



PhD studentship

Virus-Immunology

The **Heinrich Pette Institute** – Leibniz-Institute for Experimental Virology (HPI), is committed to research on the biology of different human viruses as well as the pathogenesis of viral diseases (<http://www.hpi-hamburg.de>). The HPI offers the opportunity to perform cutting-edge research in a world-class research environment with excellent technical facilities.

We are looking for highly motivated candidates with a diploma/master degree (or equivalent). Experience in immunology, stem cell biology and/or multiparameter flow cytometry would be welcome.

It is well-known that immune cells are critical in the defense against viral infections. More recent studies, including from our group, demonstrated that immune cells also regulate tissue-regeneration and dysregulated functioning of immune cells for example during viral infections result in impaired tissue-regeneration. Specifically we have recently shown that in young children CD4+ T cells are critical for the development of the intestine, but pathogens can dysregulate CD4+ T cell responses leading to severe intestinal inflammation and impairment of the regeneration of the epithelial barrier. In the proposed study, the mechanisms underlying dysregulated immune ontogeny and the impact on intestinal development and intestinal infections will be investigated. Maternal stress during pregnancy is associated with altered immunity in the children with repercussions for immune responses against infections later in life in the child as well as the development of intestinal diseases. However, how dysregulated immune responses, including CD4+ T cells, upon prenatal stress impact tissue development and susceptibility to gastrointestinal infections is unclear. We have used our recently developed immune cell- intestinal organoid systems to model tissue development and viral infections *in vitro*. In the proposed studies these organoid models will be employed to mimic tissue development and viral infections *in vitro* to determine the mechanisms underlying the dysregulated crosstalk between CD4+ T cells and epithelial intestinal cells in children exposed to prenatal stress and the clinical consequences.

We offer a PhD position for three years in the Research Department “Virus Immunology” / ‘**Immune Ontogeny**’. Payment and social benefits are in accordance with regulations of the German TV-AVH (salary agreement public service employees).

For questions, please contact Dr. Madeleine Bunders (Email: madeleine.bunders@leibniz-hpi.de).

Applications should include a CV, a short description of previous experiences and technical skills, and two or three references. Please submit your application by March 31st, 2020. Late applications will be considered until the position is filled.

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