Special Issue

Anaerobic Gut Fungi: Ecological Role and Biotechnological Potential

Message from the Guest Editor

Anaerobic gut fungi (AGF) phylum Neocallimastigomycota are powerful lignocellulose-degrading microorganisms that play a critical role in the digestive tracts of herbivorous animals. The ability of AGF to produce a diverse array of carbohydrate-active enzymes (CAZymes) allows them to initiate the degradation process of the ingested plant fibers within the gut and shape microbial community dynamics through complex interactions with methanogens and other microbial partners. While recent advances in genomics and culturing have expanded our knowledge about AGF, many fundamental questions about their diversity, function, and host interactions remain underexplored. As the , I invite you to submit research articles and review articles to address the ecological roles, enzymatic capabilities, and host interactions of anaerobic gut fungi. Topics may include fiber degradation, microbial symbioses, enzyme discovery, gut microbial ecology, and potential biotechnological applications. This Special Issue aims to broaden our understanding of these underexplored yet important fungi and seek novel applications at the intersection of microbiology, ecology, and biotechnology.

Guest Editor

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"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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