



Previous ESReDA SEMINARS

The 52nd ESReDA Seminar

30-31 May, 2017
Kaunas, Lithuania



Inga Žutautaitė
Lithuanian Energy
Institute, Lithuania



Mohamed Eid
CEA, France

The 52nd ESReDA Seminar on Critical Infrastructures: Enhancing Preparedness & Resilience for the Security of Citizens and Services Supply Continuity

was held on the 30th-31st May 2017 and hosted by the [Lithuanian Energy Institute](#) and [Vytautas Magnus University](#). The technical programme included plenary presentations by leading academics, scientists and risk managers. Speakers shared their scientific knowledge and experience, stimulating our thoughts and getting across methodologies and applications in different areas of Critical Infrastructures Preparedness and Resilience.

Plenary presentations were given by representatives of National Security and Crisis Management Unit (Office of the Government, Lithuania), Strategic Analysis Division, NATO Energy Security Centre of Excellence (Lithuania) and Lithuanian Geological Survey, under the Ministry of Environment (Lithuania). Besides, a specific **Round Table Discussion on Cyber Security** was organised – invited speakers shared their experience in the field led by the fruitful discussions. Presentations were given by representatives of NATO Energy Security Centre of Excellence (Lithuania) and the Lithuania Electricity Transmission System Operator LITGRID AB (Lithuania). **18 technical papers** were presented covering five topics (5 sessions): Emergency & Risk Management; CIP & Safety Issues; CIP & System Safety Engineering; MS&A - Natural threats & CI's Resilience; MS&A - Preparedness, Vulnerability & Resilience. Speakers shared their scientific knowledge and experience issued from areas of Critical Infrastructures Preparedness and Resilience. Different sectors were covered, such as: energy, transport, communication, civil protection, maritime-ports and nuclear reactors.

47 participants from 11 EU countries (Cyprus, France, Germany, Greece, Italy, Lithuania, the Netherlands, Poland, Portugal, Romania and United Kingdom) contributed through their presentations, discussions and expertise in establishing the state-of-the-art in the field.

Full programme of the 52nd ESReDA Seminar and presentations are already available at [ESReDA website](#). Few photos of the seminar were captured and now being displayed in the [Gallery](#) section of the website.

The **final proceedings of the 52nd ESReDA Seminar** will soon be available for public consultation and free downloading in compliance with ESReDA politics of free dissemination of scientific and technical knowledge.



ESReDA PROJECT GROUPS



Mohamed Eid
CEA, France

The Project Group (PG) "**CI-PR/MS&A-Data**" is working on a comprehensive technical document on the existing Data and models that have been developed and are used in the fields of the CIP. Establishing a comprehensive state-of-the-art may hopefully lead to identifying lacks and measures to complete lacking data or lacking organisation to acquire data.

The PG has already organised 2 seminars:

1. the 48th ESReDA seminar (28-29 May 2015); proceedings are available at [JPSRA website](#).
2. the 52nd ESReDA seminar (30-31 May 2017); proceedings will soon be available.

You can follow the PG's activities and project progress at: <https://www.esreda.org/projectcasestudy/>.

ESReDA PROJECT GROUPS



Nicolas Dechy
IRSN, France

... To avoid occurrence of events (accidents, incidents or crises), prevention is often seen as the main, not to say the only, goal of (industrial or system) safety.

Project Group “**Foresight in Safety**” was launched in 2015. Goals of the Project Group are:

- To better define these EWS (e.g. weak signals, precursors, near misses ...);
- To focus on the human and organizational mechanisms for their treatment (e.g. role of whistleblowers, role of learning, enabling features of organizational culture and concepts such as mindfulness, chronic unease).

Deliverables: work of the Project Group will be made visible through a deliverable, including articles tackling issues on the subject and through organisation of the 53rd Seminar on “Enhancing Safety: the Challenge of Foresight”.

You can follow the PG’s activities and project progress at: <https://www.esreda.org/projectcasestudy/>.

Forthcoming ESReDA SEMINARS

The 53rd ESReDA Seminar

14-15 November, 2017
Ispra, Italy

The 53rd ESReDA Seminar on Enhancing Safety: the Challenge of Foresight

be held on the 14th-15th November 2017 and will be hosted by **EC DG JRC Directorate E: Space, Security and Migration**, Ispra (Italy) with the support of **EC DG JRC Directorate G: Nuclear Safety & Security** (Petten, The Netherlands). This seminar is organised with the support of the ESReDA Project Group “Foresight in Safety” that was launched in 2015. More information about the Project Group goals is available on [ESReDA website](#).



Ana Vetere
EC DG JRC Directorate E:
Space, Security and
Migration, Ispra, Italy



Zdenko Simic
EC DG JRC Directorate G:
Nuclear Safety &
Security, Petten, The
Netherlands

The analysis of the major accidents and crises has shown that there were always early warning signs that could have been heeded and used as valuable information to design “relevant tools” and proactive strategies for preventing major events. Such missed opportunities point towards the need to improve foresight methods for enhancing safety & crises management. The shift from safety management approaches in which improvement is predominantly based on hindsight to include more foresight approaches has many hurdles to overcome, in theory as well as in practice. The seminar will address the question: How can foresight improve systems’ resilience and accident prevention? This raises several topics such as: safety imagination with scenario approaches, foresight methods for short and long term, anticipation of new risks induced by new technology, the digital revolution, industry 4.0, the management of emerging risks, the detection and treatment of early warning signs (EWS), weak signals, accident precursors, the role of whistle blowers and of data mining with big data and linguistic tools, the social climate and reporting culture, the use of the past experiences and organizational learning... We aim to discuss theories, concepts, and experiences (successes and failures) of enhancing foresight in safety. All industrial sectors are concerned (energy, process, transport, space, health critical infrastructure, public sector, government ...).

The **final call for papers** is already available at [ESReDA website](#).



Nicolas Dechy
IRSN, France

New ESReDA MEMBERS

In 2017

ESReDA warmly welcomes the **French Institute of Science and Technology for Transport, Development and Networks** (IFSTTAR; France) who joined us as ESReDA Effective Members in 2017.



IFSTTAR is a major player in the European research on the city and the territories planning, transportation and civil engineering. The French Institute of Science and Technology for Transport, Development and Networks, born on January 1st 2011, from the merger of INRETS and LCPC, is a Public Institution of a Scientific and Technical Nature, under the joint supervision of the ministry of ecology, sustainable development and energy and the ministry of higher education and research. IFSTTAR's role is to carry out and commission, direct, lead and appraise research, development and innovation in the areas of urban engineering, civil engineering, and construction materials, natural hazards, the transportation of persons and goods, systems and means of transport and their safety, infrastructure, and investigate their uses and impacts from the technical, economic, social, health, energy, environmental and human points of view.

The Institute's principal aims are:

- to carry out fundamental and applied research, perform methodological studies and develop tests and prototypes;
- to conduct all types of expert appraisals and advisory work in the fields mentioned in the above paragraph;
- to implement a scientific and technical information policy and disseminate the knowledge gained, in particular through publications, technical regulations and standards;
- to pursue a policy to exploit the results of its scientific and technological research, in particular by means of technical support, technology transfer and certification tests;
- to play a role in training by and for research and both vocational and in-service training;
- to help to export its expertise and the techniques it develops and gain better international exposure for them.

Key skills, knowledge and experience: IFSTTAR body of knowledge is demonstrated by the large number of its publications, technical manuals, and dissertations as well as from its large-scale test devices in the field of structure and monitoring in particular. It is present in many European and international projects, as well as in many industry-driven partnerships.

Example of significant infrastructure and technical equipment

- Accelerated load testing facility: The Fatigue carousel (IFSTTAR Nantes)
- Set of driving simulators (IFSTTAR Salon de Provence, Bron, Versailles and Marne-la-Vallée)
- Reference test tracks (IFSTTAR Nantes)

In 2016



Romanian Railway Investigating Agency (AGIFER; Romania)

Romanian Railway Investigating Agency - AGIFER, hereinafter referred to as AGIFER, is a public institution, financed completely from own funds and set up in 2015. AGIFER is a technical specialized body for the railway and metro field, subordinated to the Minister of Transports, that meets with all the tasks of the body in charge with the investigation of accidents and incidents set up in 2007, according to the Law no.55/2006, that transposed into Romanian legislation the Directive no.49/2004 for the railway safety.

AGIFER has the following main tasks:

- a) investigation of the railway serious accidents;
- b) investigation of the incidents happened in the train running, coordinated by an investigator in charge, appointed from AGIFER;
- c) investigation of those accidents and incidents that, in slight different conditions could lead to serious accidents, including the technical failures of the structural sub-systems or of the interoperability constituents, parts of European high speed and conventional railway system;
- d) other tasks specific to its activity field, entrusted through normative papers.

AGIFER can participate in projects in connection with the investigation or with the improvement of railway safety, financed through European funds, according to the legislation in force.

The total number of AGIFER employees is 42, from which 28 are investigators or investigator in charge within the investigation commission, specialized for different railway areas: lines, equipment, wagons, locomotives, traffic.

AGIFER has also 2 employees psychologists in charge with the investigation of the human factors.

From its setting up, that is 2006, and until now AGIFER performed 344 investigations of railway accidents and incidents.

Previous Conferences and Seminars



André Lannoy
ESReDA Honorary
Member,
IMdR, France

AFPCN – IMdR seminar From Risk to Resilience: Methodology and Case Studies

11 April 2017, Paris, France

This seminar, moderated by Myriam Merad (CNRS, French National Centre for Scientific Research) was organized by the AFPCN - IMdR working group "uncertainties and decisions" of the French Association for the Prevention of Natural Disasters and IMdR.

The conference was presented by Dr Igor Linkov, Risk and Decision Science Team, US Army Engineer Research and Development Center, Boston. The speaker first clarified the concept of resilience: the ability to anticipate, to prepare for and adapt to changing conditions and withstand, respond to and recover rapidly from disruptions. Risk analysis (which is a bottom/ up approach) requires a quantification that determines the contribution of each element (component, system, ...) to risk. All the prevention or protection options needed to reduce the risk can then be deduced. However, it is not realistic to believe that it is possible to predict all events of very low probability and high consequences. It is therefore necessary to prepare for this eventuality of an extreme event.

Under these conditions, a resilience analysis (which is a top/ down approach that takes into account interactions) is needed to quantify resilience. The author proposes the construction of a matrix of resilience whose lines represent the different points of view (physical, information, cognitive, social) and the columns represent the stages of resilience (prepare, absorb, recover, adapt). Each box is quantified, which requires use of experience feedback, elicitation of expertise, results of risk analysis, with network approaches. Choices will then be made using multicriteria decision-making methods.

Presentation and references are available on the IMdR website (www.imdr.eu).

Forthcoming Conferences and Seminars



Antonio Scala
Conference Chair
CNR, Institute of
Advanced Studies IMT
Italy

CRITIS 2017 – the 12th International Conference on Critical Information Infrastructures Security

9-11 October 2017, Lucca, Italy

Institute of Advanced Studies IMT (Lucca) is the main organizer of the Conference. The Event will be hosted in the ancient scenario of the [San Francesco area](#). This year edition continues the efforts to bring together scientist, experts, policy makers and professionals from academia, industry and governmental organisations engaged in the field.

The format of the conference has been preserved. Scientific contribution will be selected by a blind review process for **oral presentation** and **proceedings** will be published on Springer LNCS. However some novelties have been introduced. The **poster session** has been extended: more than a third of the applications will be presented as a poster. A special Session for **Project** will be organized to allow representatives of the different ongoing European, National or Regional Project to present their achievements and open problems and state of advancement. Similarly **Operators** will be given the opportunity to exhibit their developments, mature products or discuss open problems. **YCA**: Young Critis Award. Along the line of the CRITIS tradition, special attention will be devoted to young talents. To this purpose a price will be awarded to the best contribution presented by a young author. During the last three years, this price has been supported by the [CIPRNET](#) European network of excellence and named CYCA (CIPRNET Young Critis Award); this year it will renamed generically YCA (Young Critis Award) and it will be organized in collaboration with the International Research Institute "[Res on Network](#)" and in particular with its Scientific Director Prof. Marco Santarelli. Detailed rules for eligibility of candidates and evaluation procedure can be found on the [CRITIS 2017 website](#). Beside the main conference presentations there will be two **Satellite Workshops** on Energy and Water, respectively. These two workshops will take place on October 12th and 13th. The workshop on Energy will be chaired by Angelo Facchini (IMT) and Antonio Scala, while the workshop on Water will be chaired by Angelo Facchini e Gabriele Oliva (University Campus BioMedico). Specific calls for contribution will be made available on the website for these satellite events. Participants interested in Energy and Water issues are encouraged to participate to both the main conference and the specific workshops.

CRITIS 2017 **keynote speakers**:

- "*Present and future Scenarios of Cyber Security*", **Roberto Baldoni**, Università Roma I "La Sapienza", Research Center for Cyber Intelligence and Information Security (CIS), Italy
- "*State of the art and perspectives of phenomenological Modelling & Simulations*", **Igor van Gemert**, SimCI - Alliander Den Haag, The Netherlands
- "*Infrastructure interdependence in industrial and technological wide areas*", **Javier Larraneta**, PESI Spanish Technology Platform on Industrial Safety & Security, TECNALIA, Spain.

More about at CRITIS 2017 website: <http://www.critis2017.org/>

Forthcoming Conferences and Seminars



Terje Aven
ESRA Chairman,
University of Stavanger,
Norway

ESREL 2018 – the 28th Annual European Safety and Reliability Conference 17-21 June 2018, Trondheim, Norway

The annual European Safety and Reliability Conference ESREL is an international conference under the auspices of the European Safety and Reliability Association ([ESRA](#)).

The topic for ESREL 2018 is “**Safe Societies in a Changing World**” and our ambition for the conference is to advance in the understanding, modelling, and management of the complexity of the risk, safety and reliability fields characterizing our world, now and in the future. We aim at setting up a multidisciplinary platform to address the technological, societal and financial aspects of these fields. With the support of NTNU, we engage in broadening the scope of risk, safety and reliability from the technical to natural, financial and social aspects, focusing on inter-dependencies of functions and cascade of failures in complex systems.

The time for the conference is 17-21 June 2018. The conference venue will be at the main campus of the Norwegian University of Science and Technology, NTNU.

Authors are invited to submit 300 words abstracts using the predefined abstract template file. After review, the authors will be informed about the acceptance of the abstracts. The full length papers and extended abstracts have to be submitted using the available templates. A peer review of the papers will be performed and accepted papers will be published in indexed Proceedings of ESREL2018, published by Taylor and Francis. The papers will be available as Open Access on the CRC website. Selected papers will be invited for submission of extended versions to special issues of selected scientific journals.

Call for papers at [ESREL 2018 website](#).



Stein Haugen
Norwegian University
of Science and
Technology, Norway



Other Conferences and Seminars

Conference “**Maintenance in Power Plants 2018**” with Technical Exhibition
28 February - 1 March 2018, Bonn, Germany [Call for Papers](#).

Recent Publications



André Lannoy
ESReDA Honorary
Member,
IMdR, France

Risk management, safety and dependability: looking back from 1990 to 2015, which future?

After recalling the major industrial challenges, the article discusses the evolution of approaches and methods of risk management, dependability and safety from 1990 to 2015. Three periods can be distinguished. The first is oriented maintenance purposes. The second, given the scarcity of financial resources, is concerned with ageing management and life cycle management. Finally, the third, after the disasters of the 2000s, is a period of risk aversion and return to safety concerns. The article then explains how uncertainty is treated during these 25 years: model and propagate uncertainty, manage and analyze the uncertain data, decide in an uncertain context. The article concludes with the different actions that should be involved in the near future.

The article was presented as a keynote lecture in the 51st ESReDA seminar at Clermont-Ferrand (20-21 October 2016). [Click to download](#) your free copy of the article.

ESReDA: European Safety, Reliability & Data Association

Association internationale sans but lucratif, régie par la loi Belge du 27 Juin 1921-Titre III (Registration N°: 0452522618 - Siret:E00005802)

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