

Preface

2009 Special Issue of the Journal of Hydroinformatics on Advances in Hydroinformatics

Contemporary and future challenges faced by decision makers and water resources managers worldwide, call for a new decade of Advances in Hydroinformatics. During the last two decades, Hydroinformatics has seen a significant evolution and various new and mature methods have been applied in numerous areas of hydrosciences, geosciences, earth sciences, atmospheric sciences, and civil/environmental engineering. The *Journal of Hydroinformatics* has played an important role in disseminating these new developments to the User Community comprising Scientists and Professional Engineers tasked with implementing and applying hydroinformatic concepts. Also, the bi-annual International Conferences on Hydroinformatics have been excellent venues for sharing and discussing new developments and the broadening of “hydro”-informatic applications into new areas of endeavour with a much wider range of topics. However, the success of attracting a large number of conference attendees imposes time constraints and does not always allow for in depth discussion. Because of this, the Joint (IAHR, IWA, IAHS) Committee on Hydroinformatics decided to organize a Special Workshop on Advances in Hydroinformatics to serve as a venue for making a critical assessment of the field and identify and discuss new directions for future research and development. The International Workshop on Advances in Hydroinformatics took place in June 2007 in Niagara Falls, Canada. About fifty invited speakers and keynote speakers met for four days to assess the state-of-the-art in hydroinformatics, discuss the last two decades of advances and identify new directions for future research in Hydroinformatics. Three technical sessions were organized on (i) recent advances in computational intelligence and information technologies, (ii) advanced

numerical methods and applications, (iii) emergent control techniques and decision support systems for solving problems of the aquatic environment and sustainable water resources management and development. The papers included in this Special Issue of the *Journal of Hydroinformatics* are selected from the workshop contributions, providing a state-of-the-art overview as well as emergent directions for future developments in Hydroinformatics.

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