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## Preface

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**Biographical Notes:** Dr. Zissimos P. Mourelatos is an Associate Professor of Mechanical Engineering at Oakland University in Rochester, MI. He conducts research in the general areas of structural dynamics and reliability methods in engineering design. Before joining Oakland University, he spent 18 years at the General Motors Research and Development (GM R&D) Center and was concurrently an Adjunct Associate Professor at The University of Michigan for 17 years. He received his PhD in 1985 from The University of Michigan. He has published over 80 journal and conference publications and is the Editor-in-Chief of the newly formed International Journal of Reliability and Safety.

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## 1 Introduction

It is my distinct pleasure to see the publication of the *International Journal of Reliability and Safety (IJRS)*, a journal dedicated to non-deterministic methods and practices for the enhancement of product and process reliability and safety. *IJRS* aims to provide an international forum for information exchange among engineers, applied scientists and mathematicians, educators and policy-makers in the area of reliability and safety.

In today's competitive business environment, decisions on product design and development and regulatory requirements on safety involve a significant uncertainty. It is, therefore, important to replace the traditional deterministic way of thinking with a new non-deterministic decision-making approach. Product manufacturers can greatly improve the performance, safety and cost of their products using principles of reliability, safety and risk-based and robust design, accounting for the uncertainty and the risk of failure in a rigorous way. Reliability and safety is seriously considered in all disciplines of engineering design, decision-making and policy. Companies operate in an environment that calls for continuous improvement in all aspects of business. They keep, therefore, educating and training their designers, engineers and managers on the advantages and potential benefits of designing for reliability and safety. On the other hand, academicians educate their students in non-deterministic methods and increase the awareness of administrators on the importance and potential of these approaches.

The international nature of this journal must be emphasised. I am certain it will encourage paper submissions from all parts of the world. A distinguished and diverse editorial board has been assembled, which will greatly help in that regard. We aim not only to attract papers from the international community but also to cross-fertilise ideas from all disciplines of engineering (mechanical, industrial, civil, electrical,

aeronautical, etc.) and applied sciences. The editorial board has been chosen with this in mind. The subject coverage of the journal is very wide, covering all aspects of reliability and safety as well as design and decision-making under uncertainty. The journal website at [www.inderscience.com](http://www.inderscience.com) provides all relevant information.

I would like to express my appreciation to the Inderscience Publishers technical and publication staff for their assistance in publishing this journal. Special thanks are also due to all Associate Editors and members of the Editorial Board who have worked hard for this journal to be realised. Lastly, I must thank all authors and readers. It is them who will make the *IJRS* a success.