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Special Issue on Risk and Uncertainties in Offshore Wind, Wave, and Tidal Energy Systems (SI040B)

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Special Issue on Risk and Uncertainties in Offshore Wind, Wave, and Tidal Energy Systems (SI040B)

Offshore wind, wave, and tidal energy systems are proving to be key technologies driving the promotion of renewable energy and the related achievement of renewable energy targets throughout the world. The number of papers on this topic has increased significantly in the last decade. Despite this interest, the majority of papers seem to concentrate on the maximization of energy, design, and recently - on the maintenance aspects. This is natural as the levelized cost of electricity in the market is directly influenced by the capital expenditure and the operational expenditure.

There remain significant challenges around these technologies related to -

- Uncertainties in the structural responses of renewable energy devices (from loading and materials)
- Uncertainties and variabilities of availability of renewable energy resources
- Uncertainties and variations around efficient inspection, testing, monitoring, maintenance, and management of these infrastructure systems.

Statistical and probabilistic methods are closely related to addressing all these challenges.

Contributions to this Special Issue can be theoretical or experimental, and can relate to offshore wind, wave, tidal or combined solutions. It is envisaged that the Special Issue will address a major area in the topic of renewable energy that is usually overlooked as an overall focus.

Topics

To include -

- Novel design of offshore wind, wave, tidal, or combined solutions
- Modelling of dynamic responses
- Testing of scaled or full-scale systems including laboratory based or flume/ocean wave basin tests
- Modelling and characterization of wind and/or wave energy availability and variation
- Estimation of exposure conditions of wind, wave, tidal, or combined offshore renewable energy solutions
- Extreme value statistics
- System identification and monitoring
- Estimates of effects of climate change and variability
- Instrumentation, operations, and maintenance
- Reliability analysis
- Array optimization

Publication Target Date

Paper submission deadline **September 30, 2020**
Special Issue publication date **Summer 2021**

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 in the Special Issue dropdown menu choose *Risk and Uncertainties in Offshore Wind, Wave, and Tidal Energy Systems (SI040B)*. Assign the paper type as: Research Paper. **Please note: First alert the guest editors prior to the submission. Early submission before the deadline is strongly encouraged to promote early review and publication of this Special Issue.**

Quality Assurance Standards

The guest editors will ensure that the Special Issue will include only the top quality contributions from the leading experts in the field. The standard review procedure of *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems* will guarantee the quality of the accepted manuscripts. This will lead to high citations and high impact of the Special Issue. From 2016 onward, all articles are included in Web of Science and in Scopus.

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