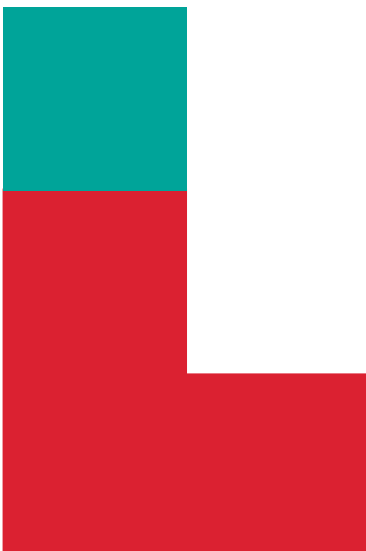




NTCC

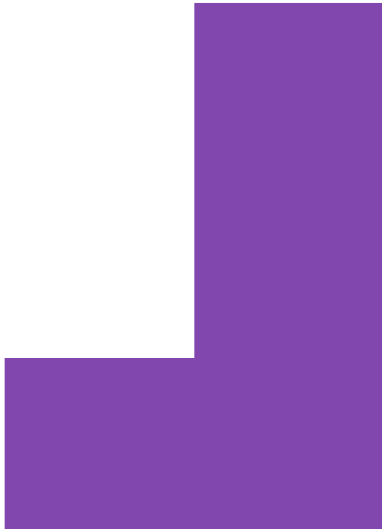
7th International Conference
Non-Traditional Cement
&
Concrete

Programme



6/25-28/2023

Brno
Czech Republic



Monday – 26th June 2023

Session A		
8:00	9:00	Registration
9:00	9:10	Opening – NTCC 2023
Chairman: Harald Justnes		
9:10	9:30	Alkali-activated cements: Definition, classification and terminology P. V. KRIVENKO
9:30	9:50	Calcined clay cements and the paradox of expertise A. PALOMO, O. MALTSEVA, A. FERNANDEZ-JIMENEZ
9:50	10:10	Regulations and Standards for traditional and non-traditional construction products J. FEUERBORN
10:10	10:40	Coffee break
Chairman: Ioanna Papayani		
10:40	11:00	Effect of calcium nitrate on the performance of slag blended cement H. JUSTNES, T. DANNER and M. TORABZADEGAN
11:00	11:20	Lithium mineral delithiated β -spodumene by-product, a potential binder for geopolymer concrete and for conventional concrete partially D. SINGH CHEEMA
11:20	11:40	The changes of interstitial transition zone of cement matrix with the steel bars in old reinforced concrete W. KURDOWSKI
11:40	12:00	The influence of the choice of concrete design methods on usefulness and CO ₂ emissions H. S. ABDELGADER, M. KURPINSKA, S. ABDELGADER and F. O. MOAF
12:00	12:20	Parameter study of metakaolin/blast furnace slag-based geopolymer concrete V. BOEL and L. VAN CAUTER
12:20	12:40	Effect of the addition of nanosilica on the mechanical properties of very high strength concrete J.D. RÍOS, C. LEIVA and H. CIFUENTES
12:40	14:10	Lunch
Chairman: Angel Palomo		
14:10	14:30	Investigation of the impact of different metakaolin on properties and microstructure of alkali activation M.TABORDA-BARRAZA, L. URBANO TAMBARA jr., J. A. TOSTES LINHARES jr. and A. R. GARCEZ AZEVEDO
14:30	14:50	Influence of ferrochrome slag co-binder on mechanical behaviour of fly ash geopolymer mortars K. MAGUGU, S.O. EKOLU, A. NAGHIZADEH and H.A. QUAINOO
14:50	15:10	Development of geopolymeric materials for 3D printing oriented to civil construction A. PAPPALARDO Jr., F. RAGO BELTRAME, G. BECHARA SABA FADINO, I. DA SILVA BRITO, L. V. REAL and R. NUNES ATTILI FRANZIN
15:10	15:30	Reutilization of mineral wool waste in hybrid geopolymers Y. LUO, Q. YU AND H.J.H. BROUWERS
15:30	16:00	Coffee break
Chairman: Ana Fernandez Jimenez		
16:00	16:20	Fracture behavior of an ultra-high strength concrete reinforced with carbon microfibers M. SANYTSKY, T. KROPYVNYTSKA and A. KAMINSKY
16:20	16:40	Factors affecting the efficiency of lignosulfonate plasticizer in alkali-activated materials V. BÍLEK jr., L. KALINA, D. MARKUSÍK, M. KALINA and P. ROVNANÍK
16:40	17:00	Promoting effect and mechanism of polyaluminum chloride on hydration reaction of excess-sulfate phosphogypsum slag cement X. LIU, B. YUAN and W. CHEN
17:00	17:20	Rheological and microstructural study of alkali-activated materials intended for the immobilisation of nuclear grade ion-exchange resins M.J. DE HITA, D. GEDDES, J.L. PROVIS and M. CRIADO
17:20	17:40	Calcined clay rich river sediments as precursors for alkali activated materials L. ŽIBRET, B. HORVAT, M. BOŽIČ, B. GREGORC and V. DUCMAN
18:30	Cultural program & banquet (Classical music concert)	

Monday – 26th June 2023

Session B

8:00	9:00	Registration
9:00	9:10	Opening – NTCC 2023
9:10	9:30	
9:30	9:50	
9:50	10:10	
10:10	10:40	
		Coffee break
10:40	11:00	
11:00	11:20	
11:20	11:40	
11:40	12:00	
12:00	12:20	
12:20	12:40	
12:00	13:30	Lunch
Chairman: Joachim Feuerborn		
13:30	13:50	Activity concentration index modeling of supplementary cementitious materials based on their chemical composition A. CAÑO, J.A. SUAREZ-NAVARRO, F. PUERTAS, A. FERNÁNDEZ-JIMENEZ and M. M. ALONSO
13:50	14:10	Fairly and rapidly assessing low carbon concrete made with slowly reacting cements M. JOZWIK, R. JONES, M. NEWLANDS and D. MACPHEE
14:10	14:30	The effect of using calcined dutch clay on the performance and microstructures of mortar Z. LIU, K. SCHILLBACH and H.J.H. BROUWERS
14:30	14:50	Mechanically activated kaolin for limestone calcined clay cement production J. MAÑOSA, A. MALDONADO-ALAMEDA and J.M. CHIMENOS
14:50	15:20	Coffee break
Chairman: Martin Mosquet		
15:20	15:40	Reactivity of converter steel slag in the presence of OPC and GGBFS compared to an inert material W. F. SANTOS, K. SCHOLLBACH, S. VAN DER LAAN and H.J.H. BROUWERS
15:40	16:00	Influence of sodium hydroxide-treated hemp fibres on the mechanical properties of fly ash-based fibre reinforced mortars B. POLETANOVIC, I. JANOTKA., M. JANEK and I. MERTA
16:00	16:20	Properties of steel fibre reinforced concrete dedicated for casting columns with fractal based cross-sections J. KATZER and A. SKORATKO
16:20	16:40	Effect of cord of tires, steel and polypropylene fiber content on the fatigue response of cement-based composites J. DOMSKI, M. GANCARZ, A. BENEŠOVÁ, H. ŠIMONOVÁ, S. SEITL, P. FRANTIK and Z. KERŠNER
16:40	17:00	Properties of environmental concrete that contains natural waste fibers to promote microstructure and mechanical properties T. A. TAWFIK, M. T. PALOU, M. MOUSTAFA, M. EL-YAMANY, A. SERAG FARIED and W. H. SOFI
18:30	Cultural program & banquet (Classical music concert)	

Tuesday – 27th June 2023

Session A

Chairman: Pavel Martauz

9:00	9:20	Hydration of ethylenediaminetetraacetic acid (EDTA) tetrasodium activated-bof slag binder Z. JIANG, K. SCHOLLBACH and H.J.H. BROUWERS
9:20	9:40	Synthetic precursor to make hybrid alkaline cements P. MARTÍN-RODRÍGUEZ, I. GARCÍA-LODEIRO, A. PALOMO and A. FERNÁNDEZ-JIMÉNEZ
9:40	10:00	Effect of silica modulus on the performance of biomass bottom ash - ground granulated blast furnace slag blends X. LING, K. SCHOLLBACH and H.J.H. BROUWERS
10:00	10:20	Alkali/sulphate activated binder containing high volume of phosphogypsum P. TANG, J. WEN, Y. LI and W. CHEN
10:20	10:50	Coffee break

Chairman: Didar Cheema

10:50	11:10	Hydration of carbonate-activated slag and acceleration methods B. YUAN, H. WANG and W. CHEN
11:10	11:30	Construction and demolition wastes management: alkali activation I. LANCELLOTTI, V. VEZZALI and C. LEONELLI
11:30	11:50	Production of paving blocks by alkali-activation of industrial by-products F. KESIKIDOU, S. KONOPISI and I. PAPAYIANNI
11:50	12:10	Alkali-activated cements based on wastes of Uzbekistan A. A. SULTANOV, G. M. SHARIPOV, U. Q. O. TURSUNOV and D. F. YAKUBOV
12:10	12:30	Influence of Na₂CO₃ content on the properties of alkali-activated materials based on biomass fly ash and phosphogypsum CH. ZHU, I. PUNDIENE, J. PRANCKEVIČIENE and M. KLIGYS
12:30	14:00	Lunch

Chairman: Isabella Lancellotti

14:00	14:20	Valorization of ash from landfill in blended cements and hybrid alkaline cements L. XIONG, CH. XUE, O. MALTSEVA, M.M. ALONSO, J.L. GARCIA, A. PALOMO and A. FERNÁNDEZ-JIMÉNEZ
14:20	14:40	Durability of magnesium phosphate cement using refractory waste as a magnesium oxide source A. ALFOCEA-ROIG, S. HUETE-HERNÁNDEZ, J. GIRO-PALOMA and J. FORMOSA
14:40	15:00	Impact of pore solution alkalinity on corrosion behavior of BFRP bars in marine concrete structures and method of prolonging their service life J. LI and W. CHEN
15:00	15:20	Sustainable silica aerogel from glass waste M. BORZOVA, K. SCHOLLBACH, F. GAUVIN and H.J.H. BROUWERS
15:20	15:40	Theoretical approach for evaluation strength of b-hemihydrate produced gypsum L.I. DVORKIN, O.V. BEZUSYAK, I.V. KOVALYK and N.V. LUSHNIKOVA
15:40	16:10	Coffee break

16:10	Cultural program & banquet (trip to Valtice castle, wine cellar visit)	
21:10		

Tuesday – 27th June 2023

Session B

Chairman: Hakim Abdelgader

9:00	9:20	The hydration of bof slag with the addition of phosphates Y. TANG, K. SCHOLLBACH and H.J.H. BROUWERS
9:20	9:40	A numerical approach to bond behavior of GFRP bars with concrete M. SMOLNICKI, S. DUDA, P. ZIEŁONKA, B. PEDROSA, C. C. LOPES, G. LESIUK, S. SEITL, Z. KERSNER, J. A. F. O CORREIA and A. M.P.DE JESUS
9:40	10:00	Surface treatment of hemp fibers for reinforcement of cementitious composites H. SONG, F. GAUVIN and H.J.H. BROUWERS
10:00	10:20	Calculating rheological properties of fresh mortar for additive manufacturing based on experimental multi-sensor data E. SCHÖNSEE, G. HÜSKEN, A. JEYIFOUS, A. MEZHOV and C. STRANGFELD
10:20	10:50	Coffee break

Chairman: Hector Cifuentes

10:50	11:10	Sustainability assessment of construction products from the manufacturer's perspective S. CZERNIK, M. KULESZA, B. MICHAŁOWSKI, R. ZIOMEK and J. MICHALAK
11:10	11:30	Life cycle assessment of traditional building materials, combined with industrial byproducts A. LIAPIS, M. STEFANIDOU and G. KONSTANTINIDIS
11:30	11:50	Multifunctional hydroceramics prepared by autoclave curing D. LIU, J.C.O. ZEPPER, H.J.H. BROUWERS and Q. YU
11:50	12:10	Empirical model for predicting elastic modulus of CRCA concrete: an approach towards sustainable concrete design E. A. OHEMENG, A. NAGHIZADEH and M. S. RAMABODU
12:10	12:30	Jointless Floor: Concrete Step Towards the Future T. KOSA, HSF SYSTEM, a.s.

Lunch

Chairman: Jos Browers

14:00	14:20	Methodology for determining the sequestration potential of waste biomass ashes S. TOMINC and V. DUCMAN
14:20	14:40	Fracture behavior of an ultra-high strength concrete reinforced with carbon microfibers H. CIFUENTES, J.D. RÍOS and C. LEIVA
14:40	15:00	Influence of dredging mud on the calcium sulfoaluminate cement hydration L. U. TAMBARA jr, I. D. BATISTA, J. C. CARNEIRO, L. G. C. HENRIQUES SILVA, M. TABORDA-BARRAZA and A. R. GARCEZ AZEVEDO
15:00	15:20	Damage and fracture of non-traditional concrete experimental study of creep behavior of geopolymeric prestressed microconcrete A. PAPPALARDO Jr., F. RAGO BELTRAME, L. V. REAL, R. N. ATTILI FRANZIN and V. S. CARUSO
15:20	15:40	Structural investigation of lithium silicate concrete densifiers gelation process M. SEDLAČÍK, L. KALINA V. BÍLEK jr., V. CÁBA, J. SMILEK, J. ŠVEC, E. BARTONÍČKOVÁ, P. ROVNANÍK and J. FLÁDR
15:40	16:10	Coffee break

16:10

**Cultural program & banquet
(trip to Valtice castle, wine cellar visit)**

21:10

Wednesday – 28th June 2023

Session A		
Chairman: Ivan Janotka		
9:00	9:20	Aqueous carbonation of recycled concrete fines in the presence of triethanolamine: optimization of carbonation I.E. TEUNE, K. SCHOLLBACH and H.J.H. BROUWERS
9:20	9:40	Development of anti-corrosion coating for steel bars E. TSAMPALI, K. MATZIARIS, E-CH. TSARDAKA AND M. STEFANIDOU
9:40	10:00	The behaviour of different aluminium as reinforcement in a new environmental-friendly concrete Y. WANG, T. FURU, H. JUSTNES and K. MARTHINSEN
10:00	10:20	Cement-based render coat serving as an effective anti-carbonation barrier of the base concrete L. HÚLEK, M. BAČUVČÍK, I. JANOTKA, J. GAŠPÁREK and P. PAULÍK
10:20	10:50	Coffee break
Chairman: Stanislav Seitl		
10:50	11:10	Flexural behavior of concrete structures reinforced with hybrid FRP bars P. ZIELONKA, G. LESIUK, S. DUDA, K. OLALAYE, T. SOCHA, A. DENISIEWICZ, K. KULA, B. PEDROSA, C. C. LOPES, H. CARVALHO, A. WYBRANIEC, W. BŁAŻEJEWSK, S. SEITL and Z. KERŠNER
11:10	11:30	Bond behavior of hybrid helically wrapped FRP bars with concrete G. LESIUK, S. DUDA, P. ZIEŁONKA, T. SOCHA, A. DENISIEWICZ, K. KULA, B. PEDROSA, C. C. LOPES, K. OLALAYE, A. WYBRANIEC, S. SEITL, Z. KERSNER and P. MAYER
11:30	11:50	Analytical predictions of bond behavior of FRP bars with concrete G. LESIUK, S. DUDA, P. ZIEŁONKA, T. SOCHA, A. DENISIEWICZ, K. KULA, B. PEDROSA, C. C. LOPES, M. SMOLNICKI, K. OLALAYE, S. SEITL, Z. KERSNER, J.A.F.O. CORREIA, A. M.P. DE JESUS
11:50	12:10	Phenomenological model used in fatigue and fracture assessment A. FERNANDÉZ-CANTELI
12:10	12:20	Conference closing – NTCC 2023
12:20	13:50	Lunch

Wednesday – 28th June 2023

Session B

Chairman: Alena Sičáková

9:00	9:20	Effects of aggregate type on phosphorus removal of pervious concrete F. WU, Q. YU and H.J.H. BROUWERS
9:20	9:40	Mold development assessment using digital image correlation of materials F. BERGER, M. GOURVENNEC, F. GAUVIN and H.J.H. BROUWERS
9:40	10:00	Effect of particle size distribution on the pumpability of 3DPC R. dos SANTOS ALFERES FILHO, Q. YU and H.J.H. BROUWERS
10:00	10:20	Thermostabilizing of recycled salt hydrates for thermal energy storage applications CH. A. WESEMANN, T. JUNGGEBURTH, K. SCHOLLBACH and H.J.H. BROUWERS
10:20	10:40	Impact of pore solution alkalinity on corrosion behavior of BFRP bars in marine concrete structures and method of prolonging their service life W. CHEN and X. LIU
10:40	11:10	Coffee break
Chairman: Vlastimil Bílek		
10:50	11:10	
11:10	11:30	
11:30	11:50	
11:50	12:10	
12:10	12:10	Conference closing – NTCC 2023
12:10	13:40	Lunch

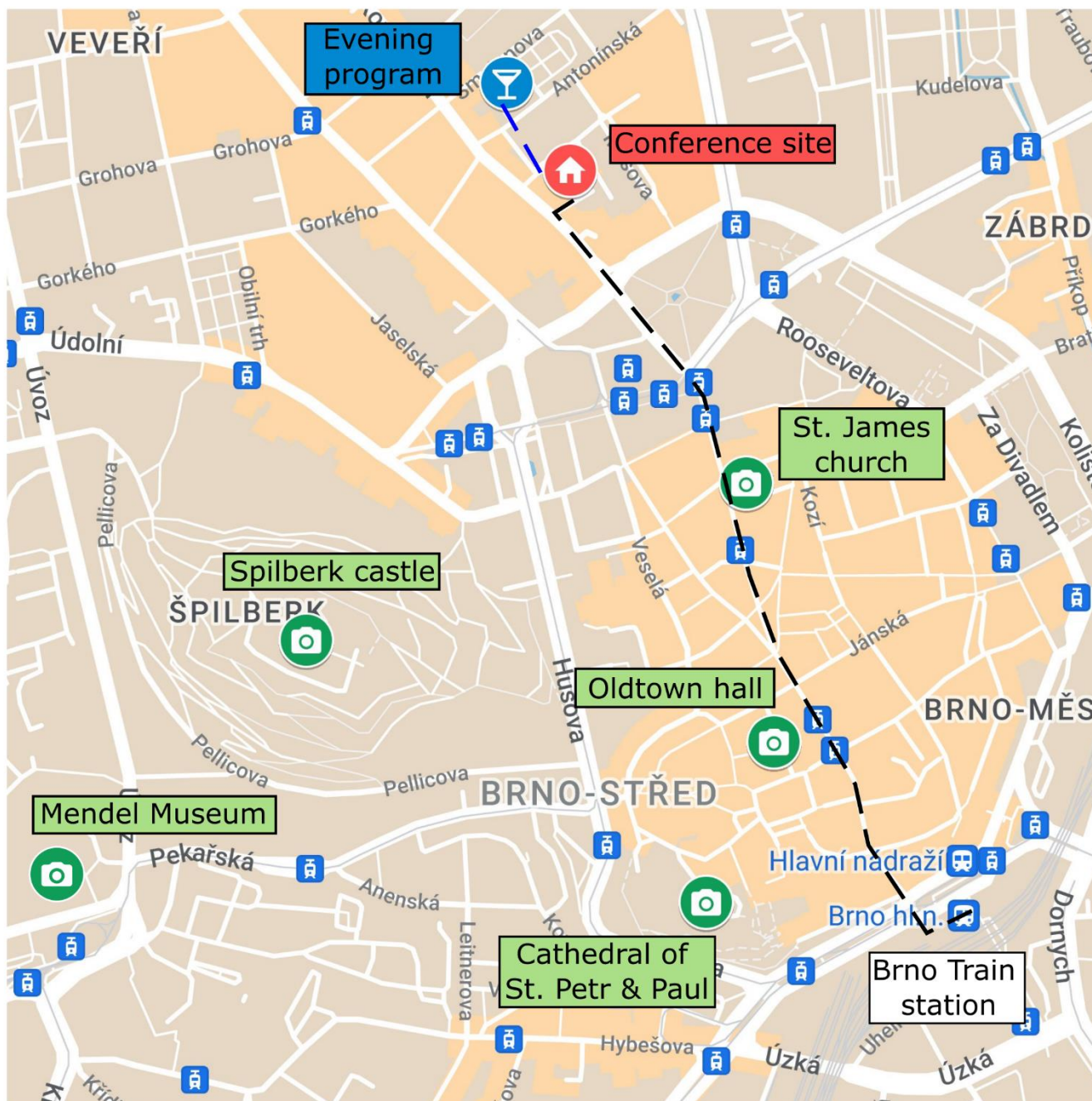
POSTERS

1	Some possibility of self-curing of high-performance concrete V. BÍLEK sr., F. KHESTL, L. PROCHÁZKA, D. BUJDOŠ, B. SOUSEDÍK, P. MIARKA and L. MALÍKOVÁ
2	Evaluation of a low-quality Colombian fly ash, in the preparation of geopolymer inks for applications in additive manufacturing A. FERNÁNDEZ, D. A. FERNÁNDEZ, M. A. VILLAQUIRÁN-CAICEDO and R. MEJÍA DE GUTIÉRREZ
3	Development of wood wool geopolymer board: a greener alternative to wood wool cement board C.H. KOH, F. GAUVIN, K. SCHOLLBACH and H.J.H. BROUWERS
4	Experimental determination of the coefficient of thermal expansion of hardened alkali-activated slag pastes P. NÁPRAVNÍK, D. LISZTAN, P. DANĚK and B. KUCHARCZYKOVÁ
5	The influence of temperature in accelerated dry carbonation of concrete waste fines L. NOBREGA SOUSA, K. SCHOLLBACH and H.J.H. BROUWERS
6	Reinforcement of silica aerogel using modified NFC (nano fibrillated cellulose) S. PANTALEO, F. GAUVIN, K. SCHOLLBACH and H.J.H. BROUWERS
7	Effect of glass sludge on mechanical properties of concrete E. POCIUS, D. NAGROCKIENĖ
8	Potential use of sewage sludge ash for the production of geopolymers: a review L. RARDINA, A. SPRINCE, L. PAKRASTINS, R. GAILITIS and G. SAKALE
9	Effect of moisture on the electrical properties of metakaolin-based geopolymer P. ROVNANÍK, I. KUSÁK and P. BAYER
10	Contribution to the optimization of quantitative and qualitative parameters of the composition of slag aggregate permeable concrete A. SIČÁKOVÁ and M. KOVÁČ
11	The impact of phosphogypsum content in the development of alkali-activated binders based on red brick and metakaolin waste M. STATKAUSKAS, D. VAIČIUKYNIENĖ, R. P. BORG
12	Production of lightweight, porous, alkali activated insulating concrete using municipal solid waste incineration bottom ash and additives G. TAMOŠAITIS and D. VAIČIUKYNIENĖ
13	Influence of the free lime content on the activation of bof slag S. YVARS, K. SCHOLLBACH and H.J.H. BROUWERS
14	Alkaline-activated binder based on wood waste fly ash D.ŽURINSKAS and D. VAIČIUKYNIENĖ
15	The acid corrosion resistance of an alkali-activated material made with alum sludge and blast-furnace slag W. DUAN, Y. ZHUGE and G. HUANG
16	Composition and corrosion of historical and current sewer pipe B. CERRAI, K. SCHOLLBACH and H.J.H. BROUWERS
17	The effect of waste glass powder vs silica-extraction waste for 3D concrete mortars N.Z. VAN HIERDEN, M. BORZOVA, Q. YU and H.J.H. BROUWERS



You can upload your posters to
[OneDrive](#) folder.
 Password: NTCC_2023_POSTERS

Size of printed posters can be up to:
 865 × 1080 mm



Conference site:



Hotel Continental Brno

Kounicova 680/6,
602 00 Brno-střed

Brno-city:



GO TO BRNO

<https://www.gotobrna.cz/en/>

Brno Architecture manual

<https://www.bam.brna.cz/en/>



Brno Sightseeing:



Spilberk castle

Špilberk 210/1
66224 Brno



Old town Hall

Radnická 8
60200 Brno



Mendel Museum

Mendlovo náměstí 1a
60300 Brno



St. James church

Jakubské nám. 101/2
60200 Brno



Cathedral of St. Peter & Paul

Petrov 9
60200 Brno

Valtice castle and wine cellar



The Valtice castle, which came into existence thanks to an enlargement of a tower house that was probably founded in the 11th century, was the seat of the ruling prince of the Liechtenstein family from the end of the 14th century, until the post-war confiscation. The magnitude and splendour of Baroque decoration proves, even today, that it was the residence of one of the most powerful noblemen in the Danube monarchy. The castle acquired its present appearance as a result of costly reconstructions in the 17th and 18th centuries. Since the expropriation in 1945, it has been in the possession of the Czech state and is administered by the National Heritage Institute. In 1996, the castle, as an integral part of the Lednice-Valtice Area, was listed by UNESCO as a World Cultural and Natural Heritage Site.

The unique Castle cellar from 1430 is one of the oldest and largest wine cellars in the Czech Republic. For centuries, the best wines from the oldest winery of the Lednice-Valtice Area - CHÂTEAU VALTICE - Wine Cellars of Valtice, a. s. have been maturing here in huge oak barrels.



Classical music concert

During the evening, the students of the KEA Olomouc will perform compositions of classical music by world-famous composers such as Bedřich Smetana, Antonín Dvořák, Leoš Janáček (Czech) and Henryk Wieniawski (Poland).



General Sponsor



Sponsors



In association with



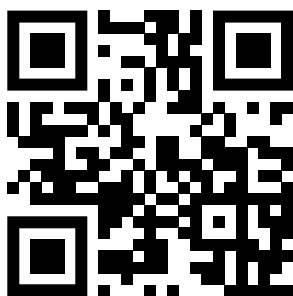
Organizers



VSB TECHNICAL
UNIVERSITY
OF OSTRAVA

FACULTY
OF CIVIL
ENGINEERING

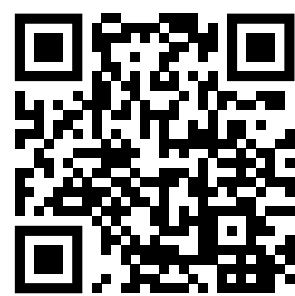
DEPARTMENT OF BUILDING
MATERIALS AND DIAGNOSTICS
OF STRUCTURES



Institute of Physics of Materials,
Czech Academy of Sciences



VSB–Technical University of Ostrava,
Faculty of Civil Engineering



Brno University of Technology,
Faculty of Civil Engineering