



## About us

Empowering physicians to direct therapies is a key commitment of the Institute. We believe that research in biomedicine should lead to new insights into disease processes and measurable advances for patients. Translation of the knowledge on genetic causations and biomarkers for clinical decision-making algorithms are often the starting point for clinical utility. We are pursuing questions on how genes, individual lifestyle and environmental factors interact to cause disease.

We believe that only a combination of creativity, curiosity, collaborative spirit and expertise can foster an internationally visible research institution. Therefore, we aim to recruit and train excellent young scientists from different disciplines. We have developed an excellent infrastructure that allows them to choose their tools from a broad range of established cutting-edge technologies. Focusing on inflammatory diseases, our approaches range from large-scale genome-wide studies and whole genome sequencing to mechanistic studies and *in vivo* models. A special topic comprises studies on the genetic basis of longevity. The development of clinical strategies is nurtured through the Comprehensive Center for Inflammation Medicine CCIM, which drives interdisciplinary studies on innovative diagnostic and therapeutic principles with clinicians.

Institut für Klinische Molekularbiologie  
Der Christian-Albrechts-Universität zu Kiel

## Master Thesis offered

The T lymphocyte landscape during breast cancer immunotherapy and other disease conditions.

We here offer an interesting immunogenetics project that will be carried out in close collaboration with the Institute for Immunology at UKSH/CAU. At the institute, we currently analyse the behaviour of specific T lymphocytes in health and a variety of diseases (e.g. inflammatory bowel diseases, infections, cancer). To this end, we have established a variety of cutting-edge technologies utilizing next generation sequencing (NGS) which allow us to deeply profile the T lymphocyte landscape both in blood and other tissues, both at bulk and single-cell level.

Our work, which has the goal to better understand disease origin and progression, also helps to identify new diagnostic and prognostic disease biomarkers. Our activities are located at the interface between the lab and bioinformatics.

Here, we will analyze the changes in T lymphocytes in the blood of breast cancer patients over a period of 6 months when they undergo chemo- and immunotherapy treatments. We aim at identifying specific T cells relevant for therapy response and non-response. These clonotypes may have the potential to be used as prognostic biomarkers for breast cancer. The candidate will also help to further establish new methodologies for T cell analysis at single-cell level.

If you are interested in immunology, in learning NGS data analysis and improving your coding skills (particularly R) but also in establishment of new lab methodologies, send your application and your CV. Excellent candidates may also apply for financial support (Hiwi contract offered).

If you have any question, feel free to send an email to Elisa Rosati ([e.rosati@ikmb.uni-kiel.de](mailto:e.rosati@ikmb.uni-kiel.de)) or Prof. Andre Franke ([a.franke@ikmb.uni-kiel.de](mailto:a.franke@ikmb.uni-kiel.de)).

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