Internship Proposition
(one page max)
Master 2 GP Immunology & ImmunoIntervention (I^3)
2024-2025

Lab: Center for Immunology and Inflammatory Diseases (HMS/Massachussets General Hospital, Boston, USA)

Team: Andrew Luster Lab

Name and position of the supervisor: Amandine Selle, PhD, postdoctoral fellow

Email of the supervisor: aselle@mgh.hrvard.edu

Candidate (if internship filled):

Title of the internship: Antigen-specific resident memory Treg in Asthma

Summary of the internship proposal:

Contexte: Regulatory T cells (Treg) play an important role in suppressing allergic airway inflammation characteristic of asthma. Deficiency or dysfunction in Tregs leads to the develop of asthma. Using a house dust mite model of allergic asthma, we and others have found that adoptive transfer of allergen-specific Tregs is able to suppress T helper type 2 (Th2) cell-mediated allergic airway inflammation. Further, we have recently found that in the memory phase allergen-specific Tregs reside in the lung, however the role of these cells is unknown.

Goal: Projects in the Luster lab aim to uncover antigen-specific resident memory Treg role in allergic airway inflammation. The student's role will be to demonstrate that allergen-specific resident Tregs are capable of memory recall and downstream the Th2 inflammation

Methods: Using a house dust mite model of allergic asthma, several parameters will be analyzed by flowcytometry, multiplex, airway capacity assay, in vitro culture to evaluate the role of antigen-specific resident memory Treg

Option(s) linked to the project:

☐ Clinical Research Profile
☐ Data Analyst Profile
☐ Experimental Biology Profile