

INTRODUCTION TO THE SPECIAL ISSUE ON THE 11th INTERNATIONAL TOPICAL MEETING ON NUCLEAR REACTOR THERMAL HYDRAULICS (NURETH-11)

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This issue of *Nuclear Technology* is a special issue that contains papers presented at the 11th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-11), held in Avignon, France on October 2–6, 2005. The NURETH meeting series is sponsored by the American Nuclear Society (ANS) Thermal-Hydraulic Division to bring together international experts to communicate current thermal-hydraulic research activities serving the nuclear community. This conference was hosted by the French Section of ANS (SFANS) and the Société Française de l'Énergie Nucléaire (SFEN), with cosponsorship from the American Society of Mechanical Engineers (ASME), AREVA NP, Commissariat à l'Énergie Atomique (CEA), and L'Institut de Radioprotection et de Sécurité Nucléaire. At this highly successful conference, there were nearly 400 papers presented by researchers representing over 30 countries and covering a breadth of topics.

The papers in this special issue were initially selected by the NURETH-11 session chairs and reviewers as having archival value and then screened by members from the NURETH-11 technical program committee. Because of the large volume of high quality papers, another NURETH-11 special edition is being published by *Nuclear Engineering and Design*. For both special editions, NURETH-11 authors were invited to update their papers and submit them for additional peer review.

The editors for this special edition of *Nuclear Technology* decided to focus on papers that describe key developments in thermal hydraulics in the areas of advanced system heat transfer and thermal-hydraulic phenomena and modeling. Advanced system heat transfer papers that discuss recent developments in research on supercritical water reactors, advanced boiling water reactors, liquid metal reactors, and hydrogen production in nuclear reactors are included. It is worth noting that the paper presented by O'Brien et al. on high temperature electrolysis for hydrogen production was selected as the best paper at the NURETH-11 conference. Thermal-hydraulic phenomena and modeling papers that discuss recent developments in film boiling, turbulent heat transfer modeling, and supercritical flow stability are included.

Because of the in-depth review process, which has ensured high quality papers, and the important topics that are discussed, we hope that this special issue will be a valuable addition to the library of nuclear engineers and scientists. We wish to express our deepest thanks to the many session organizers and reviewers for their outstanding efforts in preparing the NURETH-11 sessions and making the publication of this special topical issue possible.