

PROJECT DETAILS

Project Title:

Multiomic aspects of health and wellbeing in mothers and their children from the ORIGINS cohort. A longitudinal analysis from pregnancy to 3 years of age seen with a nutrition lens.

Project Summary:

Non-communicable diseases (NCDs) such as allergies, cardiovascular disease and ill mental health present significant non-preventable and non-curable health challenges in children and adults worldwide. While it is recognized microbiomic dysbiosis and systemic low-grade inflammation are commonly part of NCD pathology, complex interactions of environment, the microbiome, the immune system and metabolic factors are not well understood. Therefore, our aims are to utilise existing datasets to:

1. Describe inflammatory markers, microbiome composition and metabolomic phenotypes over time in 200 pregnant women and their children from the ORIGINS cohort.
2. Ascertain multiomic biological phenotypes in relation to common NCDs including allergies, metabolic disorders and ill mental health.

An increased understanding of NCD development will increase potential for interventional initiatives to reduce NCD incidence and thereby optimising lifelong health and wellbeing trajectories.

Preferred Applicant Skillset:

Given the complexity of a multiomic, longitudinal data set, the applicant must have a comprehensive understanding of data analysis and preferably experience with cohort studies.

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