



Friday, 11 September 2020

INNOVATIONS IN TUNNELLING

KL time	UTC time		Mode of presentation
14:00 – 14:15	06:00 – 06:15	Welcome And Opening (Robert Galler - ITA-CET Committee Chairman)	Pre-recorded
14:15 – 15:00	06:15 – 07:00	Overview Of Mega Underground Infrastructure Development In Malaysia (Khoo Chee Min)	Pre-recorded
15:00 – 15:45	07:00 – 07:45	Challenges Relating To Ground Water On Tunneling Works (Ooi Lean Hock)	Pre-recorded
15:45 – 16:15	07:45 – 08:15	Break	Live
16:15 – 16:45	08:15 – 08:45	Underground Sustainable Solutions For Urban Planning (Wout Broere)	Live
16:45 – 17:30	08:45 – 09:30	A Legal Guide For Young Professionals - Navigating The Legal Professional Landscape As A Tunnelling Professional In A Big And Diverse World (Arnold Dix – ITA Vice President)	Pre-recorded
17:30 – 18:15	09:30 – 10:15	The Reuse Of Tunnel Excavation Material – Challenges (Robert Galler – ITA-CET Committee Chairman)	Pre-recorded
18:15 – 18:30	10:15 – 10:30	Break	Live
18:30 – 19:15	10:30 – 11:15	Tunnelling Health And Safety – Moving Forward (Donald Lamont – WG5)	
19:15 – 20:00	11:15 – 12:00	Specific Funding Sources For Underground Structures (Harald Wagner)	
20:00 – 20:45	12:00 – 12:45	Innovations In Conventional Tunnelling (Nasri Munfah - WG19)	

**ITACET 1-DAY TRAINING COURSE SESSION ON:
INNOVATIONS IN TUNNELLING –
GEOTECHNICAL ENGINEERING AND PROJECT
MANAGEMENT**

ITACET Foundation for Education and Training on Tunnelling and Underground Space Use (ITACET), IEM Training Centre Sdn Bhd and International Tunnelling Association (ITA) for the World Tunnel Congress (WTC2020) and 46th ITA General Assembly Training Session

An event endorsed by



Managed by: IEM Academy Sdn Bhd
(Link: <http://www.iemasb.com/event/>)



Date: Friday, 11 September 2020

**KL Time: 14:00 – 20:45 /
UTC Time: 06:00 – 12:45pm**

By: Zoom Link (Kuala Lumpur, MALAYSIA)

Closing for registration: 5 September 2020

ITACET Training Course: <https://forms.gle/KGFNGP6QZNh484zX6>

BIODATA AND SYNOPSIS

Ir. KHOO CHEE MIN



Ir. Khoo Chee Min obtained his Bachelor's degree (1st Class Honours) in Civil Engineering from Universiti Teknologi Malaysia. He has more than 18 years of work experience specialising in geotechnical engineering on the diverse building, infrastructure and transportation projects. In recent years, he has actively involved in tunnelling and metro projects such as Klang Valley MRT SBK Line and SSP Line in Malaysia, MRT Thomson-East Coast Line and East-West Transmission Cable Tunnel in Singapore. He is holding the post of Assistant General Manager at MRT Corporation; co-leads a team in managing the geotechnical and tunnelling designs for the underground works of KVMRT - SSP Line.

He is a Professional Engineer registered with the Board of Engineers Malaysia, a Chartered Professional Engineer registered with Engineers Australia, an International Professional Engineer registered under APEC/ EMF Registers as well as an ASEAN Chartered Professional Engineer. He is a Fellow of The Institution of Engineers, Malaysia (IEM) and currently the Chairman of Tunnelling & Underground Space Technical Division as well as Deputy Organising Chairman of World Tunnel Congress 2020. He serves as Member Nation's representative to the International Tunnelling and Underground Space Association (ITA) Working Group 2 – Research and Working Group 11 – Immersed and Floating Tunnels.

He has published more than 20 technical papers and currently pursuing his postgraduate research in tunnel engineering at Universiti Teknologi PETRONAS. He is the co-author for a winning paper entitled "The Present & Future Sustainable Use of Underground Space in Malaysia" which was awarded the Tan Sri Ir. Hj. Yusoff Price 2019, the highest recognition for outstanding technical papers on engineering contributed by corporate members of IEM in the civil engineering discipline.

Ir. Dr OOI LEAN HOCK

Dr Ooi is a professional civil engineer with more than 30 years of experience in the field of geotechnical engineering in design and construction implementation. He has been managing geotechnical designs and construction of major infrastructural projects in South East Asia and Middle East. These projects include runways, railways, dams and highways. His underground works experiences include deep excavation, cut and cover structures, mechanised (TBMs) and drill blast tunnelling.



Currently he is the Geotechnical Director for Gamuda Engineering projects, his areas of expertise are Geotechnical Design and Analysis, Geotechnical Instrumentation and Testing, Ground Investigation and Treatment Design. Some of the big projects that he was involved in were Electrified Double Track Project (Padang Besar to Ipoh), SMART Project, NDIA Airport, Dukan Highway (Doha), Sitra Causeway (Bahrain), Nam Theun 1 HEP (Laos) and Pergau HEP. Dr Ooi has a PhD in Civil Engineering. He is a Member of the Board of Engineers (BEM) and Member of the Institution of Engineers, Malaysia (MIEM).

ARNOLD DIX



Lawyer, Geologist, Disaster Investigator, Trial Attorney, Dispute Resolution Practitioner, Technical Dispute Avoidance Board Specialist and visiting Professor of Tunnel Engineering (Tokyo City University), International Tunnel Standards Adviser (including NFPA130 and 502, PIARC), ITA Vice-President & Executive Council Member

Arnold Dix is internationally recognised as a risk specialist for the underground for projects from conception to operations and refurbishment. His practical "hands on" approach bridging the gap between technical, legal and aspirational challenges underground often in his capacity as a party appointed dispute resolution specialist or Judge.

ROBERT GALLER



Robert Galler graduated at MONTANUNIVERSITÄT Leoben, Austria, in 1993. He obtained a Ph.D. in Subsurface Engineering at the University of Leoben in 1997. From 1997 to 2007 he worked with Geoconsult ZT GmbH, Salzburg, Austria as Project Manager in Design and Construction of Underground Structures.

Reference Projects are the New High Speed Rail Link between Cologne and Frankfurt in Germany; the Tender design for the Semmering Base Tunnel in Austria and the Preliminary Design for the Brenner Base Tunnel. Since November 2006 he is Full-Professor for Subsurface Engineering at Montanuniversität Leoben, Austria.

Furthermore he is Head of the Department Mineral Resources Engineering as well as Head of the Department "Zentrum am Berg", a 1:1-scale Underground Research and Development Center as well as a Training and Education Center for all aspects of Underground Structures.

Dr DONALD R. LAMONT

Following 25 years as Head of Tunnel and Ground Engineering with the UK Health and Safety Executive and an Inspector for the Channel Tunnel Safety Authority, Donald set up Hyperbaric and Tunnel Safety Ltd his semi-retirement international hobby micro consultancy.



In this role Donald advises on tunnel construction and operational safety as well as on advanced hyperbaric techniques in tunnelling. Clients have included Crossrail and London Underground, Health and Safety Authority Ireland, Worksafe New Zealand, Hong Kong Highways Department. Donald remains active in British, European and International standards work relating to tunnelling safety and has been Animateur of ITA WG5 since 2001.

Dr HARALD WAGNER



Harald Wagner received his M.Sc. in Civil Engineering in 1970 from Technical University (TUG) of Graz, Austria. He obtained his initial postgraduate experience in Foundation Engineering with Prof. Steinfeld in Hamburg, Germany. His academic career included the position as Assistant Professor at TUG's chair for Soil Mechanics and Foundation Engineering, Rock Mechanics and Tunnelling. He obtained his PhD in 1974 in Geotechnical Engineering for contributions on stabilization of landslides in soft soil slopes. His postdoctoral training included teachings on "Soil Mechanics for Architects" at TUG, Austria.

In 1975 he became deputy director in construction for planning and design of underground mass transit project in Bochum, Germany, where he pioneered urban mined tunnel technologies. In 1976 he became the technical director in design and construction for all underground works in Innsbruck, where he worked for more than 10 years. In the course of this work period he experienced Drill & Blast as well as TBM construction of major highway tunnels and hydro tunnels in all types of ground in Austria and Germany. In 1985 he established his consulting company in Linz/Austria. For the next 25 years he worked as managing director and chief professional engineer, and expanded the company in Europe, in both Americas and in Asia, He worked on mined underground infrastructures in Austria, Japan, Mexico and USA, with emphasis on innovative solutions. He globally transferred European Tunneling Practice e.g. for WMATA's Wheaton Station in Washington/USA, the first mined soft ground metro station in North America.

Harald Wagner is recognized for his pioneering works in mined infrastructures. He has received multiple international awards including one

from the Austrian President. He was working as an ITA EXCO Vice President, as a long term ITA EXCO Expert, as well as an Animateur and Tutor within several ITA working groups, sharing his professional experience in underground infrastructures globally with the tunneling industry and with universities among others in Germany, Italy, Iran, USA, and Colombia.

In 2002 he became a member, and in 2004 he became Vice President of ITA's Executive Council. During more than 3 decades he has been the driving force behind innovative technological concepts in both conventional drill & blast, and mechanized TBM tunneling. His engineering works are reflected and globally used in multiple patent applications. He is acting as an Expert, Arbitrator, Advisor, Tunnel Lecturer and Surveyor of ITA CET's Foundation.

Living and working in Bangkok as a consulting engineer and underground construction specialist since 2009, he was appointed in 2015 from KMITL University, Faculty of Engineering, Department of Civil Engineering, as Professor (Adj.) for "Tunnel Engineering" and Director for International Programs of the University.

The President of ITACET Foundation awarded the ITACET AWARD 2016 to Harald Wagner for his significant contribution to the activities of ITA. The award was handed over to Dr Wagner during Opening Ceremony of ITA's World Tunnel Congress WTC 2016 in San Francisco, USA.

NASRI MUNFAH

Nasri Munfah is the Senior Vice President and Director of Tunnelling and Underground Engineering of AECOM. He has more than 40 years of experience in tunneling and underground engineering. He was responsible for the successful delivery of multi-billion-dollar projects from planning through construction in the traditional design-bid-build method and in alternative delivery methods including Design-Build, BOT, and PPP. He held various leadership roles in professional organizations and has published numerous papers, articles and provided lectures in the technical and management aspects of underground engineering. He is ITA's WG 19 "Conventional Tunnelling" Animateur.



Nasri Munfah was the Principal Investigator and co-author and editor of the US Federal Highway Administration's "Technical Manual for Design and Construction of Road Tunnels —Civil Elements", the first comprehensive manual for tunnel design in the United States. In addition, Mr. Munfah is an adjunct professor in Columbia University's Civil Engineering Department in New York.