

# 5<sup>th</sup> International Seminar on Underground Space Health & Safety in Underground Space

Co-organized by:



LNEC Congress Center  
October 18<sup>th</sup>, 2019

Institutional support



ORDEM DOS ENGENHEIROS



Società Italiana Gallerie  
Italian Tunnelling Society



FGU Fachgruppe für Untertagbau  
GTS Groupe spécialisé pour les travaux souterrains  
GLS Gruppo specializzato per lavori in sotterraneo  
STS Swiss Tunnelling Society





LABORATÓRIO NACIONAL  
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Comissão Portuguesa  
de Túneis



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de Geotecnia



## Introduction

The Portuguese Commission on Tunneling and Underground Space (CPT) of the Portuguese Geotechnical Society (SPG) and the National Laboratory for Civil Engineering (LNEC) are organizing the 5th International Seminar on Underground Space with the lemma “Health and Safety in Underground Space”. The Seminar will be held at the Congress Center of the National Laboratory for Civil Engineering in October 18<sup>th</sup>, 2019.

The Seminar will be endorsed by the International Tunneling and Underground Space Association (ITA-AITES) and supported by ABTUS (Belgium), AETOS (Spain), AFTES (France), SIG (Italy) and FGU-STG (Switzerland), partners of CPT at the BEFIPS partnership.

The Portuguese Chamber of Engineers (OE) and the Chamber of Architects (OA) as well as the Portuguese Association of Designers and Consultants (APPC) will support the event.

The lemma of the Seminar reflects the interests and concerns of the professional community of the built underground space about vital issues related with the human presence during construction and service.

The multi-disciplinary and transversal scope of the Seminar is evident on the multitude of professional domains: Engineering areas of Mechanics, Electricity and Electronics, Computation, Control and Safety, and, last but not least, Architecture and Psychology.

The group of 12 invited lecturers, experts on at least one of the aforesaid subjects, is a guarantee of an extremely appealing and promising event.

The adoption of emerging technologies on construction materials, methods and equipment in the planning and management of exploration and maintenance has been revolutionizing this field of activity.

CPT envisages renewing its high standard of organization built since the very beginning, more than 10 years ago. We hope to welcome numerous participants, both CPT affiliates and professionals of underground space engineering as well as students.

## Organizing Committee

J. Bilé Serra (*LNEC/CPT*)

Raúl Pistone (*COBA/CPT*)

Jorge Saraiva (*Dinâmica Aplicada*)

João Viegas (*LNEC*)

Manuel Tender (*CPT*)

Luís Miranda (*LNEC/CPT*)

## Who should attend?

This seminar is aimed at a wide spectrum of participants interested in the problems of construction safety and operation of underground works: regulatory entities, owners of works, concessionaires, planners, designers, builders, equipment suppliers, professors, researchers and students.

## Themes of the Seminar

- Historical evolution of Health and Safety in underground space.
- Incidents/Accidents. Risk Analysis and management.
- Design and operation for Internal Air Quality (IAQ) in tunnels.
- Road tunnels: Experimental period, assessment of systems and equipment and training.
- Emergency planning.
- Firefighting and ventilation and smoke control systems: the industry vision.
- Digital technologies in Health & Safety Management in Underground Space.
- Refurbishment of smoke control systems. Case studies.
- The Authority role on tunnels safety.
- Human factors regarding tunnel safety.
- Health & safety in underground works. A proposed guideline.





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## Registration fees

Until September 18 <sup>th</sup> 2019		After September 18 <sup>th</sup> 2019	
SPG/OE/OA members	€ 110,00	SPG/OE/OA members	€ 125,00
Other professionals	€ 130,00	Other professionals	€ 145,00
Students	€ 40,00	Students	€ 40,00

### Registration Form by e-mail

E-mail to [spg@lnec.pt](mailto:spg@lnec.pt) with fiscal data for invoice and transfer receipt.

### Payment

Payment through bank transfer to  
Caixa Geral de Depósitos - Alvalade  
IBAN PT50 0035 2167 0000 4717 0306 5  
SWIFT/BIC: CGDIPTPL

### Date and venue

October 18<sup>th</sup>, 2019  
LNEC Congress Center  
Laboratório Nacional de Engenharia Civil ([www.lnec.pt](http://www.lnec.pt))  
Av. do Brasil 101 • 1700-066 Lisboa • PORTUGAL

### Institutional support

Ordem dos Engenheiros  
Ordem dos Arquitectos  
Associação Portuguesa de Projectistas e Consultores  
ABTUS-BVOTS  
AETOS  
AFTES  
SIG  
SIA-FUG



### Secretariat

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