ESREL 2008 & 17th SRA Europe
Annual Conference

22 – 25 September
Valencia – Spain

Learning from the pass building the future

Organized by

ESRA European Safety and Reliability Association

SRA EUROPE

UNIVERSIDAD POLITECNICA DE VALENCIA

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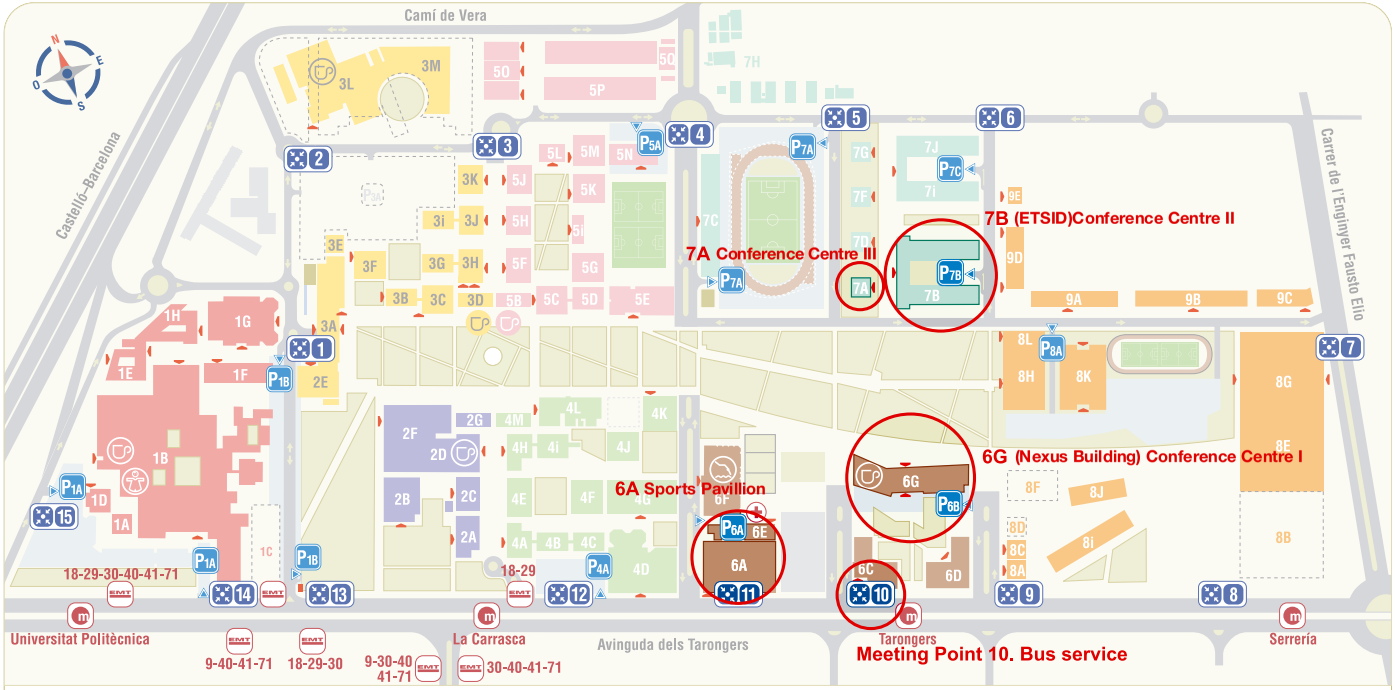
Camí de Vera
Castelló-Barcelona
Carrer de l'Enginyer Fausto Elio
7B (ETSID)Conference Centre II
7A Conference Centre III
6G (Nexus Building) Conference Centre I
6A Sports Pavillion
Universitat Politècnica
La Carrasca
Avinguda dels Tarongers
Tarongers
Meeting Point 10. Bus service
Serrería
18-29-30-40-41-71
9-40-41-71
18-29-30
9-30-40 41-71
30-40-41-71
18-29
Meeting Point
Car Park Entrance
Health Centre
Swimming Pool
Nursery
Light Rail Transit Station
Car Park
Entrance
Information Office
Buildings
Cafeteria
Bus Stop
7B School of Design Engineering (ETSID)
7A Dept. of Applied Statistics and Operational Research, and Quality
6A Sports Pavilion
6G Life-Long Learning Centre (CFP)

Welcome

It is a great pleasure that I welcome you to Valencia and the joint ESREL 2008 & 17th SRA-Europe Conference. This Conference stems from a European initiative merging the ESRA (European Safety and Reliability Association) and SRA-Europe (Society for Risk Analysis – Europe) annual conferences into the major safety, reliability and risk analysis conference in Europe during 2008. This is the second joint ESREL (European Safety and Reliability) and SRA-Europe Conference after the 2000 event held in Edinburg, Scotland.

ESREL is an annual conference series promoted by the European Safety and Reliability Association. The conference dates back to 1989, but was not referred to as an ESREL conference before 1992. The Conference has become well established in the international community, attracting a good mix of academics and industry participants that present and discuss subjects of interest and application across various industries in the fields of Safety and Reliability. SRA-Europe was founded in 1987, as a section of SRA international founded in 1981, to develop a special focus on risk related issues in Europe. SRA-E emphasizes the European dimension in the promotion of interdisciplinary approaches of risk analysis in science. This is the 17th edition of its annual conference that takes place in various countries in Europe.

This year the theme of the Conference is "Safety, Reliability and Risk Analysis. Theory, Methods and Applications". The Conference covers a number of topics within safety, reliability and risk, and provides a forum for presentation and discussion of scientific papers covering theory, methods and applications to a wide range of sectors and problem areas. Special focus has been placed on strengthening the bonds between the safety, reliability and risk analysis communities with an aim at learning from the past building the future.

The Conferences have been growing with time and this year the program of the Joint Conference includes 417 papers from prestigious researchers coming from all over the world, selected from over 890 abstracts, which will be presented in nine parallel sessions.

This Conference Programme is a result of the enthusiasm and efforts of the many authors who have contribute with their papers, special session organizers, technical programme committee members, technical area coordinators, conference webmaster, local organising committee and the conference secretariat and technical support at the Universidad Politécnica de Valencia. All these initiatives and efforts are gratefully acknowledged.

I hope you all enjoy the programme and the Conference.

Sebastián Martorell
ESREL 2008 and 17th SRA-Europe Conference Chairman

Conference Chairman

Dr. Sebastián Martorell Alsina, Universidad Politécnica de Valencia, Spain

Conference Co-Chairman

Dr. Blás Galván González, University of Las Palmas de Gran Canaria, Spain

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Dr. Julie Barnett, University of Surrey, United Kingdom

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Dr. Ioanis Papazoglou, ESRA Chairman
Dr. Roberto Bubbico, SRA-Europe Chairman

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Enander, Ann - Sweden
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Finkelstein, Maxim - South Africa
Goossens, Louis - The Netherlands
Hessami, Ali - United Kingdom
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Kirchsteiger, Christian - Luxembourg
Leira, Bernt - Norway
Levitin, Gregory - Israel
Merad, Myriam - France
Palanque, Philippe - France
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Rosqvist, Tony - Finland
Salvi, Olivier - Germany
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Spadoni, Gigliola - Italy
Tarantola, Stefano - Italy
Thalmann, Andrea - Germany
Thunem, Atoosa P-J - Norway
Van Gelder, Pieter - The Netherlands
Vrouwenvelder, Ton - The Netherlands
Wolfgang, Kröger - Switzerland

Special Sessions Organizers

Human Reliability Analysis. L. Podofilini and E. Fadier
Maintenance modeling and applications. C. Berenguer and E. Zio
Multi-state system reliability. G. Levitin
Uncertainty in industrial practice. S. Tarantola

Thematic Areas

Accident and Incident Investigation
Crisis and Emergency Management
Decision Support Systems and Software Tools for Safety and Reliability
Dynamic Reliability
Fault Identification and Diagnostics
Human Factors
Integrated Risk Management and Risk-Informed Decision-making
Legislative dimensions of risk management
Maintenance Modelling and Optimisation
Monte Carlo Methods in System Safety and Reliability
Occupational Safety
Organizational Learning
Reliability and Safety Data Collection and Analysis
Risk and Evidence Based Policy Making
Risk and Hazard Analysis
Risk Control in Complex Environments
Risk Perception and Communication
Safety Culture
Safety Management Systems
Software Reliability
Stakeholder and public involvement in risk governance
Structural Reliability and Design Codes
System Reliability Analysis
Uncertainty and Sensitivity Analysis

Industrial and Service Sectors

Aeronautics and Aerospace
Automotive Engineering
Biotechnology and Food Industry
Chemical Process Industry
Civil Engineering
Critical Infrastructures
Electrical and Electronic Engineering
Energy Production and Distribution
Health and Medicine
Information Technology and Telecommunications
Insurance and Finance
Manufacturing
Natural Hazards
Nuclear Engineering
Offshore Oil and Gas
Policy Decisions
Public Planning
Security and Protection
Surface Transportation (road and train)
Waterborne Transportation

Technical Programme Committee

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Aneziris O, Greece
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Sanchez-Arcilla A, Spain
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Maryory Villamizar Leon
José Felipe Villanueva López

Conference Programme at a Glance

Sunday, 21st September 2008
Welcome Reception, Hall of Palacio de la Exposición - From 18h00 to 20h30

Monday, 22nd September 2008
Registration, Hall of Nexus Building (6G) - From 08h00 onwards
Opening Session, Auditorium of Nexus Building (6G) - From 09h00 to 10h30
Inauguration of Exhibition Area, Hall of Nexus Building (6G) - From 11h00 onwards
Parallel Technical Sessions, Rooms A to I - From 12h00 to 17h40

Tuesday, 23rd September 2008
Parallel Technical Sessions, Rooms A to I - From 09h00 to 11h30
Inauguration of Poster Session I, Hall of ETSID Building (7B) - From 11h30 onwards
Plenary Lectures, Auditorium of Nexus Building (6G) - From 12h00 to 13h00
Parallel Technical Sessions, Rooms A to I - From 14h30 to 17h20
Conference Dinner, Restaurant Nou Racó de L'Olla, La Albufera - From 19h00 to 23h30

Wednesday, 24th September 2008
Parallel Technical Sessions, Rooms A to I - From 09h00 to 11h30
Inauguration of Poster Session II, Hall of ETSID Building (7B) - From 11h30 onwards
Plenary Lectures, Auditorium of Nexus Building (6G) - From 12h00 to 13h00
Parallel Technical Sessions, Rooms A to I - From 14h30 to 18h00
ESRA General Assembly meeting, Room G of ETSID (7B) - From 18h00 onwards
SRA-Europe Business meeting, Room F of ETSID (7B) - From 18h30 to 19h30

Thursday, 25th September 2008
Parallel Technical Sessions, Rooms A to I - From 09h00 to 11h50
Conference Closing, Auditorium of Nexus Building (6G) - From 12h00 to 13h00

Coffee breaks
Monday, September 22: 10h30 – 11h00 and 15h50 – 16h20
Tuesday, September 23: 10h00 – 10h30 and 15h50 – 16h20
Wednesday, September 24: 10h00 – 10h30 and 15h50 – 16h20
Thursday, September 25: 10h00 – 10h30

Lunches
Monday, September 22, until Wednesday,
September 24, in Sports Pavilion (6A) – From 13h00 to 14h30

Registration Desk and Secretariat

The Universidad Politécnica de Valencia has its own centre providing conference services. We are here to help you during the whole conference, and to assure you have a nice stay in Valencia. Please do not hesitate to ask us any question or to bring forward any problem on your mind.
You will find us at the information and registration desk outside the plenary hall (Nexus building – 6G). You can also reach us at:
E-mail: congresos@cfp.upv.es
Phone: (+34)963 877 751

Exhibition

An Exhibition will take place during the Conference in the Nexus building (6G) next to the plenary hall, where coffee will also be served during the breaks. Books and journals relevant to the Conference topics will be displayed and offered here. The exhibitors will highlight companies´ achievements, products, and services and give demonstrations of – among others – the latest reliability and risk assessment software and equipment.

Conference Social Programme

Welcome Reception, Sunday, September 21, 18h00 – 20h30
On Sunday evening, a Welcome Reception will be held at the Palacio de la Exposición.

Conference Dinner, Tuesday, September 23, 19h00 – 23h30
On Tuesday, we will leave the conference hotels by bus and go to the Restaurant Racó de L'Olla, La Albufera, for the Conference Dinner.

Cocktail hosted by SRA-Europe, Wednesday, September 24, 18h30
On Wednesday, A traditional cocktail hosted by SRA-Europe will be offered in the Garden of ETSID Building (7B).

More information is placed at the Conference Website and will be available at the information and registration desk.

Other Conference Events

ESRA General Assembly, Wednesday, September 24, 18h00
After the technical sessions on Wednesday, the ESRA General Assemblies will take place in Room G of ETSID (7B). With the ESRA General Assembly the members of the association hold their annual meeting.

SRA-Europe Business meeting , Wednesday, September 24, 18h30
After the technical sessions on Wednesday, the SRA-Europe Business Meeting will take place in Room F of ETSID (7B), from 18h30 to 19h30. All SRA-Europe members, as well as participants of the Conference are invited to join the meeting.

Accompanying Persons Programme at a Glance

Sunday, 21st September 2008
Welcome Reception at Hall of Palacio de la Exposición - From 18h00 to 20h30

Monday, 22nd September 2008
City of Arts and Science - From 10h00 to 13h00

Tuesday, 23rd September 2008
Historic City Tour - From 10h00 to 12h30
Conference Dinner at Restaurant Racó de L'Olla, La Albufera - From 19h00 to 23h30

Wednesday, 24th September 2008
Ceramics in Valencia and/or Fallero Museum - From 10h00 to 13h00

Thursday, 25th September 2008
Walking to the UPV Sculptures Park - From 10h30 to 12h00

A detailed Accompanying Persons Programme will be available at the information and registration desk. You can also contact us at the e-mail address and phone number shown above, at the top of the previous page. More information is placed at the Conference Website.

Conference Technical Programme

Opening Session
Monday, September 22, From 09h00 to 10h00,
Auditorium of Nexus Building (6G)

Opening Welcome, 9h00
Sebastian Martorell and Blas Galván, Conference Chairmen

Keynote Address, 9h30
Amparo Chiralt, Vice-Rector for Research, *Universidad Politécnica de Valencia*

Opening Plenary by ESRA and SRA-Europe, 9h45
Safety, Reliability and Risk Analysis. Theory, Methods and Applications
Chairs: Ioannis A. Papazoglou (ESRA Chairman) and Roberto Bubbico (SRA-Europe Chairman)

Introduction to the Technical Programme by Technical Chairs, 10h15
Carlos Guedes Soares and Julie Barnett

Plenary Lectures

Tuesday, September 23, Auditorium of Nexus Building (6G)
Chair: Prof. Vicente Serradell, Universidad Politécnica de Valencia

Risk Analysis and Applications in China (12h00 -12h30)
Speaker: *Prof. Chongfu Huang, President Risk Analysis Council of China Association for Disaster Prevention.*

Reasoning about safety management policy in everyday terms (12h30-13h00)
Speaker: *Tom Horlick-Jones, Cardiff University*

Wednesday, September 24, Auditorium of Nexus Building (6G)
Chair: Olivier Salvi, INERIS, General Secretary ETPIS

Practical steps towards sustainable use of safety performance indicators in the EU industry
Speaker: Prof. A. Jovanovic, EU-VRi – European Virtual Institute for Integrated Risks Management (12h00 - 12h30)

Use of Extreme Value Theory in Engineering Design
Speaker: Prof. Enrique Castillo, Universidad de Cantabria (12h30 -13h00)

Conference Closing

Thursday, September 25, From 12h00 to 13h00,
Auditorium of Nexus Building (6G)

Closing Session: Insights and Lessons Learned, 12h00
Pressing Issues and Future challenges
Speaker: *Prof. Gumersindo Verdú, Vice-rector for International Actions, Universidad Politécnica de Valencia*

Conference Adjourn, 12h30
Sebastian Martorell and Blas Galván, Conference Chairmen

■ Detailed Technical Programme

MONDAY, 22 SEPTEMBER 2008	
Registration 8h00-onwards (Hall of Nexus Building 6G)	
Opening and Plenary Sessions 9h00 – 10h30 (Room A)	
Coffee break 10h30 – 11h00	
Inauguration of the Exhibition Area 11h00 – 12h00 (Conference Centre I – Building 6G)	
Parallel Sessions 12h00 – 13h00 (Conference Centre I – Building 6G)	
Session A-1: Risk and Hazard Analysis I	Chair: S. Carlos
Failure Mode and Effect Analysis Algorithm for Tunneling Projects *K. Rezaie, V. Ebrahimipour & S. Shokravi* A Decision Model for Preventing Knock-On Risk Inside Industrial Plant *M. Grazia Gnoni, G. Lettera, & P. Angelo Bragatto* Thirty years after the first HAZOP guideline publication. Considerations *J. Dunjó, J.A. Vílchez & J. Arnaldos*	
Session B-1:	
Session C-1: Monte Carlo Methods in System Safety and Reliability I	Chair: F. Cadini
The application of Bayesian interpolation in Monte Carlo simulations *M. Rajabalinejad, P.H.A.J.M. van Gelder & N. van Erp* Monte Carlo Simulation for Investigating Influence of Maintenance Strategies on Production Availability of Offshore Installations *K.P. Chang, D.Chang, T.J. Rhee & E. Zio*	
Session D-1: Human Factors I	Chair: S. Colombo & K. Kosmowski
Exploratory and confirmatory analysis of the relationship between social norms and safety behavior *C. Fugas, S. A. da Silva & J. L. Melià* The influence of personal variables on changes in driver behaviour *S. Heslop, J. Harvey, N. Thorpe& C. Mulley* A study on the validity of R-TACOM measure by comparing operator response time data *J. Park & W. Jung*	
Session E-1: Nuclear Power Plants: Risk Informed Decision-making	Chair: M. Cepin
Neural Networks and Order Statistics for Quantifying Nuclear Power Plants Safety Margins *E. Zio, F. Di Maio, S. Martorell & Y. Nebot* Probabilistic safety margins: definition and calculation *R. Mendizábal* An approach to integrate thermal-hydraulic and probabilistic analyses in addressing safety margins estimation accounting for uncertainties *S. Martorell, Y. Nebot, J.F. Villanueva, S. Carlos, V. Serradell, F. Pelayo & R. Mendizábal*	
Lunch 13h00 – 14h30 (Sports Pavilion – Building 6A)	

MONDAY, 22 SEPTEMBER 2008	
Registration 8h00-onwards (Hall of Nexus Building 6G)	
Opening and Plenary Sessions 9h00 – 10h30 (Room A)	
Coffee break 10h30 – 11h00	
Inauguration of the Exhibition Area 11h00 – 12h00 (Conference Centre I – Building 6G)	
Parallel Sessions 12h00 – 13h00 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-1: Fault Identification and Diagnostics	Chair: A. Arnaiz
Fault Identification, Diagnostics and Compensation of Facing Errors in Hard Turning of Tool Steels *F. Veiga, J. Fernández, E. Viles, M. Arizmendi, A. Gil & M. L. Penalva* Automatic Source Code Analysis of Failure Modes Causing Error Propagation *S. Sarshar & R. Winther* From diagnosis to prognosis: a maintenance experience for an electric locomotive *O. Borgia, F. De Carlo & M. Tucci*	
Session G-1: Reliability Analysis of Complex Systems I	Chair: D. Valis & K. Kolowrocki
Applications of supply process reliability model *A. Jodejko & T. Nowakowski* Contribution to availability assessment of systems with one shot items *D. Valis & M. Koucky* Reliability Evaluation of Complex System Based on Equivalent Fault Tree *Zhang Yufang, Yi Hong & Liu Jun*	
Session H-1: Insurance and Finance	Chair: R. Minguez
Gaming Tool as a Method of Natural Disaster Risk Education: Educating the Relationship between Risk and Insurance *T. Unagami, T. Motoyoshi, & J. Takai* Reliability-Based Risk-Metric Computation for Energy Trading *R. Mínguez, A. J. Conejo, E. Castillo, & R. García-Bertrand* Behaviouristic approaches to insurance decisions in the context of natural hazards *M. Bank & M. Gruber*	
Session I-1: Risk and Evidence Based Policy Making I	Chair: R. Bubbico
Individual risk-taking and external effects – An empirical examination *S. Borsky & P.A. Raschky* Modelling incident escalation in explosives storage *G. Hardman, T. Bedford, J. Quigley & L. Walls* Hazardous aid? The crowding-out effect of international charity *P. A. Raschky & M. Schwindt*	
Lunch 13h00 – 14h30 (Sports Pavilion – Building 6A)	

MONDAY, 22 SEPTEMBER 2008

Parallel Sessions 14h30 – 15h50 (Conference Centre I – Building 6G)

Session A-2: Risk and Hazard Analysis II	Chair: B. Galván

Accident occurrence evaluation of phased-mission systems composed of components with multiple failure modes
T. Kohda

Developments in fault tree techniques and importance measures
J.K. Vaurio

A decomposition method to analyze complex fault trees
S. Contini

The key role of Expert Judgment in CO2 underground storage projects
C. Vivalda & L. Jammes

Session B-2: Biotechnology and Food Industry I	Chair: M. A. Ferrus & E. Doménech

Risks and benefits of farmed fish: Five years of media reporting in the UK, Germany and Norway (Oral Only)
A. Schlag

Attitudes of Japanese and Hawaiian toward labeling genetically modified fruits
S. Shehata

Review of diffusion models for the social amplification of risk of food-borne zoonoses
J.P. Mehers, H.E. Clough & R.M. Christley

Risk Perception and Communication of Food Safety and Food Technologies in Flanders, the Netherlands, and the United Kingdom
U. Maris

Session C-2: Monte Carlo Methods in System Safety and Reliability II	Chair: S. Eisinger

Modeling failure cascades in network systems due to distributed random disturbances
E. Zio & G. Sansavini

Handling dependencies between variables with imprecise probabilistic models
S. Destercke & E. Chojnacki

Model of air traffic in terminal area for ATFM safety analysis
J. Skorupski & A.W. Stelmach

Session D-2: Human Factors II	Chair: J. Harvey

Operators' response time estimation for a critical task using the fuzzy logic theory
M. Konstandinidou, Z. Nivolianitou, G. Simos, C. Kiranoudis & N. Markatos

Functional safety and layer of protection analysis with regard to human factors
K.T. Kosmowski

How employees' use of information technology systems shape reliable operations of large scale technological systems
T. K. Andersen, P. Næsje, H. Torvatn & K. Skarholt

The concept of organizational supportiveness
J. Nicholls, J. Harvey & G. Erdos

Session E-2: Nuclear Power Plants: Reliability and Risk Analysis	Chair: V. Serradell & B. Iooss

Probabilistic Safety Assessment for Other Modes than Power Operation
M. Cepin & R. Prosen

Reliability assessment of the thermal hydraulic phenomena related to a CAREM-like passive RHR system
G. Lorenzo, P. Zanocco, M. Giménez, M. Marquès, B. Iooss, R. Bolado Lavín, F. Pierro, G. Galassi, F.D'Auria & L. Burgazzi

Vital Area Identification Using Fire PRA and RI-ISI Results in UCN 4 Nuclear Power Plant
K.Y. Kim, Y. Choi & W.S. Jung

Coffee break 15h50 – 16h20

MONDAY, 22 SEPTEMBER 2008

Parallel Sessions 14h30 – 15h50 (Conference Centre II – Building 7B and Centre III – Building 7A)

Session F-2: Fault Identification and Diagnostics II — Chair: E. Zio

Application of a vapour compression chiller lumped model for fault detection
J. Navarro-Esbrí, A. Real, D. Ginestar & S. Martorell

Optimal Pre-control as a tool to monitor the reliability of a manufacturing system
S. San Matías & V. Giner-Bosch

Development of a prognostic tool to perform reliability analysis
M. El-Koujok, R. Gouriveau & N. Zerhouni

Assessment and Monitoring of Reliability and Robustness of Offshore Wind Energy Converters
S. Thöns, M.H. Faber, W. Rücker & R. Rohrmann

Session G-2: Reliability Analysis of Complex Systems II — Chair: M. Finkelstein

Contribution to modeling of complex weapon systems reliability
D. Valis, Z. Vintr & M. Koucky

Modelling multi-platform phased mission system reliability
D.R. Prescott, J.D. Andrews & C.G. Downes

Reliability, availability and risk evaluation of technical systems in variable operation conditions
K. Kolowrocki & J. Soszynska

A copula-based approach for dependability analyses of fault-tolerant systems with interdependent basic events
M. Walter, S. Esch & P. Limbourg

Session H-2: Accident and Incident Investigation I — Chair: I. Papazoglou

Thermal explosion analysis of methyl ethyl ketone peroxide by nonisothermal and isothermal calorimetry application
S. H. Wu, J. M. Tseng & C. M. Shu

Development of a database for reporting and analysis of near misses in the Italian chemical industry
R.V. Gagliardi & G. Astarita

A preliminary analysis of the 'Tlahuac' incident by applying the MORT technique
J.R. Santos-Reyes, S. Olmos-Peña & L.M. Hernández-Simón

Formal Modelling of Incidents and Accidents as a Means for Enriching Training Material for Satellite Control Operations
S. Basnyat, P. Palanque, R.Bernhaupt & E. Poupart

Session I-2: Risk and Evidence Based Policy Making II — Chair: J. Barnett & G. Hardman

Licensing a Biofuel Plan Transforming Animal Fats
J.F. David

The Measurement and Management of Deca-BDE- why the continued certainty of uncertainty?
R.E. Alcock, B.H. McGillivray & J.S. Busby

Risk Regulation Bureaucracies in EU Accession States: Drinking Water Safety in Estonia
K. Kangur

Environmental Reliability as a Requirement for Defining Environmental Impact Limits in Critical Areas
E. Calixto & E. Lèbre-La Rovere

Coffee break 15h50 – 16h20

MONDAY, 22 SEPTEMBER 2008

Parallel Sessions 16h20 – 17h40 (Conference Centre I – Building 6G)

Session A-3: Risk and Hazard Analysis III	Chair: M. Cepin

A risk theory based on hyperbolic parallel curves and risk assessment in time
N. Popoviciu & F. Baicu

Review and discussion of uncertainty taxonomies used in risk analysis
T.E. Nøkland & T. Aven

Efficient Safety Management for Subcontractor at Construction Sites
Ki Sang Son & Jeong Jin Park

Session B-3: Biotechnology and Food Industry II	Chair: I. Escriche & M. A. Ferrus

Risk Perception and Public Acceptance of Nanotechnology Foods (Oral Only)
M. Siegrist

Synthesis of Reliable Digital Microfluidic Biochips using Monte Carlo Simulation
E. Maftei, P. Pop & F. Popentiu Vladicescu

Ensuring honey quality by means of effective pasteurization
E. Doménech, I. Escriche & S. Martorell

Assessment of the risk to company revenue due to deviations in Honey quality
E. Doménech, I. Escriche & S. Martorell

Session C-3: System Reliability Modelling	Chair: R. Perez-Ocon

A Contribution To Accelerated Testing Implementation
S. Hossein Mohammadian M., D. Ait-Kadi, A. Coulibaly & B. Mutel

Efficient Generation and Representation of Failure Lists out of an Information Flux Model for Modeling Safety Critical Systems
M. Pock, H. Belhadaoui, O. Malassé & M. Walter

Limitations of the Weibull distribution related to predicting the probability of failure initiated by flaws
M.T.Todinov

Evaluation of important reliability parameters using VHDL-RTL modelling and information flow approach
M. Jallouli, C. Diou, F. Monteiro, A. Dandache, H. Belhadaoui, O. Malasse, G. Buchheit, J.F. Aubry & H. Medromi

Session D-3: Human Reliability Analysis	Chair: L. Podofillini & P. Le Bot

Comparing CESA-Q human reliability analysis with evidence from simulator: a first attempt
L. Podofillini & B. Reer

Insights from the "HRA international empirical study" : how to link data and HRA with MERMOS
H. Pesme, P. Le Bot, & P. Meyer

Incorporating simulator evidence into HRA: Insights from the data analysis of the international HRA empirical study.
S. Massaiu, P. Ø. Braarud & M. Hildebrandt

An Evaluation of the Enhanced Bayesian THERP Method Using Simulator Data
K. Bladh, J.E. Holmberg & P. Pyy

Session E-3: Nuclear Engineering: New challenges	Chair: A. Prades

Complexity measures of emergency operating procedures: A comparison study with data from a simulated computerized procedure experiment
L.Q. Yu, Z.Z. Li, X.L. Dong & S. Xu

A Code for the Simulation of Human Failure Events in Nuclear Power Plants: SIMPROC
J. Gil, J. Esperon, L. Gamo, I. Fernandez, P. Gonzalez, J. Moreno, A. Exposito, C. Queral, G. Rodrıguez & J. Hortal.

Some insights from the observation of nuclear power plant operators' management of simulated abnormal situations
M.C. Kim & J. Park

End of day

MONDAY, 22 SEPTEMBER 2008	
Parallel Sessions 16h20 – 17h40 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-3: Monitoring and Instrumentation	Chair: F. Cadini
Preventive maintenance planning using prior expert knowledge and multicriteria method PROMETHEE III *F. A. Figueiredo; C. A. V. Cavalcante & A. T. de Almeida* A new approach for follow-up of safety instrumented systems in the oil and gas industry *S. Hauge & M.A. Lundteigen* Consequence based methodology to determine acceptable leakage rate through closed safety critical valves *W. Røed, K. Haver, H.S. Wiencke & T.E. Nøkland* Line Pack Management for Improved Regularity in Pipeline Gas Transportation Networks *L. Frimannslund & D. Haugland*	
Session G-3: Dynamic Reliability	Chair: P. E. Labeau
Importance Factors in Dynamic Reliability *R. Eymard, S. Mercier & M. Roussignol* A Dynamic Fault Classification Scheme *B. Fechner* TSD, a SCAIS suitable variant of the SDTPD *J.M. Izquierdo & I. Cañamón* Dynamics of Reliability and Availability (Oral Only) *S. Distefano & A. Puliafito*	
Session H-3: Accident and Incident Investigation II	Chair: J. E. Vinnem
Comparing a multi-linear (STEP) and a systemic (FRAM) method for accident analysis *I. A. Herrera & R. Woltjer* Development of incident report analysis system based on m-SHEL ontology *Y. Asada, T. Kanno & K. Furuta* Organizational Analysis of Availability: what are the lessons for a high risk industrial company ? *M. Voirin, S. Pierlot & Y.Dien* Weak Signals of Potential Accidents at “Seveso” Establishments *P.A. Bragatto, P. Agnello, S. Ansaldi & P. Pittiglio*	
Session I-3: Legislative Dimensions of Risk Management	Chair: A. Sandberg & O. Harrami
Regulation of information security and the impact on top management commitment - a comparative study of the electric power supply sector and the finance sector *J.M. Hagen & E.Albrechtsen* Accidents, risk analysis and safety management – different perspective at a Swedish safety authority *O. Harrami, M. Strömgren, U. Postgård & R. All* Evaluation of risk and safety issues at the Swedish Rescue Services Agency *O. Harrami, M. Strömgren & U. Postgård* The Unintended Consequences of Risk Regulation *B.H. MacGillivray, R.E. Alcock & J.S. Busby*	
End of day	

TUESDAY, 23 SEPTEMBER 2008	
Parallel Sessions 9h00 – 10h00 (Conference Centre I – Building 6G)	
Session A-4: Risk and Hazard Analysis IV	Chair: C. Vivalda & E. Lopez Droguett
Land use planning methodology used in Walloon Region (Belgium) for tank farms of gasoline and diesel oil *F. Tambour, N. Cornil, C. Delvosalle, C. Fiévez, L. Servranckx, B. Yannart & F. Benjelloun* Safety considerations in complex airborne systems *M.J.R. Lemes & J.B. Camargo Jr* Quantitative risk analysis method for warehouses with packaged hazardous materials *D. Riedstra, G.M.H. Laheij & A.A.C. van Vliet*	
Session B-4: Biotechnology and Food Industry III	Chair: A. Martinez & I. Escriche
Application of tertiary mathematical models for evaluating the presence of staphylococcal enterotoxin in lactic acid cheese *I. Steinka & A. Blokus-Roszkowska* Cyanotoxins and Health Risk Assessment *J. Kellner, F. Bozek, J. Navrátil & J. Dvorák* Exposure assessment model to combine thermal inactivation (log reduction) and thermal injury (heat-treated spore lag time) effects on non-proteolytic Clostridium botulinum *J. Membré, E. Wemmenhove & P. McClure*	
Session C-4: System Reliability Modelling and Optimization	Chair: G. Levitin
System design optimisation involving phased missions *D. Astapenko & L.M. Bartlett* A Depth First Search Algorithm for Optimal Arrangements in a Circular Consecutive-k-out-of-n:F System *K. Shingyochi & H. Yamamoto* Balancing safety and availability for an electronic protection system *S. Wagner, I. Eusgeld, W. Kr¨oger & G. Guaglio*	
Session D-4: Risk Control in Complex Environments	Chair: R. Rubbico
The optimization of system safety: rationality, insurance, and optimal protection *R.B. Jongejan & J.K. Vrijling* Using Network Methodology to Define Emergency Response Team Location: The Brazilian Refinery Case Study. *E. Calixto, E. Lèbre-La Rovere & J. Beraldo* Is there an optimal type for high reliability organization? A study of the UK offshore industry *J.S. Busby and A. Collins & R. Miles*	
Session E-4: Land Transportation - Road and Rail	Chair: G. Spadoni & A. Carrion
A modelling approach to assess the effectiveness of BLEVE prevention measures on LPG tanks *G. Landucci, M. Molag , J. Reinders & V. Cozzani* The Development of Semi-Markov Transportation Model *M. Zajac & T. Budny* Logistics of dangerous goods: A GLOBAL risk assessment approach *C.Mazri, C.Deust, B.Nedelec, C.Bouissou, J.C.Lecoze & B.Debray*	
Coffee break 10h00 – 10h30	

TUESDAY, 23 SEPTEMBER 2008	
Parallel Sessions 9h00 – 10h00 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-4: Maintenance Modelling and Applications I	Chair: T. Bedford & R. Mullor
Modelling Competing Risks and Opportunistic Maintenance with Expert judgement *T. Bedford & B.M. Alkali* Exact reliability quantification of highly reliable systems with maintenance *R. Bris* Non-Homogeneous Markov Reward Model for Aging Multi-State System under Corrective Maintenance *A. Lisnianski & I. Frenkel*	
Session G-4: Mathematical Methods I	Chair: M. Holicky
Reliability of a degrading system under inspections *D. Montoro-Cazorla, R. Pérez-Ocón & M.C. Segovia* On the Application and Extension of System Signatures in Engineering Reliability *J. Navarro, F. J. Samaniego, N. Balakrishnan & D. Bhattacharya* On some approaches to defining virtual age of non-repairable objects M.S. Finkelstein	
Session H-4: Civil Engineering	Chair: D. Proske
Hurricane Vulnerability of Multi-Story Residential Buildings in Florida *G. L. Pita, J.-P. Pinelli, C.S. Subramanian, K. Gurley & S. Hamid* Decision tools for risk management support in construction industry *S. Mehicic Eberhardt, S. Moeller, M. Missler-Behr, & W. Kalusche* Definition of Safety and the Existence of "Optimal Safety" *D. Proske*	
Session I-4: Stakeholder and Public Involvement in Risk Governance	Chair: J. Barnett
Public intervention for better governance - does it matter? A study of the «Leros Strength» case *P.H. Lindøe & J.E. Karlsen* Using stakeholders' expertise in EMF and soil contamination to improve the management of public policies dealing with modern risk: when uncertainty is on the agenda *C. Fallon, G. Joris & C. Zwetkoff*	
Coffee break 10h00 – 10h30	

TUESDAY, 23 SEPTEMBER 2008	
Parallel Sessions 10h30 – 11h30 (Conference Centre I – Building 6G)	
Session A-5: Risk and Hazard Analysis V	Chair: S. Eisinger
Risk reduction by use of a buffer zone *S.I. Wijnant-Timmerman & T. Wiersma* Inherent Safety Indices for the Design of Layout Plans *A. Tugnoli, V. Cozzani, F.I. Khan & P.R. Amyotte* Risk management system in water-pipe network functioning *B. Tchórzewska-Cieslak*	
Session B-5: Risk Analysis in Medicine and Biotechnology	Chair: P. Fito & T. Bedford
Bayesian statistical meta-analysis of epidemiological data for QRA *I. Albert, E. Espié, A. Gallay, H. De Valk, E. Grenier & J.-B. Denis* Regulating impurities in pharmaceutical products: would a Tolerability of Risk model (ToR) support better risk-benefit decisions? (Oral Only) *F. Bouder* The Estimation of Health Effect Risks Based on Different Sampling Intervals of Meteorological Data *J. Jeong & S. Hoon Han*	
Session C-5: Multi-state systems I	Chair: G. Levitin
Evaluating algorithms for the system state distribution of multi-state k-out-of-n:F system *T. Akiba, H.Yamamoto, T.Yamaguchi, K. Shingyochi & Y. Tsujimura* An efficient reliability computation of generalized multi-state k-out-of-n systems *S.V. Amari* Reliability, availability and cost analysis of large multi-state systems with ageing components *K. Kolowrocki*	
Session D-5: Security and Protection I	Chair: K. Kosmowski & E. Salzano
Are safety and security in industrial systems antagonistic or complementary issues? *G. Deleuze, E. Chatelet, P. Laclemence , J. Piwowar & B. Affeltranger* On the methods to model and analyze attack scenarios with Fault Trees *G. Renda, S. Contini & G.G.M. Cojazzi* Assesment of energy supply security indicators for Lithuania *J. Augutis, R. Krikstolaitis, V. Matuziene & S. Peciulyte*	
Session E-5: Land Transportation - Railway I	Chair: A. Carrion &G. Spadoni
Impact of preventive grinding on maintenance costs and determination of an optimal grinding cycle *C. Meier-Hirmer & Ph. Pouligny* Safety analysis methodology application into two industrial cases: a new mechatronical system and during the life cycle of a CAF's high speed train *O. Revilla, A. Arnaiz , L. Susperregui & U. Zubeldia* Availability assessment of ALSTOM's safety-relevant trainborne odometry sub-system *B.B. Stamenkovic & P. Dersin*	
Opening Poster Session I 11h30 – 12h00 (Conference Centre II – Building 7B)	
Plenary Talks 12h00 – 13h00 (Room A)	
Lunch 13h00 – 14h30 (Sports Pavilion – Building 6A)	

TUESDAY, 23 SEPTEMBER 2008	
Parallel Sessions 10h30 – 11h30 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-5: Maintenance Modelling and Applications II	Chair: R. Bris
Optimal Periodic Inspection/Replacement Policy for Deteriorating Systems with Explanatory Variables *X. Zhao, M. Fouladirad, C. Berenguer & L. Bordes* Optimal inspection intervals for maintainable equipment *O. Hryniewicz* Optimal replacement policy for components with general failure rates submitted to obsolescence *S. Mercier*	
Session G-5: Mathematical Methods II	Chair: M. Finkelstein & D. Ginestar
Comparison of methods for estimation of concrete strength *M. Holicky, K. Jung & M. Sykora* Robust estimation for an imperfect test and repair model using Gaussian mixtures *S. P. Wilson & S. Goyal* Algorithmic and computational analysis of a multi-component complex system *J.E. Ruiz-Castro, R. Pérez-Ocón & G. Fernández-Villodre*	
Session H-5: Waterborne Transportation I	Chair: B. Leira
Reliability of overtaking maneuvers between ships in restricted area *P. Lizakowski* Complex model of navigational accident probability assessment based on real time simulation and manoeuvring cycle concept *L. Gucma* Modeling of hazards, consequences and risk for safety assessment of ships in damaged conditions in operation *M. Gerigk*	
Session I-5: Risk Management	Chair: T. Horlick-Jones
Risk Images in Integrated Operations *C.K. Tveiten & P.M. Schiefloe* On some aspects related to the use of integrated risk analyses for the decision making process, including its use in the non-nuclear applications *D. Serbanescu, A. L. Vetere Arellano & A. Colli* SES RISK a new framework to support decisions on energy supply *D. Serbanescu & A. L. Vetere Arellano* Paperwork, management, and safety: Towards a bureaucratization of working life and a lack of hands-on supervision *G. M. Lamvik, P. C. Næsje, K. Skarholt & H. Torvatn*	
Opening Poster Session I 11h30 – 12h00 (Conference Centre II – Building 7B)	
Plenary Talks 12h00 – 13h00 (Room A)	
Lunch 13h00 – 14h30 (Sports Pavilion – Building 6A)	

TUESDAY, 23 SEPTEMBER 2008	
Parallel Sessions 14h30 – 15h50 (Conference Centre I – Building 6G)	
Session A-6: Risk and Hazard Analysis VI	Chair: P. van Gelder
Geographic information system for evaluation of technical condition and residual life of pipelines *P. Yukhymets, R. Spitsa & S. Kobelsky* Fuzzy Reliability Analysis of Corroded Oil and Gas Pipes *M. Singh & T. Markeset* FAMUS: Applying a New Tool for Integrating Flow Assurance and Ram Analysis *Ø. Grande, S. Eisinger & S. L. Isaksen*	
Session B-6: Aeronautics and Aerospace	Chair: J. Andrews & A. Arnaiz
Condition based operational risk assessment for improved aircraft operability. *A. Arnaiz, M. Buderath & S. Ferreiro* Predicting airport runway conditions based on weather data *A.B. Huseby & M. Rabbe* Is Optimized Design of Satellites Possible? *J. Faure, R. Laulheret & A. Cabarbaye* The Preliminary Risk Analysis Approach: Merging Space and Aeronautics Methods *J. Faure, R. Laulheret & A. Cabarbaye*	
Session C-6: Multi-state systems II	Chair: R. Bris
A Joint Reliability-Redundancy Optimization Approach for Multi-State Series-Parallel Systems *Z. Tian, G. Levitin& M. J. Zuo* Minmax Defense Strategy for Multi-state Systems *G. Levitin & K. Hausken* Calculating steady state reliability indices of multi-state systems using dual number algebra *E. Korczak* Representation and Estimation of Multi-State System Reliability by Decision Diagrams *E. Zaitseva & S. Puuronen*	
Session D-6: Security and Protection II	Chair: A. Thunem & S. Contini
Governmental risk communication: communication guidelines in the context of terrorism as a new risk *I. Stevens & G. Verleye* “Protection from Half-Criminal Windows Breakers to Mass Murderers with Nuclear Weapons” Changes in the Norwegian Authorities’ Discourses on the Terrorism Threat *S.H. Jore & O. Njå* A preliminary analysis of volcanic Na-Tech risks in the Vesuvius area *E. Salzano & A. Basco* Risk Management for Terrorist Actions using Geoevents *G. Maschio, M.F. Milazzo, G. Ancione & R. Lisi*	
Session E-6: Land Transportation - Railway II	Chair: O. Revilla
RAMS Specification for an Urban Transit Maglev System *A. Raffetti, B. Faragona, E. Carfagna & F. Vaccaro* FAI: model of Business Intelligence for projects in metrorailway system *A. Oliveira & J.R.Almeida Jr.* RAM assurance programme carried out by the Swiss Federal Railways SA-NBS project *B.B. Stamenkovic* Valuation of operational architecture dependability using SAFE SADT formalism: Application to a Railway Braking System *D. Renaux, L. Cauffriez, M. Bayart & V. Benard*	
Coffee break 15h50 – 16h20	

TUESDAY, 23 SEPTEMBER 2008	
Parallel Sessions 14h30 – 15h50 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-6: Maintenance Modelling and Applications III	Chair: M. Eid & P. Scarf
Genetic algorithm optimization of preventive maintenance scheduling for repairable systems modeled by generalized renewal process *P. A. A. Garcia, M. C. Sant'Ana, V. C. Damaso & P. F. Frutuoso e Melo* A study about influence of uncertain distribution inputs in maintenance optimization *R. Mullor, S. Martorell, A. Sánchez & N. Martinez-Alzamora* Multiobjective optimization of redundancy allocation in systems with imperfect repairs via ant colony and discrete event simulation *I.D. Lins & E.López Droguett* Simulated annealing method for the selective maintenance optimization of multi-mission series-parallel systems *A. Khatab, D. Ait-Kadi & A. Artiba*	
Session G-6: Integrated Risk Management I	Chair: T. Aven
Precaution in practice? The case of nanomaterial industry *H. Kastenholz, A. Helland & M. Siegrist* All-hazards risk framework – an architecture model *S. Verga* What does "safety margin" really mean? *J. Hortal, R. Mendizábal & F. Pelayo* Comparisons and discussion of different integrated risk approaches *R. Steen & T. Aven,*	
Session H-6: Structural Reliability and Design I	Chair: C. Guedes Soares
Estimations in the Random Fatigue-Limit Model *Chuan-Hung Chiu & Wen-Tao Huang* Structural safety under extreme construction loads *V. Juocevicius & A. Kudzys* Design of structures for accidental design situations *J. Marková & K. Jung* Special features of the collection and analysis of snow loads *Z. Sadovsky, P. Fasko, K. Mikulová, J. Pecho & M.Vojtek*	
Session I-6: Risk Perception and Communication I	Chair: O. Salvi & A. Enander
The social perception of nuclear fusion: investigating lay understanding and reasoning about the technology *A. Prades, C. Oltra, J. Navajas, T. Horlick-Jones & J. Espluga* (Mis-)conceptions of safety principles *J.-T.Gayen & H. Schäbe* Risk perception and cultural theory: criticism and methodological orientation *C. Kermisch & P.-E. Labeau* Media disaster coverage over time: methodological issues and results *M. Kuttschreuter & J.M. Gutteling*	
Coffee break 15h50 – 16h20	

TUESDAY, 23 SEPTEMBER 2008	
Parallel Sessions 16h20 – 17h20 (Conference Centre I – Building 6G)	
Session A-7: Risk and Hazard Analysis VII	Chair: S. Contini
Alarm prioritization at plant design stage – A simplified approach *P.Barbarini, G.Franzoni & E.Kulot* Added value in fault tree analyses *T. Norberg, L. Rosen & A. Lindhe* Ranking the attractiveness of industrial plants to external acts of interference *M. Sabatini, S. Zanelli, S. Ganapini, S. Bonvicini & V. Cozzani*	
Session B-7: Information Technology and Telecommunications I	Chair: E. Korczak
Formal reasoning regarding error propagation in multi-process software architectures *F. Sætre & R. Winther* Reliable Network Server Assignment Using an Ant Colony Approach *S. Kulturel-Konak & A. Konak* A bi-objective model for routing and wavelength assignment in resilient WDM networks *T. Gomes, J. Craveirinha, C. Simoes & J. Clımaco*	
Session C-7: Multi-state systems III	Chair: E. Zaitseva
Reliability Analysis of Discrete Multi-State Systems by Means of Subset Simulation *E. Zio & N. Pedroni* A new approach to assess the reliability of a multi-state system with dependent components *M. Samrout & E. Chatelet* Three-State Modelling of Dependent Component Failures with Domino Effects *U.K. Rakowsky*	
Session D-7: Safety Culture I	Chair: L. Goossens
Empowering Operations and Maintenance: Safe Operations with the "One Directed Team" Organizational Model at the Kristin Asset *P. Næsje, K. Skarholt, V. Hepsø & A.S. Bye* "Us" and "them": The impact of group identity on safety critical behaviour *R.J. Bye, S. Antonsen & K.M. Vikland* Leadership and safety climate in the construction industry *J.L. Meliá, S.A. Silva, K. Mearns & M. Becerril*	
Session E-7: Risk Analysis in Transport	Chair: V. Cozzani
Analysis of possibilities of timing dependencies modelling – example of logistic support system *J. Magott, T. Nowakowski, P. Skrobanek & S. Werbinska* Optimal design of control systems using a dependability criteria and temporal sequences evaluation Application to a railroad transportation system *J. Clarhaut, S. Hayat, B.Conrard & V.Cocquempot* Human Fatigue Model at Maritime Transport *L. Smolarek & J. Soliwoda*	
End of day	

TUESDAY, 23 SEPTEMBER 2008	
Parallel Sessions 16h20 – 17h20 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-7: Maintenance Modelling and Applications IV	Chair: E. Lopez Droguet
An imperfect preventive maintenance model with dependent failure modes *I.T. Castro* A hybrid age-based maintenance policy for heterogeneous items *P.A. Scarf, C.A.V. Cavalcante, R.W. Dwight & P. Gordon* An alternative imperfect preventive maintenance model *J. Clavareau & P.E. Labeau*	
Session G-7: Integrated Risk Management II	Chair: O. Salvi
Management of risk caused by domino effect resulting from design system dysfunctions *S. Sperandio, V. Robin & Ph. Girard* Risk based maintenance prioritisation *G. Birkeland, S. Eisinger & T. Aven* Shifts in environmental health risk governance: an analytical framework *H.A.C. Runhaar, J.P. van der Sluijs & P.P.J. Driessen*	
Session H-7: Structural Reliability and Design II	Chair: Z. Sadovsky
The modeling of time-dependent reliability of deteriorating structures *A. Kudzys, & O. Lukosevicien* Simulation Techniques of Non-Gaussian Random Loadings in Structural Reliability Analysis *Y. Jiang, C. Zhang, X. Chen & J. Tao* Adaptive discretization of 1D homogeneous random fields *D.L. Allaix, V.I. Carbone & G. Mancini*	
Session I-7: Risk Perception and Communication II	Chair: A. Prades & J. Harvey
Climate change in the British press: the role of the visual *N.W. Smith & H. Joffe* Do the people exposed to a technological risk always want more information about it? Some observations on cases of rejection *J. Espluga, J. Farré, J. Gonzalo, T. Horlick-Jones, A. Prades, C. Oltra & J. Navajas* Risk Amplification and Zoonosis *D.G. Duckett & J.S. Busby*	
End of day	

WEDNESDAY, 24 SEPTEMBER 2008	
Parallel Sessions 9h00 – 10h00 (Conference Centre I – Building 6G)	
Session A-8: Risk and Hazard Analysis VIII	Chair: B. Ale
Dutch registration of risk situations *J.P. van 't Sant, H.J. Manuel & A. van den Berg* Applying optimization criteria to risk analysis *H. Medina, J. Arnaldos & J. Casal* Risk Analysis in the frame of the ATEX Directive and the preparation of an Explosion Protection Document *A. Pey, G. Suter, M. Glor, P. Lerena & J. Campos*	
Session B-8: Information Technology and Telecommunications II	Chair: E. Korczak
Risk and Safety as System-Theoretic Concepts - A Formal View on System-Theory by Means of Petrinets *J.R. Müller & E. Schnieder* Implementation of risk and reliability analysis techniques in ICT *R. Mock, E. Kollmann & E. Bunzli* Information Security Measures Influencing User Performance *E.Albrechtsen & J.M. Hagen*	
Session C-8: System Reliability Analysis I	Chair: R. Perez-Ocon & J. P. Signoret
Bivariate distribution based passive system performance assessment *L. Burgazzi* Delayed system reliability and uncertainty analysis *R. Alzbutas, V. Janilionis & J. Rimas* Model of logistic support system with time dependency *S. Werbinska*	
Session D-8: Safety Culture II	Chair: H. P. Berg
Quantitative analysis of the anatomy and effectiveness of occupational safety culture *P. Trucco, M. De Ambroggi & O. Grande* Electrostatic charges in industrial environments *P. LLovera, A. Quijano, A. Soria & V. Fuster* Electromagnetic Fields in the Industrial Enviroment *J. Fernández, A. Quijano, M. L. Soriano, & V. Fuster*	
Session E-8: Chemical Process Industry - Hazard Identification and Analysis	Chair: M. Christou
Reaction Hazard of Cumene Hydroperoxide with Sodium Hydroxide by Isothermal Calorimetry *Ying-Pin Chou, Sheng-Hung Wu, Chi-Min Shu, & Hung-Yi Hou* An advanced model for spreading and evaporation of accidentally released hazardous liquids on land *I.J.M. Trijssenaar-Buhre, R.P. Sterkenburg & S.I. Wijnant-Timmerman* Adapting the EU Seveso II Directive for GHS: initial UK study on acute toxicity to people *M.T. Trainor, A.J. Wilday, M. Moonis, A.L. Rowbotham, S.J. Fraser, J.L. Saw & D.A. Bosworth*	
Coffee break 10h00 – 10h30	

WEDNESDAY, 24 SEPTEMBER 2008	
Parallel Sessions 9h00 – 10h00 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-8: Maintenance Modelling and Applications V	Chair: Z. Li
Profitability assessment of outsourcing maintenance from the producer (big rotary machine study) *P. Fuchs & J. Zajicek* Workplace occupation and equipment availability and utilization, in the context of maintenance float systems *I. S. Lopes, A. F. Leitão & G. A. B. Pereira* Condition based maintenance optimization under cost and profit criteria for manufacturing equipment *A.Sánchez, A. Goti & V. Rodríguez*	
Session G-8: Decision Support Systems and Software Tools I	Chair: T. Bedford & P. Burgherr
Methodology and software platform for multi-layer causal modeling *K.M. Groth, C. Wang, D. Zhu & A. Mosleh* SCAIS (Simulation Code System for Integrated Safety Assessment): Current status and applications *J. M. Izquierdo, J. Hortal, M. Sánchez, E. Meléndez, R. Herrero, J. Gil, L. Gamo, I. Fernández, J. Esperón, P. González, C. Queral, A. Expósito & G. Rodríguez* Using GIS and multivariate analyses to visualize risk levels and spatial patterns of severe accidents in the energy sector *P. Burgherr*	
Session H-8: Waterborne Transportation II	Chair: C. Guedes Soares
The risk analysis of harbour operations *T. Abramowicz-Gerigk* A Simulation Based Risk Analysis Study of Maritime Traffic in the Strait of Istanbul *B. Ozbas¸ Ilhan. Or, T. Altıok, & O. S. Uluscu* The analysis of SAR action effectiveness parameters with respect to drifting search area model *Z. Smalko & Z. Burciu*	
Session I-8: Risk Perception and Communication III	Chair: J. Barnett
Measuring attitudes to risk and safety in everyday life (Oral Only) *A. Enander & M. Börjesson* Media coverage, imaginary of risks and technological organizations *F. Fodor & G. Deleuze* Risk communication and addressing uncertainties in risk assessments - presentation of a framework *J. Stian Østrem, H. Thevik, R. Flage & T. Aven*	
Coffee break 10h00 – 10h30	

WEDNESDAY, 24 SEPTEMBER 2008	
Parallel Sessions 10h30 – 11h30 (Conference Centre I – Building 6G)	
Session A-9: Risk and Hazard Analysis IX	Chair: B. Ale
Comparison of different methodologies to estimate the evacuation radius in the case of a toxic release *M.I. Montoya & E. Planas* Using a Causal model for Air Transport Safety (CATS) for the evaluation of alternatives *B.J.M. Ale, L.J. Bellamy, R.P. van der Boom, J. Cooper, R.M. Cooke, D. Kurowicka, P.H. Lin, O. Morales, A.L.C. Roelen & J. Spouge* A Quantitative Risk Analysis and the safety stripe (Oral Only) *J. Campos, A. Pey, P. Lerena, G. Suter & F. Stoessel.*	
Session B-9: Software Reliability I	Chair: A. Ferrer & A. Sanchez
Guaranteed Resource Availability in a Website *V.P. Koutras & A.N. Platis* SysML aided functional safety assessment *M. Larisch, A. Hänle, U. Siebold & I. Häring* UML safety requirement specification and verification *A. Hänle & I. Häring*	
Session C-9: System Reliability Analysis II	Chair: K. Kolowrocki
RAMS and performance analysis *X. Quayzin, E. Arbaretier & Z. Brik, A. Rauzy* Reliability evaluation of III-V Concentrator Solar Cells *N. Núñez, J. R. González, M. Vázquez, C. Algora & I. Rey-Stolle* PRA-Type Study Adapted to the Multi-crystalline Silicon Photovoltaic Cells Manufacture Process *A. Colli, D. Serbanescu & B.J.M. Ale*	
Session D-9: Safety Culture III	Chair: A. Thunem & K. M. Vikland
Safety management and safety culture assessment in Germany *H. P. Berg* Does change challenge safety? Complexity in the civil aviation transport system *S. Høyland & K. Aase* Local Management and its impact on Safety Culture and Safety within Norwegian Shipping *H.A Oltedal & O.A. Engen*	
Session E-9: Chemical Process Industry - Reliability Assessment and Safety Management Systems	Chair: B.Galván
Performance Evaluation of Manufacturing Systems based on Dependability Management Indicators-Case Study: Chemical Industry *K.Rezaie, M. Dehghanbaghi & V. Ebrahimipour* Reliability Study of Shutdown process through the analysis of decision making in chemical plants. Case of study: South America, Spain and Portugal *L. Amendola, M. A. Artacho & T. Depool* Study of the application of risk management practices in shutdown chemical process *L. Amendola, M. A. Artacho, & T. Depool*	
Opening Poster Session II 11h30 – 12h00 (Conference Centre II – Building 7B)	
Plenary Talks 12h00 – 13h00 (Room A)	
Lunch 13h00 – 14h30 (Sports Pavilion – Building 6A)	

WEDNESDAY, 24 SEPTEMBER 2008	
Parallel Sessions 10h30 – 11h30 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-9: Maintenance Modelling and Applications VI	Chair: C. Berenguer & A. Grall
Planning And Scheduling Maintenance Resources In A Complex System *M. Newby & C. Barker* Study on the availability of a k-out-of-N System given limited spares under (m, NG) maintenance policy *T. Zhang, H.T. Lei & B. Guo* Maintenance modelling integrating human and material resources *S. Martorell, M. Villamizar, A. Sánchez & G. Clemente*	
Session G-9: Decision Support Systems and Software Tools II	Chair: M. Sanchez
DETECT: a novel framework for the detection of attacks to critical infrastructures *F. Flammini, A. Gaglione, N. Mazzocca & C. Pragliola* Complex expert based multi-role assessment system for Small and Medium Enterprises *D.S.G.Kovacs & D.M.Costescu*	
Session H-9: Waterborne Transportation III	Chair: L. Gucma
Numerical and experimental study of a reliability measure for dynamic control of floating vessels *B. J. Leira, P. I. B. Berntsen & O. M. Aamo* Collision Risk Analyses of Waterborne Transportation *E. Vanem, R. Skjong & U. Langbecker* Analysis of maritime accident data with BBN models *P. Antão, O. Grande, P. Trucco & C. Guedes Soares*	
Session I-9: Risk Perception and Communication IV	Chair: A. Enander & M. Kuttschreuter
Making Sense of Information Provision (Oral Only) *J. Barnett* Risk communication for industrial plants and radioactive waste repositories *F. Gugliermetti & G. Guidi* Standing in the Shoes of Hazard Managers: an Experiment on Avalanche Risk Perception *C.M. Rheinberger* Investigating the material limits on social construction: practical reasoning about nuclear fusion and other technologies *T. Horlick-Jones, A. Prades, C. Oltra & J. Navajas*	
Opening session Poster II 11h30 – 12h00 (Conference Centre II – Building 7B)	
Plenary Talks 12h00 – 13h00 (Room A)	
Lunch 13h00 – 14h30 (Sports Pavilion – Building 6A)	

WEDNESDAY, 24 SEPTEMBER 2008

Parallel Sessions 14h30 – 15h50 (Conference Centre I – Building 6G)

Session A-10: Safety and Risk Management — Chair: T. Horlick-Jones

On causes and dependencies of errors in human and organizational barriers against major accidents
J.E. Vinnem

Conceptualizing and Managing Risk Networks. New Insights for Risk Management
R.W. Schröder

Safety in Engineering Practice
Z. Smalko & J. Szpytko

Risk management model for industrial plants maintenance
N. Napolitano, M. De Minicis, G. Di Gravio & M. Tronci

Session B-10: Software Reliability II — Chair: R. Ruiz & A. Sanchez

Assessment of Software Reliability and the Efficiency of Corrective Actions during the Software Development Process
R. Savic

Reliable Software for Partitionable Networked Environments - An Experience Report
S. Beyer, J. C. García, F. D. Muñoz-Escoí, P. Galdámez, L. Froihofer and K. M. Goeschka & J. Osrael

ERTMS, deals on wheels? An inquiry into a major railway project
J.A. Stoop, J.H. Baggen, J.M. Vleugel & J.L.M. Vrancken

Session C-10: System Reliability Analysis III — Chair: M. Cepin

Application of the fault tree analysis for assessment of the power system reliability
A. Volkanovski, M. Cepin & B. Mavko

The operation quality assessment as an initial part of reliability improvement and low cost automation of the system
L. Muslewski, M. Woropay & G. Hoppe

First-passage time analysis for Markovian deteriorating model
G. Dohnal

A reliability analysis and decision making process for autonomous systems
R. Remenyte-Prescott, J.D. Andrews, P.W.H. Chung & C.G. Downes

Session D-10: Occupational Safety I — Chair: A. M. Makin & C. Winder

Application of Virtual Reality technologies to improve occupational & industrial safety in industrial processes
J. Rubio, B. Rubio, C. Vaquero, N. Galarza, A. Pelaz, J.L. Ipiña, D. Sagasti & L. Jordá

Occupational Risk Management for Vapour/Gas Explosions
I.A. Papazoglou, O. N. Aneziris, M. Konstandinidou, M. Mud, M. Damen, J. Kuiper, A. Bloemhoff, H. Baksteen, L.J. Bellamy, J.G. Post & J. Oh

Occupational Risk Management for Fall from Height
O. N. Aneziris, M. Konstandinidou, I.A. Papazoglou, M. Mud, M. Damen, J. Kuiper, H. Baksteen, L.J. Bellamy, J.G. Post & J. Oh

Control of footwear for professional use on the market (Oral Only)
M.J. Gascón, C.M. Marco, N. Porta & P. Martinez

Session E-10: Chemical Process Industry - External Safety Management — Chair: M. Christou

Influence of safety systems on land use planning around Seveso sites; example of measures chosen for a fertiliser company located close to a village
C. Fiévez, C. Delvosalle, N. Cornil, L. Servranckx, F. Tambour, B. Yannart & F. Benjelloun

Quantitative Assessment of Domino Effect in an Extended Industrial Area
G. Antonioni, G. Spadoni, V. Cozzani, C. Dondi & D. Egidi

Protection of chemical industrial installations from intentional adversary acts: Comparison of the new security challenges with the existing safety practices in Europe
M.D. Christou

The economics of land use planning around major hazard installations (oral only)
D. Kemball, T. McNally, C. Milne

Coffee break 15h50 – 16h20

WEDNESDAY, 24 SEPTEMBER 2008

Parallel Sessions 14h30 – 15h50 (Conference Centre II – Building 7B and Centre III – Building 7A)

Session F-10: Maintenance Modelling and Applications VII — Chair: M. Newby & A. Goti

New virtual age models for bathtub shaped failure intensities
Y. Dijoux & E. Idee

Corrective Maintenance for Aging Air Conditioning Systems
I. Frenkel, L. Khvatskin & A. Lisnianski

On the modeling of ageing using Weibull models: Case studies
P. Praks, H. Fernandez Bacarizo & Pierre-Etienne Labeau

Aging processes as a primary aspect of predicting reliability and life of aeronautical hardware
J. Zurek, M. Zieja, G. Kowalczyk & T. Niezgoda

Session G-10: Uncertainty and Sensitivity Analysis I — Chair: S. San Matias & P. Limbourg

Reliability Assessment under Uncertainty Using Dempster-Shafer and Vague Set Theories
S. Pashazadeh & N. Grachorloo

Types and sources of uncertainties in environmental accidental risk assessment: A case study for a chemical factory in the Alpine region of Slovenia
M. Gerbec & B. Kontic

Alternative representations of uncertainty in system reliability and risk analysis – review and discussion
R. Flage, T. Aven & E. Zio

Impact of uncertainty affecting reliability models on warranty contracts
G. Fleurquin, P. Dehombreux & P. Dersin

Session H-10: Natural Hazards I — Chair: P. van Gelder

Applying the SDMS model to manage natural disasters in Mexico
J.R. Santos-Reyes & A. N. Beard

A Simple Method of Risk Potential Analysis for Post-Earthquake Fires
J. L. Su, C. C. Wu, K. S. Fan & J. R. Chen

Decision Making Tools for Natural Hazard Risk Management - examples from Switzerland
M. Bründl, B. Krummenacher & H. M. Merz

Integral Risk Management of Natural Hazards – a System Analysis of Operational Application to Rapid Mass Movements
N. Bischof, H. Romang & M. Bründl

Session I-10: Reliability and Safety Data Analysis I — Chair: S. Wilson

Evaluation, analysis and synthesis of multiple source information: an application to nuclear computer codes
S. Destercke & E. Chojnacki

Collection and Analysis of Reliability Data over the whole Product lifetime of vehicles
T. Leopold & B. Bertsche

Improving Reliability using New Processes and Methods
S.J. Park, S.D. Park & K.T. Jo

Risk Management Measurement Methodology: Practical Procedures and Approaches for Risk Assessment and Prediction
R.B. Duffey & J.W. Saull

Risk Trends, Indicators and Learning Rates: A New Case Study of North Sea Oil and Gas
R.B. Duffey & A.B. Skjerve

Coffee break 15h50 – 16h20

WEDNESDAY, 24 SEPTEMBER 2008

Parallel Sessions 16h20 – 18h00 (Conference Centre I – Building 6G)

Session A-11: Safety Management Systems	Chair: H. Kortner & L. Podofillini

Drawing up and running a Security Plan in an SME type company - an easy task?
M. Gerbec

Some Safety Aspects on Multi-Agent and CBTC Implementation for Subway Control Systems
F.M. Rachel & P.S. Cugnasca

Determining and verifying the safety integrity level of the control and protection systems under uncertainty
T. Barnert, K.T. Kosmowski & M. Sliwinski

Production Assurance and Reliability Management – A New International Standard
H. Kortner, K. E. Haugen & L. Sunde

Session B-11: Automotive Engineering	Chair: Z. Vintr

Influence of the mileage distribution on reliability prognosis models
A. Braasch, D. Althaus & A. Meyna

An Approach to Describe Interactions in and between Mechatronic Systems
J. Gäng & B. Bertsche

Towards a better interaction between design and dependability analysis: FMEA derived from UML/SysML models
P. David, V. Idasiak & F. Kratz

Reliability Prediction for Automotive Components using Real-Parameter Genetic Algorithm
J. Hauschild, A. Kazeminia & A. Braasch

Stochastic modeling and prediction of catalytic converters degradation
S. Barone, M. Giorgio, M. Guida & G. Pulcini

Session C-11: Safety Instrumented Systems I	Chair: A. Barros & J. P. Signoret

Modelling test strategies effects on the probability of failure on demand for safety instrumented systems
A.C. Torres-Echeverria, S. Martorell & H.A. Thompson

Optimization of proof test policies for safety instrumented systems using multi-objective genetic algorithms
A.C. Torres-Echeverria, S. Martorell & H.A. Thompson

Reliability Prediction using Petri Nets for On-Demand Systems with Fault Detection
A. V. Kleyner & V. Volovoi

New insight into PFDavg and PFH
F. Innal, Y. Dutuit, A. Rauzy & J.-P. Signoret

PFD of Higher-Order Configurations of SIS with Partial Stroke Testing Capability
L.F.S. Oliveira

Session D-11: Occupational Safety II	Chair: O. Aneziris

Occupational Risk of an aluminium industry
O.N. Aneziris, I.A. Papazoglou & O. Doudakmani

Mathematical Modelling of Risk Factors Concerning Work-Related Traffic Accidents
C. Santamaría, G. Rubio, B. García & E. Navarro

Development of an Assessment Tool to Facilitate OHS Management Based upon the Safe Place, Safe Person, Safe Systems Framework
A.-M. Makin & C. Winder

Applying the resilience concept in practice: A case study from the oil and gas industry
L. Hansson, I. Andrade Herrera, T. Kongsvik & G. Solberg

Exploring Knowledge Translation in Occupational Health using the Mental Models approach: a case study of machine shops.
A-M Nicol & A.C. Hurrell

Customised footwear for professional use (Oral Only)
P. Martinez & E. Montiel

Session E-11: Risk in Chemical and Gas Industry	Chair: B. Leira

A quantitative methodology for risk assessment of explosive atmospheres according to the ATEX Directive
R. Lisi, M.F. Milazzo & G. Maschio

Life cycle cost analysis in design of oil and gas production facilities to be used in harsh, remote and sensitive environments
D. Kayrbekova & T. Markeset

Multicriteria risk assessment for risk ranking of natural gas pipelines
A. J. de M. Brito; C. A. V. Cavalcante; R. J. P. Ferreira; & A. T. de Almeida

Chemical risk assessment for inspection teams during CTBT on-site in-spections of sites potentially contaminated with industrial chemicals
G. Malich & C. Winder

Accidental scenarios in the loss of control of chemical processes: screening the impact profile of secondary substances
M. Cordella, A. Tugnoli, P. Morra, V. Cozzani & F. Barontini

Cocktail hosted by SRA-Europe 18h30 (Conference Centre II – Building 7B)

End of day

WEDNESDAY, 24 SEPTEMBER 2008

Parallel Sessions 16h20 – 18h00 (Conference Centre II – Building 7B and Centre III – Building 7A)

Session F-11: Maintenance Modelling and Applications VIII	Chair: C. Berenguer

On-line condition-based maintenance for systems with several modes of degradation
A. Ponchet, M. Fouladirad & A. Grall

Condition-based maintenance by particle filtering
F. Cadini, E. Zio & D. Avram

Modelling Different Types of Failure and Residual Life Estimation for Condition-Based Maintenance
M.J. Carr & W. Wang

A Stochastic Process Model for Computing the Cost of a Condition-Based Maintenance Plan
J.A.M. van der Weide, M.D. Pandey & J.M. van Noortwijk

Condition-based maintenance approaches for deteriorating system influenced by environmental conditions
E. Deloux, B. Castanier & C. Berenguer.

Session G-11: Uncertainty and Sensitivity Analysis II	Chair: E. Zio & S. Tarantola

Influence of epistemic uncertainties on the probabilistic assessment of an emergency operating procedure in a nuclear power plant
M. Kloos & J. Peschke

Dependence modelling with copula in probabilistic studies, a practical approach based on numerical experiments
A. Dutfoy & R. Lebrun

On the variance upper bound theorem and its applications
M.T.Todinov

Numerical study of algorithms for metamodel construction and validation
B. Iooss, L. Boussouf, A. Marrel & V. Feuillard

Global sensitivity analysis based on entropy
B. Auder & B. Iooss

Session H-11: Natural Hazards II	Chair: M. S. de Wit

Valuation of Flood Risk in the Netherlands: Some Preliminary Results
M. Bo_karjova, P. Rietveld & E.T. Verhoef

River System Behaviour Effects on Flood Risk
T. Schweckendiek, A.C.W.M. Vrouwenvelder, M.C.L.M. van Mierlo, E.O.F. Calle & W.M.G. Courage

A framework for the assessment of the industrial risk caused by floods
M. Campedel, G. Antonioni, V. Cozzani & G. Di Baldassarre

Risk based approach for a long-term solution of coastal flood defences- A Vietnam case
C. Mai Van, P.H.A.J.M. van Gelder & J.K. Vrijling

How to Motivate People to Assume Responsibility and Act upon Their own Protection from Flood Risk in the Netherlands if They Think They are Perfectly Safe?
M. Bockarjova, A. van der Veen & P.A.T.M. Geurts

Session I-11: Reliability and Safety Data Analysis II	Chair: M. Eid

Comparison of phase-type distributions with mixed and additive Weibull models
M. C. Segovia & C. Guedes Soares

Evaluation of device reliability based on accelerated tests.
E. Nogueira Díaz, M. Vázquez López & D. Rodríguez Cano

A New Step-Stress Accelerated Life Testing Approach: Step-Down-Stress
C. Zhang, Y. Wang_X. Chen & Yu Jiang

Evaluation methodology of industry equipment functional reliability
J. Kamenicky

Life test applied to Brazilian friction-resistant low alloy-high strength steel rails
D. De Souza, A. Naked Haddad & D. Rocha Fonseca

Cocktail hosted by SRA-Europe 18h30 (Conference Centre II – Building 7B)

End of day

THURSDAY, 25 SEPTEMBER 2008	
Parallel Sessions 9h00 – 10h00 (Conference Centre I – Building 6G)	
Session A-12: Risk Analysis and Management	Chair: T. Aven
Analysing analyses - An approach to combining several risk and vulnerability analyses *J. Borell & K. Eriksson* Preliminary probabilistic study for risk management associated to casing long-term integrity in the context of CO2 geological sequestration - Recommendations for cement plug geometry *Y. Le Guen, O. Poupard, J.-B. Giraud & M. Loizzo*	
Session B-12: Energy Production and Distribution: Applications	Chair: S. Carlos
Risk analysis of the electric power transmission grid *L.M. Pedersen & H.H. Thorstad* Application of Bayesian networks for risk assessment in electricity distribution system maintenance management *D. E. Nordgård & K. Sand* Specification of Reliability Benchmarks for Offshore Wind Farms *D. McMillan & G. W. Ault*	
Session C-12: Safety Instrumented Systems II	Chair: J. P. Signoret & A. Kleyner
Weaknesses of Classic Availability Calculations for Interlinked Production Systems and their Overcoming *D. Achermann* Safety Instrumented System reliability evaluation with Influencing Factors *F. Brissaud, D. Charpentier, M. Fouladirad, A. Barros & C. Bérenguer* On Combination of Safety Integrity Levels (SILs) according to IEC61508 Merging Rules *Y. Langeron, A. Barros, A. Grall & C. Berenguer*	
Session D-12: Organizational Learning I	Chair: J. Harvey
Outsourcing Maintenance in Services Providers *J.F. Gómez, C. Parra, V. González, A. Crespo & P. Moreu de León* Integrated operations and leadership – how virtual cooperation influences leadership practice *K. Skarholt, P. Næsje, V. Hepsø & A.S. Bye* Consequence Analysis as Organizational Development *B. Moltu, A. Jarl Ringstad & G. Guttormsen*	
Session E-12: Risk of Explosions and Fires	Chair: B. Galván
Why ISO 13702 and NFPA 15 Standards May Lead to Unsafe Design *S. Medonos & R. Raman* Developing fragility function for a timber structure subjected to fire *E.R. Vaidogas, Virg. Juocevicius & Virm. Juocevicius* Experimental Study of Jet Fires *M. Gómez-Mares, A. Palacios, A. Peiretti, M. Muñoz & J. Casal*	
Coffee break 10h00 – 10h30	

THURSDAY, 25 SEPTEMBER 2008	
Parallel Sessions 9h00 – 10h00 (Conference Centre II – Building 7B and Centre III – Building 7A)	
Session F-12: Maintenance Modelling and Applications IX	Chair: E. Zio & A. Sanchez
Opportunity-based age replacement for a system under two types of failures. *F.G. Badıa & M.D. Berrade* Optimal Preventive Maintenance with random breakdowns and imperfect repairs (Oral Only) *E. Love* Multi-component systems modeling for quantifying complex maintenance strategies *V. Zille, C. Bérenguer, A. Grall, A. Despujols & J. Lonchampt*	
Session G-12: Uncertainty and Sensitivity Analysis III	Chair: B. Iooss & R. Mendizabal
A Critique of Info-Gap's Robustness Model *M. Sniedovich* Uncertainty Estimation for Monotone and Binary Systems *A. P. Ulmeanu & N. Limnios* Event tree uncertainty analysis by Monte Carlo and possibility theory *P. Baraldi & E. Zio*	
Session H-12: Natural Hazards III	Chair: M.Bründl
Building resilience to natural hazards. Practices and policies on governance and mitigation in the Central Region of Portugal. *J.M. Mendes & A.T. Tavares* On the usage of weather derivatives in Austria – An empirical study *M. Bank & R. Wiesner* Governance of flood risks in The Netherlands: interdisciplinary research into the role and meaning of risk perception *M.S. de Wit, H. van der Most, J.M. Gutteling & M. Bockarjova*	
Session I-12: Policy Decisions I	Chair: U.S. Brandt
Factors influencing the public acceptability of the LILW repository *N. Zeleznik, M.Polic & D.Kos* Dealing with nanotechnology: do the boundaries matter? *S. Brunet, P. Delvenne, C. Fallon & P. Gillon* Risk management strategies under climatic uncertainties *U. S. Brandt*	
Coffee break 10h00 – 10h30	

THURSDAY, 25 SEPTEMBER 2008

Parallel Sessions 10h30 – 11h50 (Conference Centre I – Building 6G)

Session A-13: Importance Measures — Chair: J. Vaurio

The Natvig measures of component importance in repairable systems applied to an offshore oil and gas production system
B. Natvig, K. A. Eide, J. G°asemyr, A. B. Huseby & S. L. Isaksen

Concordance Analysis of Importance Measure
C. M. Rocco S.

New insight into measures of component importance in production systems
S. L. Isaksen

Advanced discrete event simulation methods with application to importance measure estimation
A. B. Huseby, K. A. Eide, S. L. Isaksen, B. Natvig & J. G°asemyr

Session B-13: Energy Production and Distribution: Methods — Chair: R. Mendizabal

Incorporation of ageing effects into reliability model for power transmission network
V. Matuzas & J. Augutis

Security of gas supply to a gas plant from cave storage using discrete-event simulation
J.D. Amaral, L.F. Oliveira & D. Faertes

Mathematical simulation of energy supply disturbances
J.Augutis, R. Krikstolaitis, V.Matuziene & S.Peciulyte

Availability and Reliability Assessment of Industrial Complex Systems. A practical view applied on a Bioethanol Plant Simulation
V. González, C. Parra, J.F. Gómez, A. Crespo & P. Moreu de León

Comparative analysis of the methods of evaluating the damage from the interruptions in energy supply of the users *(Oral Only)*
V. Lesnykh & T. Timofeeva

Session C-13: System Safety Analysis — Chair: D. Ginestar

Variable Ordering techniques for the application of Binary Decision Diagrams on PSA linked Fault Tree models
C. Ibáñez-Llano, A. Rauzy, E. Meléndez & F. Nieto

Modeling of the changes of graphite bore in RBMK-1500 type nuclear reactor
I. Zutautait -Seputien, J. Augutis & E.Uspuras

BDMP (Boolean logic Driven Markov Processes) ® as an alternative to Event Trees
M. Bouissou

Availability of alternative sources for heat removal in case of failure of the RHRS during midloop conditions addressed in LPSA
J.F. Villanueva, S. Carlos, S. Martorell, V. Serradell, F. Pelayo & R. Mendizábal

Session D-13: Organizational Learning II — Chair: B. Moltu

The potential for error in communications between engineering designers
J. Harvey, R. Jamieson & K Pearce

Can organisational learning improve safety and resilience during changes?
S.O. Johnsen & S. Håbrekke

Revising rules and reviving knowledge in the Norwegian railway system
H.C. Blakstad, R. Rosness & J. Hovden

Session E-13: Crisis and Emergency Management — Chair: A. Enander

On the constructive role of multi-criteria analysis in complex decision-making: An application in radiological emergency management
C. Turcanu, B. Carlé, J. Paridaens & F. Hardeman

A mathematical model for risk analysis of disaster chains
A. Xuewei Ji, B. Wenguo Weng & Pan Li

Effective learning from emergency responses
K. Eriksson & J. Borell

The effect of crisis experiences in management ability and mental preparedness - Swedish municipal experiences (Oral Only)
S. Hede

Conference Closing 12h00 – 13h00 (Room A)

THURSDAY, 25 SEPTEMBER 2008

Parallel Sessions 10h30 – 11h50 (Conference Centre II – Building 7B and Centre III – Building 7A)

Session F-13: Maintenance Modelling and Applications X	Chair: S. San Matias

The maintenance management framework. A practical view to maintenance management.
A. Crespo, P. Moreu de León, J.F. Gómez, C. Parra & V. González

The ageing of signalling equipment and the impact on maintenance strategies
M. Antoni, N. Zilber, F. Lejette & C. Meier-Hirmer

Dynamic maintenance policies for civil infrastructure to minimize cost and manage safety risk
T. G. Yeung & B. Castanier

System value trajectories, maintenance, and its present value
K.B. Marais & J.H. Saleh

Session G-13: Uncertainty in industrial practice – A Guide to Quantitative Uncertainty Management	Chair: E. de Rocquigny & S. Tarantola

Uncertainty in Industrial Practice: A Guide to Quantitative Uncertainty Management (Oral Only)
Etienne de Rocquigny

Case study: Risk evaluation of Hydrocarbon exploration through Uncertainty and Sensitivity analysis (Oral Only)
Stefano Tarantola

Case study: Uncertainty and reliability study of a creep low to asses the fuel cladding behavior of PWR spent fuel assemblies during interim storage (Oral Only)
Bertrand Iooss

Case study: Reliability Modelling in early design stages using the Dempster-Shafer Theory of Evidence (Oral Only)
Philipp Limbourg

Session H-13: Infrastructures	Chair: W. Kröger & E. Zio

Proactive risk assessment of critical infrastructures
T. Uusitalo, R. Koivisto & W. Schmitz

A Model for Vulnerability Analysis of Interdependent Infrastructure Networks
J. Johansson & H. Jönsson

Exploiting stochastic indicators of interdependent infrastructures: the service availability of interconnected networks
G. Bonanni, E. Ciancamerla, M. Minichino, R.Clemente, A. Iacomini, A. Scarlatti, E. Zendri & R. Terruggia

Seismic assessment of utility systems: application to water, electric power and transportation networks
C. Nuti, A. Rasulo & I. Vanzi

Session I-13: Policy Decisions II	Chair: S. Menoni

Risk futures in Europe: perspectives for future research and governance. Insights from a EU funded project
S. Menoni

Stop in the name of safety – The right of the safety representative to halt dangerous work
U. Forseth, H. Torvatn & T. Kvernberg Andersen

Safety representative and managers: Partners in health and safety?
T. Kvernberg Andersen, H. Torvatn & U. Forseth

The VDI Guideline on Requirements for the Qualification of Reliability Engineers – Curriculum and Certification Process
U.K. Rakowsky

Conference Closing 12h00 – 13h00 (Room A)

TUESDAY, 23 SEPTEMBER 2008		
Poster Session I - 11h30 (Conference Centre II – Building 7B)		
Hall	Poster I: Thematic Areas	
Thermal characteristic analysis of Y type zeolite by differential scanning calorimetry *S. H. Wu, W. P. Weng, C. C. Hsieh, & C. M. Shu*		
Risk analysis in extreme environmental conditions for a station on the Aconcagua mountain station *S.S. Rivera & J.E. Núñez Mc Leod*		
Fuzzy FMEA: a study case on a discontinuous distillation plant *S.S. Rivera & J.E. Núñez Mc Leod*		
Designing the safety policy of IT system on the example of a chosen company *I. J. Józwiak, T. Nowakowski & K. Józwiak*		
Forklifts overturn incidents and prevention in Taiwan *K. Y. Chen, Sheng-Hung Wu & Chi-Min Shu*		
Hazard Factors Analysis in Regional Traffic Records *M. Mlynczak & J. Sipa*		
Risk Management in systems: Learning to recognize and respond to weak signals *E. Guillaume*		
Optimal periodic inspection of series systems with revealed and unrevealed failures *M. Carvalho, E. Nunes & J. Telhada*		
Fault detection and diagnosis in monitoring a hot dip galvanizing line using multivariate statistical process control *J.C. García-Díaz*		
Application of a generalized lognormal distribution to engineering data fitting *J. Martin & C. J. Perez*		
Power quality as accompanying factor in reliability research of electric engines *I.J. Jó_wiak, K. Kujawski & T. Nowakowski*		
Smooth estimation of the availability function of a repairable system *M. L. Gámiz & Y. Román*		
Reliability Oriented Electronic Design Automation Tool *J. Marcos, D. Bóveda, A. Fernández & E. Soto*		

WEDNESDAY, 24 SEPTEMBER 2008		
Poster Session II - 11h30 (Conference Centre II – Building 7B)		
Hall	Poster II: Industrial and Service Sectors	

Public Information Requirements on Health Risks of Mercury in Fish (2): A Comparison of Mental Models of Experts and Public in Japan
H. Kubota & M. Kosugi

Optimization of the maintenance function at a company
S. Adjabi, K. Adel-Aissanou & Mourad Azi

Risk Analysis of Ports and Harbors- Application of Reliability Engineering techniques.
B. B. Dutta & A.R. Kar

Design of the ship power plant with regard to the operator safety
A. Podsiadlo & W. Tarelko

Subjective propulsion risk of a seagoing ship estimation
A. Brandowski, W. Frackowiak, H. Nguyen & A. Podsiadlo

Enforcing Application Security - Fixing Vulnerabilities with Aspect Oriented Programming
J. Wang & J. Bigham

Distinction Impossible!: Comparing Risks between Radioactive Wastes Facilities and Nuclear Power Stations.
S. Kim & S. Cho

The respirable crystalline silica in the ceramic industries. Sampling, Exposure and Toxicology
E. Monfort, M. J. Ibáñez & A. Escrig

Public Information Requirements on Health Risk of Mercury in Fish (1): Perception and Knowledge of the Public about Food Safety and the Risk of Mercury
M. Kosugi & H. Kubota

Failure Risk Analysis in Water Supply Networks
A.Carrión, A. Debón, E. Cabrera, ML. Gamiz & H. Solano

Developing a new methodology for Ohs assessment in small and medium enterprise
C. Pantanali, A. Meneghetti, C. Bianco & M. Lirussi

New performance indicators for the Health and Safety domain: a benchmarking use perspective
H. V. Neto, P.M. Arezes & S. D. Sousa

Heat-up Calculation to Screen out the Room Cooling Failure Function from a PSA Model
M. Hwang, C. Yoon & Joon-Eon Yang

Non-homogeneous Poisson Process (NHPP), stochastic model applied to evaluate the economic impact of the failure in the life cycle cost analysis (LCCA)
C. Parra, A. Crespo, P. Moreu de León, J. Gómez & V. González.

General Information

Conference Location

The Conference will take place in buildings 6G, 7A and 7B of the Campus of Vera at the Universidad Politécnica de Valencia in Spain. Campus de Vera is located to the north of the city of Valencia, and it is surrounded by farmland. Approximately 60 buildings make up a well-organized complex around the Agora, heart of the university life. Up to 108.000 m2 of green areas house an open air sculpture museum. Valencia is the Spain's 3rd largest city situated in the East coast close to the Mediterranean Sea and represents a meeting point of many cultures. It has an excellent temperature for most of the year. It can be reached directly by air from many European airports and indirectly through Madrid or Barcelona. The airport is located just 8 km away from the city centre. There is a complete network of public transport connecting the city, the airport and the University. The city and its surroundings offer a broad variety of cultural, entertainment and leisure activities. For further details please visit www.esrel2008.com/travel_info.aspx

Registration Procedure

Please consult the Registration information available at www.esrel2008.com/registration.aspx. Delegates should complete and return the Registration Form with the corresponding registration fee to the ESREL 2008 and SRA-Europe Conference Secretariat, with clear indication of the method of payment. Registration desk will be placed outside the plenary hall at Nexus building (6G). For additional informative please visit the link above.

Conference Badges – Invitation Cards

Delegates and accompanying persons are kindly requested to wear their Conference name badge at all meetings and official functions. Please have your invitation cards with you at all receptions and booked tourist programmes.

Proceedings

The papers presented at the Conference will be included in the Proceedings of the Conference to be published by the Taylor & Francis Group, in book and CD-ROM, and distributed upon registration at the Conference in each Delegate's pack according to the category of registration.

Language

The official language of the Conference is English. No simultaneous translations will be available.

Computer Area and Internet Access

Designated areas will be available (marked on the map of the Conference Venue as "PC") with access to computers, where delegates will be able to check presentations and have access to the Internet. Delegates will have access to a WIFI Network available at the Conference Venue.

Cancellation of Participation

Registered delegates wishing to cancel their participation at the ESREL 2008 Conference will have their full registration fee refunded, minus an administrative fee of EUR 100 (One hundred EUROs), provided written notification has been received by the Conference Secretariat before 1th August 2008. Cancellations received after this date will not be eligible for a refund. All refunds will be processed after the Conference.

Liability and Insurance

The organisers of the Conference will not assume any responsibility whatsoever for damage or injury to persons or property during the Conference. Participants are recommended to arrange for their personal travel and health insurance.

Changes to the Technical and Social Programme

The organisers reserve the right to adjust or change the Technical Programme and/or the Social Programme as, if and when necessary.

Official Travel Agency

BCD Travel has been appointed as the official travel agency of the Conference. For further details please visit www.esrel2008.com/travel_info.aspx

Weather

The weather in Valencia in September is normally mild and sunny. The average temperature during daytime can range between 18º and 28ºC, dropping slightly in the evening.

Opening Hours

Local banking hours are from 08h30 to 14h30, Monday to Friday. Cash points for withdrawal of EUR are available in the Conference Campus. Shops are open daily from 09h00 to 20h00. Shopping Centres have longer opening hours, and usually open between 10h00 and 22h00, six days a week, Sunday is normally closed.

Transport Facilities

All public transport services (buses, metro and taxis) are efficient and reasonably priced. There is a complete network of public transport connecting the city, the airport and the University. For more information please visit http://www.emtvalencia.es/portal/Main and http://www.metrovalencia.com/metroval/htmleng/home/home.asp

There is scheduled bus transportation between the Conference Hotels and the Conference Venue each day (see details at the Conference Hotels and Information Desk on arrival).

Guidelines to Authors and Chairs of Oral Sessions

Presentation and Discussion of Papers

Each presentation has been allocated 15 minutes with 5 additional minutes for discussion. Authors should upload their presentation to the stationary computer at least 15 minutes before session starts.

Time Keeping

Chairmen have the responsibility to introduce speakers, to lead the discussions and to ensure that the time schedule is observed. It is suggested that Chairmen should show some tolerance for minor delays with the presentations and/or discussions but on the other hand they should be strict in not allowing major changes from the basis time schedule. As a rough guideline, a 5-minute drift in one presentation can be accommodated but more than that should be absolutely avoided in order not to penalise other authors and/or presentations.
Short bios maybe given to the session Chairs in advance. Please, try to meet your session Chairs at least 15 minutes before session starts.

Audio-Visual Equipment

Each room will be equipped with a laptop computer and media projector for presentations. Overhead projectors will not be available. To avoid last minute problems of compatibility, authors cannot use their own laptop computers and need to upload their presentation as indicated above. A staff member will be on hand to assist with any difficulty that may arise.

Guidelines to Authors of Poster Sessions

Poster Panel Size

Please refer to this visualisation of the poster panels to be used during the conference. A display area on the panel of 1500mm high x 860 mm wide will be allocated for each poster. Please ensure that your poster does not exceed this size.

Poster Panel Allocation and Fixing

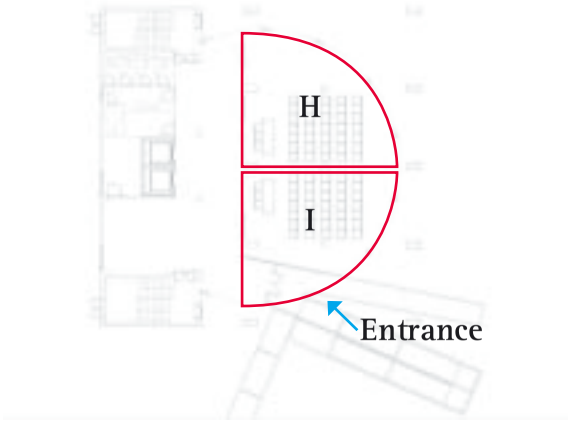
A numbered panel will be allocated for each poster. You will be informed of your poster board number and allotted viewing time at the information point before the start of the corresponding Poster session. Posters should be fixed to boards with double sided tape, at least 15 minutes before session starts. Please ensure that you bring a sufficient amount of fixing materials with you.

Poster Viewing Sessions

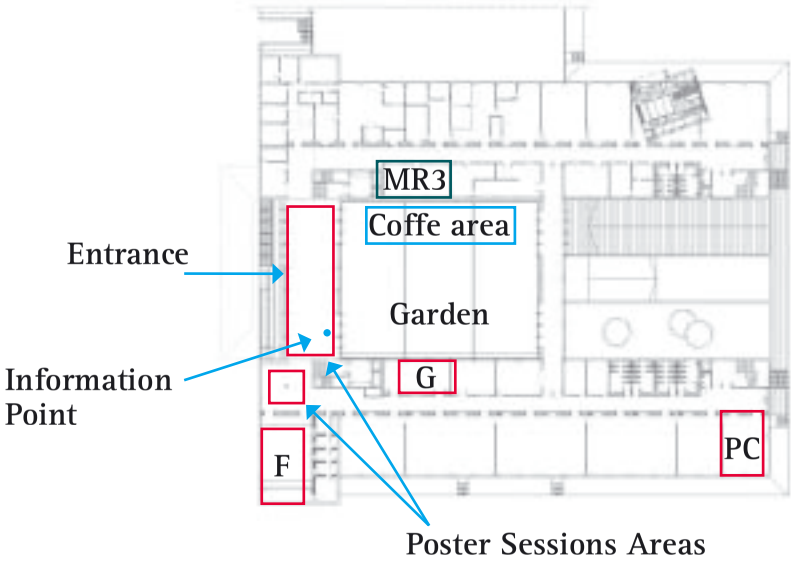
Posters are grouped into two sessions according to the programme above. Please ensure that you stand by your poster(s) during your allocated poster session for discussion and questions. You must remove your poster during the allotted time; any posters remaining after this time will be removed by the organisers who do not accept responsibility for any loss or damage.

Conference Area Map

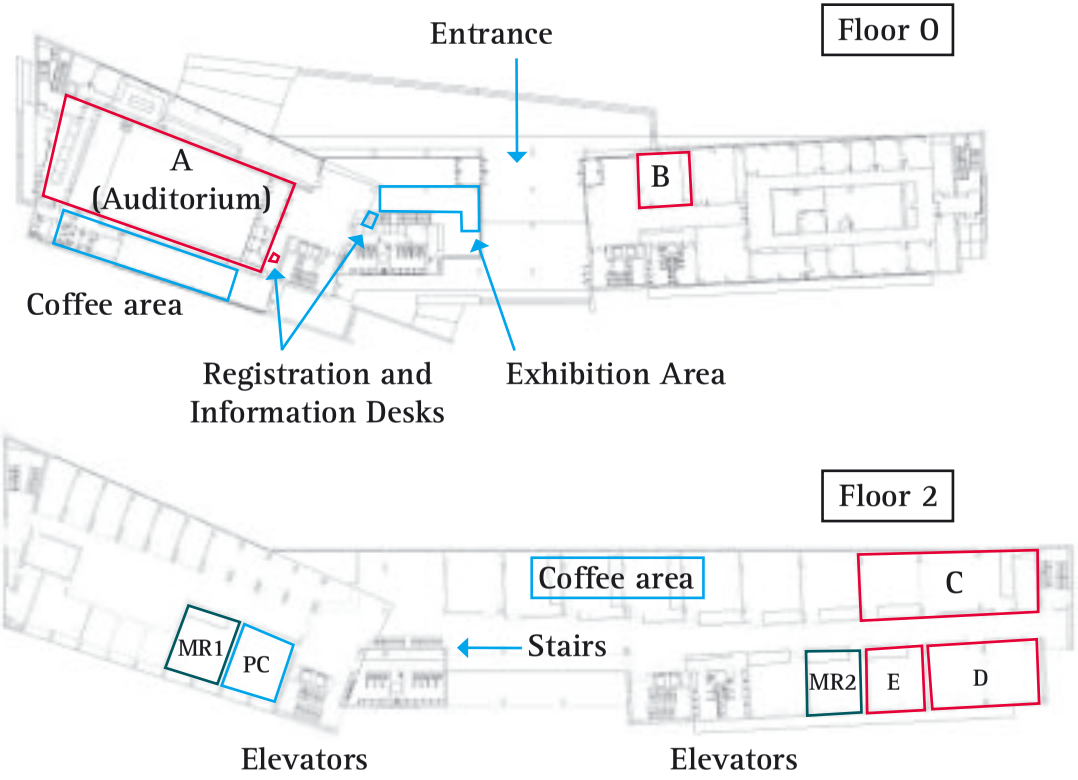
Conference Centre III (7A)



Conference Centre II – ETSID (7B)



Conference Centre I - Nexus Building (6G)



		Conference Centre I – Nexus Building (6G)				
		Room A	Room B	Room C	Room D	Room E
	MONDAY, 22 SEPTEMBER 2008					
	Registration 8h00					
	09h00 - 10h30	Opening and Plenary Sessions (Room A)				
	11h00 - 12h00	Inauguration of the Exhibition Area				
1	12h00 - 13h00	Risk and Hazard Analysis I		Monte Carlo Methods in System Safety and Reliability I	Human Factors I	Nuclear Power Plants: Risk Informed Decision-making
2	14h30 - 15h50	Risk and Hazard Analysis II	Biotechnology and Food Industry I	Monte Carlo Methods in System Safety and Reliability II	Human Factors II	Nuclear Power Plants: Reliability and Risk Analysis
3	16h20 - 17h40	Risk and Hazard Analysis III	Biotechnology and Food Industry II	System Reliability Modelling	Human Reliability Analysis	Nuclear Engineering: New challenges
	TUESDAY, 23 SEPTEMBER 2008					
4	09h00 - 10h00	Risk and Hazard Analysis IV	Biotechnology and Food Industry III	System Reliability Modelling and Optimization	Risk Control in Complex Environments	Land Transportation - Road and Rail
5	10h30 - 11h30	Risk and Hazard Analysis V	Risk Analysis in Medicine and Biotechnology	Multi-state systems I	Security and Protection I	Land Transportation - Railway I
	11h30 - 12h00					
	12h00 - 13h00	Plenary Talks (Room A)				
6	14h30 - 15h50	Risk and Hazard Analysis VI	Aeronautics and Aerospace	Multi-state systems II	Security and Protection II	Land Transportation - Railway II
7	16h20- 17h20	Risk and Hazard Analysis VII	Information Technology and Telecommunications I	Multi-state systems III	Safety Culture I	Risk Analysis in Transport
	WEDNESDAY, 24 SEPTEMBER 2008					
8	09h00 - 10h00	Risk and Hazard Analysis VIII	Information Technology and Telecommunications II	System Reliability Analysis I	Safety Culture II	Chemical Process Industry - Hazard Identification and Analysis
9	10h30 - 11h30	Risk and Hazard Analysis IX	Software Reliability I	System Reliability Analysis II	Safety Culture III	Chemical Process Industry - Reliability Assessment and Safety Management Systems
	11h30 - 12h00					
	12h00 - 13h00	Plenary Talks (Room A)				
10	14h30 - 15h50	Safety and Risk Management	Software Reliability II	System Reliability Analysis III	Occupational Safety I	Chemical Process Industry - External Safety Management
11	16h20- 18h00	Safety Management Systems	Automotive Engineering	Safety Instrumented Systems I	Occupational Safety II	Risk in Chemical and Gas Industry
	THURSDAY, 25 SEPTEMBER 2008					
12	09h00 - 10h00	Risk Analysis and Management	Energy Production and Distribution: Applications	Safety Instrumented Systems II	Organizational Learning I	Risk of Explosions and Fires
13	10h30 - 11h50	Importance Measures	Energy Production and Distribution: Methods	System Safety Analysis	Organizational Learning II	Crisis and Emergency Management
	12h00- 13h00	Conference Closing (Room A)				

Conference Centre II – ETSID Building (7B)		Conference Centre III – Building 7A			
Room F	Room G	Room H	Room I		
MONDAY, 22 SEPTEMBER 2008					
Registration 8h00					
				09h00 - 10h30	
				11h00 - 12h00	
Fault Identification and Diagnostics I	Reliability Analysis of Complex Systems I	Insurance and Finance	Risk and Evidence Based Policy Making I	12h00 - 13h00	1
Fault Identification and Diagnostics II	Reliability Analysis of Complex Systems II	Accident and Incident Investigation I	Risk and Evidence Based Policy Making II	14h30 - 15h50	2
Monitoring and Instrumentation	Dynamic Reliability	Accident and Incident Investigation II	Legislative Dimensions of Risk Management	16h20 - 17h40	3
TUESDAY, 23 SEPTEMBER 2008					
Maintenance Modelling and Applications I	Mathematical Methods I	Civil Engineering	Stakeholder and Public Involvement in Risk Governance	09h00 - 10h00	4
Maintenance Modelling and Applications II	Mathematical Methods II	Waterborne Transportation I	Risk Management	10h30 - 11h30	5
Opening of Poster Session I (Buildings 7B)				11h30 - 12h00	
				12h00 - 13h00	
Maintenance Modelling and Applications III	Integrated Risk Management I	Structural Reliability and Design I	Risk Perception and Communication I	14h30 - 15h50	6
Maintenance Modelling and Applications IV	Integrated Risk Management II	Structural Reliability and Design II	Risk Perception and Communication II	16h20- 17h20	7
WEDNESDAY, 24 SEPTEMBER 2008					
Maintenance Modelling and Applications V	Decision Support Systems and Software Tools I	Waterborne Transportation II	Risk Perception and Communication III	09h00 - 10h00	8
Maintenance Modelling and Applications VI	Decision Support Systems and Software Tools II	Waterborne Transportation III	Risk Perception and Communication IV	10h30 - 11h30	9
Opening of Poster Session II (Buildings 7B)				11h30 - 12h00	
				12h00 - 13h00	
Maintenance Modelling and Applications VII	Uncertainty and Sensitivity Analysis I	Natural Hazards I	Reliability and Safety Data Analysis I	14h30 - 15h50	10
Maintenance Modelling and Applications VIII	Uncertainty and Sensitivity Analysis II	Natural Hazards II	Reliability and Safety Data Analysis II	16h20- 18h00	11
THURSDAY, 25 SEPTEMBER 2008					
Maintenance Modelling and Applications IX	Uncertainty and Sensitivity Analysis III	Natural Hazards III	Policy Decisions I	09h00 - 10h00	12
Maintenance Modelling and Applications X	Uncertainty in industrial practice	Infrastructures	Policy Decisions II	10h30 - 11h50	13
				12h00- 13h00	