IKMB
Institute of Clinical Molecular Biology

CALL FOR MASTER THESIS / STUDENT ASSISTANT

The Institute of Clinical Molecular Biology (IKMB) is looking for a (Master's) student to work on the design development of the **immunological fingerprint.**

PhIP-Seq (Phage ImmunoPrecipitation Sequencing) enables comprehensive analysis of individual antibody profiles and provides data from thousands of peptides. This modern technology shows great potential in researching disease mechanisms and immune responses. For example, it can identify antibodies implicated in autoimmune diseases (such as multiple sclerosis, rheumatoid arthritis, type 1 diabetes), allergies and infectious diseases, and support vaccine development.

Each person has antibodies that binds to hundreds of thousands of antigens. By comparing the binding profiles between cases and controls, it is possible to identify the antigenic exposures implicated in diseases. Additionally, these antigen binding profiles represent a summary of the antigenic exposure trajectory of an individual, i.e. which antigens an individual has been exposed up to this point in their lifetime.

You will be part of an exciting and currently unique project that focuses on visualising this data and its correlations and can have an impact on and enhance understanding of immunological research. You will work with experts from various fields (such as Prof. Franke (Director of IKMB) and Dr ElAbd) and gain valuable insights into research and the connections between genetics, bioinformation and medicine in order to understand and visualise the immunological fingerprint.

We look forward to receiving your **application** (CV, cover letter and references).

Please send it directly to
Prof. Dr. Andre Franke a.franke@ikmb.uni-kiel.de
Dr. Hesham ElAbd h.elabd@ikmb.uni-kiel.de
Katja Duwe-Schrinner k.duwe-schrinner@ikmb.uni-kiel.de

POSSIBLE QUESTIONS

What interesting information can be derived from PhIP-Seq data? What has the person already 'been through'? What is their immunological history? What antibodies does the person/comparison group have? Can differences be identified in the comparison, e.g. specific to country, diet or climate, due to illness, vaccination or travel activities? How can the immunological fingerprint be generated individually/interactively using specific parameters?

YOUR TASKS

- Find a suitable visualisation/format/medium, e.g. an interactive web application (Infographics, science and data visualisation, storytelling, video, exhibition, questionnaires, experiments, evaluation, social media campaign, etc.)
- Interpret the results of PhIP-Seq aesthetically and make them accessible to the general public
- Ideally, the results can be implemented on the test subject website www.statusplus.uksh.de

WHAT WE ARE LOOKING FOR

- You are a student in a creative field with a keen sense of aesthetics and functionality, and you are interested in familiarising yourself with complex subject areas
- You are motivated, curious, independent and have a passion for research topics
- You can present your results clearly and concisely and communicate in English
- You may have some initial experience in the visual translation of large amounts of data

AS OF NOVEMBER 2025

C A U
Kiel University
Christian-Albrechts-Universität zu Kiel

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