



Advances in Thermal Hydraulics (ATH 2024)

Embedded in the 2024 ANS Winter Conference and Expo

November 17-21, 2024 | Orlando, FL, USA | Renaissance Orlando at SeaWorld

CALL FOR PAPERS

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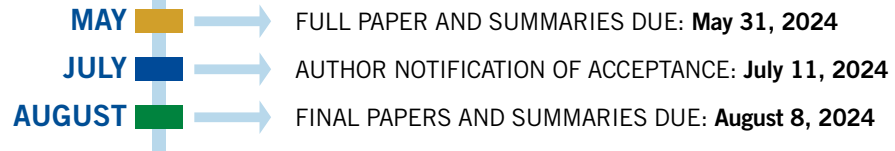
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FULL PAPER AND SUMMARY DEADLINE: FRIDAY, MAY 31, 2024



ABOUT THE CONFERENCE

Papers and summaries are solicited for the Advances in Thermal Hydraulics (ATH 2024) conference, to be held as an embedded topical meeting at the 2024 ANS Winter Conference on November 17-21, 2024, at the Renaissance Orlando at SeaWorld. Organized by the American Nuclear Society Thermal Hydraulics Division, this embedded topical meeting is the seventh in a growing series featuring peer-reviewed, full-length technical papers covering recent advances in thermal hydraulics. Authors and presenters are cordially invited to participate in this event to exchange ideas and knowledge, develop strong relationships across organizations, and establish collaborations to solve challenging problems.

SUBMITTAL GUIDELINES

- Paper and summary acceptance will be based upon originality of the work, strictly implemented methods or models, quality of results, impact of the scientific advances to the field of thermal hydraulics, conclusions supported by data, proper citation of references, and use of correct grammar and spelling.
- Full papers must use the [ATH conference template and formatting](#). The recommended paper length is 8-10 pages. Papers will incur a publication fee of \$100 per page starting with p. 11; there is no charge for pp. 1-10. The maximum allowable length is 14 pages. Papers with more than 14 pages will be rejected.
- Summaries should be a maximum of four (4) pages. If an exception is made and a summary with more than four pages is accepted, page charges of \$100/page will apply starting with p. 5. Summaries must use the [ANS template and formatting](#).
- Your paper should be submitted in PDF format.
- Do not include headers, footers, page numbers, bookmarks, text highlighting, or hyperlinks to references, figures, and tables in the text of your paper or summary in your final PDF document. Do not save your document as "read only."
- For the title of the paper or summary, Capitalize the First Letter of Major Words; do not use all capital letters.
- Do not use all capital letters for any part of any author's name.
- Enter the names of all authors into the Authors page in the EPSR. List the authors in the same order in which their names appear on the paper or summary. Authors' affiliations should match the affiliation provided on the paper or summary itself. If an author has multiple affiliations, enter the one that should be included in the program and in the meeting proceedings.

Selected full papers will be invited to a special issue of *Nuclear Technology*.

SUBMIT A PAPER

<https://epsr.ans.org/meeting/?m=401>

PROGRAM SPECIALIST

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SUBJECT AREAS

High-quality full-length papers are solicited on the following topics:

1. **FUNDAMENTAL THERMAL HYDRAULICS**
 - a. Boiling and Condensation Phenomena
 - b. Experimental Methods and Instrumentation
 - c. Fluid-Structures and Materials Interaction
 - d. Heat Transfer Enhancement Phenomena
 - e. Micro-Channel Flow and Heat Transfer Phenomena
 - f. Rod Bundle Flow and Heat Transfer Phenomena
 - g. Two-Phase Flow and Heat Transfer Fundamentals
2. **CODE DEVELOPMENT AND APPLICATIONS**
 - a. Applications of Computational Methods to Nuclear Systems
 - b. Computational Fluid Dynamics Methods
 - c. Multiphysics-Coupled Thermal-Hydraulic Analysis Methods
 - d. Multiscale Methods
 - e. Novel System Code Development
 - f. Subchannel Analysis Methods
 - g. System Thermal Hydraulics Methods
 - h. Verification & Validation Methods for Thermal Hydraulics Analyses
3. **OPERATING LWRs THERMAL HYDRAULICS AND SAFETY**
 - a. Best Estimate LOCA and BEPU Analysis
 - b. Nuclear Reactor Plant Thermal Hydraulics and Safety
 - c. Operating LWRs Thermal Hydraulics and Safety
 - d. Thermal Hydraulics in Power Upgrading/Life Extension
 - e. Thermal Hydraulics Challenges and Opportunities in LWRs
 - f. Thermal Hydraulics of Water Chemistry
4. **SEVERE ACCIDENTS, PHENOMENA, MODELING AND EXPERIMENTS**
 - a. Combustion and Fires, Modeling and Experiments
 - b. Thermal Hydraulics in Accident Management
 - c. Thermal Hydraulics of Severe Accidents – Fundamentals
5. **THERMAL HYDRAULICS OF ADVANCED REACTORS**
 - a. Gas-Cooled Reactor Thermal Hydraulics
 - b. Microreactor Thermal Hydraulics
 - c. Molten-Salt Reactor Thermal Hydraulics
 - d. Next Generation LWR Thermal Hydraulics
 - e. Small Modular Reactor Thermal Hydraulics
 - f. Liquid Metal Cooled Fast Reactor Thermal Hydraulics
6. **THERMAL HYDRAULICS OF NUCLEAR INSTALLATIONS**
 - a. Thermal Hydraulics of Nuclear Reactors Coupled with Energy Storage
 - b. Thermal Hydraulics of Nuclear Hydrogen Production Systems
 - c. Thermal Hydraulics of Used Fuel Management Systems
 - d. Thermal Hydraulics of Nuclear-Renewable Coupled Energy Systems
7. **AI & ML FOR NUCLEAR SYSTEM AND THERMAL HYDRAULICS MODELING**
 - a. AI & ML Assisted High-Fidelity Modeling
 - b. AI & ML Based Reduced Order Modeling
 - c. OECD/NEA AI&ML Task Force Critical Heat Flux Benchmark
8. **SPECIAL SESSIONS**
 - a. Advances in High-Fidelity Measurements and Data Analysis
 - b. Advanced Heat Exchanger Design
 - c. Direct Numerical Simulations as High-Fidelity Data for Model Development
 - d. High Performance Computing Applications in Nuclear Engineering
 - e. Interface-Resolved Two-Phase Flow Simulation
 - f. Multiphase Multiscale Modeling and Simulation
 - g. NEAMS TH IRP: Thermal-Fluids Applications in Nuclear Energy
 - h. Reliability of Passively Operating Systems
 - i. Thermal Hydraulic Optimization for Additively Manufactured Components
9. **YOUNG PROFESSIONAL THERMAL-HYDRAULIC RESEARCH COMPETITION**
10. **GENERAL THERMAL HYDRAULICS**

In addition to full papers, we will also accept summary submissions (4-page maximum) for the following topic: