

## On Eight Years of the NERS and Vision of the Nuclear Engineering Division



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It is with immense pleasure to write this column and join all of you, the *Journal of Nuclear Engineering and Radiation Science* (NERS) readers and contributors, in celebrating the journal's eighth birthday. As is true from the very beginning, the ASME Nuclear Engineering Division (NED) once again wishes the Journal and, in particular, Editor-in-Chief Igor Pioro and the whole Editorial Board every success in continued publication of the excellent Journal. Nuclear energy is faced with

major challenges ranging from public perception and acceptance to nonproliferation and continued operation and enhanced safety of existing fleet with lessons learned from past accidents. On the other side, nuclear energy has enormous potential to help the World to mitigate climate change effects and transition to carbon free energy. Having in mind the global nature of these societal and technological issues, it is imperative that professional forums such as international journals and technical professional meetings provide a global communication channel to foster the exchange of ideas and critical information and to enhance cross-fertilization of research and development activities through our professional community.

In achieving this, our thanks are due to the contributing authors for selecting the NERS journal to present results of their research and development work. They are to be complimented for creativity and effort as well as to be seen as the factual creators of the journal content. In the process of developing and maintaining timely journal content, one cannot overemphasize the critical role that reviewers have in keeping the consistent quality of papers and in providing very often the authors with useful advice about how to improve their manuscripts. Their dedicated and conscientious efforts have helped the Journal to keep its tradition of excellence in a trend that has led to a continuous increase of its impact in the field. It is hard to find words, which will express our gratitude to all our colleagues volunteering their time as reviewers for the NERS as well as for all other NED sponsored technical meetings.

In keeping with the support of the NERS Journal and to implement and complement the position and practices of the American Society of Mechanical Engineers, the NED Executive Committee (EC) launched an initiative to reorganize itself in the way we do business so we can better serve the needs of both. The NED executive Committee vision is to create a flexible and agile organizational structure capable of providing timely and comprehensive support to the needs of the nuclear professional community. A key ingredient in the NED organization is NED-lead technical committees focused on current development and industry-related topics that support the nuclear community, for example, centered on current operating fleet of nuclear power plants, advanced reactors, codes and standards, thermal hydraulics, etc. The focus areas for the technical committees are reflected in the track content of

the NED-sponsored series of International Conference On Nuclear Engineering (ICONE). In parallel with technical committees, the NED administrative committees will focus on the organization of conferences, seminars, and webinars as well as the administrative needs of NED membership.

It is quite an ambitious program of activities and NED needs to bring in more volunteers from the ASME membership. In August and November 2022, we held quite successful virtual meetings of all NED membership. We will continue with these virtual meetings of all NED members on a quarterly basis, so stay tuned for the next email invitation blast coming from ASME headquarters. We would like to hear from you about your ideas and suggestions on how the NED can serve you better. If you are interested and ready to join us and contribute to this important effort to reorganize ourselves and how we support our professional community, please reach to us (*feel free to give me a call or send me your contact info by email and I will follow up and discuss how you can be involved*). The NED is positioned to have a place for all members in the technical and administrative committees and all our meetings and conferences. The NED agility and organizational goals are focus on maximizing the member involvement.

Presently, the NED sponsors International Conference On Nuclear Engineering (ICONE), International Conference on Environmental Remediation and Radioactive Waste Management (ICEM), the Nuclear Forum within the ASME's International Mechanical Engineers Congress and Exhibition (IMECE), the Conference for Advanced Reactor Deployment (CARD), Advanced Clean Energy Summit (ACES), Asset Integrity Management of Critical Infrastructure (AIM), just to name major events.

Considering today's premier global conference on nuclear-reactor technology, ICONE occupies a special place in NED's history. The Executive Committee formed the conference in response to Japan Society of Mechanical Engineers proposal to collaborate in nuclear technical meetings in 1991. After extensive discussions, the Chinese Nuclear Society formally joined ICONE in 2000. Held annually, ICONE now brings contributors and attendees from more than 20 nations, who deliver hundreds of papers, technical presentations, keynotes, panels, and workshops at each conference. The most recent example is ICONE-29, held as a hybrid meeting between Aug. 8 and 12, 2022. Keynotes and Plenaries were focused on major topics of interest for the nuclear industry: *support for operating nuclear power plants, how nuclear energy can help resolving environmental issues, and advanced reactors*. Between 250 and 300 professionals attended these events remotely in real-time, along with 350 at the conference hall. It is understood that more of our colleagues across the world were able to access those video events later. In total, there were 1045 people registered for the conference.

The 30th International Conference on Nuclear Engineering will be held in Kyoto, Japan on May 21–26, 2023.<sup>1</sup> ICONE30 will be held at the same time as the International Conference on Power

<sup>1</sup><https://event.asme.org/ICONE>

Engineering (ICOPE-2023) and have joint sessions with ICOPE. The theme of the joint conference is *Nuclear, thermal, and renewables: United to provide carbon neutral power*. The ICONE-30 Technical Sessions include the following:

- Track 0 Carbon Neutral Power Systems for Future World
- Track 1 Nuclear Plant Operation & Maintenance, Engineering and Modification, Operation Life Extension (OLE), and Life Cycle
- Track 2 Nuclear Fuel and Material, Reactor Physics and Transport Theory and Fuel Cycle Technology
- Track 3 I&C, Digital Control, and Influence of Human Factors
- Track 4 SMRs, Advanced Reactors and Fusion
- Track 5 Nuclear Safety, Security, and Cyber Security
- Track 6 Nuclear Codes, Standards, Licensing, & Regulatory Issues
- Track 7 Thermal-Hydraulics and related Safety Analysis
- Track 8 Computational Fluid Dynamics (CFD) and Applications
- Track 9 Decontamination & Decommissioning, Radiation Protection, & Waste Management
- Track 10 Advanced Methods of Manufacturing for Nuclear Reactors and Components
- Track 11 Mitigation Strategies for Beyond Design Basis Events
- Track 12 Innovative and Smart Nuclear Power Plant Design
- Track 13 Risk Assessments and Management
- Track 14 Computer Code Verification and Validation
- Track 15 Nuclear Education and Public Acceptance
- Track 16 Student Paper Competition

The Conference for Advanced Reactors Deployment (CARD) is our newest series of conferences coming as reflection of maturity of nuclear industry and the need to develop newer, smaller, easy to construct and site nuclear power plants, and let this high availability source of CO<sub>2</sub>-free power help us solve our climate dilemma. This information source business-to-business conference will provide the opportunity for executive leaders in the small-modular and microreactors nuclear-technology industries to network with utility, regulatory, and financial organizations, to

exchange ideas, to share lessons learned, and to establish strategic relationships. The program of forthcoming CARD 2023 conference includes: Modularization and Advanced Manufacturing; Advanced Reactor Research; Code Development and Harmonization; Digital Twins; Reactor Technologies; and Regulatory Modernization. The CARD 2023 will be held Feb. 22–24, 2023 at the Annenberg Presidential Conference Center at College Station, TX (2023).<sup>2</sup>

The ASME International Conference on Environmental Remediation (Decommissioning, Decontamination & Demolition) and Radioactive Waste Management (ICEM) promotes a broad global exchange of information on technologies, operations, management approaches, economics, and public policies in the critical areas of environmental remediation and radioactive waste management. The ICEM focusses more on the business side of the industry than the academic. The ICEM 2023 will be held Oct. 3–6, 2023 in Stuttgart, Germany.<sup>3</sup> The conference provides a unique opportunity to foster cooperation among specialists from countries with mature environmental management programs and those from countries with emerging programs. ICEM is a forum for managers, scientists, engineers, technology developers, equipment suppliers, government officials, utility representatives, and owners of environmental problems from around the world to meet and present advances in technologies, exchange ideas and experiences while promoting technological progress and its application in industry, and promote international cooperation in environmental remediation and radioactive waste management.

Enjoy continued reading of the NERS Journal and please let us know if you would like to be involved in Nuclear Engineering Division activities.

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<sup>2</sup><https://event.asme.org/CARD-2023>

<sup>3</sup><https://event.asme.org/ICEM>