Preface of Proceedings of the 9th International Conference on Hydrodynamics

The science and technology of hydrodynamics has been closely related to marine and ocean engineering, energy and environment engineering, hydraulic and hydroelectric engineering, chemical engineering and biological engineering etc. The first International Conference on Hydrodynamics (ICHHD) was held in 1994 in Wuxi, China. Since then ICHHD has become a regular international conference held in every two years, subsequently in Hong Kong China, Korea, Japan, Taiwan China, Australia, Italy and France. Due to the broad scope covering all the aspects of theoretical and applied hydrodynamics, the creative presentations and discussions, together with the enjoyable atmosphere, the ICHHD conferences have attracted great attention and active participation of academics, researchers, engineers and operators, working worldwide in the fields closely related to the science and technology of hydrodynamics.

The overall aim of the ICHHD Conference is to provide a forum for participants from around the world to advance the research and application of hydrodynamics by exchanging knowledge and promoting discussions in the broad discipline of hydrodynamics and fluid mechanics.

This is the 9th ICHHD(ICHHD-2010) held from 11 to 15, October 2010 in Shanghai. A little over 300 abstracts from 26 countries and regions were submitted for consideration. Following the previous ICHHD Conferences, the abstracts were reviewed and about 140 papers were finally approved to appear as the papers included in these proceedings, which cover a broad range of fields, including the traditional subjects such as fundamental hydrodynamics, computational fluid dynamics, cavitation and multi-phase flow, experiments and measurements, and engineering areas such as naval, ocean, coastal, environmental, industrial, hydraulic engineering and water conservancy. Jointly with the 9th ICHHD conference, a special Symposium on Hydrodynamics in honor of the distinguished Professor You-Sheng He is organized, for celebrating his 80th birthday and in recognition of his great contributions to the development of science and technology in the fields of cavitating flows and environmental hydrodynamics. 33 papers of this symposium are also included in these proceedings. You may find from the contents of the proceedings that the conference and the symposium are surely creative and productive.

The participants of the conference and the symposium reach about 200 from 26 countries and regions. On behalf of the Executive Committee and the Local Organizing Committee I thank the authors and the participants for their original ideas, innovative applications and practical achievements in the different fields of hydrodynamics contained in their papers, presentations and discussions.

The organizers of this conference are the Editorial Board of Journal of Hydrodynamics, China Ship Scientific Research Centre, Shanghai Jiao Tong University and Shanghai University. The Sponsors are China Shipbuilding Industry Corporation, China State Shipbuilding Corporation, Mechanical and Vehicle Engineering Division of Chinese Academy Engineering, Chinese Society of Theoretical and Applied Mechanics, Chinese Society of Naval Architects and Marine Engineers, Chinese Hydraulic Engineering Society, Chinese Society of Oceanography, International Association for Hydraulic Research, Royal Institute of Naval Architects, Japan Society of Naval Architects and Ocean Engineers, Japan Society of Civil Engineers, Korea Association of Ocean Science & Technology, Hong Kong Society of Theoretical and Applied Mechanics. National Natural Science Foundation of China and K. C. Wang Foundation of Education (HK) kindly provided financial assistance. Also on behalf of the Executive Committee and the Local Organizing Committee I would like to thank all these organizations for their great support.

It is known that the 21st century is the century of Ocean. The challenges in the new century about energy, food, and environment etc. will surely lead to fast growth of exploration of ocean resources and applications of ocean space. This is just one of the examples to show that the development of hydrodynamics will gain much more momentum in the new century. Evidently, there will be sufficient driving forces to make the future ICHD Conferences fruitful, including the next one in two years.

A handwritten signature in black ink, appearing to read 'Mu Yousheng'.

You-Sheng Wu
Chairman of the Executive Committee of ICHD
Chairman of the Local Organizing Committee of ICHD-2010
Honor director of China Ship Scientific Research Center
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