

# 15 JUNE 2022

Wednesday

LECTURE\*

11.00 - 12.15 pm

MEET &amp; EAT\*

Light lunch provided

12.30 - 2 pm



## Precision Immunology in Allergen Immunotherapy: from Mechanisms to Biomarkers

### ABSTRACT

Immune mechanisms of long-term efficacy with allergen immunotherapy are associated with decreases in IgE-dependent activation of mast cells and tissue eosinophilia. This suppression of type 2 immunity is accompanied by early induction of regulatory T cells, delayed immune deviation in favour of TH1 responses, and induction of local and systemic IgG, IgG4, and IgA antibodies. These “protective” antibodies can inhibit the allergen-IgE complex formation, mast cell triggering, and IgE-facilitated TH2-cell activation. Recent studies have highlighted the importance of innate responses in allergic inflammation mediated by type 2 dendritic cells and innate lymphoid cells. These cell types are under the regulation of cytokines such as thymic stromal lymphopoietin and IL-33 derived from the respiratory epithelium. Novel subsets of regulatory cells induced by immunotherapy include IL-35 producing regulatory T cells, regulatory B cells, a subset of T follicular regulatory cells, and IL-10 producing group 2 innate lymphoid cells. These mechanisms point to biomarkers that require testing for their ability to predict clinical response to immunotherapy and to inform novel approaches for better efficacy, safety, and long-term tolerance. (J Allergy Clin Immunol Pract 2021;9:1769-78; J Allergy Clin Immunol. 2022 Mar;149(3):791-801.)



SPEAKER

Dr Mohamed Shamji

Imperial College London

HOST:

Department of Infection and Immunity (LIH)

RESPONSIBLE SCIENTIST:

Markus Ollert / (markus.ollert@lih.lu)

\*Please note that registration is mandatory by sending an email to [carole.weis@lih.lu](mailto:carole.weis@lih.lu) or [michelle.roderes@lih.lu](mailto:michelle.roderes@lih.lu)

### Locations:

#### Lecture:

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

#### 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