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# Going back to the roots: the microbial ecology of the rhizosphere

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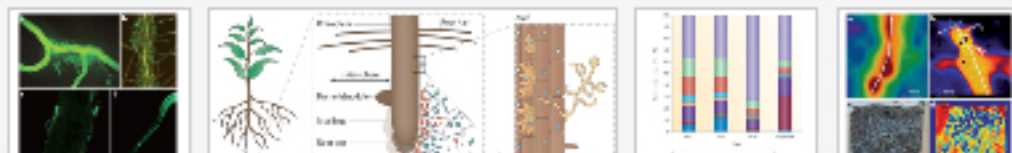
## Abstract

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The rhizosphere is the interface between plant roots and soil where interactions among a myriad of microorganisms and invertebrates affect biogeochemical cycling, plant growth and tolerance to biotic and abiotic stress. The rhizosphere is intriguingly complex and dynamic, and understanding its ecology and evolution is key to enhancing plant productivity and ecosystem functioning. Novel insights into key factors and evolutionary processes shaping the rhizosphere microbiome will greatly benefit from integrating reductionist and systems-based approaches in both agricultural and natural ecosystems. Here, we discuss recent developments in rhizosphere research in relation to assessing the contribution of the micro- and macroflora to sustainable agriculture, nature conservation, the development of bio-energy crops and the mitigation of climate change.

## At a glance

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