



XVIIth INTERNATIONAL CONGRESS
AFTES 2023

*Underground space at
the heart of transitions*

2 to 4 OCTOBER 2023
PARIS, PALAIS DES CONGRÈS

PROGRAM



WWW.AFTES2023.COM



ASSOCIATION FRANÇAISE DES
TUNNELS ET DE L'ESPACE SOUTERRAIN
42 Rue Boissière, 75116 Paris

PARTNERS



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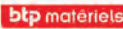
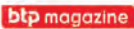
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The French Tunnelling and Underground Space Association (AFTES) is organising its 17th International Congress from 2-4 October 2023 at the Palais des Congrès at the Porte Maillot in Paris.

The central theme of next year's event is "Underground space at the heart of transitions". Whether it is the low-carbon transition, the digital transition, resilience in the face of climate change or new technologies for deploying innovative and adapted solutions, our association hopes that this congress will show that the underground space has a role to play in these changes in our society.

This central theme will be discussed during the conferences, which will cover the structuring of underground space in order to meet new needs and facilitate transitions, in addition to project management and underground space and structure design, feedback and technological innovations in underground construction and, lastly, operating strategies for underground structures.

A one-day training session on innovations and the deployment of Tunnellers will precede the opening of the congress on Sunday, October 1, 2023.

A photography contest on the "place of journeymen and women in the changing world of underground work" was open to all those wishing to help illustrate the essential role played by men and women on construction sites in the changing world of underground work. The deadline for entries was June 10, 2023.

These contributions will be presented over the three days of the conference, and the exhibition space for professionals will also play an important role, facilitating exchanges and networking. Many foreign visitors are expected, particularly with the support of the EUTF Forum, which brings together 9 national associations. A significant focus will also be put on welcoming students and special focus will also be on the youth committees of French and international associations.

The fourth day will be dedicated to underground construction sites and spaces, in particular the Grand Paris sites which are at the phase of equipping tunnels and stations on Thursday October 5th 2023 and Lyon-Turin's construction site on Thursday 12 October 2023. Their organization is currently under way and will be shared soon.

The AFTES invites you to attend this congress and to keep up to date with information such as the program details and logistics, by visiting the AFTES website. You can also take part by becoming a sponsor or patron for the duration of the congress, to give greater visibility to and promote your business.

We hope to see many of you at our congress, a congress for and about you.



President, AFTES
Michel DEFFAYET



President, Congress Committee
Philippe MILLARD



ORGANISATION

of the Congress



AFTES

**French Tunnelling and Underground
Space Association**

President: Michel DEFFAYET
42 rue Boissière, 75116 Paris

www.aftes.asso.fr

PRESIDENT OF THE CONGRESS ORGANISATION COMMITTEE

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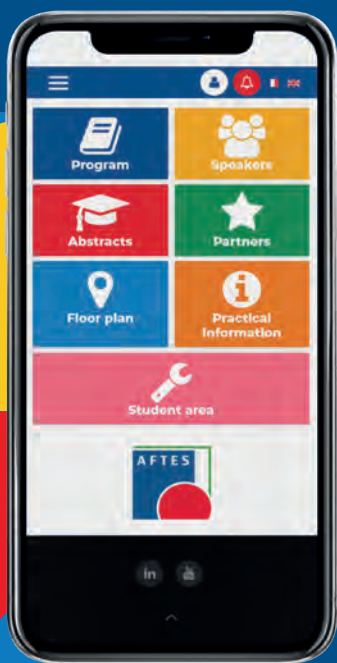
Poland

Anna SIEMINSKA-LEWANDOWSKA

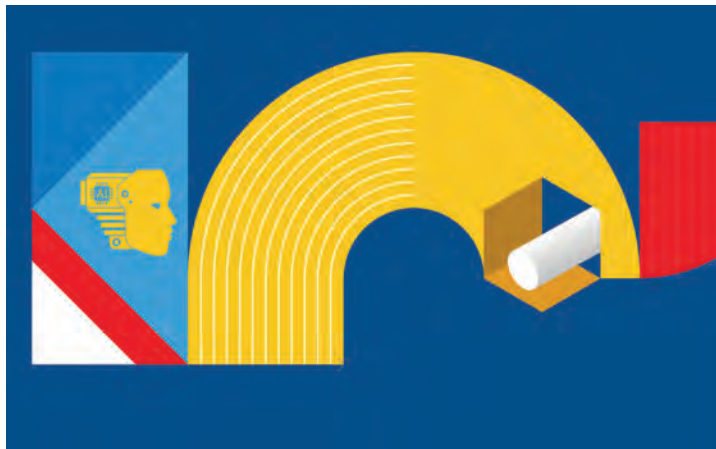
Switzerland

Christophe CARRON
Gérard SEINGRE

DOWNLOAD THE AFTES 2023 MOBILE APP



Discover the detailed program of the congress, its exhibitors, practical information...



Paris Room		
Monday October 2 nd	10:15 - 12:15	OPENING CEREMONY
	12:15	OFFICIAL OPENING OF THE EXHIBITION
	12:30 - 14:00	----- Lunch Catering Area -----
	14:00 - 15:30	MAINTAIN AND MANAGE THE HERITAGE OF EXISTING STRUCTURES
	15:30 - 16:00	----- Break -----
	16:00 - 17:30	LOW CARBON DESIGN - NEW MATERIALS
	18:00 - 20:00	WELCOME RECEPTION Catering Area
Tuesday October 3 rd	08:30 - 10:00	MANAGING THE COMPLEXITY OF ANCILLARY WORKS
	10:00 - 10:30	----- Break -----
	10:30 - 12:00	BUILDING WITH STRONG CONSTRAINTS DUE TO NEIGHBORING STRUCTURES
	12:00 - 14:00	----- Lunch Catering Area -----
	14:00 - 15:30	DIGITAL AND ARTIFICIAL INTELLIGENCE IN MANAGEMENT OF URBAN WORKS
	15:30 - 16:00	----- Break -----
	16:00 - 17:30	RISKS: TECHNICAL ISSUES AND CONTRACTUAL SOLUTIONS
Wednesday October 4 th	08:30 - 10:00	PUSHING TECHNICAL LIMITS IN CONVENTIONAL METHODS
	10:00 - 10:30	----- Break -----
	10:30 - 12:00	DEVELOPING UNDERGROUND SPACE TO MEET NEW NEEDS
	12:00 - 14:00	----- Lunch Catering Area -----
	14:00 - 15:30	SPECIAL UNDERGROUND SPACE SESSION °Free access° UNDERGROUND SPACES AND TRANSITIONS
	15:30 - 16:00	----- Break -----
	16:00 - 17:30	SPECIAL UNDERGROUND SPACE SESSION °Free access° INPUTS AND DEVELOPMENT OF THE «NATIONAL VILLE 10D» PROJECT
	19:00	EVENING GALA Port de la Râpée, Paris 12^{ème}



Neully Room		
Monday october 2 nd	12:15	OFFICIAL OPENING OF THE EXHIBITION
	12:30 - 14:00	----- Lunch Catering Area -----
	14:00 - 15:30	OPTIMIZING THE DESIGN OF LARGE CAVERNS
	15:30 - 16:00	----- Break -----
	16:00 - 17:30	DIVERSITY OF SHAFT AND STATION WORKS
	18:00 - 20:00	WELCOME RECEPTION Catering Area

Tuesday october 3 rd	08:30 - 10:00	BETTER CHARACTERIZATION OF GEOLOGY TO OPTIMIZE DESIGN
	10:00 - 10:30	----- Break -----
	10:30 - 12:00	MANAGING EXCAVATION MATERIALS: VALUING RESSOURCES
	12:00 - 14:00	----- Lunch Catering Area -----
	14:00 - 15:30	ECOLOGICAL TRANSITION IN TUNNELS
	15:30 - 16:00	----- Break -----
	16:00 - 17:30	INNOVATIONS RELATING TO TBM WORKS

Wednesday october 4 th	08:30 - 10:00	BIM AND OTHER DIGITAL DEVELOPMENTS
	10:00 - 10:30	----- Break -----
	10:30 - 12:00	INCREASINGLY CONSTRAINED CONSTRUCTION SITES: LOGISTICAL CHALLENGES
	12:00 - 14:00	----- Lunch Catering Area -----
	14:00 - 15:30	LONG AND DEEP TUNNELS: SPECIFIC ISSUES
	15:30 - 16:00	----- Break -----
	16:00 - 17:30	MECHANIZATION OF CONSTRUCTION WORKS: DEVELOPMENTS IN THE FIELD OF TBM'S
19:00	EVENING GALA Port de la Râpée, Paris 12^{ème}	

Passy Room °Free access°		
Monday october 2 nd	14:15 - 14:45	LECTURE ROLZUR
	15:30 - 16:00	----- Break -----
	16:00 - 16:25	LECTURE COBATY
	16:30 - 17:30	ROND TABLE SYNTEC INGENIERIE

Tuesday october 3 rd	14:15 - 14:45	LECTURE PIZZAROTTI
	15:00 - 15:30	LECTURE ECOCEM
	15:30 - 16:00	----- Break -----
	16:00 - 16:30	LECTURE DENYS
	16:45 - 17:15	LECTURE AXIMA

BUILDING THE CITY UNDER THE CITY

Expert in soil and structural technologies,
VINCI Construction designs and builds complex
underground projects worldwide





DETAILED

program







Paris Room



10:15 - 12:15

OPENING CEREMONY

▶ 10:15 – 10:30

MUSICAL ENTERTAINMENT

▶ 10:30 – 10:45

- Philippe MILLARD, *President Congress Committee*
- Michel DEFFAYET, *President of AFTES*

▶ 10:45 – 10:55

- Arnold DIX, *President of ITA*

▶ 10:55 – 11:20

- Eric LECA, *President of EUTF*

▶ 11:20 – 11:30

MUSICAL ENTERTAINMENT

▶ 11:30 – 11:45

- Jean-François MONTEILS, *President of SGP*

▶ 11:45 – 12:05

- Antoine PELLION, *General Secretary of ecological planification*

▶ 12:05 – 12:15

- Clément BEAUNE, *Minister of Transport*



12:15

EXHIBITION INAUGURATION



PROGRAM

Monday october 2nd

Neuilly Room



14:00 - 15:30

SESSION

14

OPTIMIZING THE DESIGN OF LARGE CAVERNS

Moderators:

Magali SCHIVRE, *Paris, France*

Anna SIEMINSKA-LEWANDOWSKA, *Varsovie, Poland*

▶ 14:00 - 14:10

INTRODUCTION

▶ 14:10 - 14:30

SNOWY 2.0 HYDRO POWER STATION COMPLEX – THE DESIGN'S EVOLUTION OF THE PSC CAVERNS, FROM PRELIMINARY TO DETAILED DESIGN

- Pier Luigi TONIONI, *Paris, France*

▶ 14:30 - 14:50

NOVEL DESIGN AND CONSTRUCTION APPROACH FOR MAJOR STATION CAVERNS IN URBAN ENVIRONMENT USING CONVENTIONAL TUNNELLING IN MELBOURNE, AUSTRALIA

- Roger STORRY, *Melbourne, Australia*

▶ 14:50 - 15:10

EXCAVATION OF THE WESTERN CAVERN OF THE RER-E UNDER THE CNIT STRUCTURE AT LA-DEFENSE (FRANCE)

- Amine SBAIA, *Nanterre, France*

▶ 15:10 - 15:30

EOLE – MONITORING THE CONSTRUCTION IN A COMPLEX ENVIRONMENT OF THE WESTERN CHAMBER OF HAUSSMANN-SAINT-LAZARE STATION

- Marina ZAMPIERI, *Epagny-Metz-Tessy, France*



Paris Room



14:00 - 15:30

SESSION

18

MAINTAIN AND MANAGE THE HERITAGE OF EXISTING STRUCTURES

Moderators:

Jean-François THIMUS, *Louvain-La-Neuve, Belgium*

Jean PIRAUD, *Centre-val de Loire, France*

▶ 14:00 - 14:10

INTRODUCTION

▶ 14:10 - 14:30

NEW TECHNOLOGIES TO ASSIST TUNNELS INSPECTION – SNCF RESEAU APPROACH

- Jean-Baptiste NEEL, *Saint-Denis, France*

▶ 14:30 - 14:50

PREDICTIVE ANALYSIS OF THE EVOLUTION OF THE FRENCH NATIONAL RAILWAY NETWORK UNDERGROUND STRUCTURES (RFN)

- Romain CURTIL, *Saint-Denis, France*

▶ 14:50 - 15:10

CHARACTERIZATION OF ALIGNMENT DEFECTS BETWEEN CONCRETE SEGMENTS, SIMULTANEOUS RECORDS IN VISIBLE AND THERMAL INFRARED FOR TUNNELS: NEW DEVELOPMENTS OF SCANTUBES® SYSTEM

- Bertrand COLLIN, *Rueil-Malmaison, France*

▶ 15:10 - 15:30

COL DE BRAUS TUNNEL (ALPES MARITIMES): DIAGNOSIS AND TREATMENT OF DISORDERS DUE TO ANHYDRITE AND WATER INGRESS

- Houda TADLAOUI, *Saint Denis, France*



Passy Room

°Free access°

LECTURE



14:15 - 18:00

ROLZUR

MODERN UNDERGROUND CEMETERY – NEW TECHNOLOGIES IN THE FUTURE OF URBAN BURIAL



16:00 - 16:25

COBATY

INTERVENTION SUR L'URBANISME SOUTERRAIN



16:30 - 17:30

SYNTEC INGENIERIE

ROUND TABLE:
THE ROLE OF ENGINEERING IN UNDERGROUND RISK MANAGEMENT:
WHICH TOOLS FOR SUCCESSFUL PROJECTS?



PROGRAM

Monday october 2nd

Neuilly Room



16:00 - 17:30

SESSION

13

DIVERSITY OF SHAFT AND STATION WORKS

Moderators:

Reza TAHERZADEH, *Gennevilliers, France*

Michel PRÉ, *Paris, France*

▶ 16:00 - 16:10

INTRODUCTION

▶ 16:10 - 16:30

GRAND PARIS EXPRESS LINE 15 SOUTH: VILLEJUIF IGR STATION SHAFT AND TUNNELS EXCAVATIONS FEEDBACK

- Gilles CHAPRON, *Paris, France*

▶ 16:30 - 16:50

GRAND PARIS EXPRESS – LINE 18 –MARECHAL LECLERC SHAFT – LAUNCHING AND RETRIEVAL SHAFT FOR THE TBMS THROUGH TWO-LOBED SHAPE

- Laetitia PAVEL, *Paris, France*

▶ 16:50 - 17:10

DESIGN AND CONSTRUCTION OF THE CONNEXION TUNNEL RING OF LINE 17 IN THE LE BOURGET STATION OF GRAND PARIS EXPRESS

- Martino SEMERARO, *Velizy-Villacoublay, France*

▶ 17:10 - 17:30

SAINT-DENIS PLEYEL, A GRAND PARIS EXPRESS STATION UNDER PRESSURE

- Alexandre GIROUX, *Montreuil Sous-Bois, France*



Paris Room



16:00 - 17:30

SESSION

5

LOW CARBON DESIGN - NEW MATERIALS

Moderators:

Verya NASRI, *New York, United-States of America*

Elena CHIRIOTTI, *Paris, France*

▶ 16:00 - 16:10

INTRODUCTION

▶ 16:10 - 16:30

SAVING CARBON FOOTPRINT EMISSIONS IN TUNNELING USING INNOVATIVE METHODS

- Pegah JARAST, *Chelmsford, Ma, United-States of America*

▶ 16:30 - 16:50

WORLD FIRST: INSTALLATION OF EXEGY® ULTRA LOW CARBON TUNNEL SEGMENTS IN THE TUNNEL OF LINE 18 - LOT 1 OF THE GRAND PARIS EXPRESS

- Brice ELMELIANI, *Nanterre, France*

▶ 16:50 - 17:10

TOWARD AN OPTIMIZED USE OF SPRAYED CONCRETE IN UNDERGROUND WORKS

- Catherine LARIVE, *Bron, France*

▶ 17:10 - 17:30

STEEL FIBRE REINFORCED SPRAYED CONCRETE CHARACTERIZATION ACCORDING TO PREN 14488-3

- Benoit DE RIVAZ, *Zwevegem, Belgium*



PROGRAM


Monday october 2nd

Catering Area

WELCOME RECEPTION



18:00 - 20:00



Webuild, the new group born in 2020 from Salini Impregilo, is a leading global player in the construction and public works sector. Webuild designs and builds major high-complex infrastructures for sustainable mobility (railroads, metros, bridges, roads, harbors), hydroelectric power (dams for energy purposes, hydroelectric power plants), water (wastewater treatment plants, desalination plants, wastewater facilities, dams for drinking water and irrigation), and sustainable buildings (residential and industrial buildings, airports, stadiums and hospitals), supporting its customers in achieving the Sustainable Development Goals defined by the United Nations.

The Group draws on 117 years of engineering experience, with an operational footprint in 50 countries across five continents, with more than 83,000 direct and indirect employees from over 100 nationalities.



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PROGRAM

Tuesday october 3rd

Neully Room



08:30 - 10:00

SESSION

3

BETTER CHARACTERIZATION OF GEOLOGY TO OPTIMIZE DESIGN

Moderators:

Reza TAHERZADEH, *Gennevilliers, France*

Jean PIRAUD, *Centre-val de Loire, France*

▶ 08:30 - 08:40

INTRODUCTION

▶ 08:40 - 09:00

FEEDBACK ON THE HYDROMECHANICAL CHARACTERIZATIONS OF PARISIAN PLASTIC CLAYS

- Yi ZHANG, *Vélizy-Villacoublay, France*

▶ 09:00 - 09:20

GRAND PARIS EXPRESS L16 LOT 1, HYDROGEOLOGICAL MODELLING ASSOCIATED WITH DRAWDOWN TESTS FOR GROUTING OPTIMIZATION AND RISK CONTROL – RECOMMENDATIONS FOR PRELIMINARY PUMPING TESTS

- Pascal CHALIVAT, *Vélizy-Villacoublay, France*

▶ 09:20 - 09:40

NEW ELEMENTS ON THE LITHOSTRATIGRAPHY OF THE PARISIAN EOCENE SERIES FROM HUNDREDS OF CORED BOREHOLES (EOLE AND GRAND PARIS EXPRESS PROJECTS)

- Emmanuel EGAL, *Annecy, France*

▶ 09:40 - 10:00

DESIGN OF A GEOLOGICAL MODEL FOR A TUNNEL IN THE PYRENEES: REVIEW AND NEED TO RE-EXAMINE THE RESULTS OF INVESTIGATIONS

- Cédric GAILLARD, *Bron, France*



Paris Room



08:30 - 10:00

SESSION

11

MANAGING THE COMPLEXITY OF ANCILLARY WORKS

Moderators:

Anna SIEMINSKAIA-LEWANDOWSKA, *Varsovie, Poland*

Michel PRÉ, *Paris, France*

▶ 08:30 - 08:40

INTRODUCTION

▶ 08:40 - 09:00

EXTENSIVE APPLICATION OF ARTIFICIAL GROUND FREEZING TO 42 CROSS-PASSAGES FOR MILAN UNDERGROUND LINE 4

- Angelo LAMBRUGHI, *Milan, Italy*

▶ 09:00 - 09:20

TUNNEL EURALPIN LYON-TURIN C008 – DESIGN OF TEMPORARY SUPPORT PROFILE OF BASE TUNNELS AND CROSS-PASSAGES

- Abdelhamid ETTAOUIL, *Paris, France*

▶ 09:20 - 09:40

RETRO-ANALYSIS OF TEMPORARY STRUCTURE EFFORTS AT CROSS PASSAGES CONNECTIONS BASED ON THE RESULTS OF MONITORING FROM EOLE AND METRO TUNNEL PROJECT IN MELBOURNE

- Gonzague BRACQ, *St Quentin En Yvelines, France*

▶ 09:40 - 10:00

DIFFICULTIES ENCOUNTERED DURING CONNECTION GALLERIES EXCAVATION BELOW THE GROUNDWATER LEVEL: LINE 16 LOT 1 OF THE GRAND PARIS EXPRESS PROJECT

- Martino SEMERARO, *Vélizy Villacoublay, France*



PROGRAM

Tuesday october 3rd

Neuilly Room



10:30 - 12:00

SESSION

4

MANAGING EXCAVATION MATERIALS: VALUING RESSOURCES

Moderators:

Gérard SEINGRE, *Martigny, Switzerland*

Emmanuel HUMBERT, *Le-Bourget-du-Lac, France*

▶ 10:30 - 10:40

INTRODUCTION

▶ 10:40 - 11:00

IMPROVEMENT OF THE RECYCLING PROCESS OF EXCAVATED SOIL USING TUNNEL BORING MACHINES– FIRST RESULTS OF THE EUROPEAN RESEARCH PROJECT REMATCH

- Joëlle CHAUBEAU, *Lyon, France*

▶ 11:00 - 11:20

CONTRACTING MANAGEMENT AND USE OF EXCAVATED MATERIAL: AN ORIGINAL AND INCENTIVE APPROACH ON THE LYON-TURIN BASE TUNNEL

- François REDOUTEY, *Aix-Les-Bains, France*

▶ 11:20 - 11:40

LIFE CYCLE ASSESSMENT (LCA) APPLIED TO EXCAVATED MATERIALS DURING UNDERGROUND WORKS: CASE STUDY OF THE EXTENSION OF METRO B TO SAINT-GENIS-LAVAL HOPITAL LYON SUD

- Laetitia D'ALOIA SCHWARTZENTRUBER, *Bron, France*

▶ 11:40 - 12:00

FCC CERN | MOLASSE IS THE NEW ORE

- Jérémy VOIRON, *Genève, Switzerland*



Paris Room



10:30 - 12:00

SESSION

15

BUILDING WITH STRONG CONSTRAINTS DUE TO NEIGHBORING STRUCTURES

Moderators:

Hubert TOURNERY, *Lyon, France*

Didier SUBRIN, *Bron, France*

▶ 10:30 - 10:40

INTRODUCTION

▶ 10:40 - 11:00

PROBABILISTIC APPROACH AND OBSERVATIONAL METHOD –
APPLICATION TO THE INTERACTION BETWEEN TBM AND PILES IN THE
L16-1 PROJECT

- Yi ZHANG, *Vélizy-Villacoublay, France*

▶ 11:00 - 11:20

EOLE (PARIS) – 3D BACK-ANALYSIS TO ESTIMATE DISPLACEMENTS
AROUND PORTE MAILLOT STATION FROM MEASURES DURING THE
FIRST STEPS OF WORKS

- Alberto PULITI, *Epagny-Metz-Tessy, France*

▶ 11:20 - 11:40

3D NUMERICAL MODELLING OF THE TBM / GROUND / PILE
INTERACTION APPLIED TO THE IN-SITU TULIP EXPERIMENT

- Nicolas BERTHOZ, *Bron, France*

▶ 11:40 - 12:00

RESEARCH PROJECT E-PILOT: TUNNEL-FOUNDATIONS INTERACTIONS.
STATIC AND DYNAMIC EXPERIMENTAL AND NUMERICAL STUDIES

- Alain LE KOUBY, *Champs Sur Marne, France*



PROGRAM

Tuesday october 3rd

Neuilly Room



14:00 - 15:30

SESSION

6

ECOLOGICAL TRANSITION IN TUNNELS

Moderators:

Jean-François THIMUS, *Louvain-La-Neuve, Belgium*

Denis BRANQUE, *Vaulx en Velin, France*

▶ 14:00 - 14:10

INTRODUCTION

▶ 14:10 - 14:30

TUNNELS: CONTRIBUTION TO REDUCING THE CARBON FOOTPRINT OF TRANSPORT AND ECO-DESIGN

- Laetitia D'ALOIA SCHWARTZENTRUBER, *Bron, France*

▶ 14:30 - 14:50

PERFORMANCE EVALUATION OF SUPPLIES AND WASTE TRANSPORT OFFERS IN WORKS CONTRACTS

- Abdelfeteh SADOK, *Paris, France*

▶ 14:50 - 15:10

FIRST APPROACH OF THE ASSESSMENT OF ENVIRONMENTAL IMPACT OF THE TBM'S TUNNELLING USING LIFE CYCLE ASSESSMENT (LCA)

- Lucille BAUCAL, *Bron, France*

▶ 15:10 - 15:30

RECENT ADVANCEMENTS ON COMPLEX ENERGY GEOSTRUCTURES

- Alice DI DONNA, *Grenoble, France*



Paris Room



14:00 - 15:30

SESSION

16

DIGITAL AND ARTIFICIAL INTELLIGENCE IN MANAGEMENT OF URBAN WORKS

Moderators:

Jean-Bernard KAZMIERCZAK, *Verneuil-en-Halatte, France*
Didier SUBRIN, *Bron, France*

▶ 14:00 - 14:10

INTRODUCTION

▶ 14:10 - 14:30

SIMPLIFIED ANALYSIS OF SETTLEMENTS INDUCED BY CLOSED TBM, TO MAKE WISE CHOICES IN PRELIMINARY DESIGN PHASIS

- Guillaume CHAMPAGNE DE LABRIOLLE, *Lyon, France*

▶ 14:30 - 14:50

METAMODELS IN PREDICTING TBM-INDUCED SETTLEMENT: CASE STUDIED METRO LINE 16 PATH 1

- Reza TAHERZADEH, *Gennevilliers, France*

▶ 14:50 - 15:10

MACHINE LEARNING TO FORECAST SETTLEMENTS INDUCED BY SHIELD TUNNELING – APPLICATION TO 2 METRO LINES OF THE GRAND PARIS EXPRESS

- Tatiana RICHA, *Paris, France*

▶ 15:10 - 15:30

DIGITAL PROJECT FOR TBM EXCAVATION OF THE GRAND PARIS LINE 14 SOUTH (PACKAGE 4)

- Paolo FANTINI, *Turin, Italy*



Salle Passy

°Free access°

LECTURE



14:15 - 14:45

PIZZAROTTI

THE IMPORTANCE OF INFRASTRUCTURE IN STIMULATION ECONOMIC GROWTH AND QUALITY OF LIFE



15:00 - 15:30

ECOCEM

DÉCARBONER LE CIMENT ET LE CIMENT DANS LES APPLICATIONS SOUTERRAINES

Ecocem et 2 acteurs de son écosystème, vous présenteront pourquoi il est nécessaire de décarboner le ciment au plus vite, pour décarboner la construction béton.

Retours d'expériences et accélération du processus de déploiement : présentation de solutions bas carbone qui sont déjà déployées et éprouvées dans les constructions du monde souterrain avec Ecocem.



16:00 - 16:30

DENYS

LA TECHNOLOGIE DREAMCUTTER, CONSTRUCTION SOUTERRAINE QUI MINIMISE L'IMPACT



16:45 - 17:15

AXIMA

MÉTRO : REMPLACEMENT DE RÉSEAU DE DÉSENFUMAGE AMIANTÉ - MÉTHODE ET PERFORMANCE BY AXIMA, UNE MARQUE D'EQUANS



PROGRAM

Tuesday october 3rd

Neuilly Room



16:00 - 17:30

SESSION

17

INNOVATIONS RELATING TO TBM WORKS

Moderators:

Michel PRÉ, *Paris, France*

Roland LEUCKER, *Cologne, Allemagne*

▶ 16:00 - 16:10

INTRODUCTION

▶ 16:10 - 16:30

BACK ANALYSIS OF SOIL RESISTANCE TO UPWARDS JACKING – A FULL SCALE TEST FOR THE RIACHUELO PROJECT (ARGENTINA)

- Angelo LAMBRUGHI, *Milan, Italy*

▶ 16:30 - 16:50

ADVANCE RECOGNITION BY MUOGRAPHY, FEEDBACK, INNOVATIONS AND PERSPECTIVES

- Jacques MARTEAU, *Lyon, France*

▶ 16:50 - 17:10

SURFACE FULL-SCALE LOADING SETUP ON COMPRESSIBLE RINGS SIMULATING THE LONG-TERM BEHAVIOR OF CIGEO PROJECT LININGS

- Jad ZGHONDI, *Bure, France*

▶ 17:10 - 17:30

SEMI-CONTINUOUS ADVANCE FOR SINGLE SHIELD TBMS: THE CASE OF CHILTERN TUNNELS, HS2 PROJECT, UK

- Adrien BAUDARD, *Londres, United Kingdom*



Paris Room



16:00 - 17:30

SESSION

2

RISKS: TECHNICAL ISSUES AND CONTRACTUAL SOLUTIONS

Moderators:

Hubert TOURNERY, *Lyon, France*

Lorenzo BRINO, *Collegno, Italie*

▶ 16:00 - 16:10

INTRODUCTION

▶ 16:10 - 16:30

CASE HISTORIES ON CONTRACTUAL MANAGEMENT OF GEOLOGICAL RISKS AND CONSTRUCTION PROGRAMME

- Davide MERLINI, *Lugano, Switzerland*

▶ 16:30 - 16:50

“TIME ADJUSTMENT MECHANISM” MANAGEMENT ON THE TELT PROJECTS.

- Morgane BERTRAND, *Paris, France*

▶ 16:50 - 17:10

RETURN ON THE CONTRACTUAL PRACTICES OBSERVATORY 1

▶ 17:10 - 17:30

RETURN ON THE CONTRACTUAL PRACTICES OBSERVATORY 2



PROGRAM

Wednesday october 4th

Neuilly Room



08:30 - 10:00

SESSION

7

BIM AND OTHER DIGITAL DEVELOPMENTS

Moderators:

Jean-Bernard KAZMIERCZAK, *Verneuil-en-Halatte, France*

Verya NASRI, *New York, United States of America*

▶ 08:30 - 08:40

INTRODUCTION

▶ 08:40 - 09:00

3 YEARS FROM CONCEPTUAL DESIGN TO CONSTRUCTION OF A NEW ROAD TUNNEL UNDER THE SUEZ CANAL USING DIGITAL TOOLS

- Joëlle CHAUBEAU, *Lyon, France*

▶ 09:00 - 09:20

TUNNEL EURALPIN LYON-TURIN C008 – BIM IMPLEMENTATION IN CONVENTIONAL TUNNELING

- Francesc RICH, *Paris, France*

▶ 09:20 - 09:40

BIM MODELLING OF UNDERGROUND STRUCTURES IN THE DESIGN AND OPERATION PHASES. WHAT CAN WE EXPECT?

- Simon CHARLEMAGNE, *Bron, France*

▶ 09:40 - 10:00

IMPROVING UNDERGROUND PROJECTS WITH 3D GEOLOGICAL MODELING, USING LEAPFROG WORKS

- Laura BENITO BRONCANO, *Paris, France*



Paris Room



08:30 - 10:00

SESSION

12

PUSHING TECHNICAL LIMITS IN CONVENTIONAL METHODS

Moderators:

Gérard SEINGRE, *Martigny, Switzerland*

Eric LECA, *Paris, France*

▶ 08:30 - 08:40

INTRODUCTION

▶ 08:40 - 09:00

DESIGN OF A ROAD TUNNEL UNDER VERY LOW COVER, IN THE TECHNICENTRE SUD-EST EUROPEEN (SNCF), PARIS

- Bénédicte ROBERT, *Paris, France*

▶ 09:00 - 09:20

PRESENTATION OF THE THEMATIC CHAPTERS OF THE "GOOD PRACTICES GUIDE FOR SEALING AND DRAINING UNDERGROUND STRUCTURES"

- Jean-Noël LOUCHART, *Les Ulis, France*

▶ 09:20 - 09:40

SUPPORT OPTIMIZATION USING THE OBSERVATIONAL METHOD: THE EXAMPLE OF THE EXTENSION OF THE KNUEDLER CAR PARK IN LUXEMBOURG

- Steve GRUSLIN, *Contern, Luxembourg*

▶ 09:40 - 10:00

DESIGN AND TRADITIONAL DIGGING OF THE CLIETS TUNNEL IN THE ARLY GORGE (SAVOIE)

- Corentin BLANDIN, *Lyon, France*



PROGRAM

Wednesday october 4th

Neuilly Room



10:30 - 12:00

SESSION

8

INCREASINGLY CONSTRAINED CONSTRUCTION SITES: LOGISTICAL CHALLENGES

Moderators:

Elena CHIRIOTTI, *Paris, France*

Michel PRÉ, *Paris, France*

▶ 10:30 - 10:40

INTRODUCTION

▶ 10:40 - 11:00

SPECIFIC EXAMPLES OF TBM BREAKTHROUGHS ON "GRAND PARIS EXPRESS", 16-1 PROJECT

- Eric MARCHAND, *Velizy-Villacoublay, France*

▶ 11:00 - 11:20

DELIVERING AN UNDERGROUND INFRASTRUCTURE PROJECT STARTING WITH THE END (OPENING COMPLETION) IN MIND - THE TUNNEL PRODUCTION LINE AT THE M4-M5 LINK TUNNELS (WCX3A) PROJECT, SYDNEY, AUSTRALIA

- Mathieu GONZALEZ, *Hong Kong, Chine*

▶ 11:20 - 11:40

THE CHALLENGE OF CONSTRUCTION WORKS OF THE BASE TUNNEL OF OPERATIONNAL SITE 5 OF THE NEW LINE LYON-TURIN

- Salah GHOZAYEL, *Paris, France*

▶ 11:40 - 12:00

CIFA INNOVATIONS FOR THE SUPPLY OF CONCRETE IN UNDERGROUND CONSTRUCTION SITES

- Gianmarco RONCO, *Senago, Italy*



Paris Room



10:30 - 12:00

SESSION

1

DEVELOPING UNDERGROUND SPACE TO MEET NEW NEEDS

Moderators:

Emmanuel HUMBERT, *Le-Bourget-du-Lac, France*

Eric LECA, *Paris, France*

▶ 10:30 - 10:40

INTRODUCTION

▶ 10:40 - 11:00

HEAT MANAGEMENT OF UNDERGROUND HIGH-VOLTAGE POWER LINES
– A PROMISING NEW APPROACH

- Andreas BUSSLINGER, *Bern, Switzerland*

▶ 11:00 - 11:20

THE AUSTERLITZ BUFFER TANK AND ITS COLLECTING PIPE, STRATEGIC
STRUCTURES TO A NEW USE OF THE SEINE RIVER

- Marco RUSSO, *Paris, France*

▶ 11:20 - 11:40

UNDERGROUND DATACENTRES AND THEIR CONTRIBUTION TO THE
RESILIENT AND SUSTAINABLE SMART CITIES

- Veronika PETSCHEN, *Sargans, Switzerland*

▶ 11:40 - 12:00

THE LYON-TURIN VISITOR CENTRE

- Luigi PINCHIAROGGIO, *Torino, France*



PROGRAM

Wednesday october 4th

Neuilly Room



14:00 - 15:30

SESSION

9

LONG AND DEEP TUNNELS: SPECIFIC ISSUES

Moderators:

Magali SCHIVRE, *Paris, France*

François LAIGLE, *Aix les bains, France*

▶ 14:00 - 14:10

INTRODUCTION

▶ 14:10 - 14:30

MONT-CENIS BASE TUNNEL - DESIGN AND IMPLEMENTATION OF THE PRIMARY LINING OF THE BASE TUNNEL THROUGH THE "HOULLER" FORMATION – IMPLEMENTATION OF BLOCKING RINGS IN PACKAGE SMP4

- Faggiani IACOPO, *Torino, Italy*

▶ 14:30 - 14:50

CREEP AND DESICCATION OF SPRAYED CONCRETE: EXPERIMENTAL AND NUMERICAL MULTI-SCALE APPROACHES

- Thomas ROUGELOT, *Lille, France*

▶ 14:50 - 15:10

LONG TERM EVOLUTION OF DRIFTS CLOSURE EXCAVATED IN CALLOVO-OXFORDIAN CLAYSTONE BASED ON IN-SITU MONITORING IN BURE, FRANCE

- Frederico LARA, *Bure, France*

▶ 15:10 - 15:30

LOGISTICS ISSUES FOR REALIZATION OF LONG TUNNELS AT GREAT DEPTH, ILLUSTRATED BY FREJUS ROAD TUNNEL 2ND TUBE (FRANCE-ITALY)

- Maud MACARY, *Bron, France*



Paris Room



°Free access°

14:00 - 15:30

SPECIAL UNDERGROUND SPACE SESSION

UNDERGROUND SPACES AND TRANSITION

Moderator:

Youssef DIAB, *Paris, France*

▶ 14:00 - 14:10

INTRODUCTION

- Youssef DIAB, *Paris, France*

▶ 14:10 - 14:30

THE SUB-SOIL AS AN UNDERGROUND URBANISM?

- Antonia CORNARO, *Regensdorf, Switzerland*
- Han ADMIRAL, *Vlaardingen, Netherlands*

▶ 14:30 - 15:00

ENVIRONMENTAL CERTIFICATIONS. FRENCH AND INTERNATIONAL INFRASTRUCTURE FRAMEWORDS

- Hanane EL HAYEK, *Paris, France*

▶ 15:00 - 15:30

UNDERGROUND SPACES FOR A SHATTERPROOF CITY: WG20 AND ITA-AITES

- Daniel DA SILVA LEITE, *Porto, Portugal*



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PROGRAM

Wednesday october 4th

Paris Room



°Free access°

16:00 - 17:30

SPECIAL UNDERGROUND SPACE SESSION

INPUTS AND DEVELOPMENT OF THE "NATIONAL VILLE 10D" PROJECT

Moderator:

Monique LABBE, *Paris, France*

▶ 16:00 - 16:40

PERSPECTIVES OFFERED BY THE "NATIONAL VILLE 10D" PROJECT

- Jean François DAVID, *Ivry sur Seine, France*

▶ 16:40 - 17:00

HUMAN BEHAVIOR CONSIDERATION

- Sylvie SALLES, *Paris, France*

▶ 17:00 - 17:30

SUB-SOIL'S CONTRIBUTION TO URBAN STRUCTURE

- Monique LABBE, *Paris, France*



Neuilly Room



16:00 - 17:30

SESSION

10

MECHANIZATION OF CONSTRUCTION WORKS: DEVELOPMENTS IN THE FIELD OF TBM'S

Moderators:

Denis BRANQUE, *Vaulx en Velin, France*

Michel PRÉ, *Paris, France*

▶ 16:00 - 16:10

INTRODUCTION

▶ 16:10 - 16:30

EVOLUTION OF ACCESSIBLE CUTTERHEAD TBMS

- Frédéric BATTISTONI, *Schwanau, Germany*

▶ 16:30 - 16:50

BRESCIA-VERONA HIGH-SPEED RAILWAY: CONSTRUCTION EXPERIENCE OF THE FIRST TUBE OF THE LONATO TUNNEL

- Davide MERLINI, *Lugano, Switzerland*

▶ 16:50 - 17:10

DESIGN, MONITORING AND GEOTECHNICAL BACK-ANALYSIS OF 8 TBM'S EXCAVATION FOR GRAND PARIS IN SEINE-ST-DENIS

- Martino SEMERARO, *Vélizy-Villacoublay, France*

▶ 17:10 - 17:30

DESIGN AND CONSTRUCTION OF HINKLEY POINT C (UK) NUCLEAR POWER PLANT COOLING SYSTEM

- Vincent HOUARD, *Tours, France*



PROGRAM

Wednesday october 4th

Port de la Râpée, Paris 12^{ème}
Boat *Le diamant bleu*

EVENING GALA



19:00



TECHNICAL VISITS



Thursday october 5th

► **09:00 / Duration of 2h**

EOLE PROLONGEMENT DU RER E - GARE PORTE MAILLOT

- maximum of 10/12 places

GRAND PARIS EXPRESS - GARE CRÉTEIL-L'ÉCHAT

GRAND PARIS EXPRESS - GARE ARCUEIL-CACHAN

GRAND PARIS EXPRESS - GARE SEVRAN-BEAUDOTTES

GRAND PARIS EXPRESS - GARE MASSY-PALAISEAU

GRAND PARIS EXPRESS - GARE DU BOURGET AÉROPORT

- maximum of 10 places per visit

► **10:00 / Duration of 2h**

EOLE PROLONGEMENT DU RER E - GARE DE LA DÉFENSE

- maximum of 10/12 places



Thursday october 12th

► **09:40 / Entire day**

TUNNEL EURALPIN LYON TURIN

- maximum of 14 places