

09 Dec
2022

 Friday
LECTURE

 MEET & EAT*
Light lunch provided

11.00 - 12.15 pm

12.45 - 2 pm



Microbes, metabolites and the gut-lung axis

ABSTRACT

The microbiota plays an essential role in the education, development, and function of the immune system, both locally and systemically. Emerging experimental and epidemiological evidence highlights a crucial cross-talk between the intestinal microbiota and the lungs, termed the 'gut-lung axis'. Changes in the constituents of the gut microbiome, through either diet, disease or medical interventions (such as antibiotics) is linked with altered immune responses and homeostasis in the airways. The importance of the gut-lung axis has become more evident following the identification of several gut microbe-derived components and metabolites, such as short-chain fatty acids (SCFAs), as key mediators for setting the tone of the immune system. SCFAs are just the 'tip of the iceberg' with respect to immunomodulatory metabolites. We recently discovered a microbial community that was particularly effective at metabolising the amino acid, L-tyrosine, in the gut. A consequence of this microbial metabolism was a change to the metabolome of the airways, which altered the functionality of airway epithelial cells and ameliorated allergic inflammation. This new aspect of the gut-lung axis represents an opportunity for the development of novel therapeutic approaches that might be efficacious against allergic responses, such as asthma.



SPEAKER

Prof Ben Marsland

Head of Mucosal Immunology Research Group,
Professor, Department of Immunology and Pathology,
Central Clinical School, Monash University, Australia

HOST:

Department of Infection and Immunity (LIH)

RESPONSIBLE SCIENTIST:

Mahesh Desai / (mahesh.desai@lih.lu)

* Please note that registration is mandatory by sending an email to carole.weis@lih.lu or michelle.roderes@lih.lu

Locations:

Lecture:

Lycée Guillaume Kroll
d'Esch/Alzette
Room: Salle de Projection*

Meet & eat:

House of BioHealth
Salle Françoise Barré Sinoussi
29, rue Henri Koch,
L-4354 Esch-sur-Alzette
Registration mandatory

*Opposite Luxembourg Institute of Health, House of BioHealth,
29, rue Henri Koch, L-4354 Esch-sur-Alzette