



Journal of Nuclear Engineering and Radiation Science

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Special Issue on Progress in Advanced Nuclear Reactors

Advanced Nuclear Reactors (ANRs) are attractive for the future of nuclear power and clean energy in general. They have many potential advantages over LWR technology: safety, thermal efficiency, reduced waste, etc. However, the challenges associated with bringing these technologies to fruition are nearly as great as their benefits. Extreme operating parameters, nonaqueous coolants, and innovative fuel types enable substantial benefits while at the same time are sources of significant challenges.

Industry, academia, and governments are all making swift progress on critical issues, including demonstration reactors. To advance ANR technology, it is crucial to identify the current state-of-the-art. In addition, different ANR concepts face many of the same challenges: high temperatures, materials compatibility, modeling and simulation, etc. These cross-cutting technologies must be presented together to highlight synergies among concepts. This Special Issue is focused on reporting the latest advancements from the broader ANR field, including progress updates from ANR developers. Experts are invited to submit their work, whether focused on enabling technologies (thermal hydraulics, materials, instrumentation) or the concepts themselves (designs, modeling and simulation, testing, demonstration).

Topic Areas

Advanced Nuclear Reactor technology (sodium, molten salt, high temperature gas, lead/lead-bismuth, supercritical water, heat pipe, etc.), including, but not limited to:

- Reactor design
- Instrumentation
- Advanced fuels
- Thermal hydraulics
- Materials/corrosion/coolant chemistry
- Progress updates from ANR developers
- Modeling and simulation
- Thermal energy storage
- Testing programs
- Economics

Publication Target Dates

Paper submission deadline	March 15, 2023
Initial review completed	April 30, 2023
Special Issue publication date	January 2024

Submission Instructions

Papers should be submitted electronically to the journal at journaltool.asme.org. If you already have an account, log in as an author to your ASME account. If you do not have an account, sign up for an account. In either case, at the **Paper Submittal** page, select the [ASME Journal of Nuclear Engineering and Radiation Science](#) and then select the Special Issue **Progress in Advanced Nuclear Reactors**.

Papers received after the submission deadline may still be considered for the Special Issue, if time and space permits.

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