

PREFACE: HEAT TRANSFER ADVANCES FOR ENERGY CONSERVATION AND POLLUTION CONTROL

The 3rd International Workshop on Heat Transfer Advances for Energy Conservation and Pollution Control (IWHT2015) was successfully held at National Taipei University of Technology in Taipei, Taiwan, on October 16–19, 2015. Almost 200 researchers from 15 countries and areas, including USA, UK, Japan, Czech Republic, Sweden, Finland, Hungary, Russia, South Africa, South Korea, India, UAE, Mainland of China, Taiwan, Hong Kong, and Macao of China have participated in IWHT2015. The workshop was organized by Professor Tzu-Chen Hung at National Taipei University of Technology and was held at the beautiful campus of National Taipei University of Technology in Taipei. The sponsors included the Ministry of Science and Technology (MOST), Tai-Power Company (TPC), AD-Tech Company, National Taipei University of Technology (NTUT), Kwan Chiu Radio Manufacturing Company, and EverStar Corporation in Taiwan.

Energy shortage and environment pollution accompanied by energy usage and production have been a worldwide concern. Better understanding of the heat transfer processes during energy conversion and transport is crucial for developing advanced energy conservation and pollution control technologies. Significant progresses have been achieved through decades of efforts in the research and development of power and energy engineering. IWHT2015 followed the same goal as IWHT2013, and the aim was to provide an international forum for the exchange of latest technical information, for the dissemination of high-quality research results, and for the presentation of the newest developments on heat/mass transfer problems. The papers presented in IWHT2015 are of particular value and interest to a wide range of researchers, scientists, engineers, and practitioners who are working in the general heat/mass transfer field.

The presentations in IWHT2015 included 6 plenary lectures, 25 keynote papers, 6 invited lectures, 17 invited papers, and 131 regular research papers, covering wide topics of clean energy and storage techniques, heat exchangers and advanced energy systems, energy efficiency in energy conversion equipment, multiphase flow and heat/mass transfer, transport in porous media, radiative heat transfer, CFD and numerical heat/mass transfer, etc. Proceedings of the IWHT2015 were published as a USB drive and distributed to the workshop attendees. The proceedings reflect the latest research achievements of scientific studies on heat/mass transfer in energy conservation and pollution control area, which complies with the strategic development of energy policy in the world and meets the important demand of international economic development for energy.

About 20% of the workshop papers have been selected for special issue publications in *Applied Thermal Engineering*, *Heat Transfer Engineering*, and *Heat Transfer Research*, subjected to further paper refinement and review following the standard of the respective journal. The present special issue in *Heat Transfer Research* is a collection of 9 selected high-quality papers from IWHT2015. Among the authors there are distinguished scholars as well as graduate students from different countries and areas. The selection covers the important subject-matter of the workshop.

The organizers of IWHT2015 and the editors of this special issue were Tzu-Chen Hung (Chair), Qiuwang Wang (Co-Chair), Yitung Chen (Co-Chair), and Zhixiong Guo (Co-Chair). The Chairmen of the International Scientific and Advisory Committee were Wenquan Tao (China), Li-De Yao (Taiwan), Cha'o-Kuang Chen (Taiwan), Xing Zhang (China), TianShou Zhao (Hong Kong), Afshin Ghajar (USA), and Petr Stehlik (Czech Republic). The fourth workshop was held in April 2017 in Las Vegas, USA. The organizers and the special issue editors appreciate Professor Yong Tao, the editor-in-chief of *Heat Transfer Research*, for his dedication to this research field and his

continued support in publishing special issues from our workshop in this journal. Last but not least, the great contributions by Ms. Monica Tsai is also highly appreciated.

Guest Editors:

Tzu-Chen Hung,
Department of Mechanical Mechatronic Engineering,
National Taipei University of Technology,
Taiwan

Qiu-Wang Wang,
Key Laboratory of Thermo-Fluid Science and Engineering,
Ministry of Education, Xi'an Jiaotong University,
Xi'an, P.R. China

Yitung Chen,
Department of Mechanical Engineering,
University of Nevada–Las Vegas,
Las Vegas, NV, USA

Zhixiong Guo,
Department of Mechanical and Aerospace Engineering,
Rutgers, the State University of New Jersey,
New Brunswick, NJ, USA