

7TH INTERNATIONAL SYMPOSIUM

tc28IS Roma 2011



GEOTECHNICAL ASPECTS OF
UNDERGROUND CONSTRUCTION
IN SOFT GROUND

16-18 May 2011, Roma, ITALY

organised by:



ISSMGE Technical Committee 204



Associazione Geotecnica Italiana

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Technical Committee TC204 (formerly TC28) "Underground Construction in Soft Ground" of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) has a major commitment towards collecting information concerning tunnel design and construction in the urban environment, with regard to both bored and braced excavations.

IS-Roma2011 is the seventh edition of a very successful series: the committee has already organized six International Symposia in New Delhi (1994), London (1996), Tokyo (1999), Toulouse (2002), Amsterdam (2005), and Shanghai (2008).

The themes of the Symposium are in line with the terms of reference of Technical Committee TC204. These will be covered in six Technical Sessions during the first two days of the symposium:

- TS1: Construction, design, and measured performance of bored tunnels
- TS2: Illustration of current activities of TC204
- TS3: Physical and numerical modelling of deep excavation and bored tunnels
- TS4: Construction, design, and measured performance of deep excavation
- TS5: Design methods and predictive tools for deep excavation and bored tunnels
- TS6: Ground movements, interaction with existing structures, and mitigation measures

Each session will consist of a General Report and three Panel presentations of selected individual papers. Following a well established custom, there will be plenty of time for discussion. At the beginning and at the end of each day an invited Special Lecture will be delivered.

On the third day of the Symposium there will be an opportunity to visit the worksites of line C of Roma Underground, currently under construction. One extra technical visit to the construction sites of Line 6 of nearby Napoli Underground has been organised on the fourth day.

PROGRAMME - MONDAY 16			LECTURER/GENERAL REPORTER
from 08:00		Registration	
08:30 – 08:45	15'	Opening	
08:45 – 09:45	60'	SL1: The New Mexico City deep sewerage system	Lecturer: MARIO AGUILLAR-TELLEZ (Mexico)
09:45 – 11:30	1h 45'	30'	TS1: Construction, design, and measured performance of bored tunnels
		45'	Panel Presentations
		30'	Floor Discussion
11:30 – 11:50	20'	Coffee break	
11:50 – 12:40	50'	TS2: Illustration of current activities of TC204	2.1. EMERIAULT: Creation of database on tunnelling 2.2. NEGRO: Survey of tunnelling practice 2.3. VIGGIANI: Guidelines for comparing numerical prediction and case histories 2.4. SILVESTRI: RRTT – a predictive exercise on the behaviour of tunnels under seismic actions
12:40 – 13:00	20'	Launch of "Fujita Lecture"	ROBERT MAIR, HIRO AKAGI
13:00 – 14:20	1h 20'	Lunch break	
14:20 – 16:10	1h 45'	30'	TS3: Physical and numerical modelling of deep excavations and bored tunnels
		45'	Panel Presentations
		30'	Floor Discussion
			General Reporter: ESVE JACOBSZ (South Africa)
			3.1. YAMAMOTO ET AL.: Stability of cohesive-frictional soils with square underground openings 3.2. BERTHOZ ET AL.: Tunneling in stratified soft ground: experimental study on 1g EPBS reduced scale model 3.3. PERAZZELLI & ANAGNOSTOU: Comparing the limit equilibrium method and the numerical stress analysis method of tunnel face stability assessment

16:10 – 16:30	20'	Coffee break	
16:30 – 17:10	40'	Overview of current extensions to Roma and Napoli Underground	A. Sciotti: Line B1 - Roma Underground F. Rotundi: Line C - Roma Underground G. Russo: Line G - Napoli Underground
17:10 – 18:10	60'	SL2: Long-term settlement mechanisms of tunnels in Shanghai	Lecturer: CHARLES W.W. NG (Hong Kong)

PROGRAMME - TUESDAY 17			LECTURER/GENERAL REPORTER
08:30 – 09:30	60'	SL3: Deep excavations for North - South Line Amsterdam, an update and lessons learned	Lecturer: FRIITS VAN TOLL (the Netherlands)
09:30 – 11:15	1h 45'	30'	TS4: Construction, design, and measured performance of deep excavations
		45'	Panel Presentations
		30'	Floor Discussion
11:15 – 11:35	20'	Coffee break	
11:35 – 13:20	1h 45'	30'	TS5: Design methods and predictive tools for deep excavations and bored tunnels
		45'	Panel Presentations
		30'	Floor Discussion
			General Reporter: LUIGI CALLISTO (Italy)
			5.1. BASILE: Pile-group response due to tunnelling 5.2. HWANG & MOH: Performance of Deep Excavations in the Taipei Basin 5.3. SVOBODA & MASIN: 3D simulations of a NATM tunnel in stiff clays with soil parameters optimised using monitoring data from exploratory adit

13:20 – 14:40	1h20'	Lunch break	
14:40 – 16:25	1h 45'	30'	TS6: Ground movements, interaction with existing structures and mitigation measures General Reporter: TARCISIO BARRETO CELESTINO (Brasil)
		45'	Panel Presentations 6.1. FARREL ET AL.: The response of buildings to tunnelling: a case study 6.2. CHANG ET AL.: Soft Ground Tunneling in Urban Areas – Proximity Effects 6.3. A. BEZUIJEN ET AL.: Settlement behaviour after compensation and corrective grouting
		30'	Floor Discussion
16:25 - 16:45	20'	Coffee break	
16:45 – 17:45	60'	SL4: Evaluating the effects of tunnel excavation on historical buildings: the example of a new subway line in Rome	Lecturer: SEBASTIANO RAMPELLO (Italy)
17:45 -18:00	15'	Closure	
20:00 – 23:00		Gala Dinner at Palazzo Brancaccio	

TECHNICAL VISITS, WEDNESDAY 18 OF MAY 2011

Three Technical Visits have been arranged to the worksites of Line C of Roma Underground:

TV1: TBM and Malatesta Station shaft (maximum 30 people)

TV2: Alessandrino Station tunnels and shaft (maximum 60 people)

TV3: Mirti Station (maximum 60 people)

You will be asked to indicate the Technical Visit of your choice at the moment of registration.

Available places will be allocated on a first-come first-served basis.

TECHNICAL VISIT, THURSDAY 19 MAY 2011

A technical visit for a maximum number of 50 people has been organised to the worksites of Line 6 of nearby Napoli Underground. These include S.Pasquale station shaft and monitoring system, and the TBM at Mergellina. You will be asked to confirm/express your intention

to participate to the visit at the moment of registration. For those who have not already expressed their intention to participate, available places will be allocated on a first-come first-served basis

SYMPOSIUM LANGUAGE

The official language of the symposium will be English.

PROCEEDINGS/PREPRINTS

The final volume of proceedings will be published after the Symposium. These will include all the technical papers, the five General Reports, and the four invited Special Lectures. Xeroxed pre-prints of the proceeding have been substituted by a USB pen drive containing all the papers, which will be distributed to all delegates at the moment of registration.

SYMPOSIUM VENUE

Roma Eventi - Fontana di Trevi, Piazza della Pilotta 4 - Roma

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