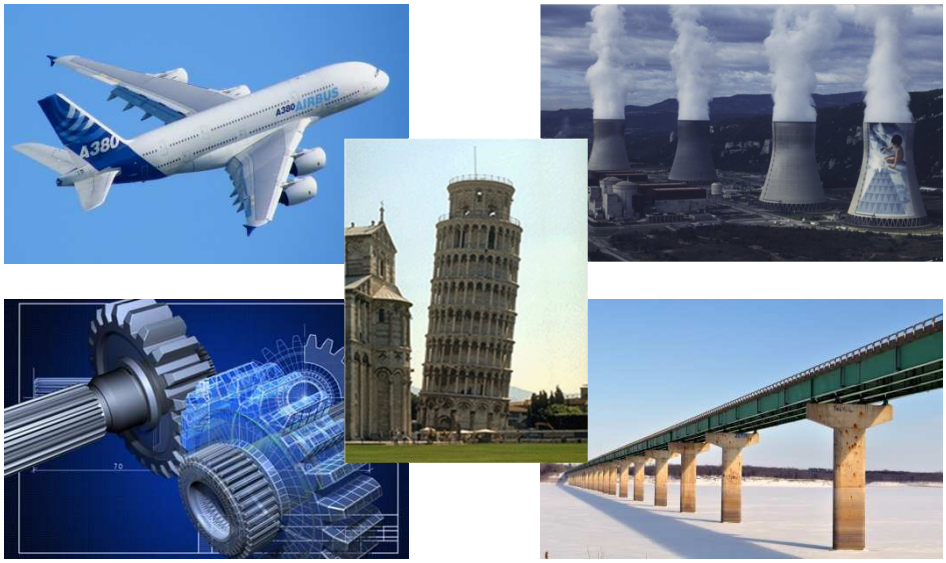
European Safety, Reliability and Data Association

46th ESReDA Seminar on

Reliability Assessment and Life Cycle Analysis of Structures and Infrastructures (May 29th - 30th, 2014)

Politecnico di Torino
Valentino Castle, Viale Pier Andrea Mattioli, 39 - 10125 Torino, Italy



The Life Cycle Analysis and Optimization of structures and infrastructures is a challenging topic, where reliability and durability have mandatory roles, in addition to economic and political considerations. The life cycle cost involves all events and operations occurring during the structural lifetime, such as design, construction, testing, use, degradation, inspection, maintenance, repair, failure, and recycling. The life cycle management implies not only optimal design of structures and products, but mainly the degradation handling through monitoring, inspections and maintenance interventions. The random environment and operating conditions that structure can meet during its lifetime make the deterministic predictive models insufficient to fit the safety and reliability requirements. Therefore, the life cycle management should take into account the uncertainties and variability all over the life span. Optimization comes from the real needs to balance the risk and the benefits of engineering activities, by searching for the best compromise between conflicting requirements, such as economy, performance, safety, reliability, etc. In a wider scope, the life cycle optimization should address, not only cost and safety of structural system itself but also non mechanical parameters related to design, use and operation. All the above aspects are targeted by the ESReDA project group ROLCCOST: “Reliability-based Life Cycle Cost Optimization of Structures and Infrastructures”.

The aim of the 46th ESReDA seminar is to bring together scientists, engineers and decision makers in the field of structural safety and risk management, in order to present and discuss innovative methodologies and practical applications related to structural reliability and life cycle cost: assessment, testing, analysis, design, monitoring, maintenance and optimization. Scientific methodologies, theoretical issues and practical case studies are expected to cover all the range from academic to industrial applications, including mechanical and civil engineering.

A selection from seminar papers will be published in the book edited by ESReDA on *Reliability-based Life Cycle Cost Optimization of Structures and Infrastructures*.

Topics (include, but are not limited to):

- Reliability-based design and optimization
- Life-cycle assessment and optimization
- Structural and mechanical reliability
- Probabilistic degradation models
- Statistical methods in reliability
- Asset management
- Accelerated life testing
- Structural health monitoring
- Risk assessment and decision theory
- Inspection, Maintenance and Repair policy
- Computation procedures in analysis and optimization
- Failure consequences on human lives, activities and environmental damage
- Industrial case studies in mechanical and civil engineering.

SEMINAR ORGANISATION

The seminar is held by ESReDA

Chairman of the seminar

Henrik Kortner, (ESReDA President, Safetec Nordic, Norway)

Technical Program Committee

John Andrews	(University of Nottingham, United-Kingdom)
André Beck	(University Sao Paulo, Brazil)
Alaa Chateauneuf	(Blaise Pascal University, France), *Chairman*
Palle Christensen	(ex RISOE delegate, Danemark)
Micaela Demichela	(Politecnico di Torino, Italy)
Mohamed Eid	(CEA, France)
Abdelkhalak El-Hami	(INSA-Roeun, France)
Fabrice Guérin	(Angers University, France)
Milan Holicky	(Czech Technical University, Czech Republic)
André Lannoy	(IMdR, France)
Henri Procaccia	(ESReDA, France)
Mauricio Sanchez-Silva	(University Los Andes, Colombia)
Franck Schoefs	(Nantes University, France)
Kaisa Simola	(VTT, Finland)
Yiannis Tsompanakis	(Technical University of Crete, Greece)

ORGANISING COMMITTEE

Alaa Chateauneuf (Blaise Pascal University, France)
Mohamed Eid (CEA, France)
John Andrews (University of Nottingham, United-Kingdom)

LOCAL CONTACT:

For practical local information, please, contact Micaela Demichela, Politecnico di Torino, Italy on : demichela.polito@gmail.com / micaela.demichela@polito.it

RELEVANT DATES

Deadline for abstracts: **February 14th, 2014**
Notification of authors: **March 1st, 2014**
Submission of full papers: **April 8th, 2014**
Date of Seminar: **May 29th – 30th, 2014**

REGISTRATION AND SEMINAR FEES

A registration form and information package for the venue is joined and available on the ESReDA website: (http://www.esreda.org/)

- One speaker per accepted paper is **exempted**.
- ESReDA members' fees (3 participants/member) are **taken in charge** by the Seminar.
- The registration fees are **300 €** to be paid by bank transfer to ESReDA account:

Holder : ESReDA – "46th Seminar"
Bank : BNP Paribas Fortis Bank, Boulevard Jamar 1 D, 1060 Bruxelles, Belgique
IBAN : BE69 0012 3728 1678
BIC : GEBABEBB

ABOUT EUROPEAN SAFETY, RELIABILITY & DATA ASSOCIATION

European Safety, Reliability & Data Association (ESReDA) is a European Association established in 1992 to promote research, application and training in Reliability, Availability, Maintainability and Safety (RAMS). The Association provides a forum for the exchange of information, data and current research in Safety and Reliability.
ESReDA membership is open to organizations, privates or governmental institutes, industry researchers and consultants, who are active in the field of Safety and Reliability. Membership fees are currently 1000 € for organizations and 500 € for universities and individual members.Special sponsoring or associate membership is also available.