

Special Issue: Special Edition ICONE-25



**Robert Stakenborghs,
Conference Chair**

The 25th edition of the International Conference on Nuclear Engineering (ICONE-25)¹ was held in Shanghai, China in July, 2017, where over 1000 attendees joined the conference. Every year ICONE brings together nuclear engineers, scientists, physicists, and practitioners from Industry, Academia, and Government from around the globe to share information and viewpoints on the latest topics of interest for nuclear power. Technical papers presented during the five days of the conference are second to none technically and cover a wide range of topics that are germane to nuclear-power research, construction, and operation. The technical papers and presentations encompass 16 different technical tracks that include Nuclear Power Plant Operation, Maintenance, Safety, Accident Analysis, Thermal-Hydraulics, Fuel Cycles, Computational Fluid Dynamics, Education, Codes and Standards, and Student Track. The information contained in the over 700 technical papers presented at ICONE-25 is typical of every ICONE and represents some of the finest technical work produced in the Nuclear Engineering field. Included in these tracks is a very robust student-paper track, where more than 60 students from North America, Europe, China, Japan, and Asia are hosted by the three organizing societies (ASME, JSME, and CNS). All of the student works are judged, and best papers and best posters are recognized and awards presented. The top student-paper award is the Akiyama Medal, which was awarded this time to Mr. Nailiang Zhuang from the Harbin Engineering University (China). This part of the conference has been a huge success and continues to grow.

The ICONE series of conferences is organized each year by a group of likeminded professionals from the American Society of Mechanical Engineers (ASME), the Japanese Society of Mechanical Engineers (JSME), and the Chinese Nuclear Society (CNS). The conference has been held each year since its inception in 1991 in Tokyo, Japan, and, currently, alternates its locations between North America, China, Europe, and Japan. The change in location allows each region to showcase the latest in the local nuclear-technical expertise as well as food, culture, and hospitality. Shanghai, China was no exception to this rule, with attendees from nearly 30 different countries and a wide diversity of intellectual topics; the large quantity of technical papers presented

yielded much high quality and interesting content matter. As the authors produce their technical papers that describe their hard work in their specific areas of expertise, many find that the page limitation for a conference paper is insufficient to present the entire scope of their topic. The ASME *Journal of Nuclear Engineering and Radiation Science* provides a vital platform that allows these authors to expound on and explain in more details their subject matter.

This Special Issue features selected papers from the 25th ICONE Conference. Reflecting the diversity of the conference and its locale, the selected papers in this Special Issue cover a wide range of topics for the nuclear-power industry. Following completion of the conference, the ICONE organizers invited all authors to submit their augmented and revised papers for journal publication consideration. Once submitted, the papers underwent a rigorous process of evaluation and review by technical professionals well versed in the specific technical area of expertise of the subject matter discussed in the paper. Once this process was completed, the selected papers were then revised and submitted for publication in the Journal. It is only through this process that the high quality of the completed journal papers is maintained. Eventually, more than a hundred augmented and revised papers have been submitted. Therefore, some of them have been already published, are published in this Special Issue, or will be published in oncoming issues.

The guest editors of this Special Issue want to thank the authors and reviewers for their hard work and continuing support in producing this issue. This Journal would not be possible without your important contributions. The guest editors of this journal issue would also like to extend their thanks to the editorial board of the Journal and, in particular, the editor, Dr. Igor Pioro, for their support during the preparation of this Special section. Finally, we sincerely hope that the readers enjoy this ICONE-25 based Special Issue of the Journal and that the knowledge gained from reading the papers will prove to be useful and will hopefully ignite the flames of curiosity in a future generation of nuclear-power professionals.

On behalf of the ICONE-25 Organizing Committee.

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¹<https://www.asme.org/events/icone2017>