

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

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

# **CALL FOR PAPERS - FINAL deadline (v.13)**

#### **EXECUTIVE CHAIRS**

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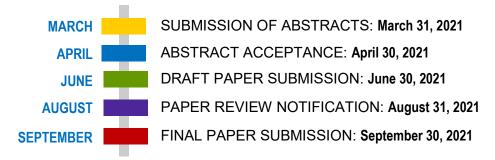
# **Technical Program Committee Chair** Elia Merzari, Penn State University

**Technical Program Committee Co-chairs** W. David Pointer, ORNL

Chul-Hwa Song, KAERI Ferry Roelofs, NRG

**Steering Committee Chair** Steve Bajorek, US NRC

# FINAL ABSTRACT DEADLINE: MARCH 31, 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

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

#### 2. COMPUTATIONAL THERMAL HYDRAULICS

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

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

- За Verification & Validation
- **Experiments and Databases for Validation** 3b
- Зс V&V for CFD
- 3d V&V for Thermal Hydraulics Codes
- Best Practice Guidelines

#### 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
- 4g Next Generation LWRs

#### 5. SEVERE ACCIDENTS

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

#### 6. LIQUID METAL THERMAL HYDRAULICS

- **Turbulent Heat Transport Modelling**
- 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
- 6i Liquid Metal Thermal Hydraulics General

#### 7. ADVANCED REACTORS

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

#### 8. SPECIAL TOPICS

- Versatile Test Reactor 8a
- 8b Transformational Challenge Reactor
- UQ Methods for CFD 8с
- 8d **DNS for Model Development**
- 8e Reduced Order Methods
- CONUSAF/FONESYS 8f
- Sub-channel Code Analysis 8g
- 8h Fluid Structure Interaction
- 8i Accident Tolerant Fuel
- 8j Machine Learning in Thermal Hydraulics
- 8k GEMINI-collaboration
- 81 All-regime Two-Phase Flow Modelling
- Post-Fukushima Daiichi Accident Forensic 8m
- Nuclear Thermal Hydraulics Program UK BEIS High Performance Computing 8n
- 80
- Advanced Instrumentation for TH Experiments 8p
- Thermal Hydraulics for Fusion p8
- 8r Microreactor Thermal Hydraulics
- IAEA CRP on Benchmark Analysis of FFTF 8s
- Reflood Thermal Hydraulics Benchmark: Experimental Effort and Code Validation
- 8u Reliability of Passive Systems
- IPRESCA project 8۷
- Passive Autocatalytic Recombiners 8w
- OECD/NEA SAPIUM Project Results 8х
- ESNII Thermal Hydraulics 8y
- Thermal Hydraulic Research in NEAMS

# 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.

