

PREFACE: TFEC/IWHT 2017: BEYOND THE TECHNICAL PROGRAM

The 2nd Thermal and Fluids Engineering Conference (TFEC) co-located with the 4th International Workshop on Heat Transfer (IWHT) were held on April 2–5, 2017 at the Rio Hotel & Casino in Las Vegas, NV. The Conference and Workshop provided an international forum for presentation of the latest research and knowledge as well as for dissemination of high-quality research and development results in the thermal and fluid sciences. The conference attracted hundreds of professional researchers and engineers from academia and industry all over the world. Over 500 technical presentations shaped the conference program consisting of 53 technical sessions and 10 plenary lectures given by the leading experts in a wide spectrum of thermal and fluids engineering areas covering a variety of emerging topics ranging from fundamental aspects of heat transfer and fluid flow mechanisms to relevant processes in industrial applications.

This special issue "TFEC/IWHT 2017: Beyond the Technical Program" contains selected papers that were not presented at the conference podium for various reasons and therefore were not included in the archival proceedings. However, the Organizing Committee strongly believes that these papers still deserve to be shared with the research and engineering community worldwide. The papers were accepted for this issue after a routine peer-review process established by the publisher.

The papers included in this issue are quite diverse. Nanofluidics is a key topic for the first two papers that are focused on the effects of flow parameters and nanoparticle size on heat transfer and fluid flow on flat tube surfaces and inside wavy microchannels. The next topic is devoted to exergetic and thermodynamic analysis of heat exchange components, thermal-hydraulic behavior and performance. The water-related aspects of thermal power plant operation are covered in two ways; the heating impact of discharged water on the aquatic environment and the water treatment by multistage flash distillation. Special interest is raised by the concluding publication in this issue. It presents numerical modeling and analysis of physiological flow that pass through the sophisticated network of blood vessels in the human body to deliver oxygen and other vital nutrients to the organs. Creating and validating patient-specific cerebral artery flow models helps analyze and prevent life-threatening situations due to sudden cardiovascular collapse.

The guest editors express their sincere thanks to the authors who have contributed to this special issue and hope that they will be able to attend future TFEC and

IWHT events to share their challenging research and development accomplishments with the worldwide Thermal and Fluids Engineering community.

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