



water



Special Issue Reprint

New Challenges in Water Systems

Edited By:

Helena M. Ramos

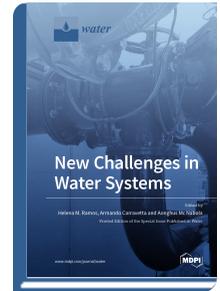
Armando Carravetta

Aonghus Mc Nabola

[mdpi.com/books/pdfview/book/3001](https://www.mdpi.com/books/pdfview/book/3001)

ISBN 978-3-03943-276-9 (Hbk)

ISBN 978-3-03943-277-6 (PDF)



New challenges in water systems toward safety, efficiency, reliability, and system flexibility will be fundamental in the near future. In this book, readers can find different approaches that include safety analysis, system efficiency improvements, and new innovative designs. The risk function is a measure of its vulnerability level and security loss. Analyses of transient flows associated with the most dangerous operating conditions, are compulsory to grant system liability in terms of water quantity, quality, and system management. Specific equipment, such as air valves, is used in pressurized water pipes to manage the air inside, associated with the emptying and filling process. Advanced tools are developed toward near-future smart water grids. The water system efficiency and water–energy nexus, through the implementation of suitable pressure control and energy recovery devices, as well as pumped-storage hydropower, provide guidelines toward the most technical and environmental cost-effective solutions. Integrated analysis of water and energy allows more reliable, flexible, and sustainable eco-design projects, reaching better resilience systems. Hydraulic simulators and computational fluid dynamics (CFD), conjugating with field or experimental tests, supported by advanced smart equipment, allow a better design, control, and complex event anticipation occurrence to attain high levels of water system security and efficiency.



Order Your Print Copy

Print copies (170x244mm, Pbk) can be ordered at:

www.mdpi.com/books/pdfview/book/3001

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), the Verzeichnis lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.