Special Issue

Bacterial Infections and Antimicrobial Resistance: Diagnosis and Management

Message from the Guest Editor

This Special Issue addresses the growing global challenge of bacterial infections and the alarming rise of antimicrobial resistance (AMR). It explores innovative diagnostic approaches, including rapid molecular techniques, next-generation sequencing, and point-ofcare testing, which enable early and accurate identification of pathogens and resistance patterns. This Special Issue also highlights the critical role of antimicrobial stewardship programs in optimizing the use of antibiotics and combating resistance. Advances in alternative therapies, such as phage therapy. immunotherapies, and novel antimicrobial agents, are discussed as promising strategies to address multidrug-resistant infections. Additionally, the integration of artificial intelligence and machine learning in infection management are examined for their potential to enhance diagnostics and treatment decision-making. Contributions from leading experts emphasize the need for a multidisciplinary approach, combining microbiology, clinical practice, and public health initiatives, to tackle AMR effectively.

Guest Editor

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