

PhD candidate in optoacoustic microscopy (f/m/d)

Are you passionate about science, full of ideas and innovative potential that drive change and enjoy working in an international, fast-paced environment? Are you motivated by the societal impact of research and seek an opportunity to play an instrumental part in the development of emerging technologies for biology and healthcare? Then the Chair of Biological Imaging (CBI) at the Technical University of Munich (TUM) and its integrated Institute of Biological and Medical Imaging (IBMI) at the Helmholtz Zentrum München (HMGU) in Munich, Germany, is the ideal environment for you!

CBI is the cornerstone of a rapidly expanding bioengineering ecosystem in the Munich science area; including the Research Center TranslaTUM and the Helmholtz Pioneer Campus, which integrate bioengineering with oncology and metabolic disorders, respectively. CBI scientists develop next-generation imaging and sensing methods to measure previously inaccessible properties of living systems, hence, catalyzing breakthroughs in biology and medicine. Comprising 11 inter-disciplinary laboratories and scientists from more than 25 countries, CBI offers state-of-the-art infrastructure for innovative research and a perfect environment to accelerate your career. Our research aims to shift the paradigm of biological discovery and translation to address major health challenges of our time and develop the medical solutions of tomorrow.

Join our team and be part of our rich and dynamic research culture of enquiry and innovation. CBI researchers come from the top ranks of physics, engineering, chemistry, biology and medicine and our pipeline frequently yields high-impact papers, successful technology spin-offs and commercialization. Our research is regularly featured in major news channels and received broad recognition including several prestigious awards and considerable research funding from national and international sources.

We now seek a highly qualified and motivated **PhD candidate** (f/m/d) to drive biomedical and clinical applications of a unique multimodal optical and optoacoustic microscopy imaging system.

The mission:

At CBI, we are pushing the limits of resolution, imaging depth, imaging speed, contrast coverage, specificity and sensitivity of optical microscopy. Optoacoustic imaging combines high-contrast and high-resolution of optical excitation with imaging depth of ultrasound detection. Additionally, the high-scalability and multidimensionality of optoacoustic imaging allows its combination with cutting-edge multimodal optical microscopy methods. To accomplish these goals, we develop innovative custom-built sensing technologies and apply state-of-the-art laser technologies found only in few places around the world. Our main goal is to enhance the impact of biomedical discovery promoting its swift translation into the clinics.

The successful candidate will apply and further develop hybrid microscopy for biomedical research with high clinical relevance. High-resolution optoacoustic imaging will provide a wider feature set of investigational and clinical potential without the need to stain or label the studied biological system. The candidate will also be integral in the further development of optoacoustic and optical imaging methodology, data analysis and image reconstruction as part of her/his research activities. The

development process will give the successful candidate the opportunity to strengthen her/his skills in state-of-the-art optics, laser technology and cutting-edge computational approaches as well as in biological systems relevant to medical research. She/he will be involved at every stage of microscope design, testing and application, as well as with dissemination of results in publications and at conferences as well as in the form of IP production, spin-offs and commercialization.

Your profile:

The successful applicant must have the following:

- Strong motivation, scientific curiosity and commitment to scientific excellence.
- A degree in Physics, Optics, Engineering, Medical Technology or a related field.
- An excellent academic study record.
- Advanced programming capabilities (for example, Matlab, LabView, C/C++).
- Team player skills and enthusiasm to work in a multi-disciplinary, collaborative environment.
- Excellent command of the English language.

The following qualifications are considered advantageous:

- Experience in experimental research
- Basic knowledge of microscopic imaging
- Practical experience with laser-based optical systems.
- Practical experience in hardware control, data acquisition and synchronization, system development and integration.

Our offer:

We offer you the unique chance to make a difference in future healthcare. At CBI, we strongly believe in scientific excellence and innovation. This is your opportunity to be part of and to advance your career in a world-leading research institute, where bioengineering principles meet today's challenges in biology and medicine to develop the solutions of tomorrow. CBI provides a highly international, multi-disciplinary environment with excellent opportunities for professional growth. You will be part of a dynamic, professional and highly motivated team within a stimulating environment. TUM offers a wide variety of inspiring and challenging PhD programs, which will supplement your research training with outstanding opportunities for career development, continued education and life-long learning.

Situated on the foothills of the Alps, Munich is consistently ranked as one of the most vibrant and enjoyable cities in the world, with an exceptionally quality of life. Greater Munich is also home to several world-class universities and research institutes, creating a truly inspiring intellectual atmosphere.

The successful applicant will initially have a 3-year contract, with the possibility of extension. We offer a competitive salary and benefits depending on work experience and seniority in accordance with the public service wage agreement of the Free State of Bavaria (TV-L E 13-65%). As an equal opportunity and affirmative action employer, TUM explicitly encourages applications from women as well as from all others who would bring additional diversity dimensions to the university's research and teaching strategies. Preference will be given to disabled candidates with essentially the same qualifications.

Your application:

We are looking forward to receiving your comprehensive application including your letter of motivation, CV and academic transcripts of records preferably in English and in a single PDF file, via email to cbi.recruitment@tum.de. Please indicate "PhD in optoacoustic microscopy" in the subject line.

For any questions please contact:

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