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

July 24-27, 2024, Harbin, Heilongjiang, China

Special Session on:

Digitalization for Safety and Reliability of Nuclear Installations

Nuclear energy, as a clean, low-carbon, efficient, safe and high-quality type of energy, is indispensable to the realization of the dual-carbon goal. Benefiting from the rapid development of emerging technologies such as Industrial Internet of Things (IIoT), digitalization, big data, artificial intelligence and cloud computing, we will usher in a new era of sustainable development of nuclear energy with new growth opportunities for high safety, high reliability and high intelligence in the post-Fukushima era. In order to further improve the safety and design of advanced nuclear reactors and promote the nuclear safety regulation, the special session aims to gather academics, researchers, independent scholars from around the world to meet and share their latest ideas and discuss issues concerning high integrity digital systems and nuclear safety.

Topics of interest for submission include, but not limited to
1. Big data and IoT applications in intelligent operation and maintenance for nuclear power plants
2. Prognostics and health management of equipment
3. Reliability modeling and analysis of digital I&C systems
4. Software verification & validation and dependability analysis
5. Human reliability analysis
6. Cyber-physical security and risk evaluation
7. Living PSA and risk monitor
8. Intelligent decision support system
9. Uncertainty quantification and sensitivity analysis
10. Digitalization and standardization in nuclear application

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