

CONFERENCE PROGRAMME



7th International Conference on
Safety and Security Engineering



SAFE 2017

NOTES TO CHAIRMEN AND PRESENTERS

Chairmen must be in their respective rooms 10 minutes before the start of their session to meet with the presenting authors.

Authors must meet with the Chairman of their session
10 minutes before the start of the session.

Authors must keep strictly to the time allocated for their presentation
to ensure the smooth running of the programme.

This programme is subject to last-minute alterations, please refer to the
conference noticeboard for the most up-to-date information.

6—8 September 2017

Rome, Italy

Organised by:

Wessex Institute, UK
University of Rome 'La Sapienza', Italy

Supported by:

WIT Transactions on The Built Environment
International Journal of Safety and Security Engineering
Foundation for the Basilica of Saint Francis in Assisi, Italy
Senate of the Italian Republic, Italy

CONFERENCE PROGRAMME



SAFE 2017

6–8 September 2017, Rome, Italy



Wednesday, 6th September 2017

- 08.00 Registration
- 09.00 Opening Address by a Wessex Institute Director
- 09.30 Medal Award to Professor Massimo Guarascio

Special Session on Twelve Years of Research Opportunities
Chaired by M. Lombardi and F. Garzia from the University of Rome 'La Sapienza'

- 09.45 **Keynote Address by M. Guarascio**
Summary of risk and safety & security
M. Guarascio
- 10.15 **Invited:**
Prioritization of hazards by means of a QFD-based procedure
M. Lombardi & M. Fagnoli
- 10.45 Consistency and stability of risk indicators: the case of road infrastructures
G. Rossi, M. Lombardi & P. Di Mascio
- 11.05 Fire design in safety engineering: likely fire curve for people's safety
N. Sciarretta, M. Lombardi, G. Rossi, L. Grossi & N. Oranges

REFRESHMENT BREAK

Special Session on Twelve Years of Research Opportunities
Chaired by M. Lombardi and F. Garzia from the University of Rome 'La Sapienza'

- 11.55 Preventive planning model for rescue priority management in seismic emergency
M. Cardarilli, M. Lombardi & M. Guarascio
- 12.15 Safety and security management through integrated multidisciplinary models and related integrated technological frameworks
F. Garzia
- 12.35 Italian hybrid fire prevention code
P. Cancelliere, M. Lombardi, L. Ponticelli, E. Gissi, G. Gai & M. Caciolai
- 12.55 Discussion - Chaired by M. Guarascio, M. Lombardi & F. Garzia

LUNCH

Wednesday, 6th September 2017

PARALLEL SESSION - A

Session 3A

Session Chairman: F. Garzia

Part 1: Emergency Response

Invited:

15.00 An emergency response decision matrix against terrorist attacks with improvised device in chemical clusters
B. Hosseinnia, N. Khakzad & G. Reniers

15.30 Framework for cyber incident response training
H. Hirai, T. Aoyama, D. Nyambayar & I. Koshijima

Part 2: Counter Terrorism Issues

15.50 Main challenges and available solutions against organized crime and terrorist networks
A. Tundis, F. Huber, B. Jager, J. Daubert, E. Vasilomanolakis & M. Muhlhauser

16.10 Optimal shape of truss structures supporting protective walls
P. Prochazka & M. Valek

REFRESHMENT BREAK

Session 4A: Cyber Security / E Security

Session Chairman: G. Reniers

17.00 Rocky relationship between safety and security
L. Duran & T. Lindstrom

17.20 The role of safety risk management in the UK rail industry when dealing with cyber threats
N. Choudhary

17.40 A game oriented approach to minimizing cybersecurity risk
S. Musman & A.J. Turner

18.00 An active man-in-the-middle attack on bluetooth smart devices
T. Melamed

18.20 Cyber incident exercise for safety protection in critical infrastructure
Y. Ota, T. Aoyama, D. Nyambayar & I. Koshijima

END OF DAY 1

Wednesday, 6th September 2017

PARALLEL SESSION - B

Session 3B

Session Chairman: M. Zsifkovits

Part 1: Fire Safety

- 15.00 **Invited:**
Kinematics of collapse of a warehouse structure submitted to fire
S. Sakji, R. Mege & P. Leblond
- 15.30 **Invited:**
Fire simulation in a full scale bilevel rail car: experimental analysis to assess passengers
E. Trulli, E.C. Rada, F. Conti, N. Ferronato, L. Talamona & V. Torretta
- 16.00 Development of the novel environmentally safe and highly efficient fire-extinguishing powders based on local mineral raw materials
L. Gurchumelia, M. Tsarakhov, S. Tkemaladze, G. Bezarashvili & L. Tkemaladze

Part 2: System Safety Engineering

- 16.20 Research of principles used for video motion detection in video surveillance systems
M. Boros, A. Veľas & M. Durovec
- 16.40 Improving the dynamic performance of multi-storey buildings via protective glazing curtain walls
C. Bedon & C. Amadio

REFRESHMENT BREAK

Session 4B: System Safety Engineering

Session Chairman: S. Sakji

- 17.30 Analysis of existing dynamic software updating techniques for safe and secure industrial control systems
I. Mugarza, J. Parra & E. Jacob
- 17.50 Method for mitigating system failures
T. Nakamura
- 18.10 Safety status: an innovative concept for maintaining the safety integrity level of operational safety systems
P. Ninin & C. Salatko & J. Valbom

Additional Presentation:

- 18.30 The importance of public participation in monitoring risks in large-scale industrial projects: an Australian experience
R.G. Boothroyd

END OF DAY 1

Thursday, 7th September 2017

Special Session on Safety & Security in the Context of Smart Manufacturing - Industry 4.0
Jointly organised by INAIL and ISSA, chaired by C. De Petris from INAIL

- 09.00 Welcome and introduction to the session
M. De Felice
- 09.30 Risks created by cyber physical systems
H-J. Bischoff & S. Radandt
- 09.50 Augmented reality and artificial intelligence to create innovative solution of
SISOM
L. Di Donato
- 10.10 Stop defeating of protective devices: New challenges from smart
manufacturing
L. Blumcke
- 10.30 Next-generation collaborative robotic systems for industrial safety and health
N. Deshpande, J. Ortiz, I. Sarakoglou, C. Semini, N. Tsagarakis, A. Brygo, J.
Fernandez, M. Frigerio, L. Saccares, S. Toxiri, & D.G. Caldwell

REFRESHMENT BREAK

Special Session on Safety & Security in the Context of Smart Manufacturing - Industry 4.0
Jointly organised by INAIL and ISSA, chaired by C. De Petris from INAIL

- 11.20 Managing emerging risks and occupational safety of Industry 4.0
A. Jovanovic
- 11.40 Involving the human as a security sensor in Industry 4.0
G. Loukas
- 12.00 Smart safety systems: Are they ready to control the hazard of major
accidents?
S.M. Ansaldi, P. Agnello & P.A. Bragatto
- 12.20 Evolution of European product directive in perspective of industry 4.0
S. Anastasi & L. Monica
- 12.40 Discussion - Chaired by H.J. Bischoff

LUNCH

Thursday, 7th September 2017

PARALLEL SESSION - A

Session 7A: System Safety Engineering

Session Chairman: M. Lombardi

Invited:

- 15.00 The experimental microclimate monitoring system of the Papal Basilica of Saint Francis in Assisi, Italy
F. Garzia & A. Culla
- 15.30 Safety and Security Integration for production industry under resilience matrix
D. Nyambayar, Ichiro Koshijima
- 15.50 Monitoring systems for pipeline safety based on FBG sensors
G. De Lellis, F. Felli, C. Vendittozzi, C. Paris, A. Paolozzi & H. Asanuma
- 16.10 Security assessment: case studies of public buildings in India
M.K. Kapoor
- 16.30 Increasing the safety of agricultural machinery operating on sloping grounds by performing static and dynamic tests of stability on a new-concept facility
M. Bietresato & F. Mazzetto

REFRESHMENT BREAK

Session 8A: Risk Analysis and Assessment

Session Chairman: S. Sakji

- 17.20 Human safety criteria for risk-based structural design
M. Sykora, M Holicky, K Jung & D. Diamantidis
- 17.40 Reference standards in a pharmaceutical laboratory: occupational exposure limits and qualitative evaluation
L. de Martin Lazzari, B. Vianna do Amaral, P. da Cruz Cunha
- 18.00 CFD based explosion risk analysis using multi-dimensional frequency distribution of flammable gas cloud
Y. Jin & B-S. Jang
- 18.20 Adaptation of Fine-Kinney Method in Supply Chain Risk Assessment
Z. G. Cruz Netro, E. De La Torre Romero & J.L. Martinez Flores
- Additional Presentation:**
- 18.40 Safety equipment for storage and handling of chemicals in university laboratories
J. Mora Barrantes, J. Sibaja, W. Umana, G. Piedra & O. Molina

END OF DAY 2

CONFERENCE DINNER—Please check the notice board or ask Conference Coordinator for more information

Thursday, 7th September 2017

PARALLEL SESSION - B

Session 7B

Session Chairman: M. Zsifkovits

Part 1: Human Factors and Behaviour

- 15.00 The impact of mental readiness on driving performance and traffic safety
N. Marquardt, C. Hannig & S. Hannig
- 15.20 The impact of classroom training on road hazards perception in a Tanzanian
Secondary School
P. Perego, F. Biassoni & M.R. Ciceri
- 15.40 Drivers' eye glance transitions and the implications on the microscopic traffic
and accident simulation
Y. Kim, S. Tak, S. Choi & H. Yeo

Part 2: Modelling and Experiments

- 16.00 The design of a testing device for passive infrared motion detectors
M. Kutaj, L. Jasencak, A. Vel'as & M. Boros
- 16.20 Near field effects of small scale water bleve
R. Eyssette, F. Heymes, J. Crawford & A.M. Birk

REFRESHMENT BREAK

Session 8B: Transportation Safety and Security

Session Chairman: F. Garzia

Invited:

- 17.10 Analysing the vulnerabilities of the German high-speed train network using
quantitative graph theory
Z. Wang, M. Zsifkovits & S.W. Pickl
- 17.40 An AHP model for level crossing design
D. Baric & F. Pizeta
- 18.00 Hazard identification approach for future highly automated air traffic
management concept of operation: experiences from AUTOPACE project
F.J. Netjasov, B. Mirkovic, T.K. Simic & O. Babic
- 18.20 Near-miss accident analysis for traffic safety improvement at a "channelized"
junction with u-turn
M.L. Siregar, H.R. Agah & F.H. Atullah
- Additional Presentation:**
- 18.40 Optimal tradeoffs between the security and cost of critical buildings and
infrastructure systems
S. Schuldt & K. El-Rayes

END OF DAY 2

CONFERENCE DINNER—Please check the notice board or ask Conference
Coordinator for more information

Friday, 8th September 2017

Invited:

- 09.00 Implementing an internet system in the archaeological area of Quintili's Villa in ancient Appia Route Park in Rome
F. Garzia

Session 9: Occupational Health and Safety

Session Chairman: M. Lombardi

- 09.30 Determining size fractions of an aerosol in view of new definitions in polish regulation
B. Kaczorowska & P. Oberbek
- 09.50 A comparison between methods for assessment of whole-body vibration exposure: a case study in a limestone quarry
G. Alfaro Degan, G. Coltrinari, D. Lippiello & M. Pinzari
- 10.10 On the usability of augmented reality devices for interactive risk assessment
A. Lanzotti, F. Carbone, G. Di Gironimo, S. Papa, F. Renno & A. Tarallo
- 10.30 Contractor's HSE performance: Pragmatic evaluation, benchmarking and way for improvement
A.M. Qabazard, B.S.S. Adivi & A.K. Mohanty

REFRESHMENT BREAK

Session 10: Risk Analysis and Assessment

Session Chairman: C. Brebbia

- 11.20 Identification of potential hazardous events of unloading system and liquid CO₂ tanks of an intermediate storage terminal for the Korea Clean Carbon Storage Project 2025
H. Noh, K. Kang, C. Huh, S-G. Kang & Y. Seo
- 11.40 Lessons learned from transposition of Seveso III Directive in Slovak Republic
K. Holla
- 12.00 Proposal for structural evaluation of historical churches at Lima, Peru
C. Cuadra
- 12.20 Raster map services viewer for flood risk analysis and assessment
Y. Solis-Alvarado, J. Alemon, M. Medina-Garcia & J. Garcia-Hernandez & H. Sanvicente-Sanchez

Additional Presentation:

- 12.40 Aviation 4.0: More safety through automation and digitization
R. Arnaldo Valdes & V.F. Gomez Comendador

END OF SAFE 2017

We hope you have enjoyed the conference and look forward to seeing you at the next meeting in the series, have a safe and pleasant journey home.