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European Safety and Reliability Conference

[esrel2021.org](http://esrel2021.org)

CALL FOR ABSTRACTS

**Special session on**  
***Bayesian network for reliability modeling***  
***and maintenance optimisation***

**Description**

Even the most standard stochastic modeling tools for reliability have to be challenged and questioned. This special session focuses on the application of Bayesian network for modeling degradation processes, evaluating reliability or testing maintenance strategies for complex systems. Both academic developments or specific industrial applications are welcome.

**Motivation**

Reliability analysis and maintenance optimization have become integral parts of system design and operation. This is especially true for systems performing critical tasks, such as mass transportation systems, energy production... This explains the numerous advances in the field of reliability stochastic modeling. During the last decade, many studies involving the use of Bayesian networks have proven their relevancy to represent complex systems and perform reliability studies. But many things still have to be done to improve the performance of such a formalism: from new inference algorithms (exact or not) to new modeling approaches or proposals for extensions of the standard Bayesian Networks...

**Objective**

The main objective of this session is to provide a forum for participants to discuss new research, both academic and industrial, on the use of Bayesian network in the reliability field. It will also aim to promote and disseminate the advantages of such a formalism to address dependability challenges

**Organizer**

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The validation of the special sessions will be done under the responsibility of the technical and scientific committee. Organizers are invited to provide a list of reviewers that may be supplemented by TC members to ensure consistency in the evaluation process.