

# NURETH-17



## Call for Papers

**Abstract due : Dec. 15, 2016**

**Final paper due: Feb. 28, 2017**

### NURETH-17 Special Topic Ocean Condition Thermal-Hydraulics Topic Organizers: Bao-Wen Yang and Sichao Tan

The growth in demand for energy and resources has resulted in increase in human extraction activities such as maritime transportation, deep-sea exploration, polar expedition, etc. Nuclear power is widely used in marine environment because of its comparative advantages. However, the marine environment is complex, unpredictable, and often accompanied by severe weather like storms, huge waves, icebergs, fogs and tsunamis. Nuclear power ships, floating nuclear power plants, nuclear power icebreakers, deep-sea nuclear power workstations and other facilities operating under ocean conditions are inevitably affected by wave fluctuations, wave striking, ocean currents, etc. Ocean conditions may induce alterations in thermal-hydraulic characteristics of nuclear systems, which potentially affect the reactor physics and nuclear safety. Consequently, reactor thermal-hydraulic characteristics under ocean conditions has become one of the hot spots of current research. We are pleased to invite global experts, scholars and researchers in the field of nuclear reactor thermal-hydraulic to present papers and discuss topics relating to the impact of ocean conditions on nuclear systems. Please remit your abstract/paper to the following suggested topics or any related subjects ASAP.

#### **Topics include, but are not limited to:**

1. Basic Thermal Hydraulics (TH) under Ocean Conditions
  - Flow and Heat Transfer Fundamentals
  - Experimental Thermal Hydraulics and Instrumentation
  - Boiling and Condensation Fundamentals
  - Interfacial Area Transportation
  - Natural Circulation
2. Code Development Including Numeric Systems (System TH and CFD)
  - Computational Fluid Dynamics
  - Core Thermal Hydraulics and Subchannel Analysis
  - Plant System Code Development
  - Boron Dilution/Mixing
3. Operation & Safety under Ocean Conditions
  - NPP Transient and Accident Analysis
  - Instabilities and Nonlinear Dynamics
  - Modeling and Experiments of Severe Accidents
  - Passive Safety Systems and Related Phenomena
4. SMR related applications under Ocean Conditions
  - Challenges in flow instability related to open channel rod bundle systems.
  - Development and verification of short bundle CHF correlations.
  - Impacts of power peaking in rod bundle thermal hydraulics.
  - Impacts of geometry and inter-channel interaction under ocean conditions.

