

2017 Innovation Lab:
Quantitative Approaches to Biomedical
Data Science Challenges in our
Understanding of the Microbiome



Some biomedical expertise areas with questions applicable to microbiome includes but is not limited to the following (The lab is open to any biomedical investigator who has research questions with an associated microbiome big data challenge):

Basic biology:

Investigators who have research questions looking at the underlying mechanisms important to our fundamental understanding of biology with an associated challenge involving microbiome big data in need of new quantitative solutions.

Behavioral:

Investigators who have research questions relating to human or animal behavior that are potentially caused by or impacted by the microbiome with an associated challenge involving microbiome big data in need of a new quantitative approaches.

Clinical science:

Investigators who have research questions on the effect of the microbiome in clinical practice when observing and treating patients that have an associated big data problem involving microbiome big data that is in need of a novel quantitative approach.

Ecology:

Investigators who have research questions involving microbiome big data that focuses on the interactions among microorganisms and their environment (both at the micro- and macro-level) and is generating analytical challenges in need of new quantitative solutions.

Epidemiology:

Investigators who have research questions in need of novel quantitative approaches to microbiome big data analyses involving the incidence, distribution, and potential to control diseases and/or other factors impacting public health.

Social:

Investigators who have research questions involving microbiome big data that incorporates the social interactions among humans and is generating analytical challenges in need of new quantitative solutions.

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Specific disease or disorder:

Investigators who have research questions relating to diseases or disorders that are potentially caused by or impacted by the microbiome (cancer, diabetes, epidermal, gastrointestinal, neurological, etc.) and have an associated big data challenge involving the microbiome that is in need of a new quantitative solution.