

## Preface

### *Special Issue on Progress in Fluid Dynamics and Simulation (PFDS)*

The math center (CASTS-Center for Advanced Studies in Theoretical Sciences) at the National Taiwan University (NTU) launches a series of activities in honor of its senior faculty members.

This special volume is dedicated to Professor Tony Wen-Hann Sheu in recognition of his scholarly accomplishments and various contributions to the computational society, in particular, computational fluid dynamics (CFD). The 15 papers collected in this volume represent a large part of expanded works of those talks presented in the International Conference on Progress in Fluid Dynamics and Simulation (CPFDS, NTU, October 25-27, 2014) on the occasion of celebrating Tony's 60<sup>th</sup> birthday anniversary. The CPFDS was contributed by three categories of participants: Tonys colleagues at the National Taiwan University, former students and post-doctors he had supervised and academic friends from domestic and international organizations. This special volume also represents the first of its kind which honors an individual scholar in Taiwan working in computational fluid dynamics with the contributed works edited into a renowned international academic journal.

Tony grew up in a small town Si-Hu of middle Taiwan by the Twain Straits where he had constantly dreamed of flying in the sky and exploring the world deep in the sea. After high-school education in the hometown, Tony Sheu attended NTU, receiving the Bachelor degree in Naval Architecture Engineering in 1981. He went to pursue advanced studies in the United States of America, receiving the Master degree of in Engineering Science and Applied Mathematics from Northwestern University in 1982, and a Ph.D. degree from Purdue University in the Department of Mechanical Engineering in 1986. In 1987, he joined the faculty as an Associate Professor in the Department of Naval Architecture (now Department of Engineering Science and Ocean Engineering, DESOE), NTU, and was promoted to a Full Professor in 1994. And in the years of 2003-2006, he has served as Director of department of ESOE and is currently the Deputy Director of CASTS, NTU. He has also held a number of visiting positions in America, China and France. Over the years Tony has been engaged in developing various techniques for solving the Navier-Stokes equations as well as other types of equations. He has served in the Editorial Board of several academic journals, for example Journal of Computational Surgery. Tony has received a number of prestigious honors and awards for his research works, including Research Fellow of the Ministry of Science and Technology (Taiwan) and Taiwan-France Award for Research in Science and Technology.

As a teacher (at NTU) Tony has taught a generation of students in CFD in Taiwan, and as a colleague Tony has never been hesitant in sharing his knowledge with us (CC, CS, JY and Tony all came to teach at NTU in the same year of 1987). It is therefore a Chinese tradition that we feel obliged to write a few words in rhyme to compliment Tony on the special occasion (read in the CPFDS):

<許公文翰>

許君科研錦繡衣 公自晨興密密縫 文章初露世儕羨 翰林鴻飛法華乘

Dedicated to Prof. Tony Wen-Hann Sheu

*Oh, my Lord promises you the most beautifully decorated clothing that symbolizes scientific research! Each day you got up so early to weave the clothes closely and embroider it with a variety of mascots. As it first appeared to the eyesight of your colleagues, all were astonished at its beauty and appreciated its perfect excellence! Now you're an eminent scholar, flying high like a swan goose, anywhere, attaining the extremity of your expertise (dharma)!*

The editors of this special volume would also like to acknowledge the support from the participants of the Conference ICPFDS by contributing their important works which comprise the essential success of this special volume.

Chief Organizer of the Conference:  
Chien-Cheng Chang, National Taiwan University

Guest Editors:  
Kun Xu, The Hong Kong University of Science & Technology  
Jaw-Yen Yang, National Taiwan University