



**UNDERGROUND  
CONSTRUCTION**

MAY 29–31, 2023

PRAGUE

PODZEM

15<sup>TH</sup> INTERNATIONAL CONFERENCE

# UNDERGROUND CONSTRUCTION PRAGUE 2023

MAY 29–31, 2023 | CLARION CONGRESS HOTEL PRAGUE

## 2<sup>ND</sup> ANNOUNCEMENT

[www.ucprague.com](http://www.ucprague.com) | [ps2023@guarant.cz](mailto:ps2023@guarant.cz)



ASSOCIATION  
INTERNATIONALE DES TUNNELS  
ET DE L'ESPACE SOUTERRAIN

**AITES**

**ITA**

INTERNATIONAL TUNNELLING  
AND UNDERGROUND SPACE  
ASSOCIATION

ČESKÁ TUNELÁŘSKÁ  
ASOCIACE  
ITA-AITES

CZECH TUNNELLING  
ASSOCIATION  
ITA-AITES





## PREPARATORY COMMITTEE AND SCIENTIFIC COUNCIL

### Chairman of the Preparatory Committee:

Dr. Alexandr Butovič (*SATRA, spol. s r.o.*)

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Martin Knights (*UK*)

Dr. Davorin Kolic (*Croatia*)

### Chairman of the Scientific Council:

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Nasri Munfah (*USA*)

Petr Salák (*Israel*)

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Prof. Giulia Viggiani (*Italy*)

Prof. Shahab Yasrobi (*Canada/Iran*)

Prof. Bai Yun (*China*)

### Local members

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Dr. Jaroslav Beňo (*Metrostav a.s.*)

Michal Froněk (*Správa železnic, s.o.*)

Dr. Eva Hrubešová (*Technical University in Ostrava*)

Libor Mařík (*SAGASTA s.r.o.*)

Prof. David Mašín (*Charles University in Prague*)

Miroslav Novák (*METROPROJEKT Praha a. s.*)

Miloslav Novotný

Dr. Jan Pruška (*Czech Technical University in Prague*)

Dr. Markéta Prušková (*Czech Tunnelling Association ITA-AITES, z. s.*)

Lucie Přichystalová (*GUARANT International spol. s r.o.*)

Lukáš Rákosník (*SATRA, spol. s r.o.*)

Dr. Karel Rössler (*Metrostav a.s.*)

Dr. Alexandr Rozsypal

Dr. Pavel Růžička (*HOCHTIEF CZ a. s.*)

Dr. Martin Srb (*3G Consulting Engineers s.r.o.*)

Boris Šebesta

Dr. Richard Šňupárek (*Institute of Geonics AS CR, v.v.i.*)

Dr. Václav Veselý (*TERRESTA a.s.*)

Jaromír Zlámal (*POHL cz, a.s.*)

Dr. Zdeněk Žižka (*METROPROJEKT Praha a. s.*)

## SUPPORTING ORGANIZATIONS



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ISRM Czech  
National Group



## LETTER OF INVITATION

Dear Colleagues and Friends,

The Czech Tunnelling Association ITA-AITES kindly invites you to the **15<sup>th</sup> International Conference "Underground Construction Prague 2023"**, which will take place **from 29 to 31 May 2023** in Prague with the support of the International Tunnelling Association ITA-AITES, ISSMGE and ISRM.

This is the largest tunnelling conference organised in the Czech Republic, which is regularly held every three years. Due to the pandemic, this year's event has been postponed by one year. Previous editions have confirmed that the Prague conference, thanks to its professional programme, venue and social gatherings found a strong place among similar European events. This is also confirmed by the participation of eminent experts from European countries and the world.

The conference, which like previous years will be held at the Clarion Congress Hotel in Prague, will also include a professional exhibition and a poster session.

The conference is endorsed by the International Tunnelling and Underground Space Association (ITA).

**We are looking forward to your active participation and exchange of new information and experience.**



**Ivan Hrdina**  
Chairman CzTA ITA-AITES, z. s.



**Dr. Alexandr Butovič**  
Chairman of the Preparatory  
Committee



**Prof. Matouš Hilar**  
Chairman of the Scientific Council

## CONTACTS

### Czech Tunnelling Association ITA-AITES

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### Secretariat of the Preparatory Committee

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### Organising agency

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Web: www.guarant.com



## GENERAL INFORMATION ABOUT THE CONFERENCE

**Conference name:** Underground Construction Prague 2023  
**Conference date:** May 29–31, 2023  
**Conference venue:** Clarion Congress Hotel Prague  
 Freyova 33, Prague 9 – Vysočany, Czech Republic  
 metro station Vysočanská (line B)  
[www.cchp.cz](http://www.cchp.cz)



Clarion Congress Hotel Prague is situated in a modern part of Prague – Vysočany, just 15 minutes from the historical centre of Prague. The excellent transport accessibility and perfect service facilities make it popular both with individual visitors and business clients.

The Hotel offers variable conference rooms with high-tech equipment in all spaces and guest rooms. It also offers various restaurants, bars, a wellness and fitness centre and a shopping mall right next to the Hotel.

## OFFICIAL LANGUAGES

English and Czech/Slovak. Simultaneous translation will be provided.

## CONFERENCE SCHEDULE

### Sunday, May 28, 2023

- Course – BIM and underground construction

### Monday, May 29, 2023

- Opening Ceremony
- 4 Keynote Lectures
- Open Session
- 2 parallel sessions on 7 topics
- Technical exhibition
- Poster session
- Reception at the Břevnov Monastery

### Tuesday, May 30, 2023

- 2 parallel sessions on 7 topics
- Technical exhibition
- Poster session

### Wednesday, May 31, 2023

- Technical excursions



## KEYNOTE LECTURES

**Chairs: prof. Matouš Hilar, Dr. Alexandr Butovič**



**Radek Mátl** (Czech Republic):  
Planned highway tunnels in the Czech Republic



**Jiří Hrnčíř** (Czech Republic):  
Preparation and realisation of the line I.D of the Prague metro



**Nasri Munfah** (United States):  
Challenges and risks of Tunneling in Urban Areas – Lessons learned



**Gerhard Harer** (Austria):  
Possibilities and limitations of modern ground investigation on the example of long base tunnels

## INVITED LECTURES IN THEMATIC SESSIONS

**Session 1: Conventionally excavated tunnels**

**Session chairs: Libor Mařík, Dr. Pavel Růžička, Michal Froněk**



**Dr. Davorin Kolic** (Croatia):  
New railway line Divaca-Koper: Construction



**Petr Salak** (Israel):  
French Hill Tunnels: Design and construction of road tunnels in Jerusalem

**Session 2: Mechanically excavated tunnels****Session chairs: Boris Šebesta, Dr. Karel Rössler, Dr. Zdeněk Žižka****Dr. Vojtech Gall** (United States):

Design of hybrid precast segmental tunnel linings for the Pawtucket CSO tunnel project

**Dr. Petr Makásek, Michal Babič** (Czech Republic):

Railway junction Prague from the view of tunnelling structures

**Session 3: Other underground structures, repositories, reconstructions and history****Session chairs: Dr. Richard Šňupárek, Dr. Jan Pruška****Nasri Munfah** (United States):

Design and Construction Challenges of Chinatown Station in San Francisco

**Dr. Davorin Kolic** (Croatia):

Hydro scheme Alto Maipo, Chile: Design-build sample

**Session 4: Geotechnical investigation and monitoring****Session chairs: Dr. Alexandr Rozsypal, Dr. Václav Veselý****Prof. Bai Yun** (China):

Data Mining of Earth Pressure During the EPB Shield Construction at a Shanghai Metro

**Prof. Robert Galler** (Austria):

Investigations regarding the Reuse of Tunnel Excavation Material based on the Future Circular Collider at CERN



### Session 5: BIM, numerical modelling, research and development

Session chairs: **Dr. Eva Hruběšová, Prof. David Mašín**



**Prof. Robert Galler** (Austria):

Sustainable Tunneling – challenges for the design and construction of tomorrow



**Prof. Shahab Yasrobi** (Canada):

Tunneling in super-crowded urban areas – Novel combination of mined and opened trench methods

### Session 6: Equipment, operational safety and maintenance

Session chairs: **Miroslav Novák, Lukáš Rákosník**



**Martin Knights** (United Kingdom):

A new Guideline for Tunnel Asset Management

### Session 7: Risk management, contractual relationships and funding

Session chairs: **Dr. Martin Srb, Dr. Jaroslav Beňo**



**Heinz Ehrbar** (Switzerland):

Success criteria and success factors for the optimal planning, construction and operation of large in underground constructions



**Dr. Monika Mitew-Czajewska** (Poland):

Overview of communication tunnels currently under construction in Poland



## OPEN SESSION

### **Tunnel failures – causes, risks, mitigation**

#### **Inherent to tunnelling, or in need of more diligence?**

A review of common design and construction procedures and their attainment of reliability and safety. Are there still gaps to be closed in common design procedures, the application of existing standards and guidelines? What has the industry learned from past failures? Which developments do we need to better manage uncertainties and risks in tunnelling?

Representatives from the international tunnelling communities from different backgrounds (clients, designers, contractors, insurers) will share their views and thoughts in short presentations. The subsequent moderated discussion among the panelists and with the audience will revolve around the variety of technical, organizational and economical aspects and roles throughout project lifecycles.

#### **Chairs:**

- Urs H. Grunicke, Managing director, UHG Consult, Austria
- Karel Rössler, Tunneling expert, Metrostav a.s., Czech Republic

#### **Panelists:**

- Giovanna Cassani, Technical Director, RockSoil, Italy
- Gunilla Franzén, Vice-Chair CEN/TC250 Subcommittee “Eurocode 7”, Geoverskstan, Sweden
- Michal Froněk, Technical Director Projects West, Czech railways, Czech Republic
- Robert Galler, Montanuniversität Leoben, Austria
- Giorgio Höfer-Öllinger, Managing Director, Geoconsult, Austria
- Katja Hüske, Project Management, DB Netz AG, Germany
- Johannes Jäger, Technical Director, BeMo, Austria
- Andrés Marulanda Escobar, Managing director, INGETEC, Colombia
- Guido Nuijten, Senior Engineer AFRY, Finland





## COURSE

### **BIM and underground construction**

**Date:** May 28, 2023  
**Venue:** Clarion Congress Hotel Prague  
Freyova 33, Praha 9  
**Time:** 09:00

BIM – 3 letters that are often used in relation to the construction industry nowadays. The subject of the course is to present this issue in its entirety – from the processing of geotechnical information, through the design of the structure, the implementation of the work to the practical use in the operation of the construction. The course is suitable for beginners as well as for those who already know „something“ about the subject.

#### **What is BIM?**

Michal Lavko (Czech Republic)

#### **Creating a reference model with the Geotechnical Module in Civil 3D**

Matic Rífl (Czech Republic)

#### **Project of the railway station Prague – Václav Havel Airport processed by the BIM method**

Jiří Platil (Czech Republic)

#### **Evolution of tunnelling design in BIM**

Jure Česnik (Slovenia)

#### **4D sequencing on the City Rail Link project, Auckland NZ**

Chinmay Gathoo (New Zealand)

#### **Intelligent and Practical application of BIM for Underground Structures: Mott MacDonald's lessons learned delivering data-rich models**

Paul Briedis (Australia)

#### **BIM and the contractor – practical insights from construction in Northern Europe**

Jiří Horčíčka (Czech Republic)

#### **BIM and facility management of underground structures**

Michal Lavko (Czech Republic)



## OTHER PARTS OF THE TECHNICAL PROGRAMME

**Poster Section** will be available for authors whose proposal has not been selected for oral presentation.

**Technical Exhibition** of the conference partners and other companies will be installed next to the session halls and in the conference floor foyer.

**Technical Excursions** to tunnel construction sites in Prague and its surroundings will be held on the third conference day.

Authors of selected proposals has been notified by November 30, 2022. The deadline for the completed paper including all pictures and graphical annexes and the abstract of 300 words must be submitted at the website [www.ucprague.com](http://www.ucprague.com) no later than **January 31, 2023**. The paper must be prepared exactly according to instructions (template), otherwise it may be rejected by the conference organisers.

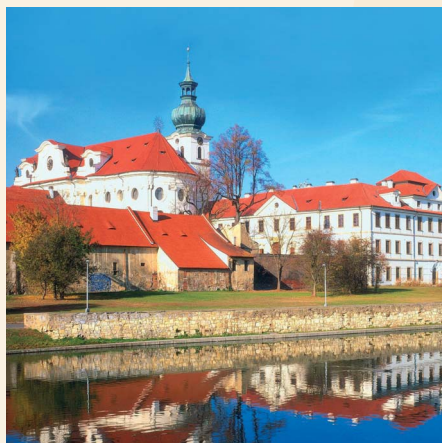
All accepted papers will be published in the electronic **Book of Papers** in English and will also include papers from the Czech and Slovak Republics in Czech or Slovak languages.

## SOCIAL PROGRAMME

**Date:** May 29, 2023  
**Venue:** Břevnov Monastery  
Markétská 1, Prague 6  
**Time:** 20:00

The conference reception will be held at the Břevnov Monastery. Admission to this dinner is part of the registration fee of the conference. A ticket for an accompanying person can be bought extra.

Wearing spike heels is forbidden in the representative halls of Břevnov monastery.





## REGISTRATION

Registration of participants and accompanying persons for the conference and accommodation reservation started electronically from **November 14, 2022**.

### Registration fees

	Early registration until January 31, 2023	Standard registration until April 10, 2023	Late registration from April 11, 2023
Delegate	440 EUR	485 EUR	530 EUR
Student*	110 EUR	110 EUR	110 EUR
Accompanying person	90 EUR	95 EUR	95 EUR
Reception only	45 EUR	50 EUR	50 EUR
Course	50 EUR	50 EUR	50 EUR

Registration fees include 21 % VAT.

\*Students need to upload their valid student ID card scanned from both sides or another proof of full-time study.

Note: Payments must be received by the corresponding deadlines (early or standard), otherwise the subsequent rate will be automatically applied.

### Delegate registration fee includes:

- Admission to the scientific programme of the conference including a poster section and exhibition
- Conference materials including electronic Proceedings
- Attendance at the Conference Dinner
- Participation in the technical excursion
- Coffee breaks and lunches (May 29 and 30, 2023)

### Student registration fee includes:

- Admission to the scientific programme of the conference including a poster section and exhibition
- Electronic Proceedings
- Participation in the technical excursion
- Coffee breaks (May 29 and 30, 2023)

### The registration fee for Accompanying person includes:

- Admission to the Opening Ceremony
- Participation at the Conference Dinner
- Guided walk in the historical centre of Prague on May 29, 2023
- Half-day excursion out of Prague by bus on May 30, 2023



## ACCOMMODATION

A number of hotels of various categories at reduced rates are available for participants of the conference. All hotels are located within reasonable distance from the conference venue, the Clarion Congress Hotel Prague (CHP).

<b>Hotel</b>	<b>Price in EUR SGL / DBL</b>	<b>Distance to the Clarion Congress Hotel Prague</b>
<b><u>Clarion Congress Hotel Prague****</u> standard room</b>	143 / 162	Venue
<b><u>Hotel Carol****</u> superior room</b>	117 / 123	10 min by tram (1,3 km)
<b><u>Hotel DUQ****</u> superior room</b>	117 / 123	16 min by bus (2,9 km)
<b><u>Hotel Pivovar***</u> standard room</b>	86 / 88	3 min by walk (260 m)

All rates quoted are per room per night including 10 % VAT, breakfast and city tax.

Due to heavy demand and to the fact that distribution of rooms in many hotels will be limited, we advise you to book your accommodation as soon as possible.

A full pre-payment is required to guarantee the reservation. After the full payment has been received, your hotel reservation will be confirmed in writing by e-mail. The full payment must be received on or before a payment due date, otherwise the reservation will be automatically cancelled.



## CANCELLATIONS AND REFUNDS

The Conference Secretariat must be notified in writing by e-mail at [ps2023@guarant.cz](mailto:ps2023@guarant.cz) in the event of the cancellation of the registration. Cancellation by phone call will not be accepted. The appropriate refunds will be made after the conference.

**The following cancellation conditions apply:**

Cancellations received	Refund
Before March 31, 2023	full refund of the registration fee, handling fee of 30 EUR will be deducted
April 1 – May 2, 2023	50 % of the registration fee
From May 3, 2023	no refund

In case of any change in registration, GUARANT International reserves the right to charge a 30 EUR handling fee.

In case of cancellation of the event due to force majeure, GUARANT International reserves the right to charge a 30 EUR handling fee.

## CANCELLATION CONDITIONS OF HOTEL ACCOMMODATION

The following cancellation conditions apply to the cancellation, reduction, shortening and no show of a hotel reservation:

### Clarion Congress Hotel Prague

Cancellations received	Cancellation fee
Until February 21, 2023	full refund, handling fee of 10 EUR will be deducted
February 22 – March 23, 2023	25 % cancellation fee for each cancelled night
March 24 – April 21, 2023	60 % cancellation fee for each cancelled night
April 22 – May 8, 2023	90 % cancellation fee for each cancelled night
From May 9, 2023 incl. no show	100 % cancellation fee for each cancelled night



## TECHNICAL EXCURSIONS

The conference participants can choose from five site visits to the underground structures in and around Prague organised on Wednesday morning, **May 31, 2023**.

- **Site visit A – Line D of the Prague Metro – excavation of access tunnels in the direction of Pankrác D Station**  
The maximum number of participants for Site Visit A is 20.
- **Site visit B – Line D of the Prague Metro – Pankrác – Olbrachtova Section + Connection C–D**  
The maximum number of participants for Site Visit B is 20.
- **Site Visit C – Main traffic control centre in Prague (Control of traffic including tunnels)**  
The maximum number of participants for Site Visit C is 20.
- **Site visit D – Repository Richard**  
The maximum number of participants for Site Visit D is 16.
- **Site visit E – Old wastewater treatment plant in Bubeneč**  
The maximum number of participants for Site Visit E is 20.

### Application for the Site Visit

When registering, please tick the selected site visit on the on line registration form.

More details on the site visits will be published at the website [www.ucprague.com](http://www.ucprague.com) and in the Conference Final Programme.

**English interpretation of all excursions will be provided for foreign participants.**



## PARTNERS

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Construction of Kramer road tunnel, Germany

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Podzemní stavby Praha 2023


Underground Construction Prague 2023

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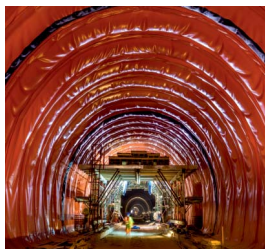
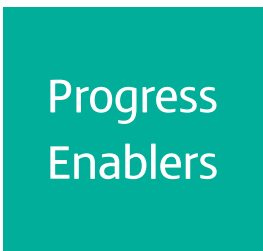
D3 highway,  
Pohůrka tunnel construction  
by České Budějovice





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