

## CONFÉRENCE

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**Modelling-driven Insights into the Role of Host-Microbiome Interactions in Health and Disease**

**Mercredi 6 décembre 2023, 10:45-12:15**

**Amphithéâtre, Présidence Léopold**

Possibilité de participer en visioconférence via Teams :

[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_MjJkZjJlMzgtYjQxMi00Zml3LTg5YmUtM2YwOTI1MTY4MzNI%40thread.v2/0?context=%7b%22Tid%22%3a%22158716cf-46b9-48ca-8c49-c7bb67e575f3%22%2c%22Oid%22%3a%2202ba1466-e81f-41ea-9262-be5a2fc4ea14%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_MjJkZjJlMzgtYjQxMi00Zml3LTg5YmUtM2YwOTI1MTY4MzNI%40thread.v2/0?context=%7b%22Tid%22%3a%22158716cf-46b9-48ca-8c49-c7bb67e575f3%22%2c%22Oid%22%3a%2202ba1466-e81f-41ea-9262-be5a2fc4ea14%22%7d)

### **Synopsis**

The symbiotic relationship between hosts and their resident microbiota is a complex and dynamic interplay with profound implications for health and disease. Systems biology approaches, such as constraint-based metabolic modelling, offer a powerful toolkit for dissecting these intricate relationships. By constructing context-specific models or employing computational tools like BacArena, we can simulate and analyse the effects of microbial communities on host organisms. Beyond fundamental research, the clinical implications of host-microbiome interactions are profound. Insights gained from modelling-driven approaches not only contribute to our understanding of disease mechanisms but also hold promise for personalized medicine and therapeutic interventions. In the context of human health, conditions like Inflammatory Bowel Disease (IBD) and ageing, where host-microbiome dysregulation has been shown to be an important factor, are difficult to directly study *in vivo*. Therefore, we can use metabolic modelling and network biology methods to make predictions about the aetiology and pathogenesis of these conditions.

### **Organisation et contact**

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