

# 19th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-19)

March 6 - 11, 2022 • Brussels, Belgium • The Square

# CALL FOR PAPERS - NEW DATES (v.10)

# EXECUTIVE CHAIRS

**General Chairs** Hamid Aït Abderrahim, SCK CEN Jean-Paul Chabard, EDF Xiaodong Sun, University of Michigan

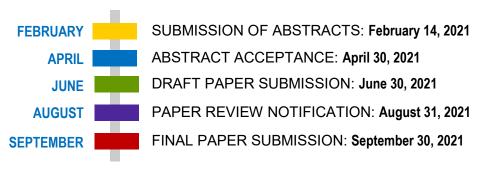
#### **Honorary Chairs**

Yassin Hassan, Texas A&M Hisashi Ninokata, Politechnico di Milano Michel Giot, UCLouvain *Technical Program Committee Chair* Elia Merzari, Penn State University

**Technical Program Committee Co-chairs** W. David Pointer, ORNL Chul-Hwa Song, KAERI Ferry Roelofs, NRG

Steering Committee Chair Steve Bajorek, US NRC

### **ABSTRACT DEADLINE: FEBRUARY 14, 2021**



# **GUIDELINES**

The limit for abstract submissions is 250 words. The limit for full-paper submissions is 16 pages. The conference proceedings will be distributed on a flash drive. Selected papers will be published in the Special issues of Nuclear Technology, Nuclear Science and Engineering, and Nuclear Engineering and Design.

# ABOUT THE MEETING

NURETH is one of the premier gatherings for experts in nuclear reactor thermal hydraulics and related topical areas. The meeting is held every two years. SCK CEN, the Von Karman Institute and NRG are pleased to host NURETH-19 in Brussels, Belgium. Brussels is more than the capital of Belgium: it is the vibrant heart of Europe. In Brussels cultures swirl together in a creative mix of art de vivre, know-how, heritage and surrealism. It has everything to make your stay unforgettable!

SUBMIT AN ABSTRACT

www.nureth19.com



# NURETH-19 HOSTS

Katrien van Tichelen, SCK CEN Philippe Planquart, VKI Ferry Roelofs, NRG



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# **TECHNICAL TRACKS**

### HIGH-QUALITY PAPERS (16 PAGE MAXIMUM) ARE SOLICITED IN THE FOLLOWING AREAS

#### 1. FUNDAMENTAL THERMAL HYDRAULICS

- **Fundamental Thermal Hydraulics** 1a
- Two-phase Flow and Heat Transfer 1b
- 1c Boiling and Condensation
- Interfacial Area Transport 1d
- Natural Circulation 1e
- Reactor Core & Sub-channel Thermal Hydraulics 1f
- Experimental Methods and Instrumentation 1g
- 1h Turbulent Heat and Mass Transfer

#### 2. COMPUTATIONAL THERMAL HYDRAULICS

- Thermal Hydraulics System Code Analysis 2a
- 2b Computational Fluid Dynamics
- Computational Multi-Fluid Dynamics 2c
- Multi-scale Analysis 2d
- Multi-physics Analysis 2e
- 2f Multi-species Analysis

#### 3. VERIFICATION, VALIDATION AND UNCERTAINTY QUANTIFICATION

- 3a Verification & Validation
- Experiments and Databases for Validation 3b
- 3c V&V for CFD
- 3d V&V for Thermal Hydraulics Codes
- Best Practice Guidelines 3e

#### 4. WATER-COOLED REACTORS OPERATION AND SAFETY

- 4a LWR Operation and safety
- HWR Operation and safety 4b
- Transient and Accident Analysis 4c
- 4d Scaling Issues
- 4e BEPU Analysis and Challenges in Licensing
- Instabilities and Nonlinear Dynamics 4f
- Next Generation LWRs 4g

#### 5. SEVERE ACCIDENTS

- Severe Accidents 5a
- **Design Features for Severe Accident Mitigation** 5b
- Natural Convection 5c
- Debris Bed Cooling 5d
- 5e Fuel-Coolant Interaction
- 5f Hydrogen Management
- Fission Product Behavior 5g
- 5h **Containment Thermal Hydraulics**

#### POSTER COMPETITION

Join the new 2-minute poster pitch competition. For each poster a full paper should be submitted in the system. All posters will be presented during the conference. The winning posters presenters will receive special attention. Deadline: 30 Nov '21

#### MOVIE COMPETITION

Prepare a one-minute movie of your experiment, simulation, or other related topic. All accepted movies will be shown during the conference and winning movies will be shown at a special event.

Movies submission deadline: 30 November 2021.

#### 6. LIQUID METAL THERMAL HYDRAULICS

- Turbulent Heat Transport Modelling 6a
- Fuel Assembly and Core Thermal Hydraulics 6b
- 6c Pool Thermal Hydraulics
- Chemistry Control 6d
- 6e Sloshing and gas entrainment
- 6f Solidification
- System Thermal Hydraulics 6g
- 6h Severe Accidents and Containment

#### 7. ADVANCED REACTORS

- Advanced Reactors General 7a
- 7b Small Modular Reactors
- High-Temperature Gas-Cooled Reactors 7c
- Salt-Cooled High-Temperature Reactors 7d
- Molten Salt Fueled Reactors 7e
- 7f Supercritical Water Reactors

#### 8. SPECIAL TOPICS

- 8a Versatile Test Reactor
- 8b Transformational Challenge Reactor
- 8c UQ Methods for CFD
- 8d DNS for Model Development
- Reduced Order Methods 8e
- 8f CONUSAF/FONESYS
- Sub-channel Code Analysis 8g
- Fluid Structure Interaction 8ĥ
- 8i Accident Tolerant Fuel
- 8j Machine Learning in Thermal Hydraulics
- 8k GEMINI-collaboration
- All-regime Two-Phase Flow Modelling 81
- Post-Fukushima Daiichi Accident Forensic 8m
- Nuclear Thermal Hydraulics Program UK BEIS 8n
- 80
- High Performance Computing Advanced Instrumentation for TH Experiments 8p
- Thermal Hydraulics for Fusion p8
- Microreactor Thermal Hydraulics 8r
- 8s IAEA CRP on Benchmark Analysis of FFTF Loss of Flow Without Scram Test
- 8t Reflood Thermal Hydraulics Benchmark: Experimental Effort and Code Validation
- Reliability of Passive Systems 8u
- IPRESCA project 8v

