Preface

When we are entering the 21st century, along with the growth of global economy, especially in the variety of fields, such as naval architecture, ocean and coastal engineering, hydraulic and hydropower engineering, environment engineering, agriculture engineering, biochemical and biomedical engineering, the interest in the science and technology of hydrodynamics, one of the most important branches of theoretical and experimental fluid mechanics, grows faster than ever before. Great progress in the theoretical, computational and experimental hydrodynamics was achieved during the past decades by the efforts of the scientists and specialists working in the field all over the world, among which contributions made by Chinese scholars at home and abroad have attracted even more prominent attentions.

Chinese nation is of the long history of 5000 years, in which there were full of inspiring and prosperous cultural and scientific achievements. Dated back hundreds years ago, the famous Du-Jiang weir of Li Bing in Sichuan, the great freight of Zheng He sailing round the vast oceans were two of the brilliant examples of Chinese innovative achievements in the field of hydrodynamics. In the new era of a developing China, the Three Gorges Dam and Hydropower Station, the blooming shipbuilding industry reaching the third largest one in the world since 1996 etc., to just mention a few, are the examples of the achievements in research and applications of modern hydrodynamics.

To encourage the exchange of knowledge and to promote the levels of research, development and application of hydrodynamics in multidisciplinary fields for better fitting in the needs of the rapid economy growth, late Professor Gu Maoxiang and a group of specialists, representing all those in the country working in the field of hydrodynamics, initiated the idea, set up the editorial board and started the publication of “*Journal of Hydrodynamics*” in 1986. Since then for 19 years, organized by the Editorial Board of the Journal, the annual “*National Conference on Hydrodynamics*” has been held in series in the mainland of China, Hong Kong and Macao. The successful journal and the annual conferences have been widely and warmly responded and strongly supported by Chinese scholars at home and abroad. This makes one of the most vivid activities of scientific and technical exchange in China. At present over 30 famous over sea Chinese scholars are the members of the Editorial Board of the Journal. In 1994, the Editorial Board of the Journal also initiated the “*International Conference on hydrodynamics*”. It is now an international conference held worldwide every two years under the supervision of well-known scholars and organizations from different countries, regions and nations.

On the occasion of celebrating the 20th anniversary of the *Journal of Hydrodynamics*, the **Conference of Global Chinese Scholars on Hydrodynamics** is held to provide an opportunity for gathering together the Chinese scholars from different parts of the world to present their latest research achievements and to stimulate the discussions of important topics in the relevant areas of hydrodynamics.

This conference is jointly organized and sponsored by the **Editorial Board of *Journal of Hydrodynamics*, Chinese Society of Theoretical and Applied Mechanics, Chinese Society of Naval Architects and Marine Engineers, Chinese Hydraulic Engineering Society, Chinese Society of Oceanography**, and also supported by China Ship Scientific Research Center, Shanghai Jiaotong University, Shanghai Institute of Applied Mathematics and Mechanics, the First Institute of Oceanography of the State Ocean Administration, Shanghai Society of Theoretical and Applied Mechanics, Daqing Petroleum Institute and National Laboratory of Hydrodynamics, China.

The present proceedings contain 87 papers being presented at the conference. You may find from the contents and authors of the papers that the Conference will surely be creative and productive, and the meeting will definitely be a great event for Chinese scholars. On behalf of the

Local Organizing Committee I would like to thank all the participants for their great contributions to the successful conference, and all the supporting organizations listed above.

Had been devoted for nearly half century to the research and development of hydrodynamics in China, Professor Gu Maoxiang left us 10 years ago. By holding this Conference we also deeply cherish the memory of late Professor Gu for his great technical achievements and outstanding personality.

Wu You-Sheng
Chairman of Local Organizing Committee