

CCC 2024  
Final Invitation



14<sup>th</sup> Central European Congress  
on Concrete Engineering  
14. Středoevropský  
betonářský kongres

# MIKULOV 2024



CCC MEMBER COUNTRIES



**Concrete structures – design, construction  
and rehabilitation in the transition period**

**Final Invitation**

Partners of the Congress

**METROSTAV**

Host CCC Association  
**Czech Concrete Society**  
Česká betonářská společnost ČSSI  
Congress is supported by **fib**  
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**MIKULOV 2024**

September 22 – 24, 2024

Hotel Galant, Mikulov, Czech Republic

**Congress website**  
[www.csbeton.eu/en/seminars](http://www.csbeton.eu/en/seminars)

# ABOUT CCC INITIATIVE

## ABOUT CCC

The four founding countries – Austria, Croatia, the Czech Republic and Hungary – decided in 2004 to collaborate more closely and to launch the CCC as a forum for an annual cross-border exchange of experience among principals, authorities, contractors, design engineers and academics in the field of construction materials and technology, concrete structures and civil engineering, as well as applied research and development. In 2012, Poland was accepted as the fifth CCC member country.

From 2015, member countries decided to organize the congress every second year. After unexpected break due to the covid the CCC tradition was renewed in 2022 and now will follow regularly in two years intervals.

The 14th CCC will be held in Mikulov in 2024 after 13 Congresses held in CCC member countries Graz 2005, Hradec Králové 2006, Visegrád 2007, Opatija 2008, Baden 2009, Mariáské Lázně 2010, Balatonfüred 2011, Plitvice 2012, Wrocław 2013, Liberec 2014, Haingurg 2015, Tokaj 2017, Zakopane 2022.



## INVITATION AND OBJECTIVES

It is a great honour and pleasure for the Czech Concrete Society to organise the Central European Congress on Concrete Engineering in 2024. After three events organised in Czechia in 2006, 2010 and 2014, it will be the Congress reflecting the turbulent development in civil engineering in actual time. After the covid crisis, we face the war in Ukraine. The economy of construction industry was influenced significantly. Beside that the necessity to contribute to savings of our environment leads to development of new technologies which are more friendly to the environment. The cement is a basic material for concrete production and now it will be replaced by modified products with lower contents of clinker or with completely different binders. Sustainable development and its criteria will influence the construction process from the conceptual design to construction methods and even to demolitions. Longer service life of structures and preserving of existing structures using advanced methods of their rehabilitation can contribute significantly to the sustainable development. Important changes expected in the construction industry are the reason for the title of the Congress “Concrete structures – design, construction and rehabilitation in the transition period”.

It is expected that the papers presented at the Congress will touch the hot topics of these days. The proposed topics are summarised below in this announcement. The members of the scientific and organizing committees believe that the delegates will present examples of positive contributions to the development, but also that the negative examples will be presented. On behalf of the Czech Concrete Society, we look forward to meeting you at the next CCC 2024 Congress in Mikulov, in Czechia in September 2024.

# CONGRESS PROGRAMME

MONDAY, 23 SEPTEMBER 2024

9:00 – 9:15	OPENING
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9:15 – 10:45	<b>SESSION 1 NATIONAL LECTURES</b>
	<b>Temperature criteria for hardening-induced crack control under summer conditions</b> <b>Dirk Schlicke</b> (Austria)
	<b>Challenges in 3D concrete printing</b> <b>György L. Balázs</b> , Marwah M. Thajeel, Sándor Sólyom, Balázs Burai, Ameen H. Chalawi, Rita Nemes, Anna Szijártó, Szögi Tamás, Viktor Hlavicka, András Biró, Kopeckó Katalin, Kapitány Kristof, Éva Lublóny, Salem Nehme (Hungary)
	<b>Decarbonization of concrete structures from a structural engineer's perspective</b> <b>Wit Derkowski</b> (Poland)
	<b>Post-tensioned slabs in garages– A Rational Choice</b> <b>Josip Galic</b> , Predrag Presecki, Vlaho Miljanovic (Croatia)
	<b>Development of the conceptual design of bridges</b> <b>Jan L. Vitek</b> (Czech Republic)
	Discussion

10:45 – 11:15	Coffee break
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11:15 – 12:45	<b>SESSION 2 BRIDGES</b>
	<b>Footbridge over the Bečva river, Czech Republic</b> <b>Pavel Sliwka</b> , Pavel Kaláb, Jiří Stráský (Czech Republic)
	<b>Viaduct Kriváň – Mýtina on expressway R2, Slovakia Part 1</b> <b>Jiří Stráský</b> (Czech Republic)
	<b>Viaduct Kriváň – Mýtina on expressway R2, Slovakia Part 2</b> <b>Libor Hrdina</b> , Petr Novotný, Petr Kocourek, Jakub Pecha, Daniel Hibš, Jiří Fixel, Jan Nováček, Jiří Stráský (Czech Republic)
	<b>The first reinforced concrete bridges built (up to 1895) in the current area of Poland</b> <b>Jan Biliszcuk</b> , Marcin Gniech, Marco Teichgraeber (Poland)
	<b>Footbridge over Railway Station in Cheb, Czech Republic</b> <b>Jan Nováček</b> , Pavel Kolenčík, Jiří Stráský, Jiří Urban (Czech Republic)
	Discussion

12:45 – 13:45	Lunch break
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# CONGRESS PROGRAMME

MONDAY, 23 SEPTEMBER 2024

<b>13:45 – 15:45</b>	<b>SESSION 3 STRUCTURES</b>
	<b>The past decade of UHPFRC bridges in the Czech Republic</b> <b>Jan Marek</b> , Jan Prchal, Jiří Kolísko, David Čítek, Petr Tej, Lukáš Vráblík (Czech Republic)
	<b>Innovation and modernization of Gabčíkovo lock chambers</b> <b>Miloš Zich</b> , Michael Trnka, Ondřej Šimek, Stanislav Skalník (Czech Republic)
	<b>Obstacles in the design of the new main sewage tunnel in Al Wakrah &amp; Al Wukair</b> <b>Stephan Kalix</b> , Peter O'Brien (Austria)
	<b>Investigation on applying TBM thrust load to precast tunnel segments made of FRC</b> <b>Efim Griniov</b> , Michael Huß and Dirk Schlicke (Austria)
	<b>Design and detailing of durable and sustainable Post-Tensioning structures with polymer ducts according to fib bulletin 75</b> <b>Klaus Lanzinger</b> and Larry Krauser (USA)
	<b>Building information modelling of bridge and civil engineering structures</b> <b>Paweł Hawryszków</b> , Marta Knawa-Hawryszków (Poland)
	<b>Execution of repair works on the Trogir – Čiovo Island bridge</b> <b>Kelava Ante</b> , Mlinar Ante, Pavić Ljubo, Buzov Ante (Croatia)
	Discussion
<b>15:45 – 16:15</b>	Coffeebreak

# CONGRESS PROGRAMME

MONDAY, 23 SEPTEMBER 2024

<b>16:15 – 18:15</b>	<b>SESSION 4 DESIGN AND MODELLING</b>
	<b>Probabilistic Model for Thermal Actions on Concrete Bridges Based on Meteorological Measurements – Case Study</b> <b>Miroslav Sýkora</b> , Milan Holý, Jana Marková, Aleš Mezera, Adam Valík (Czech Republic)
	<b>Design of prestressing tendons in statically indeterminate structures using neural network and genetic algorithm</b> <b>Marcin Jasiński</b> , Marek Salamak (Poland)
	<b>Influence of beam and aggregate size on the shear capacity of RC beams without shear reinforcement</b> <b>István Sajtos</b> , Péter Pál Ther, Rita Vajk (Hungary)
	<b>Pushover analysis of a reinforced concrete two-bay frame: concentrated vs distributed plasticity model</b> <b>Grandić Davor</b> , Šćulac Paulo, Brnić Dorian, Višnjic Martina (Croatia)
	<b>Realistic regard of differential settlements in the design of foundation slabs by using non-linear soil material models</b> <b>Christian Wallner</b> , Dirk Schlicke, Franz Tschuchnigg (Austria)
	<b>Experimental Verification of Punching Shear with FRP Reinforcement: Innovations in the New Eurocode Generation</b> <b>David Vašátko</b> , Kateřina Mrkvová František Girgle, Vojtěch Kostiha, Petr Štěpánek (Czech Republic)
	<b>Numerical studies on the local phenomena in the behaviour of demountable shear connections</b> <b>Krisztián Király</b> , Levente Borsi, Nauzika Kovács, László Dunai (Hungary)
	Discussion

<b>18:15</b>	<b>End of the session</b>
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<b>19:30</b>	<b>SOCIAL EVENING</b>
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# CONGRESS PROGRAMME

TUESDAY, 24 SEPTEMBER 2024

<b>9:00 – 11:00</b>	<b>SESSION 5 MONITORING</b>
	<b>Application of Embedded Distributed Fiber Optic Sensors on a Highway Bridge as a Support for Bridge Inspections</b> <b>Vazul Boros</b> , Alois Vorwagner, Werner Lienhart, Dominik Prammer (Austria)
	<b>Optical sensors to measure carbonation and chloride ingress in concrete</b> <b>Isabel Galan</b> , Marlene Sakoparnig, Isabella Klimczyk, Bernhard Müller, Leonard Sterz, Cyrill Grengg, Florian Mittermayr, Joachim Juhart, Torsten Mayr (Austria)
	<b>Assessment of the viaduct over the Sava-Odra flood control canal</b> <b>Gordana Hrelja Kovačević</b> , Nijaz Mujkanović, Mladen Srbić, Anđelko Vlašić (Croatia)
	<b>Damage on Concrete Bridges Due to Projectile Impact and Blast Loading</b> <b>Marija Kušter Marić</b> , Ivana Mijadžiković, Mladen Fusić, Mladen Srbić and Vladimir Horvat (Croatia)
	<b>Measurement of the shear lag effect in BFRP bars using DIC</b> <b>Szabolcs Szinvai</b> , Tamás Kovács (Hungary)
	<b>Smart Health Monitoring of Concrete Bridges using Digital Twin and AI Applications</b> <b>Asseel Al-Hijazeen</b> , Kálmán Koris (Hungary)
	<b>The Sweating Slab Syndrome – A Scientific Analysis</b> <b>Manfred Kehr</b> , Todd Nelson, (USA)
	Discussion
<b>11:00 – 11:30</b>	Coffeebreak



# CONGRESS PROGRAMME

TUESDAY, 24 SEPTEMBER 2024

<b>11:30 – 13:30</b>	<b>SESSION 6 TECHNOLOGY</b>
	<b>Experimental study of FRP reinforced LWC beams</b> <b>Balint Somlai</b> , Sandor Solyom (Hungary)
	<b>Determination of the Deformation Behavior of Concrete Structures Reinforced with FRP Bars: A theoretical study</b> <b>Kateřina Mrkvová</b> , David Vařátko , Frantiřek Girgle, Petr řtěpánek (Czech Republic)
	<b>The use of concrete with significantly reduced cement content in winter conditions</b> <b>Pavel Kasal</b> , Michael Hárteľ, Daniela Ehrenreich (Austria)
	<b>The Stiffness Analysis of Lightweight Concrete Deck Slabs with GFRP Reinforcement under Fatigue Loading Conditions</b> <b>Agnieszka Wiater</b> , Tomasz Siwowski (Poland)
	<b>Experimental investigations of effects of traffic-induced vibrations on young concrete</b> <b>Christian Gasser</b> , Alois Vorwagner, Stefanie Klackl, Tanja Manninger (Austria)
	<b>Finite element modelling for 3D concrete printing framework and examples</b> <b>Jan Červenka</b> , Jiří Rymeř, Libor Jendele (Czech Republic)
	<b>Durability of dry basalt yarns in different alkaline environments</b> <b>Delara Etezad</b> , Leonhard Randl , Agathe Robisson, Teresa Liberto, Philipp Preinstorfer (Austria)
	Discussion

<b>13:30 – 13:45</b>	<b>CLOSING</b>
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<b>13:45 – 14:45</b>	Lunch
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# POSTERS

P1	<p><b>Investigating the Durability of Concrete Reinforced with Waste Tire Steel Fibers</b>  <b>Asad Zia</b>, Ivan Hollý, Jaroslav Prokop (Slovakia)</p>
P2	<p><b>Creep and shrinkage measured on different concretes for bridges</b>  <b>Vít Němčič</b>, Jan L. Vítek (Czech Republic)</p>
P3	<p><b>Model Uncertainty in European UHPC Standards: Insights from SIA2052 and NF P18-710 Flexure Models</b>  <b>Lenganji Simwanda1</b>, Miroslav Sýkora, Jana Marková (Czech Republic)</p>
P4	<p><b>The effect of the use of recycled concrete aggregates on the properties of hardened concrete</b>  <b>Adrián Ondák</b>, Ivan Hollý, Jaroslav Prokop (Slovakia)</p>
P5	<p><b>Minimum reinforcement against brittle failure in concrete structures</b>  <b>Marta Słowik</b>, Izabela Skrzypczak (Poland)</p>
P6	<p><b>Properties of Fibers and Mortar of Slurry Infiltrated Fiber Concrete (SIFCON)</b>  <b>Wisam K. Tuama</b>, György L. Balázs (Hungary)</p>
P7	<p><b>Compressive behavior of a hybrid steel-concrete joint for discrete reticulated timber structures</b>  <b>Žiga Unuk</b> (Slovenia)</p>
P8	<p><b>Proposal of a health monitoring system on the RC bridge with confirmed degradation</b>  <b>Muhammad Fawad</b>, Kalman Koris, Marek Salamak, Dawid Piotrowski, Marcin Jasinski (Poland)</p>
P9	<p><b>Preliminary results for physical properties of concrete based on variable aggregates particle distribution curve</b>  <b>Peter Czirik</b>, Martin Palou, Jana Čepčianska (Slovakia)</p>
P10	<p><b>Bridge Modelling and Structural Analysis in BIM</b>  <b>Jelena Bleiziffer</b>, Marta Miloš (Croatia)</p>





# ORGANIZER

## ORGANIZER

Hosting association of the 14<sup>th</sup> CCC Congress MIKULOV 2024 is the Concrete Society (CBS)

Congress Secretary

Czech Concrete Society

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## SCIENTIFIC COMMITTEE

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## ORGANIZING COMMITTEE

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(Austria); Jürgen SILBERKNOLL (Austria);

Jelena BLEIZIFFER (Hrvatska); Mladen SRBIĆ

(Croatia); Paulo ŠĆULAC (Croatia)

## CONGRESS LANGUAGE

The official language of the Congress is English.

# WELCOME TO MIKULOV



## WELCOME TO MIKULOV

Mikulov is a town in the South Moravian Region of the Czech Republic. It has about 7,700 inhabitants. The historic centre of Mikulov is well preserved and is protected by law as an urban monument reservation. Mikulov is located about 18 kilometres northwest of Brno, on the border with Austria. Most of the territory lies within the Pálava Protected Landscape Area.

Mikulov is a centre of Czech wine making due to its favorable geographic location and climate, as well as its unique history. Mikulov is the centre and the namesake of the Moravian wine sub-region called Mikulovská wine region.



The main sight is the Mikulov Castle. The castle was built in the place of a Romanesque castle. At the turn of the 16<sup>th</sup> and 17<sup>th</sup> centuries, it was rebuilt in the Renaissance style, and in the late 17<sup>th</sup> century in the Baroque style. The historic town square was founded in the late 16<sup>th</sup> century near the castle. It contains Renaissance houses from the first half of the 17<sup>th</sup> century. The history of the Jewish community is presented by an educational trail through the old Jewish quarter. The synagogue, originally built in the 16<sup>th</sup> century and Baroque rebuilt after the fire in 1719, is the only preserved synagogue in Moravia of the so-called Polish type. The large Jewish cemetery is one of the most significant in the country.

## USEFUL LINKS

The municipal website of Mikulov:

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

Mikulov on Wikipedia:

<https://en.wikipedia.org/wiki/Mikulov>,

<https://de.wikipedia.org/wiki/Mikulov>

# EXHIBITION

## EXHIBITION

A technical/commercial exhibition will be organized alongside with the Congress to demonstrate new technologies, materials, products and services. The exhibition will be located in a collateral hall located directly next to the main Congress Hall. All the organizations, individuals and whoever else interested in the exhibition are invited by the Congress secretariat. Exhibition information and the CCC2024 Exhibition Booth Application Form will be available on the Congress website and will be sent on request as well.

## EXCURSIONS

Excursion will be organised after the congress technical program.

## SOCIAL PROGRAMME

Social activities will include Welcome reception, Congress opening ceremony and Congress dinner.

## CONGRESS FEES

<b>Registration and payment</b>	<b>Before 31 July 2024</b>	<b>After 31 July 2024</b>
Members of the CCC associations (ČBS, fib, ÖBV, HDGK, fib Hungary and fib Poland)	495 EUR	595 EUR
Non-members	595 EUR	695 EUR
Student *)	225 EUR	295 EUR
Accompanying persons (guided cultural program and Welcome event included)	235 EUR	305 EUR
Gala Dinner	80 EUR	80 EUR

**All the prices are in EUR, including VAT 21%**

\*) special fee for members up to 30 years old

Registration fee includes participation at welcome reception, opening ceremony, technical sessions, lunches, and coffee breaks and proceedings in electronic form.



## IMPORTANT DATES FOR YOUR DIARY

Abstracts submission:	March 8, 2024
Registration open:	Within March 2024
Abstract acceptance:	March 15, 2024
Full paper submission:	April 28, 2024
Registration for the authors:	April 30, 2024
Reviewing process:	April 30 – May 30, 2024
Full paper submission after review:	June 30, 2024
Early bird registration deadline:	July 31, 2024