

## From frogs to bees, exploring the mechanisms of microbiome assembly

**Abstract:** Microbiomes are essential across a wide breadth of systems; yet we still do not fully understand how their assembly is affected by the host environment, host traits, or priority effects caused by symbiont arrival order. Our ability to leverage microbiomes to promote host health or predict microbiome responses to environmental change, therefore, remains limited. Using a combination of ecology theory, experimentation, and reverse genetics, the mechanisms behind community assembly can be more broadly understood. Here, we explore this in two systems, amphibians and honeybees.