

SSARS 2015

9th Summer Safety and Reliability Seminars
June 21-27, 2015, 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*

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Location

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Invited Professors & Thematic Days, Plenary Lectures (Topics)

Heinz-Peter Berg, Resilience of Nuclear Plants in Case of Hazards
Mohamed Eid, Critical Infrastructure Protection – Coupled Modelling for Threats and Resilience
Franciszek Grabski, Semi-Markov Approach to System Reliability and Maintenance
Lucjan Gućma, Navigation Risk Management Methods at Coastal Areas
Krzysztof Kołowrocki, European Critical Infrastructures Safety Management System - Research Project Idea
Kazimierz Kosmowski, Functional Safety and Reliability Methodology for Critical Industrial Plants
Jacek Malinowski, Markov Model of Complex Technical System Operating in Basic and Emergency Modes
Uwe Kay Rakowsky, On the Basic Concepts of Safety Engineering
Athanasios Sfetsos, Strengthening Critical Infrastructure Resilience to Climate Change
Joanna Soszyńska-Budny, Operation Cost and Safety Optimization of Complex Technical Systems
Christian Tanguy, An overview of reliability problems in data centers
Barbara Tchórzewska-Cieślak, Crisis Situation Management Issues in Urban Areas Water Supply

Educational & Training Course Lecturers (Topics)

Heinz-Peter Berg, Failure Root Cause Analysis
Mohamed Eid, Monte Carlo Simulation – Reliability Engineering Study Cases

Organising Board

Sambor Guze
Ewa Kuligowska
Joanna Soszyńska-Budny - Chairman
Mateusz Torbicki

Seminar Room [Responsible Persons]

Ewa Kuligowska
Mateusz Torbicki

SEMINAR PROGRAMME

Sunday, 21.06.2015

Time	Seminar Events (Seminar Room)
12 ⁰⁰ - 18 ⁰⁰	Participants' Arrival (Golden Tulip Residence)
18 ⁰⁰ - 19 ⁰⁰	Participants' Registration (Seminar Desk)

Monday, 22.06.2015

Time	Seminar Events (Seminar Room)
	Opening Ceremony
7 ⁰⁰ – 8 ²⁰	Breakfast (Hotel Restaurant)
8 ²⁰ – 8 ³⁰	Welcome (<i>Kołowrocki Krzysztof</i> – Chairman) Technical Information (<i>Soszyńska-Budny Joanna</i> – Organising Chairman)
8 ³⁰ – 9 ⁰⁰	Keynote Speech
	Title: Critical Infrastructure Protection in the Polish Crisis Management Framework <i>Speaker: Skomra Witold, Polish Government Centre for Security</i>
9 ⁰⁰ – 10 ³⁰	Plenary Lectures (Presentations including 10 minutes for discussion)
	<i>Chair: Tanguy Christian</i>
	Title: Semi-Markov Approach to System Reliability and Maintenance <i>Speaker: Grabski Franciszek</i>
	Title: Markov Model of Complex Technical System Operating in Basic and Emergency Modes <i>Speaker: Malinowski Jacek</i>
	Title: On the basic concepts of safety engineering <i>Speaker: Rakowsky Kay Uwe</i>
10 ³⁰ - 11 ⁰⁰	Coffee/Tea Break (Seminar Room)
11 ⁰⁰ – 12 ³⁰	Seminar Session Energy Supply Safety and Security – Workshop (on Research Project Idea) (Presentations including 30 minutes for discussions)
	<i>Chair/Moderators: Augutis Juozas, Gucma Lucjan, Komowski Kazimierz, Zutautaitė Inga</i>
	Title: Energy Supply Security Assessment Methods <i>Speaker: Augutis Juozas, Zutautaitė Inga</i>
	Title: Applying evidence-based arguments to support Critical Infrastructure Protection EU Regulation 994/2010: Measures to Safeguard Security of Gas Supply – working tool demonstration <i>Speaker: Górski Janusz</i>
	Title: Integrated safety and security analysis for management of hazardous plants and systems of critical infrastructures <i>Speaker: Kosmowski Kazimierz, Śliwiński Marcin, Piesik Emilian</i>
	Title: The assessment technology of energy critical infrastructures

	<p><i>Speaker: Joksas Benas</i> Title: European Critical Infrastructures Safety Management System - Research Project Idea <i>Speaker: <u>Kołowrocki Krzysztof</u>, Soszyńska-Budny Joanna</i> Title: Comments <i>Speakers: Kołowrocki Krzysztof, Lubośny Zbigniew, Malinowski Jacek, Parol Mirosław, Others</i> Title: Summary <i>Speaker: Gucma Lucjan</i></p>
12 ³⁰ – 14 ⁰⁰	Lunch (Hotel Restaurant)
14 ⁰⁰ – 15 ³⁰	<p style="text-align: center;">Educational & Training Course 1 Failure Root Cause Analysis</p> <p><i>Lecturer: Berg Heinz Peter</i></p>
15 ³⁰ – 16 ⁰⁰	Coffee/Tea Break (Hotel Restaurant)
16 ⁰⁰ – 18 ⁰⁰	Participants Individual Meetings and Discussions
18 ⁰⁰ - 19 ⁰⁰	Free Time
19 ⁰⁰ - 23 ⁰⁰	Welcome Party (“Golden Tulip Residence” Restaurant)

Tuesday, 23.06.2013

Time	Seminar Events (Seminar Room)
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ - 9 ⁰⁰	Organizational details and advertisements
	Plenary Lectures (Presentations including 15 minutes for discussion)
	<i>Chair: Eid Mohamed</i>
9 ⁰⁰ – 10 ³⁰	Title: Resilience of Nuclear Plants in Case of Hazards <i>Speaker: Berg Heinz-Peter, Krauß Matias</i> Title: Crisis Situation Management Issues in Urban Areas Water Supply <i>Speaker: Tchórzewska-Cieślak Barbara, Pietrucha-Urbanik Katarzyna, Bajer Jarosław</i> Title: An overview of reliability problems in data centers <i>Speaker: Tanguy Christian</i>
10 ³⁰ - 11 ⁰⁰	Coffee/Tea Break (Seminar Room)
11 ⁰⁰ – 12 ³⁰	Seminar Session Complex Systems and Critical Infrastructures Safety and Reliability (Presentations including 15 minutes for discussions)
	<i>Chair: Grabski Franciszek</i>
	Title: Reliability analysis of multistate series systems with dependent components <i>Speaker: Blokus-Roszkowska Agnieszka, Kołowrocki Krzysztof</i> Title: Reliability of the exemplary multistate series system with dependent components <i>Speaker: Blokus-Roszkowska Agnieszka, Kołowrocki Krzysztof</i> Title: Reliability assessment of an exemplary system operating at variable conditions <i>Speaker: Kołowrocki Krzysztof, Kuligowska Ewa, Soszyńska-Budny Joanna</i> Title: Monte Carlo simulation application to reliability assessment of an exemplary system operating at variable conditions <i>Speaker: Kołowrocki Krzysztof, Kuligowska Ewa, Soszyńska-Budny Joanna</i> Title: Numerical application of the SPEA algorithm to reliability multi-objective optimization <i>Speaker: Guze Sambor</i>
12 ³⁰ – 14 ⁰⁰	Lunch (Hotel Restaurant)
14 ⁰⁰ – 15 ³⁰	Seminar Session Complex Systems and Critical Infrastructures Safety and Reliability

	(Presentations including 15 minutes for discussions)
	<i>Chair: Gucma Lucjan</i>
	<p>Title: Reliability of Complex System under Operation Process Influence – Monte Carlo Simulation Approach <i>Speaker: Kołowrocki Krzysztof, Kuligowska Ewa, Soszyńska-Budny Joanna</i></p> <p>Title: An approach to analysis of transition rates between the critical infrastructure systems safety states <i>Speaker: Dziula Przemysław, Siergiejczyk Mirosław, Rosiński Adam</i></p> <p>Title: Modelling, identification and prediction of environment degradation initiating events process generated by critical infrastructure accident <i>Speaker: Bogalecka Magda, Kołowrocki Krzysztof</i></p> <p>Title: The process of sea environment threats generated by hazardous chemicals release <i>Speaker: Bogalecka Magda, Kołowrocki Krzysztof</i></p> <p>Title: Network transport systems dependability analysis with critical situations discussion <i>Speaker: Mazurkiewicz Jacek</i></p> <p>Title: Reliability and risk function improvement of a bulk cargo transportation system (<i>poster</i>) <i>Speaker: Kwiatkowska-Sarnecka Bożena</i></p>
15 ³⁰ – 16 ⁰⁰	Coffee/Tea Break (Seminar Room)
16 ⁰⁰ – 18 ⁰⁰	Participants Individual Meetings and Discussions
18 ⁰⁰ - 19 ⁰⁰	Free Time
19 ⁰⁰ - 23 ⁰⁰	Fish Feast (“Laguna Smaku” Restaurant, Sopot, Molo: right side, at the beginning)

Wednesday, 24.06.2015

Time	Seminar Events (Seminar Room)
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ - 9 ⁰⁰	Organizational details and advertisements (Hunter's Room)
	Plenary Lectures (Presentations including 15 minutes for discussion)
	<i>Chair: Berg Heinz Peter</i>
9 ⁰⁰ – 10 ³⁰	Title: Navigation Risk Management Methods at Coastal Areas <i>Speaker: Gucma Lucjan</i> Title: Methodological Issues of Functional Safety and Reliability Assessment of Critical Systems in Industrial Hazardous Plants <i>Speaker: Kosmowski Kazimierz</i> Title: Operation Cost and Safety Optimization of Complex Technical Systems <i>Speaker: Kołowrocki Krzysztof, Soszyńska-Budny Joanna</i>
10 ³⁰ - 11 ⁰⁰	Coffee/Tea Break (Seminar Room)
	Seminar Session (Presentations including 15 minutes for discussions)
	<i>Chair: Tchórzewska-Cieślak Barbara</i>
11 ⁰⁰ – 12 ³⁰	Title: Risk assessment of ships collision with moored ships by statistical method <i>Speaker: Bąk Andrzej, Gucma Lucjan,</i> Title: Development of a framework of safety goals for nuclear installations and its application in Germany <i>Speaker: Berg Heinz-Peter</i> Title: Reliability of large three-dimensional nanosystems <i>Speaker: Kołowrocki Krzysztof, Torbicki Mateusz</i> Title: Efficiency of FPGA architectures in implementations of AES, Salsa20 and Keccak cryptographic algorithms <i>Speaker: Sugier Jarosław</i> Title: Fuzzy quality analysis of web services implemented in virtualised environment <i>Speaker: Walkowiak Tomasz</i> Title: Modelling reliability of water supply network <i>Speaker: Tchórzewska-Cieślak Barbara, Kołowrocki Krzysztof, Piegdoń Izabela</i> Title: About accuracy of risks prediction and importance of increasing adequacy of used probabilistic models (poster) <i>Speaker: Kostogryzov Andrey, Nistratov Andrey, Stepanov Pavel, Grigoriev Leonid</i>

12 ³⁰ – 14 ⁰⁰	Lunch (Hotel Restaurant)
14 ⁰⁰ – 15 ³⁰	<p style="text-align: center;">Educational & Training Course 2 Monte Carlo Simulation – Reliability Engineering Study Cases</p> <p><i>Lecturer: Eid Mohamed</i></p>
15 ³⁰ – 16 ⁰⁰	Coffee/Tea Break (Seminar Room)
16 ⁰⁰ – 18 ⁰⁰	Participants Individual Meetings and Discussions
18 ⁰⁰ - 19 ⁰⁰	Free Time
19 ⁰⁰ - 23 ⁰⁰	Seminar Dinner and New SSARS Titular Professor's Coronation ("Haffner Hotel" Restaurant, Sopot, J. J. Haffnera 59 street)

Thursday, 25.06.2015

Time	Seminar Events (Seminar Room)
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ - 9 ⁰⁰	Organizational details and advertisements
9 ⁰⁰ – 18 ⁰⁰	Visiting Hel Peninsula Going by bus to Hel Peninsula, Departure time: 9.00 Lunch at “Kutter” Restaurant in Hel (11.30-13.00) “Riding Melexes” and visiting Lighthouse, Promenade and Port in Hel (13.00-15.00) Visiting Museum of Seaside Defence in Hel (15.00-18.00) Picnic-Dinner at “Nardowi Mól” Inn in Celbowo (18.00-22.00) Coming back to Sopot (22.00-24.00)

Friday, 26.06.2015

Time	Seminar Events (Seminar Room)
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ – 9 ⁰⁰	Organizational details and advertisements
	Plenary Lectures (Presentations including 15 minutes for discussion)
	<i>Chair: Berg Heinz Peter</i>
9 ⁰⁰ – 10 ³⁰	<p>Title: Critical Infrastructure Protection – Coupled Modelling for Threats and Resilience <i>Speaker: Eid Mohamed, Joanna Soszyńska-Budny, Kolowrocki Krzysztof, Souza de Cursi Eduardo, El Hami Abdelkhalak</i></p> <p>Title: Strengthening Critical Infrastructure Resilience to Climate Change EU-CIRCLE: „A pan-European framework for strengthening Critical Infrastructure resilience to climate change”, 01.06.2015 – 31.05.2018, Research Project, EU Programme Horizon 2014-2020 <i>Speaker: Sfetsos Athanasios</i></p> <p>Title: Safety of Critical Infrastructures – An Overall Approach (Generalities) <i>Speaker: Kolowrocki Krzysztof, Soszyńska-Budny Joanna</i></p>
10 ³⁰ – 11 ⁰⁰	Coffee/Tea Break (Seminar Room)
	Seminar Session Complex Systems and Critical Infrastructures Safety and Reliability (Presentations including 15 minutes for discussions)
	<i>Chair: Sfetsos Athanasios</i>
11 ⁰⁰ – 12 ³⁰	<p>Title: Safety of Critical Infrastructures – An Overall Approach (Details) <i>Speaker: Kolowrocki Krzysztof, Soszyńska-Budny Joanna</i></p> <p>Title: Safeguarding Critical Infrastructures from Cyber Attacks - Offshore Natural Gas Assets test case <i>Speak: Hadjistassou Constantinos, Kyriakides Aleksandros, Hadjiantonis M. Antonis, Koutras Nikolaos, Charalambous Elisabet, Bratskas Romaios</i></p> <p>Title: P-react towards fighting volume crime: an intelligent, scalable and low cost approach <i>Speaker: Arraiza Juan, Aginako Naiara, Kioumourtzis Georgios, Leventakis George, Stavropoulos Georgios, Tzovaras Dimitrios, Zotos Nikolaos, Sideris Anargyros, Charalambous Elisabet, Koutras Nikolaos</i></p> <p>Title: A holistic framework for early warning of threats in critical infrastructures – AGROS project <i>Speaker: Sfetsos Athanasios, Papazoglou Joannis, Eftychidis George, Leventakis George, Papanikolaou Panayiotis</i></p> <p>Title: A risk analysis framework for sea-borders. Development of generic methodological framework</p>

	<i>Speaker: Sfetsos Athanasios</i>
12 ³⁰ – 14 ⁰⁰	Lunch (Hotel Restaurant)
14 ⁰⁰ – 15 ³⁰	Seminar Session (Presentations including 15 minutes for discussions)
	<i>Chair: Rakowsky Kay Uwe</i>
	Title: Decision problem for a finite states change of semi-Markov process <i>Speaker: Grabski Franciszek</i>
	Title: Comparison evolutionary algorithms with Metropolis-Hastings method exemplified by high-fatigue Wohler curve parameter identification <i>Speaker: Woch Marta</i>
	Title: Designing issues of the alarm system in context of functional safety and human factors <i>Speaker: Kosmowski Kazimierz</i>
	Title: Method of performing Design FMEA on electronic circuit diagrams <i>Speaker: Karcz Rafal</i>
	Title: On File Unavailability for Specific Storage Disks Arrangement in Cloud Systems <i>Speaker: Besson Mathieu, Grall Antoine, Tanguy Christian</i>
	Title: Reliability and risk improvement with components quantitative and qualitative redundancy of bulk cargo transporter (poster) <i>Speaker: Kolowrocki Krzysztof, Kwiatkowska-Sarnecka Bożena, Soszyńska-Budny Joanna</i>
15 ³⁰ – 16 ⁰⁰	Coffee/Tea Break (Seminar Room)
16 ⁰⁰ – 18 ⁰⁰	Participants Individual Meetings and Discussions
18 ⁰⁰ - 19 ⁰⁰	Free Time
19 ⁰⁰ - 23 ⁰⁰	Farewell Dinner (“Wave” Restaurant in Sheraton Hotel, Sopot, Powstanców Warszawy 10 street)

General Assembly of Polish Safety and Reliability Association (16⁰⁰ – 18⁰⁰, Seminar Room)

Saturday, 27.06.2015

Time	Seminar Events (Seminar Room)
7 ⁰⁰ – 8 ⁴⁰	Breakfast (Hotel Restaurant)
8 ⁴⁰ – 9 ⁰⁰	Organizational details and advertisements
	Seminar Session (Paper presentations including 10 minutes for discussion)
	<i>Chair: Soszyńska-Budny Joanna</i>
9 ⁰⁰ – 9 ³⁰	Discussion on the subject and organization of the next SSARS Seminars <i>Speaker: Kołowrocki Krzysztof</i>
9 ³⁰ – 10 ⁰⁰	Title: Closing words <i>Speaker: Kołowrocki Krzysztof</i>
10 ⁰⁰ – 11 ⁰⁰	Participants Departure

Krzysztof Kołowrocki & Joanna Soszyńska-Budny

Gdynia, 21.06.2015.