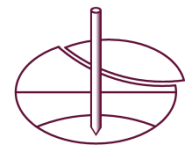




**ISSMGE FOUNDATION
REPORT ON CONFERENCE ATTENDANCE**

Your Name: Vinay Kumar Singh	Your Organization: Indian Institute of Technology Delhi	Date of report: 10 th June 2023
Conference Title: Underground Construction Prague 2023	Location of Conference: Prague, Czech Republic	Dates of Conference: 29 th to 31 st May 2023
What you learned: I am a research scholar, and my Ph.D. is related to the safety of the existing tunnel due to the nearby foundation excavation and building construction. Most of my work is experimental and numerical and is restricted to the laboratory only. At this conference, experts working in underground structures were present. The industrial professionals shared the design procedures adopted for the various underground projects, new technologies, and challenges they faced during the fieldwork of underground structures. This conference helped me to bridge the gap between theoretical and practical knowledge. Open Session discussion on Tunnel failures – causes, risks, and mitigation gave me insights into the different perspectives from the views of tunnel designers, contractors, owners, and policymakers. Through this conference, I also came across modern equipment which can be used in research. There was different equipment like optical sensors and robots in the display section, which can be used for monitoring and measurement in the field and the laboratory, which can be used for more accurate measurements.		
People you met: Prof. Robert Galler, Professor, Montanuniversity Leoben, Austria Prof. Bai Yun, Professor, Tongji University, China Nasri Munfah, Principal - Gall Zeidler Consultants, United States. Arnold Dix, President of the ITA.		
Main features of conference: Underground Construction Prague is a conference held regularly every three years, and the geotechnical experts working in underground structures gather here to share their knowledge. The prime focus of this conference is to discuss the case histories of the construction of different underground structures, design, and if any failure. One of the main features of the conference is it includes five technical incursions: Site visit A–Line D of the Prague Metro – excavation of access tunnels in the direction of Pankrác D Station. Site visit B – Line D of the Prague Metro – Pankrác – Olbrachtova Section + Connection C-D. Site Visit C – City of Prague Urban Traffic Control Centre (UTCC Prague). Site visit D – Richard Radioactive Waste Repository Site visit E – Rudolph Adit + old wastewater treatment plant		



Your comments on the conference:

The conference was one of the best conferences I have attended so far. This conference mostly contains lectures of mostly field problems. The experts discussed the design, design guidelines, construction methodology, and the challenges they faced during the various underground construction activities. The site visit organized by the conference organizer was terrific. Overall attending this conference gave me more insight into practical knowledge.

Please attach short report (maximum 400 words) suitable for publication in the ISSMGE Bulletin:

The Underground Construction Prague is a conference held regularly every three years with the support of the International Tunnelling Association ITA-AITES, ISSMGE, and ISRM. The conference was inaugurated by Prof. Matouš Hilar (Chairman of the Scientific Council), Arnold Dix (President of the ITA), and Dr. Alexandr Butovič. The first two days of the conference consisted of different lectures and discussion sessions at the conference venue, and the last day was the site visit at a different location. Many participants were present at the conference involving professional engineers with different expertise and academicians.

There were a few keynotes and invited lectures covering the topics of ground investigation, design, challenges, and risk of Tunneling across the world. There was an open session on the topic Tunnel failures-causes, risk, and mitigation. The panelists consist of experts from different fields discussing points of view from tunnel designers, contractors, owners, and policymakers and the need for developing a code of practice for tunnel design for Europe (Euro code). The discussion covered a wide range of technical, organizational, and economic aspects and roles throughout project lifecycles. There were different sessions that covered various topics, such as Conventionally and mechanically excavated tunnels and other underground structures like waste repositories, Risk management, Geotechnical investigation and monitoring, Numerical modeling, and research and developments. As a researcher, it was fascinating for me to attend some of the lectures on the real projects of different ongoing tunnel projects and already constructed tunnels. It helped me understand the theoretical and practical knowledge. Novel ideas were discussed on the reutilization of excavated material during the tunnel in different applications and the use of fiber-reinforced tunnel linings. There was a poster section also where different posters were present, covering topics of various research and tunnel projects. There were different exhibitors displaying their modern products, which can be used in different activities during the underground construction. Some modern robots (which can be used for monitoring during underground construction) and sensors like fiber optical sensors for measuring deformation, temperature, and stresses were exhibited.

The most exciting part of the conference was the site visit of the different ongoing construction sites of the tunnel, Radioactive waste repository, City of Urban Traffic Control Centre, and wastewater treatment plant.

As a researcher, this conference gave me insights into different construction methods and technologies adopted in the actual scenario. It also helped me network with various academicians and professionals, with whom I got to discuss my research and got positive feedback which will help me improve my research work. Different research topics were also discussed during the conference, which also provided me with novel research topics I could work on.

I am thankful to ISSMGE Foundation for providing me with the fund to attend this conference which was very informative and interactive.



Photographs from the Conference:



Open Session Discussion on Tunnel Failures – causes, risks, mitigation.



Me at the Site visit of Line D of the Prague Metro – excavation of access tunnels in the direction of Pankrác D Station



Me with Prof. Bai Yun.