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Environment-host-microbe interactions shape human metabolism

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Propositions

Inter-individual variations in gut microbial composition associate with host health status. (*Zhernakova et al., Science, 2016*)

Gut microbial pathways can be linked to the cardiometabolic risk of the host. (*this thesis*)

Plasma bile acid profiles show large inter-individual variability in individuals with obesity. (*this thesis*)

Gut microbial genetic makeup shows long-term stability and individual specificity that can serve as a host fingerprint. (*this thesis*)

Gut microbial changes over time are related to changes in plasma metabolite levels in the host. (*this thesis*)

The levels of specific plasma metabolites are dominantly driven by different factors, including diet, microbiome and genetics, that vary from metabolite to metabolite. (*this thesis*)

Gut microbial interactions that are reflected by co-abundances show specificity in inflammatory bowel disease and obesity. (*this thesis*)

Research is what I'm doing when I don't know what I'm doing. (*Wernher von Braun*)

We cannot solve problems with the same thinking we used to create them. (*Albert Einstein*)