



The 14th International Conference on Quality, Reliability, Risk, Maintenance, and Safety Engineering (QR2MSE2024)

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Special Session on:

Korean Activities on Reliability and Structural Integrity (Presentation Only) [Session Chair: Prof. Nam-Su Huh and Dr. Dong-Cheon Baek]

The rapid advancements in artificial intelligence (AI) and big data have significantly impacted the field of reliability engineering. These technologies form the foundation of Prognostics and Health Management (PHM) techniques and are strongly connected with digital twin technologies. Their applications span across various industrial sectors for condition monitoring, fault diagnosis, and real-time safety assessments of machinery and equipment. In South Korea, extensive research is being conducted to harness these cutting-edge technologies, aiming to enhance the reliability and safety of critical systems. Accelerated life testing (ALT) is another crucial element of reliability-related research that is pivotal for the swift prediction of reliability characteristics. ALT methods help in understanding the long-term behavior and durability of products, thereby enabling quicker and more accurate reliability assessments. This special session will present some of the recent research activities (three papers) from South Korea, highlighting the integration of AI, big data, and ALT in reliability engineering. Additionally, this special session will present a newly proposed fracture mechanics analysis method (two papers), specifically designed for the probabilistic fracture mechanics of cylindrical structures in South Korea.

This special session aims to provide valuable insights into the current trends, challenges, and future directions in this field, contributing to knowledge exchange and collaboration among researchers.



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