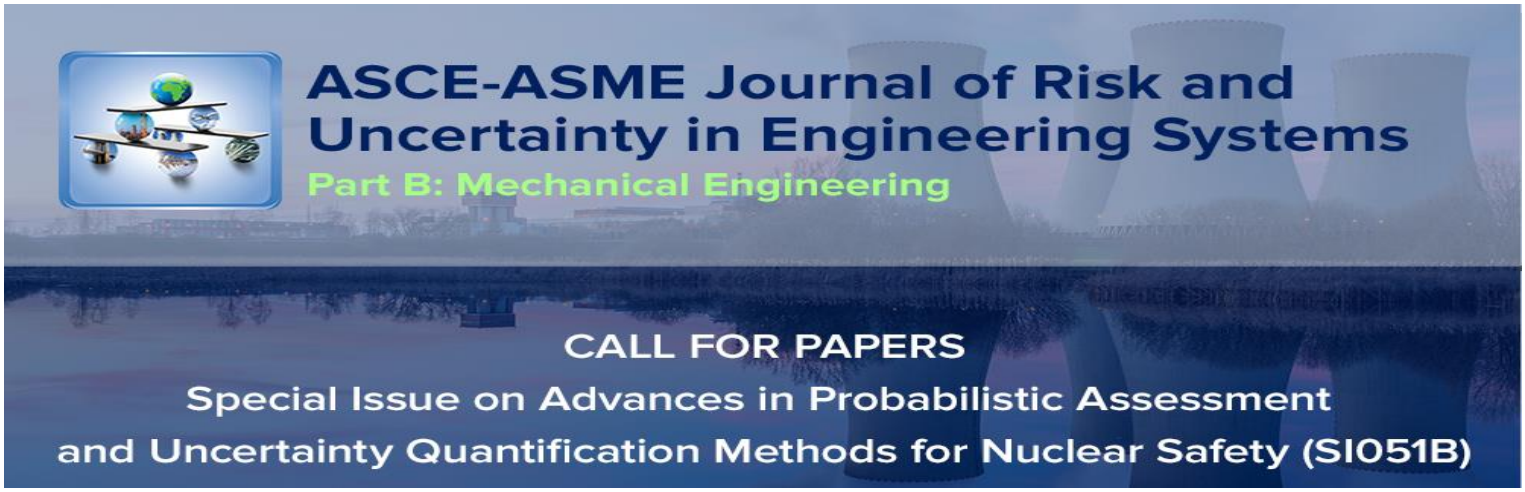

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[ASCE-ASME *Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering*]

Special Issue on Advances in Probabilistic Assessment and Uncertainty Quantification Methods for Nuclear Safety (SI051B)

Nuclear safety amounts to the prevention of accidents potentially occurring in nuclear installations and the mitigation of th eir consequences of undue radioactive material dispersion. Probabilistic Safety Assessment and Management (PSAM) is a consolidated way to satisfy the safety requirements of nuclear installations.

PSAM tools and methods can be upgraded to benefit the many technological, methodological and technical advancements in recent years. In this context, the present Special Issue aims at presenting the methodologies potentially enabling breakthroughs in PSAM for further enhancing nuclear safety.

The motivation of this Special Issue comes from the many interesting works on these topics presented at the ESREL2020 PSAM15 Conference, which combined the 30th European Safety and Reliability Conference (ESREL 2020) and the 15th Probabilistic Safety Assessment and Ma nagement Conference (PSAM 15), that was held remotely on November 1-5, 2020. Extended versions of these works presented at the ESREL2020 PSAM15 Conference are particularly welcome. Relevant papers from other authors are also encouraged.

Topic Areas

- Risk analysis methods
- Uncertainty analysis and quantification
- Human factors, accidents and disasters
- Nuclear engineering
- Information storage and processing including Big Data
- Mechanical assets and infrastructures

Methodologies of particular interest include but are not limited to:

- Computational fluid dynamics
- Computational modeling
- Advanced Monte Carlo simulation
- Machine learning and artificial intelligence
- Bayesian networks
- Dynamic reliability
- Prognostics and health management
- Uncertainty and sensitivity analysis

Applications of interest cover all aspects of PSAM, including nuclear systems modeling, accident investigation, importance me asures, quantification of uncertainty, sensitivity analysis, external and internal hazards risk assessment, organizational factors, multi-unit risk assessment, and risk aggregation.

Publication Target Dates

Paper submission deadline	**October 1, 2021**
Initial review completed	**January 15, 2022**
Special Issue publication date	**June 1, 2022**

Submission Instructions

Papers should be submitted electronically to the journal at [journaltool.asme.org]. If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal** page, select the [ASCE-ASME *Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering*] and then select the Special Issue ***Advances in Probabilistic Assessment and Uncertainty Quantification Methods for Nuclear Safety*** **(SI051B)**.

Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

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