



**16-19 June 2019.  
Aula Centre, Delft,  
The Netherlands**

16th International Symposium  
on Loss Prevention and Safety  
Promotion in the Process Industries  
and accompanying exhibition

[www.lp2019.org](http://www.lp2019.org)

# Loss Prevention 2019

750th Event of the European Federation of Chemical Engineering

**W**elcome to the 16th EFCE International Symposium on Loss Prevention and Safety Promotion in the Process Industries! After 45 years, this most prestigious conference in the world in the field of risk and safety related to the chemical and process industries, has returned to the Delft University of Technology in the Netherlands. Since its first edition in 1974 in Delft, occupational and process safety professionals, researchers, scientists, academics and practitioners have been meeting on a triennial basis at the EFCE Loss Prevention Symposia somewhere in Europe. In this period the Loss Prevention Symposia series has been successful in stimulating and sharing both theoretical and practical knowledge among the Loss Prevention community. Considerable progress has been achieved in the field of safety in the chemical and process industries worldwide. Actually, even more industries are involved and have been profiting from advances in safety knowledge. Industries such as oil and gas, energy, pharmaceutical, food, manufacturing companies and the related service industries also use chemicals on a daily basis and are very much involved as well.

We are experiencing challenging times due to exciting technological advances, for instance in communication and social media, as well as fast-developing societal developments, for example in the field of security, which will require further research and applications for improvement in order to adequately cope with them. Exchanging information, disseminating data and stimulating the development of new methods to reduce the risk of incidents/accidents in the process industries, is indeed a must and a need. To foster new ideas, the fourth "EFCE Excellence Award for Process Safety" for outstanding PhD research work will be presented at this conference.

Transfer to practice is as important as development of know-how, and many challenges are still to be addressed in order to make further progress in safety, and process safety in particular. To name a few: developing worldwide databases of near-misses and accidents to learn from them after the example of the airline industry, bringing domino effects into risk assessment software, development and employment of user-friendly and effective security risk assessment models, development of the resilience engineering approach, harmonized education of process safety, using economic theories and models into safety and security decision making, strategic safety cooperation within chemical industrial parks, and 'just culture' implementation.

Let us therefore take the opportunity of this 16th Loss Prevention Symposium, to learn from each other and exchange best practices, to transfer experience by presenting new scientific results and concepts, learn from case studies, and to preserve existing know-how for the benefit of the process industries at large, as well as the safety and security of employees and the public.

Bruno Fabiano  
Chairman  
WP Loss Prevention

Gary Pilkington  
Secretary  
WP Loss Prevention

Genserik Reniers  
Chairman Organizing Committee  
Loss Prevention 2019

The library of the TUDelft is an architectural landmark at the campus.



## Format & Topics

The technical programme will be structured into parallel sessions. The preliminary time table includes registration and welcome on Sunday, and from Monday to Wednesday, paper presentations (lectures and posters), Last Minute Poster Communications as well as an accompanying exhibition. The event will include an extended poster session with a poster party.

The following non-exhaustive list of research items, when related to the process industries, are of concern for this Loss Prevention Symposium: Management and communication of risk, human and organizational factors, learning from accidents and knowledge transfer, fires and explosions, alarm and mitigation systems, simulation and modeling, dispersion of hazardous materials, process safety engineering, inherently safer design techniques, safety-based design, resilience for process safety, safety integrity levels, regulatory issues, classification of hazardous substances, definition of explosive atmospheres, standards and codes for design and operation of particular types of installations (LPG storage, flammable liquids, security concerns, natural-technological (natech) safety assessment and management.

**Themes of particular interest are:** Management and communication of risk and safety; Human and organisational factors of risk and safety; Process Safety Engineering and Technological innovations; Physical Security and Cyber Security in process plants; Fires and Explosions; Simulation and modeling; Learning from accidents and knowledge transfer; Risk governance and regulatory issues

## International Scientific Committee

### Chairman

B. Fabiano University of Genova/IT

### Guest members

F. Khan Memorial University St John's/CA  
Z. Wu China Academy of Safety Science and Technology/CN

### Honorary member

H.J. Pasman Texas A&M University/US

### Members

F. Babinec Brno University of Technology/CZ  
A. Bernatik Technical University of Ostrava/CZ  
V. Cozzani University of Bologna/IT  
E. De Rademaeker Prevention Management International/B  
H. Gasche Bayer/DE  
P. Guterl BG Raw Materials and Chemical Industry/DE  
R. Harbers Aspen Oss B.V./NL  
A. Jacobsson AJ Risk Engineering AB/SE  
L. Jelemensky Slovak University of Technology in Bratislava/SK  
N. Jensen Safepark Consultancy/DK  
T. Kilpeläinen UPM Biorefining/FI  
R. Koivisto VTT Research Centre of Finland/FI  
A. Laurent Université de Lorraine – CNRS – EN SIC/FR  
N. Markatos National Technical University of Athens/GR  
A. Markowski Technical University of Lodz/PL  
T. Meyer EPFL Swiss Federal Institute of Technology in Lausanne/CH  
N. Paltrinieri NTNU/NO  
A. Pey Stahl Holding bv.  
G. Pilkington APEX Process Safety Ltd./GB  
Z.N. Pintaric University of Maribor/SI  
G.L.L. Reniers University of Antwerp/B  
L. Ruhlman Yara/NO  
M. Schwaninger TÜV-Süd/CH  
J. Sommer BG RCI/DE  
D. Tabouelle Chevron/FR  
P. Tuna Lund University/SE  
L. Vijgen DCMR/NL  
W. Zonghzi State Administration of Work Safety (SAWS)/CH

## Deadlines & Dates to note:

### 2017 October 1

Abstract submission opens ([www.lp2019.org](http://www.lp2019.org))

### 2018 March 27

Deadline for abstract submission

### 2018 May 31

Information to authors on abstract acceptance

### 2018 October 1

Deadline for Full paper submission

### 2018 December 1

Information to authors on paper acceptance/revision

### 2019 January 1

Final revised full paper submission

### 2019 January 31

Information to authors on revised paper acceptance

### 2019 March 31

Deadline for Early bird registration

## National Organizing Committee

S. Bader, RIVM  
R. Bannink, Navigator Consult  
P. Bareman, VNCI  
G. Boogaerts, Essenscia  
V. Cozzani, University of Bologna  
E. De Rademaeker, PMI International  
B. Fabiano, University of Genova  
P. Hoorelbeke, VUB & Total  
N. Khakzad, Delft University of Technology  
F. Khan, Memorial University of Newfoundland  
T. Koerts, EPSC  
A. Laurent, Université de Lorraine  
J. Meissen, Royal Dutch Society of Engineers  
H. Pasman, Texas A&M University  
G. Reniers, University of Antwerp & TUDelft  
D. Roosendans, Total  
A. Verboom, CGE Risk Management Solutions

## Abstract Submission

Authors wishing to present a contribution (lecture or poster) are invited to submit an abstract of no more than 300 words at: [www.lp2019.org](http://www.lp2019.org)

## Publication Policy

The full set of accepted papers of the LP2019 Symposium (in the form of short papers of 6 pages) will be published into CET "Chemical Engineering Transactions".

The quality of this publication is recognised by ISBN & ISSN numbers, referenced by SCOPUS and THOMSON REUTERS (ISI Web of Knowledge, conference proceedings) citation indexes. Each Paper in the volume is covered by a copyright assigned to AIDIC Servizi S.r.l. Each Paper is evaluated for acceptance by at least three Peer Reviewers.

## Safety Award

The EFCE presents a triennial Excellence Award to recognise a PhD thesis or paper published in the preceding three-year period, which demonstrates an outstanding contribution to research and/or practice in process safety.

The first three EFCE Excellence Awards in Process Safety were presented respectively at the 13th, 14th, and 15th Loss Prevention Symposia in Bruges, Belgium, Florence, Italy, and Freiburg, Germany.

## Call for Nominations 4th Award

Information about the nominations for the fourth award to be presented at the 16th Loss Prevention Symposium 2019 in Delft, The Netherlands, will be published under: [www.lp2019.org](http://www.lp2019.org)

## Venue and Accommodation

Delft University of Technology (also known as TU Delft) in the Netherlands will host the Loss Prevention 2019 Symposium. TUDelft is the largest and oldest Dutch public technical university. The university hosts approximately 20,000 students (undergraduate (BSc) and graduate (MSc)), 2,500 PhD candidates, 2,600 scientists and 2,000 people in the support and management staff.

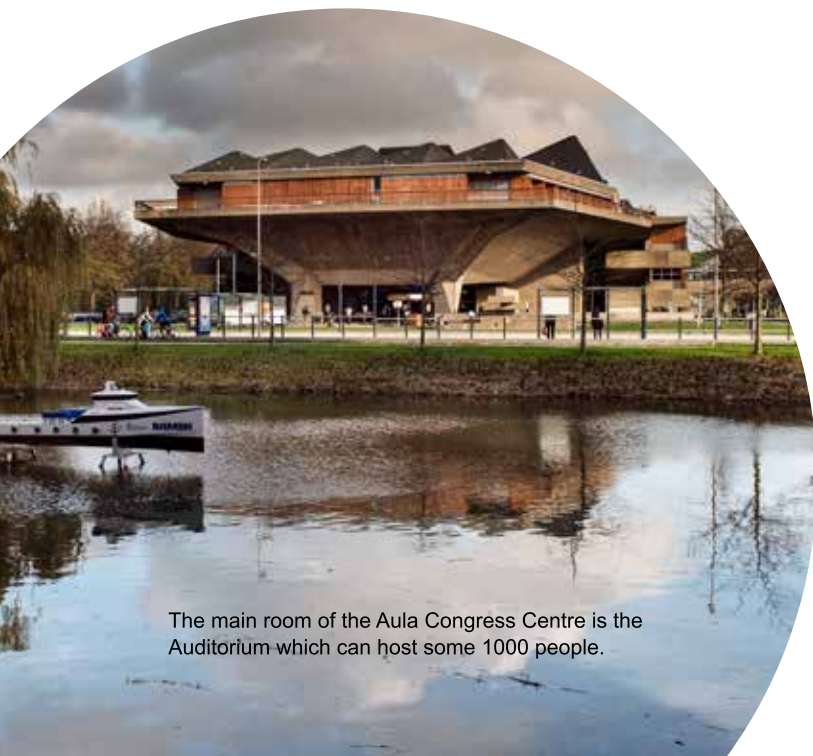
The conference will be held at Aula Congress Centre of the university, located on the main campus of the university and is in walking distance of the city centre. All the TUDelft buildings are connected to the central "Mekel Park".

As one of world's leading training grounds for engineers, TU Delft views its role in society as supplying technological solutions that take us significantly further along the road towards sustainability and a flourishing economy. The university positions itself as an open academic community which is represented throughout the academic world and is rooted in the regional and national, social and economic environments.

## Transportation

Between Amsterdam Airport Schiphol and Delft  
The best way to travel from Amsterdam Airport (Schiphol) to Delft is by train, which leaves directly from the airport, every 30 minutes.  
From Rotterdam and from The Hague, the bus and train can easily be taken to Delft with travel time less than 30 minutes. The traveling time between Brussels airport (Zaventem) and Delft takes about 100 minutes.

The website [www.9292ov.nl](http://www.9292ov.nl) provides door-to-door public transport directions.



The main room of the Aula Congress Centre is the Auditorium which can host some 1000 people.