ISWSO 2018 Preface

The 1ST International Symposium on Water System Operations (ISWSO 2018) has been held during Oct. 16th-18th, 2018 in Beijing, China. The symposium was organized by IWHR, Chinese Hydraulic Engineering Society, China Three Gorges Projects Development, South-to-North Water Diversion and Guangdong Academy of International Academic Exchange and so on.

The temporally and spatially uneven distribution of water resources is rather common all over the world. Hydraulic engineering is one of the most important infrastructures to address such problems since it can deal with flood defense, water supply, irrigation, and hydropower etc.

There are a large number of reservoirs all over the world, and China alone has over 98,000 of them. The existence of these reservoirs has greatly changed the natural runoff processes, leading to a lot of difficulties in optimal reservoir operation. In addition, inter-basin water diversion project, although ecologically controversial, is an important measure to alleviate the water crisis. Up to now, more than 350 water diversion projects have been built in at least 40 countries and regions around the world. Many hydro-solar-wind multi-energy systems along the reservoirs and inter-basin water diversion systems are planned and constructed.

It is now clear that, compared with the earlier generation of water projects, new and/or additional sources of water are becoming scarce, more expensive to develop, require more expertise and technological know-how for planning, design, implementation and operation, and often could result in more social and environmental disruptions. Not surprisingly, there is an increasing realization that scientific understanding of water systems operations is essential and necessary for efficiently and effectively manage the existing water projects, which help for future human welfare.

More than 500 experts and scholars from all over the world attended to the symposium. The goal of this symposium is to bring together researchers of academia and practitioners to share latest scientific advancements, emerging technologies, and directions in issues relevant to water system operations. This conference will provide opportunities to present novel research results and networking for future activities.

The organization of this symposium and the preparation of proceedings volume would have been impossible without the tremendous efforts and dedication of many individuals. All the organizing committee oversaw the organization of the symposium. We would like to acknowledge a large team of reviewers for their timely submission of quality reports. Without this support, the symposium could not have been successful. We sincerely hope that ISWSO will serve as an ideal forum for academia, industrial practitioners and government agents.

Prof. Xiaohui Lei
China Institute of Water Resources and Hydropower Research, China
General Chairman of ISWSO 2018

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