

Special Issue

Molecular Research on Plant-Associated Nitrogen-Fixing Bacteria

Message from the Guest Editor

Modulating nitrogen-fixing microbial plant symbionts have a profound influence on ecosystem dynamics and global nitrogen cycles. Beyond the classical examples of legume–Rhizobia interactions, several other—and less studied—plant–microbe symbioses perform biological nitrogen fixation at large quantitative scales.

Nonetheless, we often lack knowledge around the identity, diversity, and physiology of plant-associated nitrogen-fixing microbes. Furthermore, recent work has shown that microorganisms inhabiting root nodules are more taxonomically and functionally diverse than previously thought and make complex multiplayer microbial communities. Effects on plant fitness, competitiveness, and stress tolerance of nodule communities has been predicted but only experimentally shown in isolated cases. We hope to capture an encompassing picture of these multilayer systems in this Special Issue of the International Journal of Molecular Sciences to better understand the diversity and functional role of these multiplayer systems and their impact on local and global ecosystems.

Guest Editor

Prof. Dr. Stefanie Kautz

Department of Biology, Portland State University, Portland, OR 97201, USA

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
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Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences,
Sez-Biochimica, Faculty of Medicine, Università Politecnica delle
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