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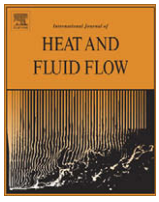

Preface

The present Special Issue of IJHFF is devoted to papers originally presented at the 7th International Symposium on Engineering Turbulence Modelling and Measurements, ETMM7, held in Limassol, Cyprus from June 4 to 8, 2008.

Among the major international conferences on turbulent flows, the ETMM symposia are distinguished by primarily being concerned with the impact of turbulence on the behaviour of practical flows. In most circumstances turbulence strongly influences the operation of engineering components, interacting with the flow passing through or around them. An accurate description of the effects of turbulence is thus fundamental to any reliable predictive framework for turbulent flow in engineering practice. The ETMM symposia specifically aim to contribute to expertise in these areas by reporting advances in computational and experimental research undertaken in the context of engineering fluid flow and the associated heat or mass transfer.

ETMM7 was the second in the series to be organized under the auspices of ERCOFTAC (the European Research Community on Flow, Turbulence and Combustion). Its organization was led by Professor M. Leschziner, Chairman of ERCOFTAC's Scientific Programme Committee, and Professor S. Kassinos of the University of Cyprus, with the local company, Top Kinisis, providing major administrative support. The Symposium enabled 138 high quality papers to be presented at an agreeable location on the shores of the Mediterranean. From these papers, seventeen have been selected for inclusion in this special issue. As with all IJHFF special issues, following preliminary identification by editors and advice from members of the Editorial Advisory Board present at the conference, authors of the selected papers were invited to polish and extend their contributions. The revised papers were then sent for further external review, following which authors have made final adjustments in response to the referees' recommendations.

This special-issue compilation reflects the diversity of approaches now being used to reveal the underlying structure of the flows under study and our ability to compute accurately the observed behaviour. Computational schemes adopted range from DNS and LES to hybrid RANS–LES and RANS (the last in unsteady as well as steady mode). Diversity of treatment is also evident in the group of five papers on two-phase flows which adopt quite different strategies in handling the discrete phases and their mutual interaction. While the advance of DNS may have reduced the proportion of papers employing experimental techniques, as the representatives included here plainly show, these still make an indispensable contribution to revealing the mysteries of turbulent flows encountered in Engineering.

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