

Tunnel Safety & Security

4th International Symposium
17-19 March 2010 Frankfurt am Main Germany



ISTSS BEGAN IN SWEDEN IN 2003 as the International Symposium on Catastrophic Tunnel Fires. Interest for the first Symposium clearly identified the need for a conference dealing with safety and security issues related to tunnels. In response to overwhelming interest, the scope of the Symposium was broadened and the event was renamed the International Symposium of Tunnel Safety and Security (ISTSS). The 1st ISTSS was held in Washington, DC, in 2004 and has continued biennially since then attracting more than 250 delegates each meeting. At SP, we are proud to have established this prestigious event in collaboration with our event partners.



4th ISTSS in Frankfurt, Germany

Tunnels are an increasingly important part of the infrastructure network. They create challenges for incident prevention and management, fire protection and security against attacks or sabotage. This Symposium offers an excellent opportunity for experts working with transport, infrastructure security systems, manufacturers and technical organisations to exchange their experience in an international forum.

The 4th ISTSS will be held at the Frankfurt am Main Fire and Rescue Services Headquarters, Feuerwehrstrasse 1, Frankfurt am Main, Germany. We hope to see you there!

Keynote speakers

Tunnel safety and security is a challenge for both private and public sectors. ISTSS provides a forum over 3 days to discuss current practice and emerging trends and research in the field of tunnel safety and security. We have created a program with leading experts from a variety of fields within the following themes: risk & security, human behaviour, passive fire protection & construction, active fire protection & fire fighting, ventilation and fire dynamics. Each day is opened by two invited Keynote Speakers, leaders in their field, providing an overview of their topic of expertise as an introduction to the themes of the day.



Kenneth Cummins
Sound Transit, USA

Kenneth Cummins is the Chief Security Officer for Sound Transit; the Greater Puget Sound Regional Transit Authority based out of Seattle Washington. Ken has more than 15 years of military and security management experience. He holds degrees in business administration and security management.



Jeffrey A. Slotnick
Setracon Inc., USA

Mr Slotnick, PSP, is an internationally renowned security industry consultant with more than 27 years of experience in providing professional development and training to security, law enforcement, military personnel and conducting Security Risk Assessments.



Anders Lönnermark
SP Technical Research Institute of Sweden, Sweden

Dr Lönnermark is a Senior Research Scientist at the Department of Fire Technology. He has long experience of performing fire tests, both in model-scale and full scale. A highlight of his illustrious career to date is the running of the large-scale fire tests in the Runehammar tunnel in 2003.



Alan Brinson
European Fire Sprinkler Network, UK

Mr Brinson is the Executive Director of the European Fire Sprinkler Network, a fire safety coalition whose members wish to see an improvement in fire safety through the widespread use of fire sprinkler systems. Alan serves on a number of standards and code-writing committees and is a member of the committee for NFPA 502.



Reinhard Ries
Frankfurt am Main Fire and Rescue Services, Germany

Prof. Ries is the Chief Fire and Rescue Officer of the Frankfurt am Main Fire and Rescue Services. He is responsible for all affairs regarding the city's preparedness for fire, rescue and HAZMAT incidents, disaster management and the EMS-service's ground and air operations.



Arnold Dix
Queensland University of Technology, Australia

Prof. Dix is recognized as the world's pre-eminent independent technical/legal tunnel risk expert adviser. He combines dual qualifications in Law and Science, Professorships in Engineering and Medicine with appointments to PIARC, NFPA, ITA and ITIG.

17 18 19 March 2010

08.00 Registration, Coffee and Pastries

09.00 Opening Ceremony. Welcome by ITA

KEYNOTE SPEAKERS

09.30 Security lessons learned from retrofitting the Downtown Seattle Transit Tunnel. *Ken Cummins, Chief Security Officer for Sound Transit, USA*

10.00 Explosive Threats and Target Hardening. *Jeffrey A. Slotnick, Setracon Inc., USA*

10.30 Coffee break

RISK

11.00 Regulations and risk analysis methods for binational road tunnels: application of a combined scenario-based and system based method. *Darbellay, L., Real, C., Defert, R., Trottet, Y., TGSB S.A., Switzerland*

11.20 Risk assessment of transport of dangerous goods in Austrian road tunnels. *Diernhofer, F., Kohl, B., Hörhan, R., ILF Consulting Engineers, Austria*

11.40 Evaluation of railway tunnels safety for operation involving trains carrying dangerous goods. *Cigolini, M., Italferr SPA, Italy*

12.00 Application of a system-based and a scenario-based risk analysis to the Driskos tunnel. *Rentzeperis, I., Koutsoukos, K., Defert, R., Pons, P., Lacroix, D., Egnatia Odos, Greece*

12.20 Lunch and Exhibits

RISK & SECURITY

14.00 Risk analysis: HGV traffic – Consequences in case of fire. *Jönsson, J., Arup Fire, Spain*

14.20 A study of fire safety assessment for road tunnel in Taiwan. *Chien, S.-W., Sie, H-R, Central Police University, Taiwan*

14.40 Experimental determination of BLEVE-risk near very large fires in a tunnel with a sprinkler/watermist system. *Lemaire, T., Meeussen, V., Efectis Nederland, The Netherlands*

15.00 iNTeg-Risk ERR A5: Safety and security of underground hubs. *Wietek, M., Wetzig, V., VSH Hagerback Test Gallery Ltd, Switzerland*

15.20 Physical Modeling of Explosive Effects on Tunnels. *De, A., Zimmie, T. F., Abdoun, T., Manhattan College, USA*

15.40 An analysis of the consequences from an explosion in a road tunnel with concrete walls and roof. *Forsén, R., Bryntse, A., FOI, Sweden*

16.00 Coffee break

HUMAN BEHAVIOUR

16.20 Evacuation in complex environments - an analysis of evacuation conditions at a tunnel construction site. *Frantzich, H., Lund University, Sweden*

16.40 Recent research results on human factors and organizational aspects for road tunnels. *Tesson, M., Tunnel Study Centre, CETU, France*

17.00 Emergency scenarios for subway systems – Concepts for escape and rescue. *Haack, A., STUVA Inc., Germany*

17.20 Cocktail Reception and Poster Session

19.00 Close Day 1

17 18 19 March 2010

08.00 Registration, Coffee and Pastries

KEYNOTE SPEAKERS

08.30 New energy carriers in tunnels. *Anders Lönnemark, SP Technical Research Institute of Sweden, Sweden*

09.00 Active fire protection in tunnels. *Alan Brinson, European Fire Sprinkler Network, UK*

PASSIVE FIRE PROTECTION & CONSTRUCTION

09.30 Emerging problem for immersed tunnels: fire induced concrete cracking. *Scholten, P.G., Breunese, A.J., Both, C., Efectis Nederland, The Netherlands*

09.50 Fire protection options for concrete tunnel linings. *Clement, F., BASF Construction Chemicals, Switzerland*

10.10 Fire protection of concrete structures exposed to fast fires. *Cesmat, E., Pimienta, P., Avenel, R., Mindeguia, J-C, Cuypers, H., Anton, O., Venkov, V., CSTB, France*

10.30 Sponge concrete: Improved fire safety and new horizons for innovation. *Meijer, G-J, Meeussen, V., TNO, The Netherlands*

10.50 The plate thermometer for measuring fire exposure in terms of adiabatic surface temperature. *Wickström, U., Sabelström, H., SP Technical Research Institute of Sweden, Sweden*

11.10 Coffee break

ACTIVE FIRE PROTECTION

11.40 Suppression systems – Trade-offs & benefits. *Johnson, P., Jönsson, J., ARUP Fire, Australia*

12.00 Large-scale water spray and water mist fire suppression system tests. *Arvidson, M., SP Technical Research Institute of Sweden, Sweden*

12.20 Testing water mist systems against large fires in tunnels: Integrating test data with CFD simulations. *Mawhinney, J., Trelles, J., Hughes Associates, Inc., USA*

12.40 Fire suppression in road tunnel fires by a water mist system – results of the SOLIT project. *Starke, H., Institute of Fire Department Saxony-Anhalt (IdF), Germany*

13.00 Lunch and Exhibits

14.40 Fixed fire fighting systems in tunnels – Integration and compensation. *Kratzmeir, S., IFAB Institute for Applied Safety Research, Germany*

15.00 Evaluating the performance of fixed water-based fire protection systems in passenger train cars. *Kivimäki, T., Marioff Corporation Oy, Finland*

15.20 An experimental study on the impact of tunnel suppression on tunnel ventilation system. *Ko, Y., Hadjisophocleous, G., Carleton University, Canada*

15.40 Water application rates for fixed fire fighting systems in road tunnels. *Harris, K., Parsons Brinckerhoff, USA*

16.00 Coffee break

ACTIVE FIRE PROTECTION & FIRE FIGHTING

16.20 Incident management and tunnel systems. *English, G., Seattle Fire Marshal Office, USA*

17 18 19 March 2010, continued

- 16.40 Tunnel incident management in Frankfurt am Main – Fire department's operations. *Stiegel, J., Frankfurt am Main Fire and Rescue Services, Germany*
- 17.00 Rescue operations during constructions of tunnels. *Kumm, M., Bergqvist, A., Mälardalen University, Sweden*
- 19.00 Banquet
- 22.00 Close Day 2

17 18 19 March 2010

- 08.00 Registration, Coffee and Pastries

KEYNOTE SPEAKERS

- 08.30 Tunnel incident management in Frankfurt am Main - operational smoke management. *Reinhard Ries, Frankfurt am Main Fire and Rescue Services, Germany*
- 09.00 Tunnel fire safety in Australasia. *Arnold Dix, Queensland University of Technology, Australia*

VENTILATION

- 09.30 Effects of longitudinal ventilation on fire growth and maximum heat release rate. *Ingason, H., Lönnemark, A., SP Technical Research Institute of Sweden, Sweden*
- 09.50 The critical velocity and the fire development. *Wu, Y., Sheffield University, UK*
- 10.10 New perspectives on the critical velocity for smoke control. *Tarada, F., Halcrow Group Ltd, UK*

- 10.30 Coffee break
- 11.00 Design of tunnel ventilation systems for fire emergencies using multiscale modelling. *Colella, F., Borchellini, R., Carvel, R., Rein, G., Steinhaus, T., Torero, J.L., Verda, V., Politecnico di Torino, Italy*
- 11.20 Are the tunnel ventilation systems adapted for different risk situations?. *Truchot, B., Fournier, L., Waymel, F., INERIS, France*
- 11.40 "ORGAMIR" - Development of a safety system for reaction of an event with emission of hazardous airborne substances. *Plitsch, A, Brüne, M, Ringeis, J., Killing-Heinze, M., Ruhr-University of Bochum, Germany*

FIRE DYNAMICS

- 12.00 Lunch and Exhibits
- 13.00 Fire dynamics during the channel tunnel fires. *Carvel, R., University of Edinburgh, UK*
- 13.20 New energy carriers in vehicles and their impact on urban infrastructures (tunnels and car parks). *Salvi, O., Ingason, H., Lönnemark, A., Truchot, B., Leucker, R., Amberg, F., Meijer, G.-J., Hejny, H., L-surF Services, Switzerland*
- 13.40 Overview of fire and smoke spread in underground mines. *Hansen, R., Mälardalen University, Sweden*
- 14.00 Predictions of railcar heat release rates. *Cutonilli, J., Beyler, C., Hughes Associates, Inc., USA*
- 14.20 Close Day 3
- 14.30 Visit to Metro fire test facility

Symposium fees

3-DAY REGISTRATION*

Before February 1st 2010	650 Euro
From February 1st 2010	770 Euro
Student/Speakers (before February 1st)	550 Euro
Honorary Sponsors (before February 1st)	585 Euro

1-DAY REGISTRATION*

Before February 1st 2010 (17th or 18th March)	390 Euro
Before February 1st 2010 (19th March)	350 Euro
From February 1st 2010 (17th or 18th March)	430 Euro
From February 1st 2010 (19th March)	390 Euro
Student/Speakers (before February 1st)	220 Euro

*The fee includes: technical sessions, exhibit, poster session, refreshments, lunches, cocktail reception, symposium documentation.

Banquet Dinner (Thursday)	40 Euro
---------------------------------	---------

REGISTRATION

Register online at www.istss.se

SPONSORSHIP AND EXHIBITION

Sponsorship of the symposium is available at different levels and for a variety of specific events, e.g., meals and breaks. For more information checkout our website: www.istss.se/en/Sponsors

The exhibition at our previous ISTSS in Stockholm was extremely popular. We have expanded our exhibit facilities for the 4th ISTSS. Full information concerning exhibit space and booking is available on our website: www.istss.se/en/exhibitors

SYMPOSIUM LANGUAGE

The official working language of the conference is English.



Event partners



Honorary sponsors



Media partners



Organised by

SP Technical Research Institute of Sweden | Fire Technology |

ISTSS 2010 | P O Box 857 | SE-501 15 Borås | SWEDEN |

email: istss2010@congreg.com | www.istss.se

