Master project in immunometabolism

Do you want part of a young research group, which investigates novel immune-mediated effects on the metabolism?

Background
The world is getting heavier! Obesity is a major health concern and more people are now considered overweight than underweight. As during an infection, obesity gives rise to a (low-grade) inflammatory state. However, opposite an infection, the obesity-associated inflammation is chronic. Low-grade inflammation has been shown to induce diminished insulin sensitivity (insulin resistance) in peripheral tissues. Insulin resistance can be detected many years to decades before onset of type 2 diabetes.

The lab
We study primarily lymphocytes (T and B cells) and their role as inducers of obesity-related comorbidities such as insulin resistance (prediabetes) and non-alcoholic fatty liver disease. Specifically, we are interested in cross-organ communication, e.g. gut → adipose tissue/liver, and how these factors affect lymphocyte behaviour and pathogenicity. Furthermore, we are interested in regulation of the gut microbiota and especially how the enteric immune cells are involved. We are a young and newly started research team situated at the Panum Institute, UCPH. You will therefore, to a large degree, have the possibility to plan and structure your own routines in addition to impact future traditions of the lab. The project will be tailored to you based on interests and background. You will learn the following scientific methods, which are also heavily used in industry or for continued career in academia:

- In vivo models and metabolic phenotyping
- Flow cytometry (up to 13 colors)
- Immune cell isolations from tissue
- ELISA
- qPCR

For further information, please contact:
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Flow cytometric analysis of tissue-resident T cells