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Poster #94: The role of phages in microbial communities

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Phages are abundant in natural microbial communities, yet their full role in shaping community evolution, diversity, function, and dynamics remains unresolved. A particularly case is their potential to influence multistate microbial communities—communities that assemble in alternative stable states under identical conditions. Recent evidence suggests that exposure of microbial communities to phage cocktails (and other mobile genetic elements), may promote or constrain switching among such states. We aim to clarify these phage-associated community transitions. To achieve this, we will experimentally enrich microbial communities under controlled conditions to generate multistate systems. We will then manipulate these communities with defined phage treatments to test how phage diversity and identity affect the likelihood, direction, and stability of state transitions. By linking phage perturbations to community-level responses, our work will provide empirical evidence for how bacteria–phage interactions shape community stability, transitions and evolution, advancing our understanding of microbial community dynamics.

Reference #1

Reference #2

Reference #3

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