

## ITACET Training Course

# Tunnelling in Urban Areas

*Friday 18 and Saturday 19 May 2012*

*World Tunnel Congress 2012 Bangkok*  
*Queen Sirikit National Convention Center, Bangkok*



## Training Course World Tunnel Congress 2012 Bangkok Tunnelling in Urban Areas

**Friday 18 and Saturday 19 May 2012**  
**Queen Sirikit National Convention Center, Bangkok**

**ITA-CET Foundation** (Foundation for Education and Training on Tunnelling and Underground Space Use) in co-operation with International Tunnelling and Underground Space Association (ITA-AITES) and Thailand Underground and Tunnelling Group (TUTG) of the Engineering Institute of Thailand under his H.M. the King's Patronage (EIT) are organizing two days training course on Tunnelling in Urban Areas, on **18 and 19 May 2012**, two days before WTC2012. The course instructors are well known specialists in their respective areas. Upon completion of two days course, participants will receive the certificates from ITACET Foundation endorsed by ITA and the Engineering Institute of Thailand as part of the Continuous Professional Development (CPD).

### **Why is the development of underground space important for Urban Areas ?**

More than half the population of the world now lives in urban area. It is expected that urban population will grow rapidly in the next decades – 70% of world population will be living in the cities in 2050. Most of the modern cities around the world need to cope with this rapid urbanization while at the same time **protecting large concentrations of people from natural disasters and the effect of climate change** (extract from ITA Committee on Underground Space, ITACUS White Paper)

The development of underground space is important for cities because surface area for building infrastructures and buildings is becoming more and more limited in urban areas. Underground space provides new spaces for infrastructure, services & utilities without claiming valuable space on the surface – cities keep their valued public spaces.

Underground infrastructures contributes to sustainability of the urban environment in many ways;

- saving natural resources, including land, water, and biodiversity
- reducing air pollution (mainly in the transport sector, though also for others, such as underground sewage treatment facilities)
- creating opportunities for less energy use and waster generation
- creating structures less impacted by earthquakes
- enhancing of overall landscape and environmental quality

Explosive growth of cities in developing countries, shifting demographics and aging infrastructures in old cities coupled with the demand for improved livability and environmental protection – are creating a strong demand for new underground infrastructures in urban areas. (extract from ITA Committee on Underground Space, ITACUS White Paper).

*To better  
training and  
education*



## **Training Course WTC 2012, Bangkok**

**Friday 18 – Saturday 19 May 2012**

**Venue: Queen Sirikit National Convention Center (QSNCC)**

### **Tunnelling in Urban Areas**

#### **Objectives of the Course**

The objective of the course is to present the design and construction approaches for tunnelling in urban areas.

The course should highlight the most important design and construction methods with reference to urban tunnelling, with special attention devoted to mechanised tunnelling and to the constraints imposed by urban tunnelling (settlement and damage control, risk management, watertight tunnels, building and infrastructure effects).

#### **Friday, 18 May 2012**

##### **Session 1: General**

08.00 - 08.15 Welcome and Opening – Objectives of the Course

08.15 - 09.00 Why Go underground in Urban Areas

09.00 – 10.00 General Aspects of Urban Tunnelling

Han ADMIRAAL

Andre ASSIS

10.00 – 10.30 Coffee Break

##### **Session 2: Conventional Tunnelling**

10.30 - 11.30 Excavation methods and basic aspects of design (soil and rock masses) Harald WAGNER

11.30 – 12.30 Ground Reinforcement

Felix AMBERG

12.30 - 14.00 Lunch

##### **Session 3: Mechanized Tunnelling in Soft Ground**

14.00 – 15.00 Slurry shield

Markus THEWES

15.00 – 16.00 EPB and Soil Conditioning

Lars BABENDERERDE

15.30 – 16.00 Coffee break

##### **Session 4: Support Design**

16.00 – 17.00 Segment Lining Design

Fritz GRUEBL

17.00 – 18.00 Lining Design for Conventional Tunnelling: Sprayed Concrete – Waterproofing – Final lining

Tarcisio CELESTINO



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**Saturday, 19 May 2012**

**Session 5: Special Aspects**

08.00 – 09.00 Risk Analysis for the excavation of mechanized tunnels

Søren ESKESEN

09.00 – 10.00 Site Investigations

Harvey PARKER

10.00 – 10.30 Coffee Break

10.30 – 11.30 Face stability design for mechanized tunnelling (EPB and SS)

Georg ANAGNOSTOU

11.30 – 12.30 Tunnelling Induced Ground Movement and Effect to Buildings & Structures

Noppadol PHIENTWEJ

12.30 – 14.00 Lunch

14.00 – 15.00 Monitoring of the surface and of the machine

Piergiorgio GRASSO

15.00 – 15.30 Conventional excavation by Drill and Blast: vibration control

Daniele PEILA

15.30 – 16.00 Coffee Break

**Session 6: Industry special aspects**

16.00 – 16.30 BASF: Watertightness examples (conventional and sprayed membranes)

Thomas KOTHE

16.30 – 17.00 BECKAERT: Use of fibres (plastic and steel) for fire control

Benoit de RIVAZ

17.00 - 17.30 CATERPILLAR: Presentation and discussion of 2 relevant case histories

Klaus UKENS

17.30 - 18.00 HERRENKNECHT: Case histories for Tunnelling in Urban Areas

Karin BÄPPLER

18.00 - 18.30 ROBBINS: Presentation and discussion of 2 relevant case histories

Lok HOME

18.30 Closing



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***Queen Sirikit National Convention Center, Bangkok***

### **PRE-REGISTRATION FORM**

#### **1. Personal Information** (Please type or print clearly)

Name: \_\_\_\_\_

(First)

(Middle)

(Last)

Salutation (Prof./Dr./Mr./Mrs./Ms.): \_\_\_\_\_

Company/Organization/University: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Fax: \_\_\_\_\_ Tel: \_\_\_\_\_

#### **2. Registration Fee**

- Swiss Franc Chf. 380
- Thai Baht 7,850.00 (Thai Baht Seven Thousand Eight Hundred and Fifty Only, approximately 280 US Dollar) for citizens of Thailand, Laos, Myanmar, Indonesia, Philippines, Cambodia and Vietnam

Please indicate the payment method below.

#### **3. Payment Methods**

**(KINDLY NOTE THAT CREDIT CARD PAYMENT IS NOT APPLICABLE,  
APOLOGIES FOR ANY INCONVENIENCE)**

☐ **Cash Payment (on-site payment on first day of the training course)**

☐ **Online Payment**

Please visit ;

<http://www.wtc2012.com/Registration.php> or

<http://www.itacet.org/Paypal/WTC2012.php>

Registration fee for 2 days training course includes ;

- A course certificate
- The course proceedings, delivered on a digital media (CD or memory stick) and a notepad illustrated with all the slides used during the lectures.
- Lunches and coffee breaks

For pre-registration, please complete this form and  
fax to Miss Areerat Fax no. 662-184-4598 or 662-319-2710-11  
or Email to [itacetbkk2012@gmail.com](mailto:itacetbkk2012@gmail.com) and [secretariat@itacet.org](mailto:secretariat@itacet.org)