

# Foreword

## Selected papers from the 2020 International Topical Meeting on Advances in Thermal Hydraulics (ATH'20)

### *Guest Editors*

Igor Bolotnov 

*North Carolina State University  
ATH'20 Technical Program Cochair*

Sofiane Benhamadouche

*Électricité de France  
ATH'20 Technical Program Cochair*

We are pleased to introduce this special issue of *Nuclear Technology*, which contains nine full-length, peer-reviewed papers selected and expanded from the proceedings of the 2020 International Topical Meeting on Advances in Thermal Hydraulics (ATH'20).

The ATH meeting series is organized by the American Nuclear Society (ANS) Thermal Hydraulics Division (THD) and typically features peer-reviewed, full-length technical papers covering recent advances in thermal hydraulics for nuclear applications. After meetings in San Diego, California, in 2012; Reno, Nevada, in 2014; New Orleans, Louisiana, in 2016; and Orlando, Florida, in 2018, the 2020 edition was planned to take place outside the United States for the first time as a stand-alone meeting held at Électricité de France (EDF) Paris-Saclay, France. Unfortunately, after one postponement, the meeting was finally canceled on account of restrictions related to the COVID-19 pandemic.

Since the first instance of ATH in 2012, this series has spawned reasonably sized meetings for the presentation and discussion of advancements in research, development, and applications on topics mainly related to nuclear thermal hydraulics. Organization for ATH'20 was a joint effort between the ANS THD and Société Française d'Énergie Nucléaire (SFEN). The Research and Development Division of EDF, and in particular the Fluid

Mechanics, Energy, and Environment Department, widely contributed to the meeting's logistical and technical organization.

Although the ATH'20 meeting itself was canceled, thanks to the involvement and support of many authors, we managed to issue a proceedings, published by ANS. The contribution of articles originally submitted to the 13th International Topical Meeting on Nuclear Reactor Thermal Hydraulics, Operation, and Safety (NUTHOS-13) helped in keeping a reasonable number of papers. The ATH'20 proceedings consists of 89 full-length technical articles; among them are four keynotes. Altogether, 79 institutions and 19 countries are represented. The nine technical papers in this special issue are expanded, updated versions of top selections from ATH'20.

We would like to take this opportunity to express our sincere gratitude to Elia Merzari for his involvement in ATH'20 and his precious advice. We also express our sincere thanks to the members of the ATH'20 Technical Program Committee and Local Organizing Committee as well as the SFEN and ANS teams. Without their dedication, completing these ATH'20 publications would not have been possible.

### ORCID

Igor Bolotnov  <http://orcid.org/0000-0003-1382-5442>