

Special Section: Selected Papers from ICONE-27

This special section of the ASME *Journal of Nuclear Engineering and Radiation Science* contains selected papers from the 27th International Conference On Nuclear Engineering (ICONE-27)¹ held in Tsukuba, Ibaraki, Japan, from May 19 to 24, 2019. Since the first meeting in 1991, the Nuclear Engineering Division (NED) of the American Society of Mechanical Engineers (ASME) and Japan Society of Mechanical Engineers (JSME) sponsored the ICONE meetings between USA, Japan, and Europe. In 2005, Chinese Nuclear Society (CNS) formally joined ASME and JSME and hosted ICONE meetings. As a result, the ICONE is now the premier global conference on nuclear-reactor technology. ICONE is for nuclear professionals, who want to stay technologically current and on top of industry trends and developments.

The success of ICONE is due to the contribution of numerous professionals from industry, government, and academia from around the globe. Through the ICONE student program, the conference also fosters the development of future nuclear professionals. A major factor is ensuring high technical quality, with all papers being reviewed before acceptance, and the attraction of major plenary and panel speakers on key topics.

The Japan Society of Mechanical Engineers with technical sponsorship from numerous national and international societies and organizations hosted the ICONE-27 conference. Atomic Energy Society of Japan (AESJ), Canadian Nuclear Society (CNS), Korean Nuclear Society (KNS), Atomic Energy Association of Vietnam (AEAV), Korean Society of Mechanical Engineers (KSME), and UK Institution of Mechanical Engineers (IME) provided supporting sponsorship for the meeting. The theme of the 27th ICONE was “Nuclear saves the world.” Coincidentally, just one month ahead of the conference on Apr. 6, 2019, the *New York Times* published an opinion editorial “*Nuclear Power can save the World.*” The success of ICONE-27 is demonstrated by the contribution of 758 presentations and papers that were shared with an attending audience of more than 950 engineers, developers, power-plant maintenance professionals, researchers, regulators, and students representing 35 countries.

The papers submitted covered the breath of topics within the multidisciplinary nature of nuclear engineering. To provide a manageable selection of thin quality work captured in the conference proceedings, the editors for this special edition decided to focus on papers that were initially recommended by the conference reviewers and session chairs as having archival value and then further screened by members from the international technical-program committee. Approximately, 50 authors were invited to update their papers and to submit for another round of double peer review process.

Because of the in-depth review process, which has ensured high-quality papers, and the important topics that are discussed, we hope that this Special Section of the ASME *Journal of Nuclear Engineering and Radiation Science* will be a valuable addition to the book of knowledge. This is an appropriate time and place to

mention and to thank a very large number of people, who give their time and expertise to make continued growth of the ICONEs. The success of the ICONE series of conferences would be impossible without them. First, thanks to all authors, their research and development work, ingenuity, and dedication to the nuclear industry. Reviewers volunteer their talent, time, and objectivity as they fulfill their responsibility. Reviewers may also be assigned to multiple papers within relatively short time. Of course, ICONE would be impossible without the track and session organizers as they were often responsible for inviting prospective authors, planning and organizing multiple sessions within the topical tracks. We wish to express our deepest gratitude to all of you for outstanding and continued support of ICONE series of conferences and for making possible the publication of this special topical section of the *Journal of Nuclear Engineering and Radiation Science*.

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¹<https://www.icone27.org/>; <https://event.asme.org/ICONE-2019>