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### A Functional Perspective on probiotic Interventions in the Small Intestine

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## **PROPOSITIONS**

# A Functional Perspective on probiotic Interventions in the Small Intestine: Dynamics and Emergent Properties of the Microbial Community

### Jack Jansma

- 1. The functional properties of probiotics should be complementary to the functional profile of the targeted microbiota.
- 2. The small intestinal microbiota can be studied using ileostoma effluent.
- 3. Microbial mechanisms obtained utilizing synthetic microbial communities can be extrapolated to the complex microbiota.
- 4. In silico methods are unavoidable for the development of personalized microbiota targeted interventions.
- 5. Emergent properties arising from interactions in complex systems are underappreciated.
- 6. Without knowing the absolute abundance per species, relative abundance comparisons should be taken with a grain of salt.
- 7. The term "Dysbiosis" is too vaguely defined in the microbiome field.
- 8. Microbiota researchers need to embrace ecological and evolutionary principles obtained from other areas of research.
- 9. Western science is and has long been too deterministic.