



International Conference on Physics of Reactors 2024 (PHYSOR 2024)

Beyond the Blueprint: Pioneering Reactor Physics for Real-World Implementation

April 21-24, 2024 | San Francisco, CA | Hilton Union Square

CALL FOR PAPERS

EXECUTIVE CHAIRS

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Massimiliano Fratoni (UC Berkeley)

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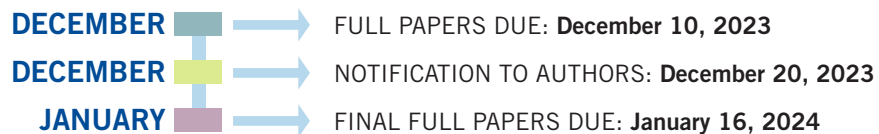
Technical Program Chairs

Eva Davidson (ORNL)

Brendan Kochunas (UM)

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PAPER DEADLINE: SUNDAY, DECEMBER 10, 2023



ABOUT THE CONFERENCE

As novel reactor concepts approach deployment, reactor physicists are faced with new stimulating challenges to move simulation blueprints towards real-world implementation. In San Francisco, the world's cradle of innovations, PHYSOR 2024 will cast the spotlight on the latest advancements in reactor physics and related nuclear technologies and debate the challenges that need to be addressed. The conference aims to provide a platform for international experts from vendors, utilities, research laboratories, and universities to exchange ideas and latest developments on a wide spectrum of topics. Technical sessions include a broad range of topics such as advanced reactor designs, machine learning and artificial intelligence applications, experimental reactor physics, space nuclear technologies, and advanced fuel cycles. The conference will also include plenary sessions focusing on advanced reactor design development and demonstration programs, panel sessions, and several workshops on state-of-the-art reactor physics tools.

GUIDELINES

Submit full papers describing work that is of value to the reactor physics community and the nuclear industry in general. Papers are presented orally at the meeting, and presenters are expected to register for the meeting. All accepted and presented papers will be published in the conference's Proceedings. Published papers become the property of ANS. Under no circumstances should a paper be published in any other publication before presentation at the PHYSOR 2024 meeting. An ANS copyright form is required for all papers.

FORMAT

We are soliciting full papers with ten pages maximum. Use the provided Word and LaTeX templates. Papers not formatted according to the template will be rejected. Papers exceeding 10 pages will be rejected. If an exception is made and a paper exceeding 10 pages is accepted, page charges are \$100/page for p. 11 and above.

POSTERS

Authors who desire a poster presentation must also submit a full paper in the proper format as described above. Papers will be scheduled for either a podium or poster presentation at the discretion of the meeting organizers. Authors who prefer a poster presentation should email epsr@ans.org to state their preference.

STUDENT-LED PAPERS

We welcome and encourage students to submit papers to this conference. Please ensure that papers for which the Primary Author is a student are identified as such in the yes/no student-status question in the Authors section of the EPSR. Judges will use this information to identify the conference's best student papers, which will receive a cash prize.

JOURNAL COLLABORATION

We will invite authors to submit a full-length journal article for a special issue of *Nuclear Science and Engineering*.

SUBMIT A PAPER

<https://epsr.ans.org/meeting/?m=415>

PROGRAM SPECIALIST

Janet Davis

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TECHNICAL TRACKS

TRACK 1: REACTOR DESIGN AND ANALYSIS

- 1a. Advanced Reactors Design and Core Analysis
- 1b. Light-Water Reactors Design and Core Analysis
- 1c. Transient Systems and Analysis
- 1d. High Enrichment/High Burnup Core Analysis
- 1e. Micro-Reactors Design and Core Analysis
- 1f. Space Nuclear Reactors Design and Core Analysis
- 1g. Designing Reactors for Integrated Energy Systems
- 1h. Fuel Management and Optimization

TRACK 2: EXPERIMENTAL REACTOR PHYSICS

- 2a. Experimental Reactor Physics for Advanced Reactors
- 2b. Research Reactors for Reactor Physics Analysis and Simulation
- 2c. Instrumentation and Control for Advanced Reactors
- 2d. Nuclear Criticality Safety

TRACK 3: METHODS

- 3a. Methods for Reactor Physics Analyses
- 3b. Reactor Physics Methods in Control and Optimization Problems
- 3c. Machine Learning and Artificial Intelligence for Reactor Physics
- 3d. Multi-Physics Reactor Simulations and Validation
- 3e. Use of Extended Reality in Reactor Applications
- 3f. Advancements in Uncertainty Quantification and Validation Methodologies
- 3g. Data, Methods, Code Validation

TRACK 4: FUEL CYCLE AND OTHER APPLICATIONS

- 4a. Small and Large Reactors – From Deployment to Decommissioning
- 4b. Fuel-Cycle Physics and Scenarios
- 4c. Isotopes Production
- 4d. Nonproliferation and Safeguards
- 4e. Challenges and Improvements in Accident Dose Analysis
- 4f. Neutronics for Fusion Reactors
- 4g. Reactor Physics Analyses for Externally Driven Systems

