



# M&C 2017 CALL FOR PAPERS

International Conference on Mathematics &  
Computational Methods Applied to Nuclear Science & Engineering

April 16-20, 2017, Jeju, Korea

[www.mc2017.org](http://www.mc2017.org)

The ANS M&C 2017 meeting will take place in Jeju, Korea, which is a beautiful semi-tropical island providing a relaxing and friendly environment. The reactor physics and computational science division (RPCSD) of the Korean Nuclear Society (KNS) will host the conference with the support of the strong nuclear industry of Korea in which 24 power reactors are operating to supply about 35% of the national electricity production. The subject areas span not only the traditional transport and reactor physics analysis methods, but also computational thermal-hydraulics, materials science and fusion to reflect the remarkable advances in the computational methods in various fields of nuclear science and engineering. **Four-page** extended summaries are solicited in the following subject areas:

## Subject Areas

- 1 Deterministic Transport Methods and Applications
- 2 Monte Carlo Methods and Applications
- 3 Nuclear Data Evaluation and Assimilation of Integral Experiments
- 4 Subcritical System Analysis Methods
- 5 Uncertainty Quantification and Sensitivity Analysis
- 6 General Reactor Analysis Methods and Applications
- 7 Computational Fluid Dynamics
- 8 Computational Nuclear Thermal-Hydraulics
- 9 Multiphysics Power Reactor Simulation
- 10 Computational Materials Science
- 11 Modeling and Simulation for Fusion Energy Systems
- 12 High Performance Computing for Nuclear Applications

All the classical subjects in each subject area are considered within the scope of the conference. In addition, there will be subjects of special interest as listed on the second page. After the conference, selected papers will be published in a special issue of the KNS journal of Nuclear Engineering and Technology.

The conference will be held at the International Convention Center Jeju which is a top-notch convention facility located in the Jungmun resort complex housing wonderful hotels and amusement facilities at the gorgeous southern seafront of Jeju. Please join the conference to present your work to the worldwide nuclear engineering mathematics and computation community and to enjoy the opportunity of relaxation.

The template of the **two-column** extended summaries can be found in the following site. Please limit the summary to 4 pages and submit your summary by **October 15, 2016**.

Template and Instruction Download Site : [www.mc2017.org](http://www.mc2017.org)

## Due Dates

- |                      |                   |
|----------------------|-------------------|
| • Extended Summary   | October 15, 2016  |
| • Review Result      | December 17, 2016 |
| • Full Paper         | February 18, 2017 |
| • Early Registration | March 4, 2017     |



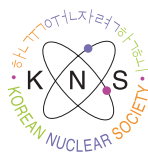
## Subjects of Special Interest

[not exhaustive]

- Whole Core Modeling and Simulation
- Massively Parallel Transport Solution Algorithms
- Transport Methods for Stochastic Media
- Charged Particle Transport and Applications
- Monte Carlo Simulation with Thermal Feedback
- Next Generation Parallelism for Monte Carlo Simulation
- Monte Carlo Variance Reduction and Hybrid Methods
- Nuclear Theories, Models and Data Evaluation
- Validation and Assimilation of Nuclear Data
- Subcriticality Measurement and Online Monitoring Techniques
- Spent Fuel Cask/Storage Analyses
- Uncertainty Quantification in Multiphysics Simulation
- Deterministic and Stochastic Methods for Sensitivity Analysis
- Advances in Self Shielding Methods
- Next Generation Cross Section Homogenization Methods
- Validation with Realistic Core Benchmarks
- Massive Computational Fluid Dynamics Nuclear Applications
- Advances in System Scale Computational Fluid Dynamics
- Novel Approaches for Single and Multiphase Fluid Dynamics
- Multiscale Methodologies and Applications in Thermal Hydraulics
- Advances in Computational Methods for Nuclear Thermal Hydraulics
- Multiphysics Coupling Methods and Approaches
- Validation and Regulatory Acceptance of Multiphysics Simulations
- Multiscale Modeling of Structural Materials and Nuclear Fuels
- Advanced Methods for Simulating Primary Radiation Damage and its Evolution in Materials
- Theory and Simulation of Fusion Plasma Confinement, Stability and Heating
- Simulation and Integrated Modeling of Burning Plasma and Fusion Energy Systems
- Advanced Methods to Exploit the Potential of Next-Generation Architectures
- Application of Leadership-class Computing to Nuclear Applications
- Implications of Changes to Computing Hardware on Future Methods

More detailed subjects can be found on the conference website under technical program/subjects.

## Meeting Organizers



Korean Nuclear Society (KNS)



Korea Atomic Energy Research Institute (KAERI)



Seoul National University (SNU)



Korea Advanced Institute of Science and Technology (KAIST)



Ulsan National Institute of Science and Technology (UNIST)

## Hosts

- General Chair: **Nam Zin Cho** (KAIST, nzcho@kaist.ac.kr)
- Technical Program Committee Chair: **Han Gyu Joo** (SNU, jooan@snu.ac.kr)
- TPC Co-Chairs : **Richard Sanchez** (CEA, richard.sanchez@cea.fr)  
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