



Microbial Biofilms: Mechanisms of Formation, Pathogenicity and Antibiotic Resistance

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Message from the Guest Editors

Biofilms are structured aggregates of bacterial cells that are embedded in self-produced extracellular polymeric substances. Biofilm formation occurs to enable bacterial survival, which requires physiological changes. Nearly 80% of all human infections are biofilm-related, and one of their most critical features is their considerably higher resistance to environmental stresses, antimicrobials, disinfectants and host immune defenses. Moreover, when antibiotic-resistant bacteria form a biofilm, the overall resistance is enhanced. Despite major advances in biofilm research, knowledge on biofilm formation, propagation and resistance is still very limited, and this poor understanding has hampered the development of antimicrobial drugs that specifically target biofilms. In fact, most of these studies have been focused on bacteria growing in planktonic cultures and hence have overlooked biofilm-specific AMR mechanisms. This Special Issue will bring together the latest studies regarding the mechanisms of biofilm formation as well as the aspects of function and adhesion that are associated with their pathogenicity.





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Message from the Editor-in-Chief

The worldwide impact of infectious disease is incalculable. The consequences for human health in terms of morbidity and mortality are obvious and vast but, when infections of animals and plants are also taken into account, it is hard to imagine any other disease that has such a significant impact on our lives—on healthcare systems, on agriculture and on world economics. *Pathogens* is proud to continue to serve the international community by publishing high quality studies that further our understanding of infection and have meaningful consequences for disease intervention.

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