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## Soil bacterial community assembly during succession

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# Soil bacterial community assembly during succession

Xiu Jia

1. An interplay of ecological processes structures the variation of microbial communities across spatial and temporal scales. Investigating these processes allows us to better understand the diversity, distribution and functioning of soil microbes. (*This thesis*)
2. Caution is warranted in properly interpreting the relative influences of assembly processes mediating community turnover based on RNA- and DNA-derived amplicon sequencing. (*Chapter 3*)
3. The rare biosphere is composed of different types of rarity. These types differ in their abundance patterns across space and time and are governed by different ecological processes. (*Chapter 4 & 5*)
4. The influence of dispersal on soil bacterial communities depends on contemporary selection and historical contingency. (*Chapter 6*)
5. There is a wonderful world of soil (micro)organisms beneath our feet.
6. Research on natural ecosystems is a dynamic process of improvement. We start from a piece of prior knowledge on ‘the shoulders of giants’, challenge this by new theories, observations and/or experimental studies, and then (re)build a model that will best describe the reality of a system. It is only by continuously feeding this prior-posterior knowledge loop that we can gradually enhance our understanding of natural ecosystems.
7. “The cell is basically a historical document, and gaining the capacity to read it (by sequencing of genes) cannot but drastically alter the way we look at all biology.” (*C. Woese, 1987, Bacterial evolution. Microbiological reviews 51(2):222*)
8. “Many experimental studies on natural disturbances show that when a system is perturbed away from its equilibrium, it often tends to go back to that equilibrium.” (*J. Chase and M. Leibold, 2003, from the book ‘Ecological niches: linking classical and contemporary approaches’*)
9. Good views are not only found at the destination but also on the journey.