



Editorial: Special issue for the International Heat Transfer Symposium (IHTS2014)



This special issue contains fifty-four selected papers from the International Heat Transfer Symposium (IHTS2014). The symposium held in Beijing during the period of 6–9 May 2014 was chaired by Professor Jinliang Xu from the North China Electric Power University and Professor Yuying Yan from the University of Nottingham, UK, and sponsored by China NSFC, Ministry of Science and Technology, China and the Royal Society, UK.

With the fast development of energy-saving and renewable energy utilization systems, various heat exchangers should be carefully designed and tested for industrial utilization. In most cases the heat transfer process is coupled with other mechanisms such as material corrosion, fouling thermal resistance and chemical reactions, etc. The symposium aimed to bring together leading academic scientists and researchers worldwide to share their outcomes and experiences in heat transfer, and discuss the practical challenges. The symposium topics covered micro/nano-scale heat transfer, heat transfer in fossil, renewable and nuclear energy systems, and nature-inspired heat transfer.

Nearly 400 participants from 16 countries or districts attended the symposium. The technical program of IHTS 2014 includes 7 plenary lectures, 14 keynote lectures and 323 contributed papers in 28 oral sessions. In the plenary session, Professor Satish G. Kandlikar from Rochester Institute of Technology (USA) presented on “Pool boiling on multi-scale surface features”, Professor Khellil Sefiane from The University of Edinburgh (UK) presented on “Fundamental investigation of droplets evaporation: experiments and theory”, Prof. Wenquan Tao from Xian Jiaotong University (China) presented on “Study on heat transfer enhancement of refrigerant phase change exchangers”, Prof. Dongqing Li from University of Waterloo (Canada) presented on “Microfluidics and lab-on-chip technology”, Prof. Xing Zhang from Tsinghua University (China) presented on “Size effects on thermophysical properties of nanomaterials”, Prof. Jinliang Xu presented on “Micro to macro-scale phase change heat transfer by the phase separation concept”, and Prof. Yuying Yan presented on “Natural solutions help improve heat transfer”. Another 14 keynote lectures were also presented by active or leading young researchers around the world with topics ranging from boiling in micro-channels, a supercritical fluidized bed, and turbulent flow relative to the oil-gas industry.

All contributed papers to IHTS2014 were carefully selected by the scientific committee based on the feedback forms during the presentations, and then peer reviewed as per the policy of Applied

Thermal Engineering. 54 contributed papers were finally accepted for inclusion in this special issue. Nearly one third of the papers are related to micro-scale boiling and condensation, one fourth of the papers are focusing on heat transfer of solar energy, nuclear energy, and heat and thermal storages indicating the global effort in exploiting new energy sources and alleviating pollution.

Hereby we would like to take this opportunity to express our great appreciations to all participants of IHTS2014, whose active participations contributed to the success of this symposium and this special issue. The members of the International Scientific and Advisory Committee of IHTS2014 provided timely and valuable suggestions for the symposium and together with all other independent reviewers helped review the manuscripts, thus ensuring the high quality of the papers in the special issue. All their assistance is also greatly appreciated. In the meanwhile, we would like to thank for Professor David Reay, the Editor-in-Chief of the journal, and all editorial office staff for their generous support for IHTS2014 and the Special Issue. Finally we would also like to thank North China Electric Power University for its support and also that of the local volunteers.

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