Forewords

We are pleased to publish the Special Issue of International Symposium on Zero-Carbon Energy Systems (IZES), which was held on 10-12 January, 2023 at Tokyo Institute of Technology, Tokyo Japan.

This symposium aimed at discussing the latest research activities relevant to the development of innovative Zero-Carbon energy systems, which shall be the technologies for the carbon neutral society, including renewable energy technologies and innovative nuclear energy technologies within a broad perspective. The topics of this symposium included, but not limited to, renewable energy technologies, innovative nuclear energy technologies, carbon neutral technologies, energy storage and transformation technologies, material recycling technologies for energy systems and innovative nuclear applications. There were 150 participants, including 22 from overseas, and 106 presentations. IZES was organized by the Organizing Committee, Laboratory for Zero-Carbon Energy, Institute of Innovative Research and Green Transformation Initiative (GX)) at Tokyo Institute of Technology and supported by Tokyo Tech Academy of Energy and Informatics (InfoSyEnergy), Tokyo Tech Academy for Convergence of Materials and Informatics (TAC-MI), MIT Center for Advanced Nuclear Energy Systems (MIT-CANES) and Japan Atomic Energy Agency (JAEA), Japan Association of Solvent Extraction (JASE), The Chemical Society of Japan (CSJ), The Electrochemical Society of Japan (ECSJ), Japan Society of Nuclear and Radiochemical Sciences (JNRS), The Japan Society for Analytical Chemistry (JSAC), The Japan Society of Plasma Science and Nuclear Fusion Research (JSPF) and Atomic Energy Society of Japan (AESJ).

The selected papers, among those which were presented at the symposium, are now published in this special issue. We hope that this special issue shares a new stage of the Zero-Carbon energy system technologies for a carbon-neutral society with all of you.

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Special Issue

Editor in Chief, Noriyosu Hayashizaki, Professor, Institute of Science Tokyo Deputy Editor, Yoshihisa Matsumoto, Professor, Institute of Science Tokyo