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## **Foreword**

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### **Idil Arslan-Alaton**

It is important to guarantee water availability over time by means of sustainable water and wastewater management strategies, which will allow countries to cope with present and future water demand without stressing environmental balance and the needs of future generations. Another problem for countries facing water scarcity is that there are not sufficient systems available for appropriate wastewater treatment and monitoring. In most cases raw sewage is disposed of into the sea and rivers or directly used for irrigation or drinking purposes endangering human health and the environment as a whole.

Particularly when wastewater discharge to sensitive areas facing the risk of eutrophication is planned, confrontation with more stringent standards should be expected. Under these circumstances advanced wastewater treatment producing environmental benefits has to be considered. Moreover, it is legally recommended to reuse treated wastewater wherever appropriate and hence advanced wastewater treatment systems working at acceptable operating costs are required.

The main objective of this special issue is to provide the reader with an overview of recent developments in reliable, appropriate, cost-effective and/or innovative advanced treatment technologies for urban (or mixed industrial + urban) wastewater and to review studies that explore the potential reuse alternatives for secondary treated effluent (agricultural reuse for irrigation, groundwater recharge, etc.). Papers addressing the source, magnitude and abatement of persistent pollutants in municipal wastewaters have also been included.

This special issue of the *International Journal of Environment and Pollution* focuses on research, review and case study papers describing advanced techniques that can be integrated with existing treatment facilities to improve pollutant and/or nutrient removal. Special emphasis was placed on advanced chemical oxidation technologies as well as biological treatment methods to maximise persistent pollutant abatement, on technologies that provide cost-efficient solutions with minimum area requirement and initiatives that enable wastewater reuse as well as nutrient treatment and recovery.

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I hope you enjoy our special issue.