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Titolo	Free Surface Flows and Transport Processes : 36th International School of Hydraulics // edited by Monika B. Kalinowska, Magdalena Maria Mrokowska, Pawe Mariusz Rowiski
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Descrizione fisica	1 online resource (XVIII, 502 p. 262 illus., 139 illus. in color.)
Collana	GeoPlanet: Earth and Planetary Sciences, , 2190-5193
Disciplina	627
Soggetti	Geophysics Environmental sciences Water quality Water pollution Hydrology Applied mathematics Engineering mathematics Geophysics/Geodesy Environmental Science and Engineering Water Quality/Water Pollution Hydrology/Water Resources Geophysics and Environmental Physics Mathematical and Computational Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	A study of large-scale horizontal turbulence in alluvial streams, with a view towards its morphological consequences -- Ice concerns for hydraulic engineering in cold, mountainous terrain -- Where "small is beautiful" -- mathematical modelling and free surface flows -- Application of the AISA hyperspectral image for verification of sediment transport results obtained from CCHE2D hydrodynamic model - Zegrze Reservoir case study, Poland -- Natural and anthropogenic changes of the Vistula outlet to the sea -- Numerical analysis of steady gradually

varied flow in open channel networks with hydraulic structures -- Lattice Boltzmann method for the numerical simulations of the melting and floating of ice -- Simulation of flow characteristics through emerged rigid vegetation over a perturbed bed -- Numerical study of sedimentation in uniformly vegetated wetlands -- An acoustic technique to measure the velocity of shallow turbulent flows remotely -- A CFD based comparison of mixing due to regular and random cylinder arrays -- Turbulence flow modeling of one-sharp-groyne field -- Sensitivity analysis for the water-air heat exchange term -- Time variation of scour at downstream pier for two piers in tandem arrangement -- Geometry description of local scouring process in various laboratory water structure models.

Sommario/riassunto

This book contains the written, thoroughly reviewed versions of both invited lectures and regular presentations given at the 36th International School of Hydraulics, held at Jachranka in Poland on May 23–26, 2017. The contributions cover recent findings in the areas of mathematical modeling as well as experimental investigations related to free surface flows and pollution, sediment and heat transport processes in rivers. Better understanding of environmental flows requires cognition of physical, chemical and biological attributes of flowing water and therefore hydraulic research becomes strongly interdisciplinary field of science. The authors also realize that fundamental knowledge of environmental hydraulics problems is absolutely essential for planning and design of systems to manage water resources. Nowadays the readers face a rapid development of hydraulic research due to a boom in the computer sciences and measurement techniques and this is what this book is about. Eminent world leading experts in this field and young researchers from sixteen countries from all over the world contributed to this book.
