# 21st International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-21)

Innovation in Thermal Hydraulics for Nuclear Future

August 31 - September 5, 2025 | Busan, Republic of Korea | BEXCO

## CALL FOR PAPERS

### EXECUTIVE CHAIRS

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***Steering Committee Chairs***
Jae-Jun Jeong, PNU
W. Dave Pointer, ORNL
Bao-Wen Yang, DEQD
Yanping Huang, NPIC

### ABSTRACT DEADLINE: OCTOBER 25, 2024

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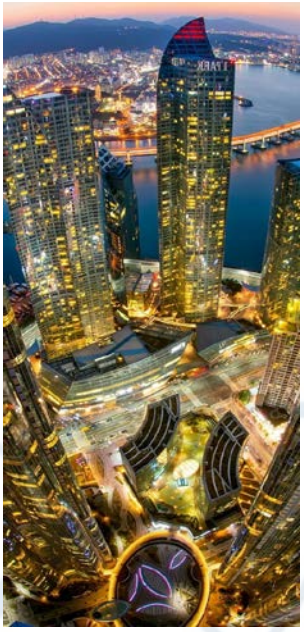
| OCTOBER | SUBMISSION OF ABSTRACS: **Oct. 25, 2024** |
| NOVEMBER | AUTHOR NOTIFICATION OF ACCEPTANCE: **Nov. 15, 2024** |
| JANUARY | FULL PAPER SUBMISSION: **Jan. 31, 2025** |
| MARCH | FULL PAPER REVIEW NOTIFICATION: **March 15, 2025** |
| MAY | FINAL PAPER SUBMISSION: **May 2, 2025** |

https://www.nureth-21.org



### GUIDELINES

The limit for abstract submissions is 250 words. The limit for full-paper submissions is 14 pages. The conference proceedings will be distributed on an USB drive. Selected papers will be published in the special issues of eminent international journals (to be informed later)

### ABOUT THE MEETING

NURETH is the premier gathering for experts in nuclear reactor thermal hydraulics and related topical areas. This meeting is held every two years. The Thermal-Hydraulic Division of the Korean Nuclear Society is pleased to host NURETH-21 in Busan, Republic of Korea. Busan is an ideal location for the NURETH-21 participants for their dedicated discussion of the future of nuclear thermal-hydraulics and their relaxation with cultural experiences on the world-famous seashore area. We are excited and looking forward to welcome participants to NURETH-21 from around the world to a world-famous nuclear city.

### WEBSITE OPEN (WWW.NURETH-21.ORG)

The Website provides access to the NURETH-21 Abstract template and Full paper template. Additionally, the website provides the NURETH-21 sponsorship and exhibitor prospectus. Contact Prof. B.J. Yun (bjyun@pnu.ac.kr) and Dr. K.H. Kang (khkang@kaeri.re.kr) for any inquiry to offer voluntary sponsorship possibilities. Contact Dr. K.Y. Choi (kychoi@kaeri.re.kr) and Prof. H.K. Cho (chohk@snu.ac.kr) for any inquiry on technical program.

CONFERENCE ORGANIZER
info@nureth-21.org

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## TECHNICAL TRACKS

HIGH-QUALITY PAPERS (14-PAGE MAXIMUM) ARE SOLICITED IN THE FOLLOWING AREAS:

1. Fundamental Thermal Hydraulics
   - General Fundamental Thermal Hydraulics
   - General Single Phase Thermal Hydraulics
   - Two-Phase Flow and Heat Transfer
   - Boiling and Condensation
   - Critical Heat Flux (CHF) and DNB
   - Core and Sub-Channel Thermal Hydraulics
   - Natural Circulation
   - Thermal Hydraulic Scaling
   - Instabilities and Special Thermal Hydraulic Phenomena
   - Turbulence

2. Computational Thermal Hydraulics
   - Computational Fluid Dynamics
   - Computational Multi-Fluid Dynamics
   - Sub-channel Analysis
   - System Code Analysis
   - Multi-Field Analysis and Modelling
   - High-Fidelity Coupled Analysis
   - DNS and LES
   - Uncertainty Quantification and Best Practice Guidelines for Analysis

3. Experimental Thermal Hydraulics
   - Measurement Techniques and Visualization
   - SET & IET (1): Operating Reactors
   - SET & IET (2): Advanced Reactors
   - CFD-grade Tests
   - Experiments and Databases for Validation
   - Rod Bundle Experiments
   - CHF for SMR and Accident Tolerant Fuel
   - Uncertainty Quantification and Best Practice Guidelines for Experiments

4. Water-cooled Reactor Thermal Hydraulics
   - LWR Operation and Safety
   - LWR Transient and Accident Analysis
   - ALWR Thermal Hydraulics and Safety
   - ATF and LEU+ Issues
   - Long-term Operation and Flexible Operation
   - BEPU Methodology and Analysis

5. Severe Accident
   - Severe Accident Scenario and Source Term
   - Fuel-Concrete Interaction and Debris Cooling
   - In-Vessel Retention and Coolability
   - Ex-Vessel Retention and Coolability
   - Fission Product Behaviors
   - Containment Thermal Hydraulics and Safety
   - Hydrogen Issues and Management
   - Severe Accident Mitigation for Water Cooled Reactor
   - Severe Accident Mitigation for Advanced Reactor
   - Risk-informed Safety Assessment

6. Advanced Reactor Thermal Hydraulics and Safety
   - Water-cooled SMRs
   - Non-water-cooled SMRs
   - Micro-Reactors
   - Space Applications
   - Marine Applications
   - Non-electricity Generation Applications
   - Test/Research Reactors
   - Molten Salt Reactors
   - Gas-Cooled Reactors
   - Liquid Metal Reactors: SFR, LFR
   - Other Advanced Reactors
   - Thermal Hydraulics in Fusion Reactors

7. Digital Technologies for Thermal Hydraulics
   - AI Application to Thermal Hydraulics
   - AI Application to Operation and Safety
   - Virtual Reactor Design
   - Monitoring and Diagnosis of Thermal Hydraulics
   - Models & Simulation

8. Special Topics
   - Passive Autocatalytic Recombiners
   - Thermal Hydraulics in Waste Management
   - Fluid-Structure Interaction
   - Post-Fukushima Safety Issues
   - Reliability of Passive Systems
   - Integrated Energy Systems
   - Multi-Organizational Cooperative Programs
   - International Cooperative Programs

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