





# Conventional Tunnelling and ground reinforcing techniques

Torino 15th-16th of January 2015, Politecnico di Torino - Lingotto Building

#### Day 1: Thursday 15th January 2015

13.00-13.30:	Registration
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13.30-14.00: Opening Ceremony:

SIG President, ITA President, ITACET Foundation Delegate, Politecnico di Torino Authorities

#### Session 1: General aspects and main features of conventional tunneling

14.00-14.45:	General aspects of conventional tunnelling and ground reinforcing applications
14.45-15.30:	Conventional tunnelling supports and shotcrete
15.30-15.45:	coffee break
15.45-16.30:	Risk analysis in tunnelling design
16.30-17.15:	Face reinforcements design technologies, design and examples of applications
17.15-18.00:	Rock mass and ground consolidation: equipments and examples of applications
18.00-18.15:	Discussion
18.15-18.30:	Presentation of the new edition of the Master Course in "Tunnelling and Tunnel Boring Machines"

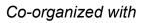
### Day 2: Friday 16th January 2015

# Session 2: Lesson learnt in relevant conventional tunnelling examples in different soil and rock conditions

09.00-09.45:	Settlement design in conventional and mechanized tunnelling
09.45-10.15:	Tunneling in rock blasting and vibration control: lessons learnt from case histories in Norway
10.15-10.45:	Conventional tunnelling in squeezing grounds and complex formations: lessons learnt from the
	Road Tunnels of the Egnatia Odos Motorway
10.45-11.00:	Coffee break
11.00-11.30:	Conventional tunnelling in urban areas: lesson learnt from the shallow mined tunnels and caverns of
	the Metro of Santiago
11.30-12.00:	Conventional tunnelling in karstic geology: lesson learnt from the Yiwan Railway Project in China
12.00-12.30:	Conventional tunnelling in rock masses in urban areas: lesson learnt from 72 <sup>nd</sup> Street Station, Shafts,
	Tunnels and Caverns Mega Project – New York City, USA.
12.30-12.45:	Discussion
12.45-14.00:	Lunch

# Training Course Conventional Tunnelling and ground reinforcing techniques Torino 15<sup>th</sup>-16<sup>th</sup> of January 2015

Special examples and innovations
Example of ground reinforcing techniques in urbanized areas: lessons learnt from portals of the
tunnels of the new Genova-Milano railway.
Grouting technology: lessons learnt from relevant case histories of refurbishment of conventional
tunnels
Grouting technology: lessons learnt from relevant case histories
Innovation in supporting technologies for conventional tunnelling: Lessons learnt from relevant case
histories.
Conventional excavation of shafts and small tunnels: Lessons learnt from relevant case histories
Discussion
Closing





Scientific responsible: Prof. Daniele Peila