

The **University of Würzburg, Division of Medicine II – CAR T Cell program** (Lead: Prof. Dr. M. Hudecek), is inviting applications for

2 PhD-students (Doktoranden) in T cell engineering for cancer therapy (m/f/d)

Our research focuses on the development and clinical translation of **adoptive immunotherapy of cancer with T cells** that have been modified by gene transfer to express **chimeric antigen receptors (CARs)**. Despite the recent clinical approval of CD19-directed CAR-T cells for the treatment of B cell leukemia and lymphoma, the development of CAR-T cell therapy for the treatment of additional hematologic and solid malignancies is still in its infancy and we are currently conducting preclinical investigations to promote successful clinical translation (Project leads: Dr. Thomas Nerreter, Dr. Sophia Danhof).

Your project: Settled within the frame of the newly established and highly innovative translational SFB/TRR 338 **LETSIMMUN** (Würzburg/München), both projects cover engineering of tumor-specific T cells through genetic modification with synthetic chimeric antigen receptors, and analysis of their anti-tumor function *in vitro* and in *in vivo* mouse models.

Project 1 (AG Nerreter) has a focus on defining the antigen thresholds of different CAR constructs using **super resolution microscopy (SRM) dSTORM** and is set at the interface of biophysics and immunotherapy thereby linking lymphocyte engineering to advanced imaging technologies.

Project 2 (AG Danhof) is evaluating relevant **resistance mechanisms** like immune escape of malignant cells and insufficient effector function of the CAR-T product and uses mechanistic insights to armor the CAR-T specifically to improve their anti-tumor efficacy *in vitro* and in murine models.

In both projects, you will be able to explore new concepts in receptor design and investigate novel approaches to improve T cell functionality. You will be able to work on an independent, high-impact project designed for a 3-year period. Projects can start immediately (from July 2021). Salary is paid according to the German public service scale based on candidates' background and experience (TV-L).

Your qualification: Applicants for this position should have or be about to obtain their master's degree in biomedicine, biology, biophysics, biochemistry, or a related field with excellent result, have expertise in (T cell) immunology and/or advanced microscopy methods, ideally also mouse tumor models and molecular biology. Key characteristics of successful applicants will include a high level of enthusiasm, result-oriented work style, analytical thinking, excellent communication and time management skills and the ability to face scientific challenges with creativity and dedication.

Your team: Our labs provide a stimulating environment with an international team of experienced, innovative scientists, medical doctors, and technicians with numerous national and international collaborators. The possibility of close interaction with other TRR consortium partners (at LMU and TU Munich) will further promote top-class science.

The Division of Medicine II/ Department of Hematology at the University of Würzburg (Chair: Prof. H. Einsele) runs one of the largest bone marrow transplantation and cell therapy programs in Germany providing numerous opportunities for bench to bedside interaction, education, and clinical translation.

We work closely together with the labs of Prof. Dr. M. Sauer (for implementation of super resolution microscopy in an immunological context) and Prof. Dr. M. Eilers (for advanced mouse models of solid tumors), as well as with renowned internal and external collaborators.

You will be able to enroll in a structured PhD program through the Würzburg [Graduate School of Life Sciences](#) and be supported by a thesis committee of 3-4 experienced scientists.

Application: Please send your application including a letter of motivation (German or English), expected availability date, CV and list of publications, bachelor/master thesis abstract, and an expressive letter of reference or the names of two potential referees as a **combined pdf-file by email** to:

nerreter_t@ukw.de, Reference: "PhD-Student"

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