Intestinal microbiota assembly and dynamics in health and disease

Propositions

belonging to the thesis

Intestinal microbiota assembly and dynamics in health and disease:

A focus on longitudinal data analysis

1. Quantitative microbiome profiling is an elegant approach to bypass the compositional nature of microbiome NGS data, however the quantification method used may introduce substantial additional bias. (this thesis)
2. Neutral dispersal is an important force shaping the microbial community structure in early life. (this thesis)
3. The application of longitudinal analyses while controlling for potential confounders reveals differences in microbiota development that precede the onset of atopic diseases. (this thesis)
4. Microbial alterations preceding the onset of post-infectious Irritable Bowel Syndrome points towards a causal role of the intestinal microbiota in the etiology of this disorder. (this thesis)
5. The fecal microbiota of Crohn's disease patients is characterized by a reduced temporal stability, but not associated with disease activity or long-term disease course. (this thesis)
6. When designing new microbiome studies, we should focus less on finding associations and more on uncovering causality
7. The lack of a clear definition of a healthy microbiome significantly impairs our understanding of the role of the microbiome in disease pathophysiology.
8. More analytical methods specifically tailored for microbiome data are needed to understand the causal role of microbiome alterations in health and disease
9. In the microbiome "gold rush" we should not lose sight of the transparency, reproducibility and validity of data and research findings.
10. We should inform society on the detrimental impact that procedures such as caesarean section without a medical need have on the vulnerable infant microbiome rather than try to restore the resulting perturbations by vaginal seeding.