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Microbial Community Modeling: Prediction of Microbial Interactions and Community Dynamics

Guest Editor:

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Deadline for manuscript submissions:
closed (31 December 2017)

Message from the Guest Editor

Dear Colleagues,

Interest in engineering microbial communities for application in biotechnology and biomedical science has rapidly grown over the last decade. The design and control of microbial communities still remains a grand challenge, particularly due to the complexity of interspecies interactions that require mathematical modeling and computational analysis as essential tools.

This Special Issue calls for contributions across a broad range of areas that address recent computational and modeling developments for predicting species interactions and community dynamics and functions. Modeling frameworks of interest include metabolic network analysis, flux balance analysis, trait-based modeling, Lotka-Volterra modeling, evolutionary game theory, the cybernetic approach, functional gene-based modeling, thermodynamically-based modeling, individual-based modeling, integrative multiscale modeling, and other relevant approaches. We also welcome papers on data-driven inference of species interaction networks or gene co-expression networks in microbial communities.

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Message from the Editor-in-Chief

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