



4th International Tunnel Course “Tunneling in Soft Soil” 01- 03 December 2016

**Venue: Mexico Civil Engineers College (Colegio de Ingenieros Civiles de Mexico)
Camino Santa Teresa No. 187, Parques del Pedregal, Delegacion Tlalpan, C.P. 14010 –
Mexico City**

Objective: The objective of this course is to introduce the design and construction approaches for tunnelling in difficult soft soil conditions. It provides an overview on all the challenges related to conventional and mechanized techniques and also on micro tunnelling and pipe jacking.

December, Thursday the 1st, 2016

Session 1: General overview and site investigation

08:45-09:00 Welcome and opening: ITA and local representatives (Ray Sterling - ITA & Roberto González Izquierdo - AMITOS)

09:00-10:30 Geotechnical challenges in Mexico City Clay (Gabriel Auvinet)

10:30-11:00 Coffee Break

11:00-12:00 General aspects of urban tunnelling – settlement issues (Ray Sterling)

12:00-13:00 Site investigation in urban area (Glenn Boyce)

13:00-14:30 Lunch

Session 2: Methods and technics in soft soil Tunnelling

14:30-15:15 Different excavation methods in soft soil – Fields of application and limits (G. Siebert – Herrenknecht)

15:15-16:00 Mechanized tunnelling - Slurry shield, EPB, soil conditioning (Shinichi Konda- Robbins)

16:00-16:30 Coffee Break

16:30-17:15 Case history: linings in soft ground (C. Frutos - Bekaert)

17:15-17:45 Case history: mechanized tunnelling in soft ground (G. Siebert - Herrenknecht)

17:45-18:00 Questions & Answers

December, Friday the 2nd, 2016

Session 3: Trenchless excavation methods, equipment and case studies

09:00-09:45 Introduction to trenchless methods – Different methods – Adv./Disadv. (R. Sterling)

09:45-10:30 Microtunnelling Equipment and case studies (Gerhard Lang – Herrenknecht)

10:30-11:00 Coffee Break

11:00-11:45 HDD and hybrid methods equipment and case studies (Gerhard Lang – Herrenknecht)

11:45-12:30 Site investigation and geotechnical issues for trenchless methods. (G. Boyce)

12:30-13:00 Questions and answers

13:00-14:30 Lunch

Session 4: Design and construction issues for trenchless methods

14:30-15:30 Key design issues for Pipe Jacking and Microtunnelling projects (R Sterling)

15:30-16:00 Key design issues for HDD projects (Glenn Boyce)

16:00-16:30 Coffee Break

16:30-17:15 Guidance and steering for trenchless installation methods (Martin Betsch – VMT (Herrenknecht group))

17:15-17:45 Specification and contracting for trenchless installation methods (Glenn Boyce)

17:45-18:15 Questions & Answers – Closing remarks

December, Saturday the 3rd, 2016 - Site Visit.