

Foreword

Special issue featuring papers from the SAMOSAFER Young Molten Salt Reactor Conference

Guest Editors

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The SAMOSAFER project (Severe Accident Modeling and Safety Assessment for Fluid-fuel Energy Reactors) was part of the European Union's Horizon 2020 research and innovation funding program. The SAMOSAFER project carries on through 2023 and is focused on the advancement of molten salt reactor (MSR) technology. The SAMOSAFER project has developed education and training activities to support maintenance of a high level of expertise in the nuclear sector within the European Union, in particular in the field of the development and safety of Generation IV reactors. To this aim, as part of the project activities, a “Young” MSR (YMSR) conference for doctoral students, postdocs, and other early-career researchers was organized in Lecco, Italy, held June 6–8, 2022.

During this event, the future generation of researchers had the valuable opportunity to present and discuss their current research work on different MSR-related topics. They also benefitted from the presence of senior scientists from the SAMOSAFER project, who had the goals of providing the young generation with feedback and transferring experience in their working areas.

Two keynote speakers, Hany Abdel-Khalik and Manuele Aufiero, were invited to provide introductory

speeches on the first day of the conference, and 33 oral presentations were given during the two full days of the conference. These covered various technical topics of interest to MSR technology, including neutronics, thermal hydraulics, multiphysics, chemistry and materials, and experimental and safety studies. The great majority of the oral presenters came from the European Union, with some contributions coming from the United States, providing a nice representation of the research activities connected to the SAMOSAFER project and an overview of the international landscape of MSR research.

To improve the visibility of this YMSR conference, the SAMOSAFER project has partnered with *Nuclear Science and Engineering (NSE)* to publish a special issue of papers derived from the conference. Our gratitude goes to *NSE* editor Farzad Rahnema and production manager David Strutz, for supporting this important initiative of the SAMOSAFER project and for their efforts to produce this special issue.

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