



## Safety Operation in Metro & Road Tunnel

Shanghai 9-12 November 2012  
Shanghai Shentong Metro Training Center

### SEMINAR OBJECTIVE

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The objective is to provide an introduction to the state of the art in design, construction, operation and safety management of metro and road tunnels. The seminar will provide in-depth sessions on tunnel design principles, tunnel construction technology, tunnel operation safety, disaster prevention technology and monitoring technology. The targeted participants are Owners, Contractors, Designers, Consultants, Operators and Government Supervisors.

### ORGANIZED BY

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ITA-CET



Shanghai Society of Civil Engineering



### SUPPORTING ORGANIZATION

Tongji University



China Civil Engineering Society



ITA



### REGISTRATION SECRETARIAT

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### REGISTRATION FEE

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The registration fee for the seminar is RMB 2,000 each person for two days, and RMB 3,000 each person for four days which will include the luncheons and coffee breaks as well as the materials for



the lectures. If you have decided to register to the seminar, please execute the payment through the bank transfer to the following address by the end of October:

Account Name: Shanghai Wintime International Media & Expo Corporation  
(上海闻鼎信息科技有限公司)

Account Number: 3100 6622 1018 0100 61363

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Registration will be completed when the bank transfer will be received. Please state your full name on the bank transfer receipt and fax it to: +86(21) 51757702 OR scan it and send it by e-mail to [vicky.zhang@wtmeg.com](mailto:vicky.zhang@wtmeg.com) to facilitate us arrange the follow-ups.

## TENTATIVE PROGRAMME

Date	Time	Programme	Lecturer
9 <sup>th</sup> NOV	<b>Session 1: Modern tunnelling design methods</b>		
	09.00 – 09.45	Design of Tunnels in Soft Soil	<b>Wang Zhenxin</b> Shanghai Shentong Metro Group Co.,Ltd Consultant Engineer
	09.45 – 10.30	Design of Deep Foundation in Soft Soil	
	10.30 – 11.00	<b>Coffee break</b>	
	<b>Session 2: Modern tunnelling construction technology</b>		
	11.00 – 11.45	Construction Technology of Tunnels in Soft Soil	<b>Zhou Wenbo</b> Shanghai Urban Construction Group Chief Engineer
	11.45 – 12.30		
	12.30 – 14.00	<b>Lunch</b>	
	14.00 – 14.45	Risk Management of Tunnelling in Soft Soil	<b>Huang Hongwei</b> Tongji University Professor
	14.45 – 15.30	Case Study	
	15.30 – 16.00	<b>Coffee break</b>	
	16.00 – 16.45	Case Study	<b>Bai Yun</b> ITA vice chairman Tongji university Professor
	16.45 – 17.30		
17.30 – 18.00	<b>Questions and Answers (to all sessions)</b>		
10 <sup>th</sup> NOV	<b>Session 3: Deep Foundation Construction Technology in Soft Soil</b>		
	09.00 – 09.45	Deep Foundation Construction	<b>Yang Guoxiang</b> Shanghai Tunnel Engineering CO.,Ltd Consultant Engineer
	09.45 – 10.30		
	10.30 – 11.00	<b>Coffee break</b>	
	11.00 – 11.45	Case Study	<b>Liu Guobin</b> Tongji university Professor
	11.45 – 12.30		
	12.30 – 14.00	<b>Lunch</b>	
	<b>Session 4: Design and Construction of Rock Tunnels</b>		
	14.00 – 14.45	Design of Rock Tunnels	<b>ITACET, Prof. A. Assiss</b>
	14.45 – 15.30	Construction of Rock Tunnels	
	15.30 – 16.00	<b>Coffee break</b>	
	16.00 – 16.45	Case Study	<b>ITACET, Prof. A. Assiss</b>
	16.45 – 17.30		
17.30 – 18.00	<b>Questions and Answers (to all sessions)</b>		

## TENTATIVE PROGRAMME

Date	Time	Programme	Lecturer
11 <sup>th</sup> NOV	<b>Session 5: Results of recent R&amp;D projects</b>		
	09.00 – 09.45	Results of recent R&D projects, tests and their relevance for safety operation	<b>Niels Peter Høj</b> ITACET
	09.45 – 10.30	R&D topics of the future	
	10.30 – 11.00	<b>Coffee break</b>	
	11.00 – 11.45	Technology and technical measures for metro tunnels, stations and rolling stock	<b>Niels Peter Høj</b> ITACET
	11.45 – 12.30	Integration and use of advanced supporting technology	
	12.30 – 14.00	<b>Lunch</b>	
	14.00 – 14.45	Management of metro	<b>Wang Rulu</b> Shanghai Shentong Metro Group Co.,Ltd
	14.45 – 15.30		
	15.30 – 16.00	<b>Coffee break</b>	
	16.00 – 16.45	Metro Signal Technology and safety analysis	<b>Zhu Xiang</b> Shanghai Shentong Metro Group Co.,Ltd
	16.45 – 17.30		
	17.30 – 18.00	<b>Questions and Answers (to all sessions)</b>	
12 <sup>th</sup> NOV	<b>Session 6: Metro Operation</b>		
	09.00 – 09.45	Structure, management of metro	<b>Xu Ruihua</b> Tongji university Professor
	09.45 – 10.30		
	10.30 – 11.00	<b>Coffee break</b>	
	11.00 – 11.45	operation of safety and emergency forces	<b>Xu Ruihua</b> Tongji university Professor
	11.45 – 12.30		
	12.30 – 14.00	<b>Lunch</b>	
	<b>Session 7: Fire control in Metro and Road Tunnels</b>		
	14.00 – 14.45	Ventilation systems	<b>Zheng Jinli</b> Shanghai Tunnel Engineering&Rail Transit Design and Research Institute
	14.45 – 15.30	Fire detection systems, passive/active fire fighting, fixed fire fighting systems	
	15.30 – 16.00	<b>Coffee break</b>	
<b>Session 8: Metro Safety</b>			
16.00 – 16.45	Case Study	<b>Fu Deming</b> Shanghai Society of Civil Engineering	
16.45 – 17.30			
17.30 – 18.00	<b>Questions and Closing Remarks</b>		

## LECTURES

### Niels Peter Høj Denmark



Niels Peter Høj has a broad experience and special knowledge of design for safety, risk analysis, risk management, structural engineering, structural reliability and decision support. Analysis of concrete structures, and particularly tunnels, subjected to fire is part of N. P. Høj's expertise. The special expertise on safety and risk analyses applied as an integrated part of the decision support has been applied in practice to support decision within design and operation of major infrastructure projects and as part of feasibility studies. Risk analyses have been carried out for a large number of tunnels, bridges and roads.

Mr. Høj has contributed with his experience and developed new methods for risk analyses of tunnels and for safety design by participation in research projects. The research projects count among other EU-sponsored projects like FIT, DARTS, UPTUN, projects for the Nordic research cooperation NordFoU, national research projects and projects for OECD, PIARC etc.

Presently a “best-practise” for risk analyses of road tunnel – based on Mr. Høj’s know-how is being developed and introduced in several European countries. In recent year Mr. Høj has been involved in a large number of practical risk analyses in a number of countries in Europe and worldwide.

N. P. Høj is member of a number of international expert groups and committees related to risk analyses and fire safety, among others he is Steering Board member of ITA COSUF “ITA Committee on Operational safety of Underground Facilities”. He is chairman of fib’s Group of “Fire Design of Concrete Structure” and member of Joint Committee of Structural safety, Risk Analyses, IABSE’s working commission on Structural Performance, Safety and Analysis. He is delegated to activities in ISO, COST.

In 1999 Niels Peter Høj received the IABSE Prize in recognition of his "outstanding efforts with introduction and application of modern probabilistic ways of thinking in professional practical engineering activities, in particular related to methods for risk analysis, structural reliability and decision making".

Niels Peter Høj is owner of HOJ Consulting, which a small company specialized in risk analysis, integrated design, tunnels systems and fire design. Before founding his own company N. P. Høj has been active as specialist and project manager in large international consulting companies and in research

### Bai Yun China



Professor Bai Yun has devoted his working life to civil engineering in China, Singapore, India, Vietnam, Thailand, Nepal and many other countries for close to three decades. His experience covers many fields of civil engineering including elevated expressways, MRT project (tunnels and stations), water treatment facilities, water tunnels, road tunnels, river and sea bridges, soil improvement, rock caverns and tunnels, site instrumentation, structural test, and pile foundation. As an author and co-author, he has published more

than eighty papers. He has also published more than ten books as an author, co-author and editor member. He is a deputy editor/editorial board member of four technical magazines (three local and one international). As the Vice President of International Tunneling Association, the Executive Member of China Civil Engineering Society, and the Vice Chairman of Shanghai Society of Civil Engineering, Professor Bai always has great enthusiasm for promoting the exchange and cooperation in civil engineering between different countries. He has organized and chaired many international and regional technical collaborations.

## Bob Chow China



Dr. Bob Chow, Vice President of Shanghai Urban Construction (Group) Corporation, Senior Engineer, Expert who enjoys Government Allowance, Expert of National Science and Technology Appraisal, Concurrently Professor of Tongji University & Shanghai University, Member of International Tunneling Association, Member of Royal Academy of Engineering, Member of The Chartered Institute of Building, Councilor of The Chinese Society of Theoretical and Applied Mechanics (CSTAM), Executive Councilor of China Civil Engineering Society.

He has been engaged for a long time in tunnel Construction technology research & scientific innovation, including underground engineering management, engineering mechanics dynamics, tunnel engineering information & intelligence. He devotes himself in programs of “State 863 Projects”, “Natural Science Foundation”, “National Key Technology Research and Development Program of the Ministry of Science and Technology of China & the Ministry of Housing and Urban-Rural Development of the People’s Republic of China“. And he has won 40 prizes on State, Provincial & Ministry level. On worldwide academic journal he has contributed nearly 70 papers, some of them being abstracted by EI. Meanwhile, Shield Tunnel Construction Technology & Application which he compiled has been highly appraised by insiders.

## Huang Hongwei China



Prof. Hongwei HUANG is a full Professor of Tongji University in Shanghai of China. He got his PhD. in structural engineering from Tongji University in 1993, and was appointed as a vice director of the Department of Geotechnical Engineering from 2000. Now he is the vice dean of Civil Engineering College of Tongji University. He ever worked in Ecole Central de Nantes in France and some other international universities as an invited professor. Hongwei is a member of ISRM, ITA and ISSMGE, former core member of GeosNet, member of risk assessment of Geo-Institute of ASCE, deputy member of CSRME, Chairman of risk management committee of Engineering risk and insurance research branch in Chinese Society of Civil Engineering. His main research fields are risk assessment and management, and long-term behavior and maintenance in tunnel and underground works. Hongwei took charge of, and participated in more than 100 projects in the level of nation, province, ministry and international cooperation. More than 200 research papers were published in his all academic years.





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