

CALL FOR PAPERS



13th International Topical Meeting on Nuclear Reactor Thermal-Hydraulics, Operation and Safety (NUTHOS-13)

August 23rd to 26th, 2020
Sheraton Vancouver Wall Centre
Vancouver, BC, CANADA

Conference Objectives

This conference brings together researchers from Asia, North America, South America and Europe who are engaged in the many areas of nuclear thermal hydraulics, as applied to existing and new nuclear power technologies.

The NUTHOS series of conferences have traditionally been rotated every two years between Japan, South Korea, China and the Republic of China in Taiwan. It was decided to bring the 2020 conference to the Pacific Coast of North America for the first time and the Canadian Nuclear Society volunteered to host the conference.

The conference will be held in the beautiful city of Vancouver which has consistently been recognized as one of the most beautiful and liveable cities in the world.

Key Dates for Submission of Abstracts, Papers & Early Registration

Abstracts: Short abstracts of papers (~ 200 words) including title, authors and affiliations.

Due date: January 13, 2020

Papers: Draft papers maximum 14 pages in length including figures, tables and references.

Draft papers due: February 15, 2020

Final papers due: June 15, 2020

Submit abstracts and documents as Word files at website:

<https://www.cns-snc.ca/events/nuthos-13/>

Abstract & Paper templates available for download at the website.

Early Registration deadline:

June 15, 2020

Conference Themes & Topics

The conference covers all the current thermal-hydraulic areas in nuclear research and development, as well as plant operational safety, maintenance, diagnostics and monitoring. Attendees will be able to report on challenges impacting the nuclear industry and share lessons learned from reviews, drills, and major exercises. The topics include:

- 1. Fundamental Thermal-Hydraulics**
 - 1.1 Liquid Metal Thermal-Hydraulics
 - 1.2 Two-Phase Flow
 - 1.3 Boiling and Condensation Thermal-Hydraulics
 - 1.4 Turbulence Modeling
 - 1.5 Other Fundamental Issues
- 2. Computational Thermal-Hydraulics**
 - 2.1 Advances in Numerical Methods
 - 2.2 Code Development and V&V
 - 2.3 CFD Method and CFD Application to Nuclear Engineering
 - 2.4 Multi-Scale and Multi-Physics Coupling Simulation
- 3. Experimental Thermal-Hydraulics**
 - 3.1 Fundamental Thermal-Hydraulics Phenomena
 - 3.2 Advanced Measurement Techniques
 - 3.3 Separate Effects Experiments
 - 3.4 Integral Effect Experiments
- 4. Safety and Severe Accidents**
 - 4.1 Design Base Accidents
 - 4.2 Severe Accidents Analysis, Mitigation and Management
 - 4.3 In-Vessel Related Phenomena
 - 4.4 Ex-Vessel Related Phenomena
 - 4.5 Containment Thermal-Hydraulics and Source Term
 - 4.6 Safety Culture
- 5. Thermal-Hydraulics and Safety of Advanced Reactors**
 - 5.1 Water Cooled Reactors
 - 5.2 Liquid Metal Cooled Reactors
 - 5.3 Gas Cooled Reactors
 - 5.4 Molten Salt Reactors
 - 5.5 Small Module Reactors
 - 5.6 Reactors for Other Applications
 - 5.7 Research Reactors
- 6. Plant Operation and Maintenance**
 - 6.1 Plant Transients Behavior and System Improvement
 - 6.2 Operation, I&C and Inspection
 - 6.3 Risk Informed and Performance Based Regulation
 - 6.4 Big Data Application and Related Challenges
 - 6.5 Plant Licensing Renewal and Life Extension
- 7. Plant Diagnostics and Monitoring**
 - 7.1 Plant Simulators, Analyzers and Operator Training
 - 7.2 PRA Application to Design, Operation and Maintenance
 - 7.3 Components Diagnostics and Maintenance
 - 7.4 Fuel Management, Waste Management and Radiation Protection on Site
 - 7.5 Environmental Nuclear Safety
- 8. Special Sessions**

To be developed
- 9. Panel Sessions and Key Note lectures**

To be developed

Conference Organizing Committee

Honorary Founder Chair

Prof. Neil Todreas (MIT, USA – *to be confirmed*)

Honorary Chairs

Prof. Guanxing Li (CNS, China)

Prof. Hee Cheon No (KAIST, Korea)

Prof. Hisashi Ninokata (POLIMI, Italy & Japan)

General Chair

Prof. John Luxat (McMaster, Canada)

General Co-Chairs

Prof. Bao-Wen Yang (XJTU, China)

Prof. Xu Cheng (KIT, Germany)

Prof. Fan Bill Cheung (Penn State U, USA)

International Steering Committee Chairs

Prof. Yassin A. Hassan (TAMU, USA)

Dr. Hideo Nakamura (JAEA, Japan)

Prof. Kwang Hyun Bang (KMOU, Korea)

Prof. Yican Wu (FDS, China)

Professional Conference Organizer (PCO)

Redstone Agency Inc.

Technical Program Committee Chair

Prof. David Novog (McMaster, Canada)

Technical Program Committee Co-Chairs

Prof. Xiaodong Sun (U Mich, USA)

Prof. Yanhua Yang (SPIC, China)

Prof. Chul-Hwa Song (KAERI, Korea)

Prof. Koji Okamoto (Univ. of Tokyo, Japan)

Prof. Elia Merzari (Penn State U, USA)



Canadian Nuclear Society

Co-sponsors



American Nuclear Society



Chinese Nuclear Society



Korean Nuclear Society



Atomic Energy Society of Japan



Chung-Hwa Nuclear Society