Special Issue

Antibiotic Resistance in Wastewater Treatment Plants

Message from the Guest Editor

In wastewater treatment plants (WWTPs), antibiotic resistance genes (ARGs) undergo complex processes, including reproduction, mutation and decay. They can also be horizontally transferred to new hosts, leading to the further development of antibiotic resistance.

Despite a growing number of scientific publications on the occurrence, distribution and removal of ARGs in wastewater treatment plants, several concerns remain to be addressed:

- Methodologies for identifying antibiotic resistance genes and their hosts in wastewater;
- Sources of antibiotic resistance genes in wastewater treatment plants;
- The occurrence of antibiotic resistance genes in different physical states, especially extracellular ARGs, in wastewater treatment plants;
- Horizontal gene transfer of ARGs within wastewater treatment plants;
- Factors influencing the development of antibiotic resistance during wastewater treatment;
- The release and fate of antibiotic resistance genes in the receiving environment;
- Advanced techniques for the elimination of ARGs in wastewater.

This Special Issue addresses these issues in line with antibiotic management across various settings.

Guest Editor

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Message from the Editor-in-Chief

There are very few fields that attract as much attention as scientific endeavor related to antibiotic discovery, use and preservation. The public, patients, scientists, clinicians, policy-makers, NGOs, governments, and supra-governmental organizations are all focusing intensively on it: all are concerned that we use our existing agents more effectively, and develop and evaluate new interventions in time to face emerging challenges for the benefit of present and future generations. We need every discipline to contribute and collaborate: molecular, microbiological, clinical, epidemiological, geographic, economic, social scientific and policy disciples are all key. *Antibiotics* is a nimble, inclusive and rigorous indexed journal as an enabling platform for all who can contribute to solving the greatest broad concerns of the modern world.

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