

21-24 AUGUST 2018

# SHORT COURSE ON TUNNELLING

KATHMANDU, NEPAL



**Speaker:**

**Dr Manoj Verman**

Tunnelling & Rock Engineering Expert

President, *International Commission on Hard Rock Excavation*

Ex-Vice President, *International Society for Rock Mechanics*

President, *Indian National Group of ISRM*

### Knowledge Partners



Oration Partner



Training Partner

**MACCAFERRI**

Presenting Partner



To register, please contact:

Email: [asma@mverman.com](mailto:asma@mverman.com); [manoj@mverman.com](mailto:manoj@mverman.com);

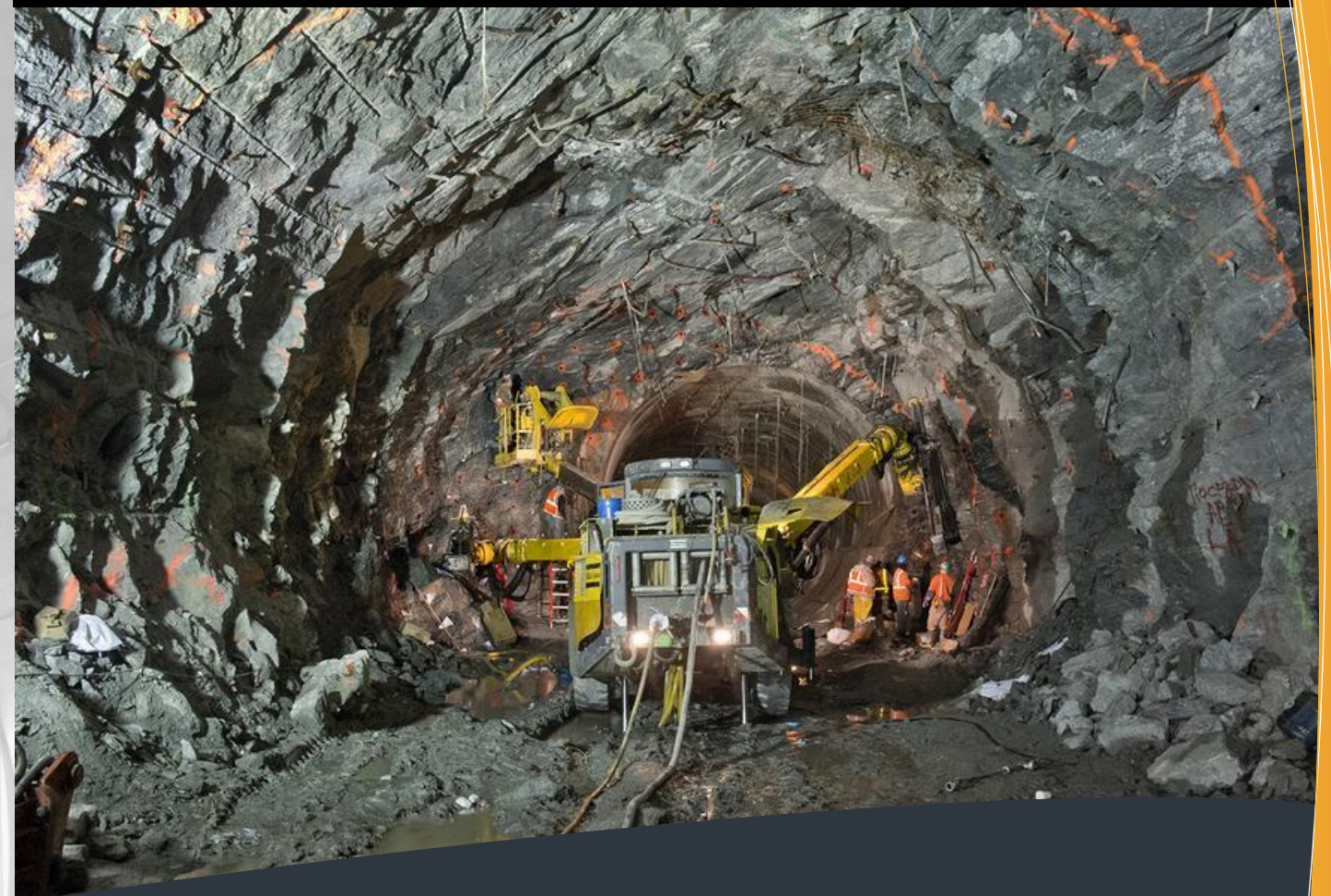
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## Short course on **TUNNELLING**

August 21– 24, 2018 (09:00 – 17:30 hours)

**Venue :**

Radisson Hotel

Lazimpat, Kathmandu, Nepal





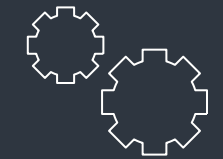
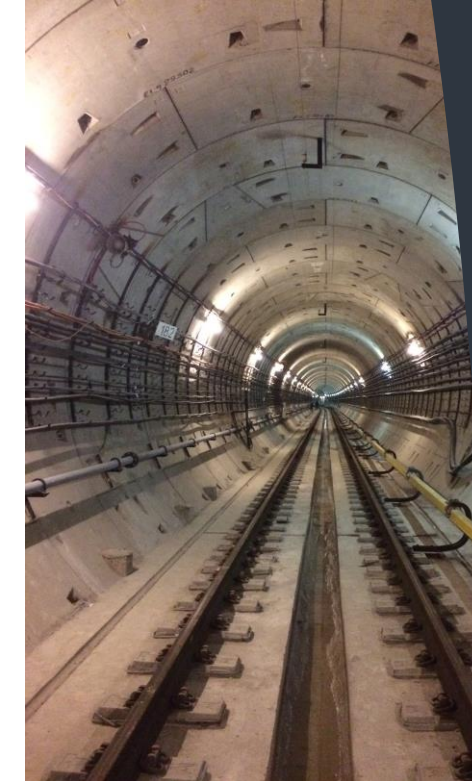
# Course Contents

## DAY ONE

- Philosophy of Tunnelling
- Fundamentals of rock mechanics related to tunnelling
- Site investigation and ground characterisation
- Geological factors affecting tunnelling
- Tunnel Construction Techniques: TBM, drill-&-blast, road-headers, cut-&-cover tunnels, ripping, ground treatment, dewatering

## DAY TWO

- Tunnel alignment selection issues
- New Austrian Tunnelling Method (NATM), Norwegian Method of Tunnelling (NMT), ADECO-RS Method
- Tunnel support design
- Numerical methods of analysis and design of tunnels using various software tools from Rocscience, world's leading developers of geotechnical software
- Rock bolts & dowels, Shotcrete



## CUSTOM SOLUTIONS

This is the most comprehensive short course on tunnelling in the region and is aimed at bridging the huge skill gap that currently exists.

Topics listed here are meant to cover as wide a scope as is possible within the available time, but every attempt will be made to include any additional topics if specifically requested.



## COURSE FEE

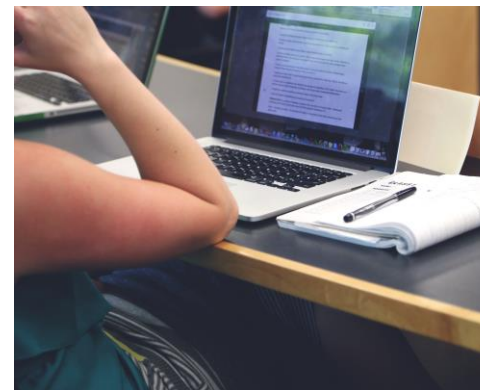
- NPR 17,500 PER PARTICIPANT FOR INDIVIDUALS FROM NEPAL
- NPR 24,000 PER PARTICIPANT FOR ORGNAISATIONS /COMPANIES FROM NEPAL
- INR 20,000 PER PARTICIPANT (PLUS GST @18%) FOR PARTICIPANTS FROM SAARC COUNTRIES EXCEPT NEPAL
- USD 550 PER PARTICIPANT (PLUS GST @18%) FOR PARTICIPANTS FROM OTHER COUNTRIES.

# training programme for your professional needs

COVERS A WIDE RANGE OF TOPICS.

## DAY THREE

- Tunnelling hazards: squeezing, rock burst, chimney formation, face collapse, flooding etc.
- Tunnelling through squeezing ground conditions
- Ground improvement techniques: grouting, forepoling, face dowels, roof umbrella, ground freezing



## DAY FOUR

- Constraints of urban tunnelling
- Cut-&-cover metro structures
- Planning and logistics aspects of mechanized metro tunnelling
- Tunnel instrumentation
- Design of concrete lining
- Segmental tunnel lining
- Tunnel waterproofing
- Tunnelling case histories

## INCREASE YOUR VALUE AND EFFECTIVENESS

The programme is designed to address the needs of professionals dealing with design and construction of tunnels in highway, railway, metro, hydropower, storage and defense projects. Also, students and other professionals seeking to explore the exciting world of tunnelling are encouraged to participate.



## EFFECTIVE DELIVERY

The course will be delivered by an expert in the field of tunnelling with over three decades of experience.

With a Ph.D. in tunnelling, international recognition and proven track record of exceptional technical skills, he has held and is currently holding important international positions. He is regularly invited to deliver technical lectures in India and overseas and is widely acknowledged as a speaker of international repute.

## PAYMENT OPTION

### BANK TRANSFER

The bank details for the participants apart from Nepal are as follows:

- Bank name & address: HDFC Bank, Vatika Technology Park, Badshahpur, Gurgaon, India
- Bank account name: Manoj Kumar Verma
- Bank account number: 10981140006351
- IFSC Code: HDFC 0001098
- SWIFT Code (for international transfers): HDFCINBB

## WHAT IS COVERED IN COURSE FEE

- LECTURES FOR FOUR DAYS
- COURSE MATERIAL IN USB DRIVE
- LUNCH AND TEA/COFFEE ON FOUR DAYS

The bank details for the participants from Nepal are as follows:

- Bank account name: ORIENTAL HOTELS LTD (Radisson Hotel Kathmandu)
- Name of the Bank: Nabil Bank, Kathmandu
- Account Number: 0201017033701
- Branch Name: Tripureswor
- Swift Code: NARBPNKA

Note: Please mention a line "Short course on Tunnelling" without fail while you transfer the amount for easy tracking of your payment

