

Review of *Environmental Hydraulics and Sustainable Water Management, Proceedings of the 4th International Symposium on Environmental Hydraulics and the 14th Congress of Asia and Pacific Division, International Association of Hydraulic Engineering and Research*, edited by J. H. W. Lee and K. M. Lam

A.A. Balkema, Taylor & Francis, London, U.K., 2005. Published in two volumes: ISBN 04-1536-546-5 for complete set; ISBN 04-1536-548-1 for volume 1; ISBN 04-1536-549-X for volume 2; ISBN 04-1536-550-3 for CD Rom; 2319 pp. Price: US\$499 (hardcover set + CD-Rom).

Pierre Y. Julien

Engineering Research Center, Colorado State Univ., Fort Collins, CO 80523.

This dual symposium and congress brings back wonderful memories from Hong Kong. The daily 8:00 p.m. Symphony of Lights from the Avenue of Stars surely enlightened all participants from over 35 countries. The venue was organized by the Department of Civil Engineering at the University of Hong Kong. The organizing committee, and in particular J. H. W. Lee and K. M. Lam, are to be commended for this first-class venue. By joining the symposium with the congress, about 350 participants attended and shared research and application results in a multiple parallel sessions setting. The heavy two-volume set of printed proceedings was available at the registration desk, along with a poster showing an aerial view of Hong Kong.

The objective of the joint conference of the International Symposium on Environmental Hydraulics and the International Association of Hydraulic Engineering Asia-Pacific Division was to bring together scientists, engineers, and researchers with a common interest in water environment and hydraulic problems. The conference aimed to provide forum for the exchange of ideas and experiences on recent developments in environmental hydraulics and water management issues. The main theme of the conference was "Sustainable Water Management in the Asia-Pacific Region." The Asia-Pacific rim faces many water environment challenges in the new millennium. Examples include the assurance of an adequate and clean water supply, the prevention of urban and basin flooding, the search for a sensible sewage strategy, the achievement of sustainable water quality to enhance quality of life, and the protection of aquatic and coastal fisheries. Water problems will be associated with increasing complexity and wider scope brought about by issues like global climate change, massive urbanization, economic risks in infrastructure investments, cross-border pollution, and government policies.

The proceedings include 300 papers selected from 400 abstract submissions, prepared in two volumes. Volume 1, entitled "Environmental Hydraulics," contains 2 keynote lectures, 7 invited lectures, and 153 contributing papers. The papers cover a broad

spectrum of topics on the basic science of environmental hydraulics. The number of papers for each of the main sections are as follows: 16 papers on mixing and transport and gas transfer; 14 papers on stratified flow; 23 papers on jets and plumes, bubbles plumes/jets, and outfall discharge; 25 papers on hydrodynamic models; 20 papers on water quality models, nonpoint source pollution, field studies, and impact assessment; 24 papers on ecohydraulics and algal blooms/eutrophication; 4 papers on shallow water flow; 21 papers on wave and coastal processes, case studies, and modeling; and 6 papers on the impact of reclamation. This first volume contains a substantial collection of papers on turbulent diffusion, jets, and plumes. The presentations include experimental results, numerical models, and practical field applications.

Volume 2 on "Sustainable Water Management in the Asia-Pacific Region" contains 2 keynote lectures, 3 invited lectures, and 143 contributing papers. This volume covers topics in sustainable water resources management: water distribution, urban storm water drainage, flooding problems, groundwater, hydrological modeling of open-channel flow, and hydraulic structures. The second volume also contains a collection of papers on sediment transport and sediment-water interaction. The number of papers for each of the main sections are as follows: 9 papers on water resources management; 7 papers on water distribution and management; 4 papers on hydraulic transients, 18 papers on urban stormwater management; 9 papers on flood forecasting and prevention; 16 papers on open-channel flow; 14 papers on hydraulic structures; 7 papers on scour in hydraulic structures; 4 papers on treatment plant hydraulics; 12 papers on hydrological modeling; 5 papers on data-driven methods in hydrology; 8 papers on groundwater; 23 papers on sediment transport in rivers, sediment in reservoirs and estuaries, and sediment dynamics; and 7 papers on sediment-water interaction.

The editors should be commended for keeping a standard format for all papers. The overall quality of the selected papers and presentations is very high. Although most topics deal with field applications in Asia, many papers contain fundamental aspects that will interest readers from any part of the world.

The publisher provides a very good-quality manuscript with good-quality paper and a solid hardback binding. The text is easy to read and the font size and overall typesetting are appropriate. The quality of the black and white photos and illustrations is good. Each volume is quite heavy and easily fills a briefcase. The same material is also available in very compact form on CD-Rom for the environmentally friendly readers.

In summary, the proceedings of this dual conference contain a large number of papers in a two-volume set. It is primarily recommended to engineers and scientists keeping up with this rapidly developing field. The proceedings are expensive but will interest all members of the international community dealing with environmental hydraulics. Most contributions to this conference can be found in the areas of turbulent jets and plumes, turbulent diffusion, hydrodynamic and water quality models, urban stormwater management, and sediment transport.