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Editorial

Prof. Wen-Quan Tao, Chinese Academician, on his 75th birthday

Professor Wen-Quan Tao, a Member of Chinese Academy of Sciences and Professor of Xi'an Jiaotong University (XJTU), Xi'an, China, celebrates his 75th birthday this year. It is a great pleasure for us on this occasion to express our sincere congratulations on his outstanding contributions and pioneer achievements in the field of numerical heat transfer and heat transfer enhancement.

Professor Tao was born in Zhejiang Province, China on 3 March 1939. He graduated from XJTU in 1962. From 1963 he became a graduate student of Professor Shi-Ming Yang. Since 1966 onwards, he worked as a lecturer of heat transfer at XJTU. From 1980–1982, he was a visiting scholar supervised by Professor E.M. Sparrow at the University of Minnesota in USA. In 1986, he became a full Professor at XJTU. Afterwards, he was appointed as Guest Professors of Hong Kong University of Science and Technology in 2010, Universite Paris-Est Marne la Vallee in 2009 and 2007, Hong Kong Polytechnic University in 2003, Kyushu University of Japan in 1997. He has been serving as President of Xi'an Jiaotong-Liverpool University since its foundation in 2006.

Professor Tao has been active in national and international scientific organizations. At present, he serves as associate editors of International Journal of Heat & Mass Transfer, International Communications in Heat & Mass transfer and ASME Journal of Heat Transfer. He is also a member of Advisory Board of Numerical Heat Transfer and Editorial Board of Progress in Computational Fluid Dynamics, and a Member of Scientific Council of International Centre for Heat and Mass Transfer (ICHMT). As one of the initiators, he organized the first Asian Symposium on Computational Heat Transfer and Fluid Flow at XJTU in 2007, and now it becomes one of the international important events held in this ascendant field every two years.

Professor Tao has always focused his research work on fundamentals and applications of finite volume method. In early years, he made remarkable contributions on the discretization of convective term, and velocity–pressure coupling algorithm, etc. Recently, Professor Tao has focused his studies on the microscale and nanoscale fluid flow and heat transfer, and multiscale numerical simulation of flow and heat transfer in microelectronics, fuel cells, pollutant dispersions, and extreme thermal insulations.

Professor Tao also made great contributions in heat transfer enhancement theory, mechanisms and engineering applications. He extended the field synergy principle from parabolic flow to elliptical flow, and showed that it can unify existing heat

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transfer enhancement mechanisms of single phase flow (increasing flow disturbance, decreasing thermal boundary layer thickness, etc.). He also proposed a comprehensive performance evaluation plot for heat transfer enhancing techniques which conforms three evaluation constraints (identical pumping power, identical pressure drop and identical flow rate) to a uniform manner.

Professor Tao has been an influential educator of Engineering Thermophysics in China. He has supervised over 50 doctoral students and has been teaching many undergraduate students. He wrote more than 10 textbooks (in Chinese) related to heat transfer and numerical heat transfer for undergraduates and postgraduates. His *Numerical Heat Transfer* book (in Chinese), first published in 1987, is welcomed as a favorite graduate textbook in China.

On behalf of Professor Tao's former students, colleagues and friends, we wish him all the best for the future.

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