Preface

He Ya-Ling and Tao Wen-Quan

State Key Laboraory of Multiphase Flow in Power Engineering,
School of Energy and Power Engineering,
Xi'an Jiaotong University, Xi'an, Shaanxi 710049, PR China
E-mail: yalinghe@mail.xjtu.edu.cn
E-mail: wqtao@mail.xjtu.edu.cn

Biographical notes: Ya-Ling He is a Professor in the School of Energy and Power Engineering at Xi'an Jiaotong University. She received her PhD also in the School of Energy and Power Engineering at Xi'an Jiaotong University. She is an Associate Regional Editor for Asia of an international journal – *Applied Thermal Engineering*. Her research interests include new refrigeration technology, high efficient heat exchangers, micro/nano scale heat and mass transfer, bio-heat transfer, and fuel cells.

Wen-Quan Tao is a Professor of Engineering Thermophysics at Xi'an Jiaotong University, Xi'an China. He graduated from Xi'an Jiaotong University in 1962 and received his graduate diploma in 1966. He is an associate editor of *International Journal of Heat & Mass Transfer*. His recent research interests include advanced numerical methods in fluid flow and heat transfer, enhancement of heat transfer, heat transfer in micro/nano configurations and fuel cells.

It is now well recognised that computational heat transfer and fluid dynamics (CFD/CHT) have contributed greatly to the deepening of our understanding of many basic transport processes in nature and to the improvement of product quality in different engineering fields. Moreover, they are anticipated to play an increasingly important role in the further developments of science and technology. Recent progress in computation efficiency coupled with reduced costs of computing hardware has advanced CFD/CHT as a viable technique to provide effective and efficient design solutions. Researchers in or from Asian area have made particularly significant contributions to the development of CFD/CHT. In order to provide a forum for the exchange of ideas, methods and results in computational heat transfer and fluid dynamics, the *First Asian Symposium on Computational Heat Transfer and Fluid Flow (ASCHT2007)* was successfully held from 18 October to 21 October, 2007 in Xi'an, P.R. China. Among total 145 submissions, 127 papers were accepted to present at the symposium. From these presented papers, 42 were selected to be published in extended versions in two special issues in the PCFD, following an additional review process. The arrangement of these 42 papers is as follows.

The first issue mainly focuses on general computations and their applications. The 21 papers included in the first issue are classified in five categories: turbulent flow (four papers); industrial applications (seven papers); enhancement of heat transfer (five papers); natural convection and indoor air quality (three papers); and heat transfer in spacecraft and with magnetic field (two papers).

The second issue concentrates on the multi-scale computations and numerical methods. Twenty-one papers are included in this issue and are classified as follows: Lattice-Boltzmann method (seven papers), multiscale computations (four papers); numerical methods (eight papers); fluid flow and heat transfer in mini and micro system (two papers).