



LUXEMBOURG
INSTITUTE
OF HEALTH

ABSTRACT:

Title of your presentation:

Modelling Cancer-Microbe Interactions with Organoids and Organs-on-Chips

Summary of your presentation:

In the last decade, adult stem cell-derived organoids have become versatile tools in disease modelling and bioengineering. The possibilities to expand healthy human tissue of almost every organ and control its differentiation states makes these 3D tissue models a suitable platform for studies in diverse research areas. Among these are host-microbiome interactions, where numerous clinical associations await functional validation. Here, I highlight our recent advances in modelling cancer-microbiome interactions using organoids and organs-on-chips. I discuss approaches to expose human intestinal organoids to cancer-associated bacteria and the various read-outs which can provide mechanistic insights into their crosstalk. A particular focus is laid on genotoxic bacteria that can induce mutations in cancer genomes and on intracellular bacteria and their roles in colorectal cancer disease progression and metastasis.