

## Special Issue From International Workshop on New Understanding in Nanoscale/Microscale Phase Change Phenomena Held in Trondheim, Norway, June 12–16, 2016

We are extremely happy to present this collection of research papers emerging from an *International Workshop on New Understanding in Nanoscale/Microscale Phase Change Phenomena* held in Trondheim, Norway during June 12–16, 2016. The workshop was organized by Carlos A. Dorao, Maria Fernandino, and Satish Kandlikar as conference co-chairs. It was hosted by the Thermal Two Phase Flow Laboratory of the Department of Energy and Process Engineering at the Norwegian University of Science and Technology (NTNU). It was supported by the Department of Energy and Process Engineering and the NANO2021 Program of the Research Council of Norway.

Many leading scholars and researchers from around the world attended the conference and participated in detailed discussions on the fundamental issues related to interfacial transport during phase change processes. This culminated in a collection of 16 peer-reviewed papers that are presented in this special volume of the *Journal of Heat Transfer*.

The articles cover various phase change topics related to pool boiling, flow boiling in microchannels, and condensation. Several authors address pool boiling enhancement using surfaces coated with graphene, graphene oxide, pHEMA, micro- and nanostructures. Substrate metal effects on boiling and nucleation on superhydrophobic surfaces are two other important topics that have been addressed. Another focus area is phase change in microchannels. This includes numerical and experimental investigations related to the fundamentals of flow boiling heat transfer processes, effect of vapor extraction, and flow boiling of refrigerants and supercritical carbon dioxide. Condensation drainage using asymmetric structures and the study of evaporating droplets provided detailed insight into the respective interfacial phenomena at the microscale. These papers collectively represent an advance in our understanding of the phase change phenomena which are driving the research in this field and are enabling more efficient surfaces for enhancing heat transfer performance.

The special issue editors are extremely thankful to all the participants of the Norway workshop, and in particular, the authors and reviewers of the papers in this special issue. The authors have worked diligently in providing their work in a short period of

time, especially since the workshop program was focused only on the oral presentations. The reviewers have done a remarkable job in providing in-depth reviews expeditiously.

Special thanks are due to Professor Carlos A. Dorao for hosting a highly successful workshop in Trondheim and providing an enthusiastic platform for discussions and creative thinking. The Department of Energy and Process Engineering, NTNU, and The Research Council of Norway provided much needed infrastructure and financial support for the workshop. We are also deeply appreciative of Professor Ayyaswamy, Editor of the ASME *Journal of Heat Transfer* for supporting the idea of the special JHT issue right from the beginning and providing the required logistical support. The extensive and prompt support from Ms. Kai Gibson-Tshilenge in handling the papers during the review process is greatly appreciated.

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