Special Issue

Antimicrobial Substances and Nitrogen Cycle in Agro-Ecosystems

Message from the Guest Editors

Nitrogen (N) is presents under different forms in the soil, where it is mainly used by plants for their growth. Soil microbes also use nitrogen by assimilating inorganic N for the synthesis of N-containing organic compounds. Thus, microbes compete with crops for nitrogen. Some of the N applied to the soil with the fertilizer is lost by agroecosystems as nitrate (NO3-) by leaching and gases, mainly ammonia (NH3) and nitrous oxide (N2O). N loss as N2O is due to biological transformations. In the last decades, many natural or synthetic molecules have been identified as potential substances inhibiting N loss from agricultural soils. These substances, when added to fertilizer, act as antimicrobials by inhibiting soil microbe growth and reducing N2O production. This Issue will accept reviews, as well as full or short research papers, from a broad scope of interdisciplinary research on antimicrobials in the context of the nitrogen cycle in agroecosystems.

Keywords: natural, semi-synthetic, and synthetic antimicrobials; biological nitrification or denitrification inhibition; ecotoxicity of antimicrobials; nitrogen use efficiency

Guest Editors

Dr. Luca Vitale

National Research Council (CNR), Department of Biology, Agriculture and Food Sciences (DiSBA) Institute for Agricultural and Forestry Systems in the Mediterranean (ISAFoM), Portici, NA, Italy

Dr. Giuseppe Giuseppe Maglione

National Research Council, Department of Biology, Agriculture and Food Sciences, Institute for the Animal Production System in the Mediterranean Environment, Portici (NA), Italy

Deadline for manuscript submissions

closed (28 February 2021)

Antibiotics

an Open Access Journal by MDPI

Impact Factor 4.6
CiteScore 8.7
Indexed in PubMed

mdpi.com/si/58629

Antibiotics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
antibiotics@mdpi.com

mdpi.com/journal/antibiotics

Antibiotics

an Open Access Journal by MDPI

Impact Factor 4.6
CiteScore 8.7
Indexed in PubMed

mdpi.com/journal/antibiotics

About the Journal

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.

Editor-in-Chief

Prof. Dr. Nicholas Dixon
School of Chemistry and Molecular Bioscience, University of Wollongong, Wollongong, NSW 2522, Australia

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Infectious Diseases) / CiteScore - Q1 (General Pharmacology, Toxicology and Pharmaceutics)

MDPI