

SSARS 2010

4th Summer Safety and Reliability Seminars
June 20-26, 2010, Gdańsk/Sopot-Jelitkowo, Poland

PROGRAMME

Organisers and Sponsors

Polish Safety and Reliability Association (PSRA)
European Safety and Reliability Association (ESRA)
Gdynia Maritime University (GMU), Poland
Polytechnic of Milan (PM), Italy, Federal Office for Radiation Protection (FORP), Germany
Poland's Ministry of Science and Higher Education (PMSHE)

Secretariat

Gdynia Maritime University
Department of Mathematics
81-225 Gdynia, ul. Morska 81-87
e-mail: ssars@am.gdynia.pl

Website

<http://ssars.am.gdynia.pl>

Location

Dwór Prawdzica Hotel
<http://www.prawdzic.com.pl/>
ul. Piastowska 198, 80-341 Gdańsk/Sopot-Jelitkowo, Poland
e-mail: prawdzic@prawdzic.com.pl

Scientific Boards

Programme Board

Chairmen

Krzysztof Kołowrocki, Gdynia Maritime University, Poland

Enrico Zio, Ecole Centrale Paris-Supelec, France and Polytechnic of Milan, Italy

Advisory Board

Robert A. Ainsworth, International Journal of Pressure Vessels and Piping

John Andrews, Journal on Risk and Reliability

Christophe Berenguer, European Safety and Reliability Association

Alexander Bochkov, Reliability: Theory & Applications

Napat Harnpornchai, International Journal of Materials and Structural Reliability

Guoping P. Liu, International Journal of Automation and Computing

Sebastian Martorell, European Safety and Reliability Association

Krishna B. Misra, International Journal of Performability Engineering

Hoang Pham, International Journal of Reliability, Quality and Safety Engineering

Tadeusz Salamonowicz, Polish Safety and Reliability Association

Annemarie Schmitt-Hanning, Independent Journal for Nuclear Engineering

Janusz Szytko, Exploitation Problems of Machines

Igor Ushakov, Reliability: Theory & Applications

Editorial Board

Terje Aven, Norway

Christophe Berenguer, France

Heinz-Peter Berg, Germany

Radim Bris, Czech Republic

Romney Duffey, Canada

Ilia B. Frenkel, Israel

Franciszek Grabski, Poland

Renkkuan Guo, South Africa

Olgierd Hryniewicz, Poland

Krzysztof Kołowrocki – Co-Editor in Chief, Poland

Tomasz Nowakowski, Poland

Uwe Rakowsky, Germany

Joanna Soszyńska – Co-Editor in Chief, Poland

Christian Tanguy, France

David Valais, Czech Republic
Enrico Zio – Co-Editor in Chief, Italy

Invited Professors & Seminar Session Chairmen (Topics)

Terje Aven, University of Stavanger, Norway (Methods of Risk Analysis)
Heinz-Peter Berg, Bundesamt für Strahlenschutz, Germany (Methods of Risk Analysis)
Mohamed Eid, Commissariat à l'Énergie Atomique, France (Safety and Reliability Modeling of Complex Systems and Processes)
Ilia B. Frenkel, Center for Reliability and Risk Management, Israel (Safety and Reliability Modeling of Complex Systems and Processes)
Franciszek Grabski, Gdynia Naval Academy, Poland (Safety and Reliability Modeling of Complex Systems and Processes)
Krzysztof Kołowrocki, Gdynia Maritime University, Poland (Safety and Reliability Modeling of Complex Systems and Processes)
Tomasz Nowakowski, Wrocław University of Technology, Poland (Maintenance Modeling and Optimization)
Uwe Kay Rakowsky, University of Wuppertal and Vossloh Kiepe, Germany (Safety and Reliability Modelling of Complex Systems and Processes)
Christian Tanguy, Orange Labs, France (Safety and Reliability Modelling of Complex Systems and Processes)
David Valis, University of Defense, Czech Republic (Safety and Reliability Modelling of Complex Systems and Processes)
Min Xie, National University of Singapore, Singapore (Safety and Reliability Modelling of Complex Systems and Processes)
Enrico Zio, Ecole Centrale Paris-Supelec, France and Polytechnic of Milan, Italy (Maintenance Modeling and Optimization)

Educational & Training Course Lecturers (Topics)

Heinz-Peter Berg, Bundesamt für Strahlenschutz, Germany (Event Tree Analysis in Safety and Reliability – Course I)
Krzysztof Kołowrocki, Gdynia Maritime University, Poland (Computer Aided Reliability and Safety Analysis of Complex Technical Systems and Processes - Course II)

Organising Board

Sambor Guze
Joanna Soszyńska - Chairman

Seminar Rooms [Responsible Persons]

Knight's Room [Sambor Guze]
Hunter's Room [Sambor Guze]

SEMINAR PROGRAMME

Sunday, 20.06.2010

Time	Seminar Events
12 ⁰⁰ - 18 ⁰⁰	Arrival ("Dwór Prawdzica" Hotel)
18 ⁰⁰ - 19 ⁰⁰	Registration (Seminar Desk)
19 ⁰⁰ - 21 ⁰⁰	Welcome Party (Hotel Restaurant)

Monday, 21.06.2010

Time	Seminar Events
	Opening Ceremony (Hunter's Room)
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ - 9 ⁰⁰	Welcome (<i>Kołowrocki Krzysztof</i> – Chairman) Technical Information (<i>Joanna Soszyńska</i> – Organising Chairman)
	Plenary Sessions (Hunter's Room) (Lecture presentations including 10 minutes for discussion)
9 ⁰⁰ - 9 ⁵⁰	Title: Reliability, availability and safety of complex technical systems: modelling – identification – prediction – optimization <i>Speaker: Kołowrocki Krzysztof, Soszyńska Joanna</i> <i>Chair: Frenkel B. Ilia</i>
9 ⁵⁰ - 10 ⁴⁰	Title: A conceptual framework for risk assessment and risk management <i>Speaker: Aven Terje</i> <i>Chair: Frenkel B. Ilia</i>
10 ⁴⁰ - 11 ⁰⁰	Coffee/Tea Break (Hotel Restaurant)
	Seminar Sessions (Hunter's Room) (Paper presentations including 5 minutes for discussion)
	<i>Chair: Tanguy Christian</i>
11 ⁰⁰ - 11 ²⁰	Title: A semi-quantitative approach for verification of safety integrity level requirements <i>Speaker: Abrahamsen Eirik Bjorheim, Røed Willy</i>
11 ²⁰ - 11 ⁴⁰	Title: Patterns and characterization of accidents and incidents reported in oil and gas industry in Norway <i>Speaker: Rahim Yousif, Kenett Ron S.</i>
11 ⁴⁰ - 12 ⁰⁰	Title: Monte Carlo simulation-based reliability model for the PSA of a radioactive waste repository <i>Speaker: Francesco Cadini, Diana Avram, Enrico Zio, Alfredo Luce, Alberto Taglioni</i>
12 ⁰⁰ - 12 ²⁰	Title: Decision theory under general uncertainty <i>Speaker: Cui Yanhong, Guo Renkuan, Dunne Tim, Guo Danni</i>
12 ²⁰ – 13 ²⁰	Lunch (Hotel Restaurant)
	Seminar Sessions (Hunter's Room) (Paper presentations including 5 minutes for discussion)
	<i>Chair: Valis David</i>
13 ²⁰ – 13 ⁴⁰	Title: Analysis of the ships' UKC by probabilistic model based on chosen real data in period 2005 till 2009 <i>Speaker: Schoeneich Marta</i>
13 ⁴⁰ – 14 ⁰⁰	Title: Evolutionary sets of cooperating ship trajectories: COLREGS compliance <i>Speaker: Szałpczyńska Joanna, Szałpczyński Rafał</i>
14 ⁰⁰ – 14 ²⁰	Title: New type of neural networks for rendering graph points <i>Speaker: Nedbalek Jakub</i>
14 ²⁰ – 14 ⁴⁰	Title: Performance analysis of a power transmission system under uncertain load conditions and network configurations

	<i>Speaker: Zio Enrico, Piccinelli Roberta, Delfanti Maurizio, Olivieri Valeria, Pozzi Mauro</i>
14 ⁴⁰ – 15 ⁰⁰	Coffee/Tea Break (Hotel Restaurant)
	Educational & Training Course I (Hunter's Room)
15 ⁰⁰ – 16 ⁰⁰	Title: Event tree analysis in safety and reliability <i>Lecturer: Berg Heinz-Peter</i>
16 ⁰⁰ - 23 ⁰⁰	Participants Individual Meetings and Discussions Free Time

General Assembly of Polish Safety and Reliability Association (15⁰⁰ – 18⁰⁰, Knight's Room)

Tuesday, 22.06.2010

Time	Seminar Events
	Opening Ceremony (Hunter's Room)
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ – 9 ⁰⁰	Organizational details and advertisements (Hunter's Room)
	Plenary Sessions (Hunter's Room) (Lecture presentations including 10 minutes for discussion)
9 ⁰⁰ - 9 ⁵⁰	Title: Aircraft crash onto a nuclear power plant - screening procedure and approach for a probabilistic analysis <i>Speaker: Berg Heinz-Peter</i> <i>Chair: Grabski Franciszek</i>
9 ⁵⁰ - 10 ⁴⁰	Title: Reliability of computer software and computing systems <i>Speaker: Xie Min</i> <i>Chair: Grabski Franciszek</i>
10 ⁴⁰ - 11 ⁰⁰	Coffee/Tea Break (Hotel Restaurant)
	Seminar Sessions (Hunter's Room) (Paper presentations including 5 minutes for discussion)
	<i>Chair: Berg Heinz-Peter</i>
11 ⁰⁰ - 11 ²⁰	Title: A holistic framework for conceptualizing and describing risk <i>Speaker: Aven Terje</i>
11 ²⁰ - 11 ⁴⁰	Title: Reliability concept under general uncertainty <i>Speaker: Guo Renkuan, Cui Yanhong, Thiart Christrien, Guo Danni</i>
11 ⁴⁰ - 12 ⁰⁰	Title: Unreliability costs in life cycle cost analysis – comparison of calculation methods <i>Speaker: Dziaduch Izabela</i>
12 ⁰⁰ - 12 ²⁰	Title: Hybrid reliability modelling under general uncertainty <i>Speaker: Guo Renkuan, Cui Yanhong, Thiart Christrien, Guo Danni</i>
12 ²⁰ – 13 ²⁰	Lunch (Hotel Restaurant)
	Poland-Singapore Joint Project Workshop (Hunter's Room)
	<i>Chair: Kołowrocki Krzysztof & Xie Min</i>
	Educational & Training Course II (Hunter's Room)
13 ²⁰ – 14 ²⁰	Title: Computer aided reliability and safety analysis of complex technical systems and processes: Testing uniformity of statistical data from complex technical systems operation processes (Backgrounds in Proceedings Volume 2) <i>Lecturer: Soszyńska Joanna, Kołowrocki Krzysztof, Blokus-Roszkowska Agnieszka, Guze Sambor</i>
	Educational & Training Course II (Hunter's Room)
14 ²⁰ – 15 ²⁰	Title: Computer aided reliability and safety analysis of complex technical systems and processes: Identification of complex technical systems operation processes (Backgrounds in Proceedings Volume 2) <i>Lecturer: Soszyńska Joanna, Kołowrocki Krzysztof, Blokus-Roszkowska Agnieszka, Guze Sambor</i>
15 ²⁰ – 17 ³⁰	Visiting Oliwa Cathedral & Organ Concert

17³⁰ - 21⁰⁰

Hot Dinner ("El Paso" – Cantina Mexicana, Oliwa, Stary Rynek Oliwski 7 street)

Wednesday, 23.06.2010

Time	Seminar Events
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ – 9 ⁰⁰	Organizational details and advertisements (Hunter's Room)
	Plenary Sessions (Hunter's Room) (Lecture presentations including 10 minutes for discussion)
9 ⁰⁰ – 9 ⁵⁰	Title: Management decision making based on Markov reward models for refrigeration system <i>Speaker: Frenkel Ilia, Khvatskin Lev, Lisnianski Anatoly</i> <i>Chair: Aven Terje</i>
9 ⁵⁰ – 10 ⁴⁰	Title: Semi-Markov decision process as a safety and reliability model of a sea transport operation <i>Speaker: Grabski Franciszek</i> <i>Chair: Aven Terje</i>
10 ⁴⁰ – 11 ⁰⁰	Coffee/Tea Break (Hotel Restaurant)
	Seminar Sessions (Hunter's Room) (Paper presentations including 5 minutes for discussion)
	<i>Chair: Rakowsky Uwe</i>
11 ⁰⁰ – 11 ²⁰	Title: Introduction to the theory of hazard <i>Speaker: Smalko Zbigniew</i>
11 ²⁰ – 11 ⁴⁰	Title: Safety and risk optimization of a ferry technical system <i>Speaker: Kotowrocki Krzysztof, Soszyńska Joanna</i>
11 ⁴⁰ – 12 ⁰⁰	Title: Power plant transformer explosion and fire <i>Speaker: Berg Heinz-Peter, Fritze Nicole</i>
12 ⁰⁰ – 12 ²⁰	Title: An extended risk based inspection methodology <i>Speaker: Selvik Jon Tømmerås, Scarf Phil, Aven Terje</i>
12 ²⁰ – 13 ²⁰	Lunch (Hotel Restaurant)
	Seminar Sessions (Hunter's Room) (Paper presentations including 5 minutes for discussion)
	<i>Chair: Nowakowski Tomasz</i>
13 ²⁰ – 13 ⁴⁰	Title: Model of risk of water mains failure using fuzzy logic <i>Speaker: Tchórzewska-Cieślak Barbara</i>
13 ⁴⁰ – 14 ⁰⁰	Title: Monte Carlo approach to identification of maritime ferry operation process <i>Speaker: Otremba Zbigniew, Soszyńska Joanna, Targowski Wojciech</i>
14 ⁰⁰ – 14 ²⁰	Title: Testing uniformity of statistical data sets coming from complex systems operation processes <i>Speaker: Kotowrocki Krzysztof, Soszyńska Joanna</i>
14 ²⁰ – 14 ⁴⁰	Title: Failure risk analysis in the water distribution system <i>Speaker: Tchórzewska-Cieślak Barbara</i>
14 ⁴⁰ – 15 ⁰⁰	Coffee/Tea Break (Hotel Restaurant)

	Educational & Training Course I (Hunter's Room)
15 ⁰⁰ – 16 ⁰⁰	Title: Event tree analysis in safety and reliability <i>Lecturer: Berg Heinz-Peter</i>
	Poland-Singapore Joint Project Workshop (Hunter's Room)
	<i>Chair: Kołowrocki Krzysztof & Xie Min</i>
	Educational & Training Course II (Hunter's Room)
16 ⁰⁰ – 17 ⁰⁰	Title: Computer aided reliability and safety analysis of complex technical systems: Prediction of complex technical systems operation processes (Backgrounds in Proceedings Volume 2) <i>Lecturer: Soszyńska Joanna, Kołowrocki Krzysztof, Blokus-Roszkowska Agnieszka, Guze Sambor</i>
	Project Proposal – Presentation & Discussion (Hunter's Room)
17 ⁰⁰ – 18 ⁰⁰	Title: Safety, Reliability and Operation Optimization of Complex Industrial Systems and Processes – An Integrated Industrial Safety Management System - IISMS <i>Chair/Speaker: Kołowrocki Krzysztof</i>
18 ⁰⁰ - 23 ⁰⁰	Participants Individual Meetings and Discussions Free Time (St. John's – Night)

Thursday, 24.06.2010

Time	Seminar Events
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ - 9 ⁰⁰	Organizational details and advertisements (Hunter's Room)
	Plenary Sessions (Hunter's Room) (Lecture presentations including 10 minutes for discussion)
9 ⁰⁰ - 9 ⁵⁰	Title: On the prognosis of failure coincidences in multi-system scenarios <i>Speaker: Rakowsky Uwe Kay</i> <i>Chair: Eid Mohamed</i>
9 ⁵⁰ - 10 ⁴⁰	Title: On a few reliability issues in telecommunication networks <i>Speaker: Tanguy Christian</i> <i>Chair: Eid Mohamed</i>
10 ⁴⁰ - 11 ⁰⁰	Coffee/Tea Break (Hotel Restaurant)
	Visit to Kashubian Region (by bus, one night in "Niedźwiadek" Hotel)
11 ⁰⁰ – 13 ⁰⁰	Leaving "Prawdzie" Hotel and going by bus to Wdzydze Kiszewskie
12 ⁰⁰ – 14 ³⁰	Visiting the Kashubian Ethnographic Park
14 ³⁰ – 15 ⁰⁰	Going by bus to "Niedźwiadek" Hotel and check in at the hotel
15 ⁰⁰ – 16 ⁰⁰	Lunch in "Niedźwiadek" Hotel Restaurant
16 ⁰⁰ – 19 ⁰⁰	Free Time and Spa. Testing "Niedźwiadek" Hotel as a future venue for SSARS
19 ⁰⁰ – 24 ⁰⁰	Seminar Dinner in "Niedźwiadek" Hotel Restaurant
24 ⁰⁰ –	Staying till morning at the "Niedźwiadek" Hotel

Friday, 25.06.2010

Time	Seminar Events
7 ⁰⁰ – 8 ⁴⁰	Breakfast (“Niedzwiadek” Hotel Restaurant)
8 ⁴⁰ – 9 ⁰⁰	Organizational details and advertisements (“Niedzwiadek” Hotel Conference Room)
	Plenary Sessions (“Niedzwiadek” Hotel Conference Room) (Lecture presentations including 10 minutes for discussion)
9 ⁰⁰ – 9 ⁵⁰	Title: Selected approaches on reliability assessment of complex system with one shot items <i>Speaker: Valis David, Vintr Zdenek, Koucky Miroslav</i> <i>Chair: Xie Min</i>
9 ⁵⁰ – 10 ⁴⁰	Title: Modelling sequential events for risk, safety and maintenance assessments <i>Speaker: Eid Mohamed</i> <i>Chair: Xie Min</i>
10 ⁴⁰ – 11 ⁰⁰	Coffee/Tea Break (“Niedzwiadek” Hotel Restaurant)
11 ⁰⁰ – 12 ⁰⁰	Title: How to play golf <i>Instructor: Aven Terje</i>
12 ⁰⁰ – 14 ⁰⁰	Leaving Wdzydze Kiszewskie and coming back by bus to “Prawdzc” Hotel
15 ⁰⁰ – 16 ⁰⁰	Lunch (Hotel Restaurant)
	Poland-Singapore Joint Project Workshop (Hunter’s Room)
	<i>Chair: Kołowrocki Krzysztof & Xie Min</i>
	Educational & Training Course II (Hunter’s Room)
16 ⁰⁰ – 17 ⁰⁰	Title: Computer aided reliability and safety analysis of complex technical systems: Identification of complex technical system components reliability models (Backgrounds in Proceedings Volume 2) <i>Lecturers: Soszyńska Joanna, Kołowrocki Krzysztof, Blokus-Roszkowska Agnieszka, Guze Sambor</i>
17 ⁰⁰ – 19 ⁰⁰	Participants Individual Meetings and Discussions Free Time
19 ⁰⁰ – 23 ⁰⁰	Farewell Dinner (“Galeria 63” Restaurant, Sopot, Bohaterów Monte Casino 63 street)

Saturday, 26.06.2010

Time	Seminar Events
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ – 9 ⁰⁰	Organizational details and advertisements (Hunter's Room)
	Seminar Sessions (Hunter's Room) (Paper presentations including 5 minutes for discussion)
	<i>Chair: Soszyńska Joanna</i>
9 ⁰⁰ – 9 ²⁰	Title: Occupational accidents data collection and analysis <i>Speaker: Demichela Micaela, Murè Salvina, Cigna Caterina, Monai Laura, Patrucco Mario</i>
9 ²⁰ – 9 ⁴⁰	Lectures and papers preliminary selection for possible publication in selected scientific journals <i>Speaker: Kołowrocki Krzysztof & Berg Heinz-Peter</i>
	Poland-Singapore Joint Project Workshop (Hunter's Room)
	<i>Chair: Kołowrocki Krzysztof, Xie Min</i>
	Educational & Training Course II (Hunter's Room)
9 ⁴⁰ – 10 ⁴⁰	Title: Computer aided reliability and safety analysis of complex technical systems: Identification of complex technical system components safety models (Backgrounds in Proceedings Volume 2) <i>Lecturer: Soszyńska Joanna, Kołowrocki Krzysztof, Blokus-Roszkowska Agnieszka, Guze Sambor</i>
10 ⁴⁰ – 11 ⁰⁰	Coffee/Tea Break (Hotel Restaurant)
11 ⁰⁰ – 12 ⁴⁰	SSARS 2010 Participants Departure

Krzysztof Kołowrocki & Joanna Soszyńska

Gdynia, 07.06.2010.