Abstract, MD-PhD programme; Laboratory of Immuneregulation; Prof. Julia Esser-von Bieren;

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Macrophage reprogramming in asthma & nasal polyposis

In this collaborative project between our laboratory and the team of Dr. Antoine Reinhard (CHUV, ORL), we are exploring the role of innate immune memory in chronic airway inflammation. In our recent studies, we have identified novel roles for monocyte and macrophage reprogramming in asthma and chronic rhinosinusitis with nasal polyps (CRSwNP), two major type 2 inflammatory diseases (Haimerl et al., JACI 2021; Lechner et al. JACI 2022). The MD-PhD project now aims at characterizing local macrophage signatures in nasal polyps before and after treatment with different regimens with a focus on biologics (dupilumab, mepolizumab) and systemic glucocorticoids. By applying state of the art sequencing and imaging methodologies, you will define epigenetic, transcriptional and immunological disease parameters and define potential therapeutic effects of current treatments on the pathological innate immune memory in CRSwNP.