
Preface

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Biographical notes: Dr. P.K. Tewari obtained his PhD in Chemical Engineering from the Indian Institute of Technology, Bombay. Presently he is working as Head of the Desalination Division, BARC. He is the President of the Indian Desalination Association (IDA) and is on the Board of Directors of the International Desalination Association. Dr. Tewari is the Chairman of the International Nuclear Desalination Advisory Group (INDAG) of the International Atomic Energy Agency (IAEA). He has been involved in providing consultancy services to several organisations on desalination and water purification. He has over a hundred research publications to his credit in journals, proceedings, books and encyclopaedias. Dr. Tewari is the Co-Chairman of the Editorial & Scientific Committee of the *International Journal of Nuclear Desalination*. He is the recipient of an award from the IDA, the CBIP – Jawahar Lal Nehru Birth Centenary Award, the Hari Om Ashram Prerit S.S. Bhatnagar Award for desalination and water purification and several other awards.

Water security is a fundamental need for sustainable development. Increasing populations and per capita demand are imposing tremendous strains on water resources. It is predicted that a significant fraction of the global population (over 3.5 billion people) will live in regions facing severe water shortages by the year 2025. It is in this context that the role of desalination and water purification technologies becomes very important. The sole source of water is nature. In addition to the limited quantity of surface water and groundwater, we have an unlimited source of water in the oceans. Increasing demand for fresh water calls for the exploration of new resources. Thermal and membrane-based desalination technologies can produce large amounts of water from the oceans, suitable for drinking and other process requirements. Seawater desalination is no longer limited to the Arab countries. Significant seawater desalination projects have been announced in India, China, Australia, the western USA and other parts of the world. Water pollution is increasing with industrial development. Recovering good quality reusable water from effluents through membrane processes helps in the preservation of the existing resources from pollution. Water purification technologies can play an important role in rural areas. It is required to identify R&D thrust areas in the field of desalination and water purification technologies. It is essential to provide water of end-use quality at affordable cost.

Several agencies are working in the development and deployment of desalination technologies to meet the growing demand for good quality water for drinking and industrial purposes. In order to deliberate and prepare a road map for the desalination and

water purification activities, the Trombay Symposium on Desalination & Water Reuse (TSDWR-07) was organised in February 2007 by the Indian Desalination Association (InDA) at Bhabha Atomic Research Centre, Trombay. The symposium brought together scientists and technologists from user sectors, government agencies, industries, R&D institutions and academia to share their viewpoints on the present scenario and global standards of desalination and water reuse, including nuclear desalination, mechanisms for industry and academia interaction, business models, rural applications, environmental protection and pollution prevention aspects. Some of the papers presented in the symposium are included in this special issue.