

*The 49th ESReDA Seminar on:*  
***Innovation through Human Factors in Risk Assessment and  
Maintenance***

*October 29-30, 2015, Clos Chapelle-aux-Champs, B-1200, Brussels, Belgium*

## PRELIMINARY PROGRAM

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### 28/10/2015: ESReDA PRIVATE MEETINGS

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09:00-17:00	ESReDA Project Group Meetings
14:00-17:00	ESReDA Board of Directors Meeting
20:30-23:00	TPC private dinner

### 29/10/2015: 1<sup>ST</sup> DAY

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08:15 - 09:00	Registration
09:00 - 09:30	Welcome & Opening

#### **Session S1a: Human and Organisational factors**

Chaired by:

9.30 – 9.50 **Methods, Techniques and Tools to Understand Human Error in Industrial Activities: a review**

José Sobral, Edgar Serrano - ISEL – Instituto Superior de Engenharia de Lisboa, Lisboa, Portugal

Luis Ferreira - FEUP – Universidade do Porto Faculdade de Engenharia, 4200-465 Porto, Portugal

9.50 – 10.10 **Human Reliability Assessment – A critical review of the current status tracing a roadmap for further development.**

Costanza Ciarapica Alunni - School of Psychology, Trinity College of Dublin (TCD), Ireland *et al.*

10.10 - 10.30 **Developing methods for human reliability analysis for novel domains: experiences and perspectives**

Luca Podofillini, Dhruv Pandya, Vinh Dang.

**10:30 -10:50 Coffee Break**

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**Session S1b: Human and Organisational factors**

Chaired by:

10.50 - 11.10 **Application of HEART (Human Error Assessment & Reduction Technique) methodology to assess the human risk factor – nuclear power plant context**

PICAND Sébastien - ALSTOM Power SA, Levallois-Perret, France

11.10 – 11.30 **Improving Safety through gaming: A serious game's application for risky professions**

Evanthia Giagloglou, Ivan Macuzic - University of Kragujevac, Kragujevac, Srbija  
Panagiotis Antoniou, Panagiotis Bamidis - Aristotle University, Thessaloniki, Greece

11.30-11.50 **Predicting the Optimal Testing Strategy for Maintenance Procedures**

Yang Zhang, Sean Reed and John Andrews - Centre for risk and Reliability Engineering, University of Nottingham  
Magnus Karlberg, Faste Laboratory - Lulea University of Technology

11.50 - 12.10 **Title to be defined**

Trotta V., Cencetti S. et al. – HSE, FCA s.p.a., Turin, Italy

12.10 - 12.30 **Title to be defined**

Demichela et Al.

**12:30 -14:00 Lunch**

**Session S2: Safety and HOF management for maintenance**

Chaired by:

14:00 - 14:20 **Assessment of safety management of maintenance outages : a human and organisational factors approach**

Dechy N., Thellier S., Rousseau J-M., Pansier J., Jeffroy F. - Institut de Radioprotection et de Sûreté Nucléaire (IRSN), France

14.20 - 14.40 **Reducing the human factor in servicing of equipment at the enterprises that use WCM**

Kushch S. - FCA Srbija doo Kragujevac, Srbija,  
Demichela M., Milosevic M. - Dipartimento di Scienza Applicata e Tecnologia Politecnico di Torino, Italia

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**14.40 - 15.00 Advanced model for safety oriented man-workplace system management in automotive industry**

Alberto Petruni, Ivan Mačužić - Faculty of Engineering, University of Kragujevac, Srbija  
Nikolić Saša - Environment, Health & Safety, FCA Srbija doo Kragujevac, Srbija

**15.00 - 15.20 The Development of a Maintenance Process Performance Model and Modelling Language**

Yang Zhang, Sean Reed and John Andrews - Centre for risk and Reliability Engineering, University of Nottingham  
Magnus Karlberg, Faste Laboratory - Lulea University of Technology

**15.20 – 15.40 Supporting Maintenance Decision with Empirical Models Based on Fleet-Wide Data**

Sameer Al-Dahidi, Francesco Di Maio, Piero Baraldi, Enrico Zio - Energy Department, Politecnico di Milano, Italy

**15:40 - 16:00 Coffee Break**

**Session S3: PHM and maintenance**

Chaired by:

**16.00 – 16.20 Early fault detection and diagnosis in bearings for improved reliability and safety in packaging materials industry**

Dragoljub Gajić, Jovan Gligorijević, Aleksandar Brković, Željko Đurović - Tetra Pak Production d.o.o., Serbia

**16.20 – 16.40 Initial spare parts assortment decision making: a structured approach for rolling stock maintenance**

A.J.J. Braaksma, L.A.M van Dongen, A. Martinetti, J. Ziggers - Universiteit Twente.

**16.40 – 17.00 Towards the Integration of Human Reliability Analysis and Maintenance Prognostics within the Biopharmaceutical Industry**

Darren McDonnell, Garret E. O'Donnell, Nora Balfe - Trinity College Dublin, Ireland  
Piero Baraldi, Ivan Bani - Energy Department, Politecnico di Milano, Italy

**17.00 – 17.20 Maintenance in a passenger transportation company in Poland and in the Republic of South Africa**

Marta Nowakowska, General Tadeusz Kosciuszko - Military Academy of Land Forces, Wrocław, Poland  
Agnieszka Tubis - Wrocław University of Technology, Wrocław, Poland

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17.20 – 17.40 **Validating the calculated Performance of Dutch Storm Surge Barriers and other Infrastructures by Process and Organizational Assessment**

G.R. Kleijn van Willigen, Rijkswaterstaat  
H. van Meerveld, TNO

17.40 – 18.00 **Sensitivity analysis of a time-to-crack-initiation corrosion model for a carbonated reinforced concrete.**

Bejarano Pablo, de Larrard Thomas, Casaux-Ginestet Géraldine, Duprat Frederic - LMDC, UPS – INSA Toulouse, France

**18:00 - 19:00 Supervisory Board InnHF Project**

**20:00 - 23:30 Seminar Gala Dinner (location to be defined)**

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## 28/10/2015: 2<sup>ND</sup> DAY

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### **Session S4: Measurements, observation and data treatment**

Chaired by:

9.00 – 9.20 **Ergonomics of pushing and pulling: a training cart prototype**

Evanthia Giagloglou, Ivan Macuzic, Milan Radenkovic, Marko Milosevic and Branislav Jeremic - University of Kragujevac, Kragujevac, Srbija

9.20 – 9.40 **Avoiding Human Error through Easy Readable Spectra provided by Zhao Atlas Marks Distribution for Monitoring Rolling-Element Bearings**

Christos Tsiafis, Evanthia Giagloglou, Petar Todorovic, - Department for Production Engineering, Faculty of Engineering, University of Kragujevac, Serbia  
Christos Skeberis, Zaharias Zaharis, Ioannis Tsiafis, Thomas Xenos - Aristotle University of Thessaloniki, Greece

9.40 – 10.00 **Neuroergonomics Studies of Monotonous and Repetitive Operations on Manual Assembly Tasks**

Pavle Mijović, Ivan Mačužić, Ivan Gligorijević, Petar Todorović and Branislav Jeremić - Department for production engineering, Faculty of Engineering, University of Kragujevac, Serbia

Vanja Ković, Miloš Milovanović, Miroslav Minović - University of Belgrade, Serbia

Maarten De Vos - Department of Engineering, Institute of Biomedical Engineering, University of Oxford, UK

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10.00 – 10.20 **Behavioural yoga for pilots: Enabling good airmanship as a resilience strategy for civil flight operations**

Frederik Mohrmann - National Aerospace Laboratory, Amsterdam, The Netherlands,  
John Stoop - Kindunos Consultancy, Gorinchem, The Netherland

**10:20 -10:40 Coffee Break**

**Session S5: Lessons learned and use of the information gained**

Chaired by:

10.40 - 11.00 **Title to be defined**

Patrucco et al., Poltecnico di Torino, Italy

11.00 - 11.20 **Title to be defined**

Safer

11.20 - 11.40 **Title to be defined**

Rota G - SIAD, Bergamo, Italy

11.40 - 12.00 **Title to be defined**

Douglas

12.00 - 12.20 **Title to be defined**

Farzad

**12:30 -14:00 Lunch**

**Session S6 : Methods and application for HOF and risk assessment**

12.00 - 14.20 **Structured risk analysis for equipment subject to pressure equipment directive on distillation column example including human and organizational factors**

Marko Djapan, Micaela Demichela, Dept. Applied Science and Technique, Politecnico di Torino, Italy

R. L. B. Raoni - Universidade Federal do Rio de Janeiro, Brasil

14.20 - 14.40 **Integration of Human and Organizational Factor into ATEX (Explosive Atmosphere) Risk Assessment: The ATEX-HOF Methodology and Its Application**

Jie Geng, Salvina Murè, Gianfranco Camuncoli - ARIA s.r.l., Torino, Italia

Micaela Demichela, Baldissone Gabriele - Dipartimento di Scienza Applicata e Tecnologia Politecnico di Torino, Italia

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**14.20 - 14.40 Introduction of the human factor into the risk analysis**

J.R. González Dan, Josep Arnaldos, R.M. Darbra - Chemical Engineering Department.  
Universitat Politècnica de Catalunya-BarcelonaTech, Barcelona, Catalonia, Spain.

**14.40 - 15.00 New approach in the Food Safety Risk Management, involving Human  
Factor**

Shirani M., Demichela M. - Dipartimento di Scienza Applicata e Tecnologia Politecnico di  
Torino, Italia

**15.00 – 15.20 Integration of Human and Organizational Factors with Quantitative  
Risk Assessment based on Accident Investigation**

Mehmood Ahmad, Marco Pontiggia, D'Appolonia S.p.A., San Donato M.se, Milan, Italy  
Micaela Demichela, Dipartimento di Scienza Applicata e Tecnologia Politecnico di Torino,  
Italia

Maria Chiara Leva, Trinity College Dublin, Ireland

**15.30 - 16:00 Closure & announcement of the 50<sup>th</sup> ESReDA seminar**