



process. Consolidates scattered knowledge of electrochemical membrane technology into a more assessible resource Provides a comprehensive review of fundamental theories, membrane materials and module design as well as the latest developments in electrochemical membrane technology Provides a state-of-the-art review on the applications of electrochemical membrane technology Includes detailed discussions on the challenges and prospects of electrochemical membrane technology in different applications Presents an excellent reference for the education and understanding of water treatment, wastewater treatment, membrane technology, electrochemical technology, environmental science and technology, and the latest research and developments

This is an extremely well-researched and documented book. The authors hypothesis is that the current water and wastewater sector is failing the populations of the western-world by clinging to orthodox and short-term visions of new technology and innovation, and also failing the developing nations by believing that delivery of western-world high-technology solutions is a contribution to humanitarian development. This is the crisis of innovation . To many practitioners in the water industry the book will be perceived to be hypercritical (of the incrementalism, conservative and dogged traditionalism ) of the sector, but in fact it is stimulating and positive. In the latter chapters an alternate more holistic model of water development is described. There needs to be a movement from large, central infrastructure resources to distributed systems that are more appropriate to local needs and can be coupled with environmentally sustainable energy sources and practices. Tim Lack, European Topic Centre on Water, UK Whilst acknowledging a massive leap from standpipe to universal water provision in 100 years in developed countries, the authors of this book see problems for global sustainable water supply and wastewater removal in the future. Using the UK water industry as an example, they describe the global water industry as risk averse and unwilling to innovate, a view that is encouraged by the institutional and financial regimes under which it works. The book explores the reasons for concern and sets out some hard-hitting views on how the water industry is failing to identify and tackle the essential problems in a world which is becoming ever more depleted of fresh water. The concluding chapter brings to a focus the problems of the crisis in innovation and gives some concrete suggestions for tackling them. This volume should raise the awareness of policymakers and regulators, technologists and concerned members of the public. Peter Chave, Independent Consultant and formerly Head of Pollution Control, National Rivers Authority, UK This significant new book highlights a little acknowledged but potentially catastrophic crisis of innovation in the global water sector, which institutions and industries are frighteningly ill-equipped to tackle or even accept. It suggests potential new technology and policy approaches to overcome both current and future problems. The book explores how technological innovation is vital to help provide sustainable water in both the UK and developing countries. However, innovation is being overlooked in the face of global trends to privatize and regulate water utilities. The authors highlight how the global water sector is failing to respond to increasingly complex world needs and continues to build largely unsustainable centralized infrastructures, opposing more appropriate, distributed and local modern technologies. The book also includes suggestions for potentially innovative technology and policy solutions to meet escalating global water and wastewater demands. Importantly, the authors adopt a long-term perspective that crosses both disciplinary and institutional boundaries, and include an international comparative perspective, covering a diverse range of examples and countries. This comprehensive book will have a broad appeal amongst researchers and academics with an interest in technology management, innovation studies, geography and development studies. It will also be a valuable asset for water regulators and governmental and non-governmental organisations working in this field.

Treating potable and polluted water for the world's population is still one of our most important challenges. The United Nations estimate that more than 1.2 billion people suffer from inadequate water supply and an even larger number, up to 4 billion people, are without hygienic disposal of waste and wastewater. Water technology and the necessary "know-how transfer", has been the key objective of the Gothenburg symposia from the very beginning. The contents of this book respond to these challenges and demonstrate the impressive development of the field of chemical waster and wastewater treatment. The Chemical Water and Wastewater Treatment Series provides authoritative coverage of the key current developments in the chemical treatment of water and wastewater in theory or practice and related problems such a s sludge production and properties, and the reuse of chemicals and chemically-treated waters and sludges. For the tenth in the series, the contributions document the development if the field of chemical water and wastewater technology, both in terms of new technological developments as well as public and administrative acceptance and approval of the solutions offered. Such new developments include the use of membrane technology, the application of computational tools for kinetic process modelling and optimisation as well as the use of advanced oxidation processes in actual water treatment. Chemical Water and Wastewater Treatment VII covers fundamental science, new technological developments and practical experience and is an invaluable reference source for engineers scientists and administrators, active in the treatment of drinking water, municipal and industrial wastewater and sludges.

Process Science and Engineering for Water and Wastewater Treatment

Water Purification

Innovative Wastewater Treatment & Resource Recovery Technologies: Impacts on Energy, Economy and Environment

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