17th International Topical Meeting on Nuclear Reactor Thermal Hydraulics
Xi'an, Shaanxi, China, Sept. 3-8, 2017

NURETH-17

Call for Papers

September 3 - 8, 2017
Qujiang Int'l Conference Ctr.
Xi'an, China

Important Dates

Abstract Submission Deadline: Nov. 15, 2016
Abstract Acceptance Notification: Dec. 15, 2016
Full-Length Paper Submission: Jan. 16, 2017
Full Paper Acceptance Notification: Mar. 31, 2017
Final Paper submission: May 15, 2017

The proceeding materials will be distributed in a flash drive. The limit for NURETH-17 paper submissions is 14 pages and supplemented with a file size less than 10MB. Papers which are recommended by TPC will be published in a special edition journal focused on nuclear engineering.

Please access our meeting system and submit your abstract to preferred track and session via: http://epsr.ans.org/meeting/?m=237.

The Conference reserves the right to make final track/session adjustment.

About the Meeting

Nuclear Reactor Thermal Hydraulics (NURETH) represents a series of international forums organized and sponsored to assemble expertise in the field of reactor thermal-hydraulics and related topical areas. The Chinese Nuclear Society (CNS) and Xi'an Jiaotong University (XJTU) are pleased to host the 17th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-17) in Xi'an, Shaanxi, China, on September 3–8, 2017.

Xi'an held the title as China's capital city for 13 dynasties. The city contains world renowned cultural heritages, which include the Terracotta Warriors and Horses, the Mausoleum of Emperor Qin Shi Huang, City Wall of Ming Dynasty, Forest of Stone Steles, Tang Dynasty Cultural Theme Park, Shannxi History Museum, Big Wild Goose Pagoda, just to name a few. Participants will have unlimited access to enjoy China's splendid ancient civilization in this beautiful city while attending the meeting.

Out of all countries, China has the largest number of nuclear power plants under construction. Following the successes of past meetings, including NURETH-16 in Chicago, USA, NURETH-17 aims to provide a forum for international experts and researchers in the field of nuclear reactor thermal hydraulics to share their research and discuss future developments. It will also be a venue for organizations to showcase their expertise in nuclear reactor technology and exhibit their products and services to the nuclear reactor thermal-hydraulics community.

World-class hotels located within walking distance from the Conference Center will hold blocked rooms on the reserve, specifically for the NURETH-17 participants. Ground transportation from the airport to these selected hotels will be provided complimentary.

Inquiry: nureth17@mail.xjtu.edu.cn

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Partial list only, to be completed.

TOPICS AND SESSIONS

A. TWO-PHASE FLOW AND HEAT TRANSFER FUNDAMENTALS

1. Multifield Two-Phase Flow Modeling
2. Computational Two-phase Flow
3. Contact Angle and Wettability Phenomena
4. Scaling Methods
5. Two-phase Flow Experiments and Modeling
6. Fluid Structure Interaction
7. Supercritical Fluids Thermal Hydraulics
8. Interfacial Area (data base, modeling, measurement techniques)
9. Two-phase Flow Instrumentation Techniques
10. Micro-scale Basic Phenomena, Fluid Flow and Heat Transfer
11. Nano-Fluids Phenomena

B. CODE DEVELOPMENTS AND APPLICATIONS

1. Computational Fluid Dynamics and Verification/Validation/Applications (DNS, LES, RANS, *etc.*)
2. Computational Multi-Fluid Dynamics and Validation/Verification/Applications
3. Core Thermal-Hydraulics and Subchannel Analysis
4. System Codes Development and Assessment
5. Boron Dilution/Mixing
6. Aerosol Transport, Deposition and Re-Entrainment
7. Steam Generators Thermal-Hydraulics
8. Containment Analysis
9. Diffuse Interface methods and Interface Tracking Methods
10. Uncertainties Analysis
11. Experiments and Data Bases for Assessment and Verification

C. SEVERE ACCIDENTS AND FIRES

1. Molten Core Natural Convection and Physico-Chemical Phenomena, Modeling and Experiments
2. Natural Convection and Mixing Phenomena, Modeling and Experiments
3. In-Vessel Retention and Coolability
4. Fuel Coolant Interaction, Modeling and Experiments
5. Ex-Vessel Core Catchers and Ex-Vessel Cooling
6. Fission Products Transport, Modeling AND Experiments
7. Direct Containment Heating by Dispersed Molten Fuel
8. Debris Bed Cooling
9. Combustion and Fires, Modeling and Experiments

D. ADVANCED MODELLING AND COUPLING

1. Fast Transient Modelling and Experiments
2. Enhanced Near–Wall Flow and Heat Transfer Modeling
3. Micro-, Meso- and Macro-Scale Coupling
4. Neutronics/Thermal-Hydraulics Coupling
5. Fluid and Structures Mechanical Interactions
6. Coupled Thermal-Hydraulics of Fluids and Structures
7. Thermal-Hydraulic Dependent Corrosion, Erosion and Ablation

E. OPERATION AND SAFETY OF EXISTING REACTORS

1. Instabilities and Nonlinear Dynamics
2. NPP Transients and Accidents Analysis
3. Operating Water Reactor Thermal Hydraulics and Safety
4. RBMK and VVER Safety Analysis

TOPICS AND SESSIONS

F. EXPERIMENTAL THERMAL-HYDRAULICS

1. Boiling Heat Transfer
2. CHF and Post CHF Heat Transfer
3. Condensation Heat Transfer with/without Non-Condensable Gases
4. Flooding and CCFL
5. Integral Testing
6. Vibrations, Wear and Thermal Fatigue Phenomena

G. ADVANCED REACTORS THERMAL-HYDRAULICS (GEN III+, -IV, INPRO and FUSION)

1. Sodium Cooled Fast Reactors
2. Small and Medium Reactors with/without On-Site Refueling
3. Advanced PWRs, Advanced BWRs, Advanced CANDU Reactors
4. Gas Cooled Fast Reactors and Very High Temperature Reactors
5. Brayton Cycle Based Power Conversion Systems
6. Accelerator Driven Reactors
7. Lead and Lead-Bismuth Cooled Reactors
8. Supercritical Water Reactors
9. Molten Salt Reactors
10. Fusion Reactors

H. WASTE MANAGEMENT THERMAL-HYDRAULICS

1. Long Term Storage Thermal Hydraulics
2. Subsurface Repository Thermal Hydraulics
3. Waste Management Processes Flow and Heat Transfer
4. Deep Geological Repository Thermal-Hydraulics and Mass-Transfer

I. THERMAL-HYDRAULICS OF NON ELECTRICITY GENERATING NUCLEAR SYSTEMS

1. Nuclear Systems for Propulsion and Space Applications
2. Research/Test/Demonstration Reactors
3. District Heating
4. Desalination
5. Hydrogen Producing Nuclear Reactors

SPECIAL TOPICS

1. Heat Transfer and Other Potential Thermal-Hydraulic Issues Involving ATF
2. CFD Model and Benchmarking in Subchannel Systems
3. Rod Bundle CHF and Mixing Experiments
4. Thermal-Hydraulic Issues Related to Reactor Aging and Life Extension
5. Post Accident Rod Bundle Thermal-Hydraulic Behaviors
6. FHR & MSR
7. Containment Safety Experiments
8. Ocean Condition Thermal-Hydraulic

SPECIAL SESSIONS

1. Plenary Lectures Session (9-12 keynote lectures) will be included.
2. Several Panel Sessions are planned.

Mini-Symposium

1. SMR
2. Fast Reactors
3. SCWR
4. V/V & UQ