil engineering.
- Group 3.** Design of buildings, including reconstruction and renovation of antique buildings.
- Group 4.** Innovative construction technologies and exploitation of buildings and structures (including industrial, hydrotechnical, communal, transportation and geotechnical ones), BIM in civil engineering, legal and organizational issues of preparation and implementation of construction projects.

**09.15 - 10.30** **Session I: Thematic group 1 (Room A)**  
**Chairman:** Giovanni BOSCO, Beata NOWOGOŃSKA

1. Peter HÄUPL, Frank HANSEL:  
*Quantification of the internal space climate*
2. Anna HOŁA:  
*The moisture condition of the brick walls in the basements of a medieval monastery*
3. Iwona KLOSOK-BAZAN, Joanna BOGUNIEWICZ-ZABŁOCKA, Vincenzo NADDEO:  
*Tap water as a source of indoor radon concentration*
4. Stanisław LACH:  
*Interpretation of the results of monitoring of the displacement of the Tresna Dam in 2016*
5. Kinga NOGAJ, Michał TURSKI, Robert SEKRET:  
*The use of substations with PCM heat accumulators in district heating system*

**09.15 - 10.30 Session II: Thematic group 2 (Room B)**  
**Chairman: Ján BUJŇÁK, Zbigniew PERKOWSKI**

1. Anatoliy BRAGOV, Andrey LOMUNOV, Alexander KONSTANTINOV, Dmitriy LAMZIN, Leopold KRUSZKA:  
*Investigation of mechanical properties of lime-sand brick under dynamic loading*
2. Anatoliy BRAGOV, Leonid IGUMNOV, Andrey LOMUNOV, Alexander KONSTANTINOV, Dmitriy LAMZIN, Leopold KRUSZKA:  
*Use of the Kolsky method for dynamic tests of brittle media*
3. Paweł NIEWIADOMSKI:  
*The effect of nano-additive TiO<sub>2</sub> on the failure process of self-compacting concrete assessed using the acoustic emission method*
4. Anna ADAMCZAK-BUGNO, Grzegorz ŚWIT, Aleksandra KRAMPIKOWSKA:  
*Time frequency analysis of acoustic emission signals generated by cement-fiber boards during bending test*
5. Leonid IGUMNOV, Aleksandr IPATOV, Svetlana LITVINCHUK:  
*Modified stepped scheme for modelling the dynamic behavior of 3D poroviscoelastic solids*

**10.30 - 11.00 Coffee break**

**11.00 - 12.15 Session III: Thematic group 4 (Room A)**  
**Chairman: Bożena HOŁA, Jarosław KONIOR**

1. Marek SAWICKI, Mariusz SZÓSTAK:  
*Analysis of the dependence between the number of accidents at workplaces that involve scaffolding and changes in work efficiency*
2. Ján BUJŇÁK, Peter MICHÁLEK, Wiesław BARAN:  
*Experimental and theoretical investigation of composite truss beams*
3. Tomasz NOWOBILSKI:  
*Classification of Polish voivodeships with regards to the accident rate in the construction industry*
4. Tomasz SZCZURASZEK, Jacek CHMIELEWSKI:  
*Planning the development of spatial management and transport system of a city from the point of view of environmental impact*
5. Jarosław KONIOR:  
*Feasibility study of construction project in compliance with bank investment supervision requirements*

- 11.00 - 12.15**    **Session IV: Thematic group 2 (Room B)**  
**Chairman:** Pranshoo SOLANKI, Tadeusz CHMIELEWSKI
1. Monika KNAP, Wojciech PIASTA:  
*Effect of sulphate corrosion on the durability of air-entrained cement mortars*
  2. Pavlo VEGERA, Rostyslav VASHKEVYCH,  
Zinoviy BLIKHARSKYY:  
*Fracture toughness of RC beams with different shear span*
  3. Dorota MAŁASZKIEWICZ, Magdalena SZTUKOWSKA:  
*Utilization of wastes from medium density fiberboards production as an aggregate for lightweight cement composite*
  4. Robert GRYGO, Victor PRANEVICH:  
*Lightweight sintered aggregate as construction material in concrete structures*
  5. Anna STĘPIEŃ, Paulina KOSTRZEWA:  
*Sand-lime composites with basalt fibers*
- 12.15- 12.45**    **Presentation of companies**
1. FAKRO Spółka z o.o.
  2. Energetyka Ciepła Opolszczyzny SA  
*(Heat Engineering Company of the Opole Region)*
- 13.00 - 14.00**    **Lunch (Hotel Mercure Opole)**
- 14.30 - 18.30**    **Technical trip to the construction site of the Opole Power Plant**
- 20.00**            **Gala Dinner (Hotel Mercure Opole)**

## CONFERENCE PROGRAMME

**WEDNESDAY, 25th APRIL 2018**

HOTEL MERCURE OPOLE  
Krakowska 57/59, 45-018 Opole

**09.15 - 10.30 Session V: Thematic group 1 (Room A)**  
**Chairman:** Oleksandr SHIMANOVSKY, Arkadiusz MORDAK

1. Piotr LIS, Anna LIS:  
*Energy performance of building heating – theory and reality on the example of educational buildings*
2. Zofia SZWEDA, Zbigniew BULIŃSKI:  
*Application of inverse methodology to estimation of chloride diffusion coefficient in concrete of prestressed precast slab*
3. Vacharapoom BENJAORAN, Patranid PARINYAKULSET:  
*Green Initiative in Suranaree University of Technology in Thailand*
4. Piotr ZIEMBICKI: *Optimization of building design process by using energy simulation tools*
5. Joanna RUDNIAK: *Regional solar conditions in the context of sustainable development*

**09.15 - 10.30 Session VI: Thematic group 4 (Room B)**  
**Chairman:** Dariusz BAJNO, Ralf GLINIORZ

1. Bartosz ŻYMAŃCZYK, Wiesław BARAN:  
*Structural Engineering by way of BIM*
2. Yaroslav BLIKHARSKYY, Roman KHMIL, Zinoviy BLIKHARSKYY:  
*Research of RC columns strengthened by carbon FRP under loading*
3. Marta KOSIOR-KAZBERUK, Rafał WASILCZYK:  
*Influence of static long-term loads and cyclic freezing/thawing on the behavior of concrete beams reinforced with BFRP and HFRP bars*
4. Jerzy K. SZLENDAK, Agnieszka JABŁOŃSKA-KRYSIEWICZ, Dariusz TOMASZEWICZ:  
*Analytical modelling of a three-layer wall system of strengthening for large-panel slab buildings by means of bonded anchors*
5. Tomasz MALESKA, Damian BĘBEN:  
*The effect of mine induced tremors on seismic response of soil-steel bridges*

**10.30 - 11.00 Presentation of companies**

1. Haba-Beton Johann Bartlechner Spółka z o.o.
2. Xella Polska Spółka z o.o.

**11.00 - 11.30 Coffee break**

**11:30 - 12.45 Session VII: Thematic group 3 (Room A)**  
**Chairman:** Zinoviy BLIKHARSKYY, Damian BĘBEN

1. Ján BUJŇÁK, Petra BUJŇAKOVA, Bronisław JĘDRASZAK:  
*Modelling and verification of bridge behaviour*
2. Oleksandr SHIMANOVSKY:  
*Modelling of elastic-plastic behaviour of cables*
3. Tadeusz CHMIELEWSKI:  
*On the assessment of existing civil engineering structures*
4. Bohdan STAWISKI, Tomasz KANIA:  
*Building diagnostics versus effectiveness of repairs*
5. Przemysław JAKIEL, Dariusz BAJNO:  
*Assessment of technical condition of historic Penny Bridge in Opole in the context of its restoration*

**11:30 - 12.45 Session VIII: Thematic group 1 (Room B)**  
**Chairman:** Leopold KRUSZKA, Leonid IGUMNOV

1. Sandra GELBRICH, Carolin PETZOLDT, Ralf GLINIORZ, Andreas EHRlich, Lothar KROLL:  
*Interactive sandwich façade made of renewable resources*
2. Marta KAŁUŻA, Jan KUBICA, Jacek HULIMKA, Kamil KOZDRON:  
*Investigation on application of a typical mortar for clinker in prefabricated façade panels – test's results*
3. Mariusz CZABAK, Zbigniew PERKOWSKI:  
*Experimental investigations of wooden and concrete composite beams subject to long-term load*
4. Alicja WIECZOREK, Marcin KONIORCZYK:  
*The influence of type of cement on the degradation of microstructure and transport properties of cement mortars exposed to frost induced damage*
5. Tomasz KANIA, Henryk NOWAK:  
*Gypsum partitions in medical rooms*



**12.45 - 13.15 Presentation of companies**

1. Weinerberger Ceramika Budowlana Spółka z o.o.
2. MC-Bauchemie

**13.30 - 14.00 Closing ceremony (Room A)**

**Chairman:** Damian BĘBEN, Adam RAK

**14.00 - 15.00 Lunch (Hotel Mercure Opole)**



**The full list of the presented posters**  
(poster size 65 cm x 95 cm)

Number	Author(s)	Title
ECCE2018_06	Tomasz Maleska Damian Bęben	<i>Behaviour of corrugated steel plate bridge with high soil cover under seismic excitation</i>
ECCE2018_08	Marek Ramczyk	<i>Legal bases and economic conditions of applying renewable energy resources in construction industry</i>
ECCE2018_11	Daniel Przywara Adam Rak	<i>Analysis construction industry on the basis of price trends of labor cost</i>
ECCE2018_12	Paweł Ratuszny	<i>The use of sand deposits in buildings for energy storage</i>
ECCE2108_14	Paweł Fedczuk	<i>Numerical analysis of suction influence on the behaviour of unsaturated elasto-plastic soil medium</i>
ECCE2018_18	Janusz Ukleja	<i>Renovation of the historic building after damage connected with foundations subsidence – case study</i>
ECCE2018_20	Břetislav Teplý Tomáš Vymazal Pavla Rovnaníková	<i>Methodology for the quantification of concrete sustainability</i>
ECCE2018_22	Dominika Pilarska	<i>Octahedron-based spatial bar structures – the form of large areas covers</i>
ECCE2018_23	Piotr Berkowski Grzegorz Dmochowski Jacek Barański Jerzy Szolomicki	<i>The construction history and assessment of two heritage industrial buildings in Wrocław</i>
ECCE2018_25	Beata Stankiewicz	<i>Environmental interactions to composite elements of all-GFRP Kolding Footbridge</i>
ECCE2018_27	Magdalena Czopowska - Lewandowicz	<i>Concrete properties in diaphragm walls embedded in non-cohesive soils</i>
ECCE2018_29	Dariusz Suszanowicz	<i>Optimization of ventilation system in the open office space</i>
ECCE2018_30	Elżbieta Janowska - Renkas Jolanta Kowalska	<i>Use of fly ash from fluidized bed boilers in clinker-slag-ash based binder</i>
ECCE2018_34	Michał Podolski	<i>Bicriteria problem of discrete optimization in planning a multiunit construction project</i>
ECCE2018_35	Agnieszka Jabłońska- Krysiewicz Jakub Gołowczyc	<i>Numerical simulation of beam-to-column joints with flange cleats</i>
ECCE2018_37	Jadwiga Świrska- Perkowska Karolina Jęglot	<i>Energy efficiency of the accumulation wall with a transparent insulation</i>

ECCE2018_39	Izabela Pietkun-Greber	<i>Comparison of resistance to damage of unalloyed carbon steels under the influence of hydrogen</i>
ECCE2018_41	Zbigniew Perkowski Maciej Grygorowicz Kamil Jeż	<i>Evaluation of changes in thermodiffusion properties of mineral wool resulting from treatment with water and re-drying</i>
ECCE2018_45	Ryszard Chmielewski	<i>Analysis of retaining wall stability in areas specified in register of objects of cultural heritage</i>
ECCE2018_46	Michał Bukała Andrzej Chyła Leopold Kruszką Paweł Muzolf	<i>Technical diagnostics of the historic apartment house located at No. 31 in Dobra street in Warsaw</i>
ECCE2018_47	Ryszard Chmielewski Paweł Muzolf	<i>Selected problems of protection of historic buildings against the rainwater and the groundwater</i>
ECCE2018_48	Leopold Kruszką	<i>Reinforcement of brick historic buildings threatened by structural damages or by failure</i>
ECCE2018_51	Joanna Kaliszuk Elżbieta Grochowska	<i>Sensitivity analysis of fire resistance of a composite floor slab</i>
ECCE2018_52	Elżbieta Grochowska Joanna Kaliszuk Jarosław Gil	<i>The parameters of the acoustic insulation capacity of a reinforced wooden ceiling</i>
ECCE2018_54	Tomasz Szczuraszek Jacek Chmielewski	<i>Sustainable transport development and passenger transport demand in Poland</i>
ECCE2018_55	Beata Parkasiewicz Marian Kawulok	<i>Case study of negative impact of concave coal basin on long ribbon building development</i>
ECCE2018_56	Krzysztof Drożdżol Paweł Jarzyński	<i>Impact of chimney on low emission</i>
ECCE2018_60	Stanisława Wehle-Strzelecka	<i>Contemporary built environment in the context of evolution of energy-efficient solutions in architecture</i>
ECCE2018_62	Jacek Korentz Beata Nowogońska	<i>Assessment of the life cycle of masonry walls in residential buildings</i>
ECCE2018_68	Agnieszka Czajkowska	<i>The role of sustainable construction in sustainable development</i>
ECCE2018_70	Julia Marczevska	<i>Influence of the fly ash and the prior freezing and thawing on the sulphate resistance of cement mortars</i>
ECCE2018_71	Dariusz Bajno Agnieszka Grzybowska Rafał Tews Łukasz Bednarz	<i>Structure and service safety of deep disposal landfills – case study</i>
ECCE2018_74	Dariusz Bajno Agnieszka Grzybowska Rafał Tews	<i>Unconscious decisions causing a failure condition of the 19th century brick ceiling</i>
ECCE2018_81	Aleksandra Repelewicz	<i>Log houses moving as an element of sustainable development in architecture</i>
ECCE2018_83	Monika Strzelecka-Seredyńska	<i>Sustainable residential housing for senior citizens – contemporary projects</i>

ECCE2018_85	Arkadiusz Mordak Zbigniew Mańko	<i>Research of post-tensioned concrete composite spans with <math>\Pi</math>-beams of road viaduct</i>
ECCE2018_87	Jerzy K. Szlendak Agnieszka Jabłońska-Krysiewicz Dariusz Tomaszewicz	<i>Assessment of the load capacity of the anchorage system connecting the textured layer with the structural wall of large slab buildings in the lights of experimental research and FEM analysis</i>
ECCE2018_88	Krystyna Wróbel Wiesław Kubiszyn	<i>Restoration of the interior of the Summer Lubomirski Palace in Rzeszow</i>
ECCE2018_89	Dariusz Fabianowski Przemysław Jakiel	<i>Application of the aggregated calculation algorithm EA FAHP and Fuzzy TOPSIS methods in the evaluation of railway culverts serviceability</i>
ECCE2018_91	Elżbieta Janowska-Renkas Jolanta Kowalska Grzegorz Janus Agnieszka Kaliciak	<i>Cement-fly ash mortars durability, with fly ash from fluidized bed boilers and conventional combustion, exposed to aggressive environment influence</i>
ECCE2018_94	Anna Kotwa	<i>Parameters of hardened concrete with the addition of metakaolin</i>
ECCE2018_100	Anna Nowak Wiesław Rokicki	<i>Bionic forms in search of structural models in architecture</i>
ECCE2018_104	Krzysztof Jurkowski Alina Kaleta Bronisław Krępa	<i>The uncertainty of a dynamic modulus of elasticity measuring in view of non-destructive tests of concrete compressive strength</i>
ECCE2018_106	Ryszard Dachowski Paulina Kostrzewa Sylvia Brelak	<i>Autoclaved materials with chalcedonite addition</i>
ECCE2018_110	Joanna Boguniewicz-Zabłocka Iwona Klosok-Bazan Andrea G. Capodaglio Joanna Płoskonka	<i>Planning the optimal solution for wastewater management in rural areas – case study</i>
ECCE2018_111	Maria Paralika Theodora Karachaliou	<i>Construction and demolition waste management in Greece</i>
ECCE2018_112	Krystyna Wróbel Wiesław Kubiszyn	<i>The battery of silos for rapeseed – the impact of the building quality and exploitation conditions on the technical state of the object</i>
ECCE2018_117	Katarína Čákyová Zuzana Vranayová	<i>Impact of blue space in architecture and possibilities of using</i>
ECCE2018_119	Maciej Gruszczyński Grzegorz Bajorek	<i>The possibility of shrinkage strain reduction in cements mortars</i>
ECCE2018_120	Jacek Hulimka Jan Kubica Marta Kałuża	<i>Problems concerning reconstruction of old post-industrial building of a closed coal mine and its adaptation to a new utility function</i>
ECCE2018_125	Łukasz Kolendo Dorota Anna Krawczyk	<i>Spatial and economic conditions of the solar energy use in single-family houses – a case study</i>

<b>ECCE2018_128</b>	Katarzyna Komisarczyk Anna Stępień Ryszard Dachowski	<i>Changing the method of compaction of autoclaved building materials modified by diabase and barite aggregate</i>
<b>ECCE2018_129</b>	Anna Adamczak-Bugno Grzegorz Świt Aleksandra Krampikowska	<i>Scanning electron microscopy in the tests of fibre-cement boards</i>
<b>ECCE2018_131</b>	Joanna Gil-Mastalerczyk	<i>Conscious approach to urban and extra-urban space restructuring as seen in the designs of architecture students</i>
<b>ECCE2018_132</b>	Marta Kosior-Kazberuk Julita Krassowska Carolina Piña Ramírez	<i>Post cracking behaviour of fibre reinforced concrete with mineral wool fibers residues</i>
<b>ECCE2018_133</b>	Katarzyna Komisarczyk Ryszard Dachowski	<i>A study of selected properties of autoclaved bricks</i>