

FOREWORD

SPECIAL ISSUE ON THE 13TH INTERNATIONAL TOPICAL MEETING ON NUCLEAR REACTOR THERMAL HYDRAULICS (NURETH-13)

Guest Editor

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This special issue of *Nuclear Technology* contains papers presented at the 13th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-13) held in Kanazawa, Japan, from September 27–October 2, 2009. The NURETH meetings are an important series of international topical meetings on nuclear reactor thermal hydraulics and related areas. Since the first meeting in 1980, the Thermal Hydraulics Division (THD) of the American Nuclear Society (ANS) has sponsored the NURETH meetings held in the United States and has cosponsored meetings held outside the United States. The NURETH meetings cover all aspects of thermal hydraulics problems that are encountered in different types of nuclear reactors of current and future generations. In particular, specific emphasis has been placed on understanding fundamental thermal hydraulics phenomena as well as the development and application of new innovative technologies in experimentation and computer simulation.

The 13th meeting in Kanazawa was organized by the Atomic Energy Society of Japan and the ANS THD. The meeting was supported by the International Atomic Energy Agency, Ishikawa Prefecture, Kanazawa City, Commemorative Organization for the Japan World Exposition ('70), Federation of Electric Power Companies of Japan, Institute of Nuclear Safety System, Inc., and TEPCO Systems Co. with cosponsorship from many academic societies including the Canadian Nuclear Society, China Nuclear Society, European Nuclear Society, Korean Nuclear Society, American Institute of Chemical Engineers, French Nuclear Energy Society, and Japan Society of Mechanical Engineers.

The NURETH-13 meeting was attended by 420 participants (including 84 students). Among them were 190 participants from Japan and 230 participants from 29 countries. The technical program consisted of approximately 350 presentations that were delivered in four full days. Four plenary lectures were given by leading authorities from around the world, and eight keynote lectures were presented by professionals in their respective fields on cutting-edge science of interest to the audience. All technical papers that were accepted for presentation were reviewed extensively by three reviewers each in a three-month review period prior to the submission of final papers.

The papers in this issue were selected based first on the recommendation from the NURETH-13 session chairs and reviewers as having archival value; they were then screened by members of the NURETH-13 Technical Program Committee. Because of the large volume of high-quality papers, another NURETH-13 special issue is being published by *Nuclear Engineering and Design*. For both special issues, the authors were invited to update their original papers that were presented at the meeting and to submit them for additional peer review.

Nuclear energy is faced with major challenges such as radioactive waste management, economics, nonproliferation, and enhanced safety with lessons learned from the recent Fukushima Daiichi accidents. Our industry recognizes the heightened importance of plant safety, where thermal hydraulics research and development play a significant role in supporting safe operation of nuclear plants and in fostering safety culture. In view of the global nature of these nuclear issues, it is imperative that forums such as NURETH provide a global communication channel to enhance the exchange of ideas and critical information and to encourage cross-fertilization of research and development efforts among all nuclear countries.