



International Topical Meeting on Advances in Thermal Hydraulics 2022 (ATH'22) EMBEDDED IN THE 2022 ANS ANNUAL MEETING

June 12-16, 2022 | Anaheim, California, USA | Anaheim Hilton Hotel

CALL FOR PAPERS

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IMPORTANT DUE DATES

FEBRUARY			FULL PAPERS AND SUMMARIES DUE: February 4, 2022
FEBRUARY			AUTHOR NOTIFICATION: February 25, 2022
MARCH			FINAL FULL PAPERS AND SUMMARIES DUE: March 15, 2022

ABOUT THE MEETING

Papers are solicited for the **International Topical Meeting on Advances in Thermal Hydraulics 2022 (ATH'22)**, to be held as an embedded topical meeting at the **2022 ANS Annual Meeting on June 12-16, 2022 at the Anaheim Hilton, Anaheim, CA**. Organized by the American Nuclear Society Thermal Hydraulics Division, this embedded topical meeting is the sixth 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.

Paper 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 meeting template and formatting, which can be found at ans.org/meetings/view-312/. Summaries must use the ANS template and formatting, which can be found at ans.org/pubs/transactions/. Papers will incur a publication fee of \$25 per page.

Selected papers will be published in a special edition of *Nuclear Technology*.

SUBMIT A SUMMARY OR PAPER
<https://epsr.ans.org/meeting/?m=338>

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SUBJECT AREAS

High-quality full-length papers (14-page maximum) 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
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. Sodium-Cooled Fast Reactor Thermal Hydraulics
6. **THERMAL HYDRAULICS OF NUCLEAR INSTALLATIONS**
 - a. TH of Nuclear Reactors Coupled with Energy Storage
 - b. TH of Nuclear Hydrogen Production Systems
 - c. TH of Used Fuel Management Systems
 - d. TH of Nuclear-Renewable Coupled Energy Systems
7. **SPECIAL SESSIONS**
 - a. Advances in High-Fidelity Measurements and Data Analysis
 - b. Advanced Heat Exchanger Design
 - c. Artificial Intelligence for Nuclear System and Thermal-Hydraulics Modeling
 - d. Direct Numerical Simulations as High-Fidelity Data for Model Development
 - e. High Performance Computing Applications in Nuclear Engineering
 - f. Interface-Resolved Two-Phase Flow Simulation
 - g. Multiphase Multiscale Modelling and Simulation
 - h. NEAMS TH IRP: Thermal-Fluids Applications in Nuclear Energy
 - i. Reliability of Passively Operating Systems
 - j. Thermal Hydraulic Optimization for Additively Manufactured Components

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

8. GENERAL THERMAL HYDRAULICS

9. YOUNG PROFESSIONAL THERMAL-HYDRAULIC RESEARCH COMPETITION