

A Call for Papers for a Special Issue on *Risk, Reliability, and Uncertainty Quantification in Automotive Applications*

ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems: Part B. Mechanical Engineering (Special Issue number SI031B)



Risk, reliability, and uncertainty quantification (RR&UQ) are important research topics in automotive engineering including among others, vehicle design, vehicle safety analysis, automotive market analysis, and durability. RR&UQ methods, such as reliability, safety and quality analysis, reliability-based design optimization, model bias quantification, model verification and validation, and surrogate modeling, are deemed essential in improving the reliability and quality of automotive systems. The design of highly reliable, high-quality, and high- efficiency automotive systems poses new challenges in recent years due to the increased complexity of the automotive systems and the development of emerging automotive technologies, such as electrical vehicles, connected vehicles, autonomous vehicles, and new vehicle materials. New RR&UQ methods are desired to address the safety, reliability, and quality issues in the emerging automotive technologies and thus move the automotive industry forward.

This Special Issue is dedicated to recent advances in the field of RR&UQ and their applications in automotive systems. Topics of interest include but are not limited to the following:

- Reliability analysis methods with applications to automotive systems
- Risk and reliability analysis of autonomous vehicles
- Design optimization of automotive systems under uncertainty
- Human reliability in automotive systems
- Safety analysis of automotive cyber physical systems
- Electrical vehicle battery safety and reliability analysis
- Uncertainty quantification of automotive simulation models
- Reliability analysis and UQ in automotive manufacturing
- Health estimation of electrical vehicle systems under uncertainty
- Verification and validation of automotive system models
- New material design under uncertainty in automotive systems
- Vehicle accident reconstruction under uncertainty
- Automotive market analysis under uncertainty
- Durability and accelerated testing methodologies for automotive systems
- Reliability and warranty forecasting of repairable automotive systems
- Design of resilient automotive systems

Both Part A and Part B are now listed in the Emerging Citation Sources Index by Clarivate Analytics, formerly Thomson Reuters, and is now indexed by the Emerging Sources Citation Index. From 2016 onward, all articles are included in Web of Science. Part A and Part B have already been included in Scopus.

Important Dates

- April 10, 2018: Special issue announcement
- **August 15, 2018: Paper submission**
- March 15, 2019: Reviews completed
- June 01, 2019: Issue published online (date for paper version depends on backlog)

Manuscript submission link

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[You may send a draft of the manuscript to the Guest Editors to confirm its appropriateness for the Special Issue and obtain any editorial-level comments.](#)

Guest Editors (GEs) and Contacts

- Zhen Hu, University of Michigan-Dearborn, USA, email: zhennhu@umich.edu
- Zissimos P. Mourelatos, Oakland University, USA, email: mourelat@oakland.edu
- Ramesh Rebba, General Motors Company, USA, email: ramesh.rebba@gm.com