

## Postdoctoral fellow in optoacoustic super-resolution 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 **Postdoctoral fellow** (f/m/d) to drive biomedical and clinical applications of a unique multimodal optical and optoacoustic microscopy imaging system.

### **The mission:**

Optoacoustic imaging combines high contrast and high resolution of optical excitation with deep penetration of ultrasound imaging. These characteristics give optoacoustic imaging a competitive edge over other imaging methods currently applied in biology and medicine. The successful candidate will lead advances within an innovative microscopy program that develops hybrid optical and optoacoustic microscopy with resolution beyond the diffraction barrier. The goal is to combine the superior resolution of optical microscopy with the multi-modal ability offered by optoacoustic imaging deep within living tissue, thus merging the advantages of both techniques and creating a tool for super-resolution imaging at super-depths.

The project is geared toward system and methodology development of an advanced imaging system that delivers label free imaging and sensing of diverse biological components. We expect this project to result in a substantial technology leap, leading to important biological breakthroughs and translation into clinical diagnostics. The development process will give the successful candidate the opportunity to strengthen her\*his skills in state-of-the-art optics and laser technology and cutting-edge computational approaches. She\*he will be involved in every stage of microscope design, testing and application, as well as with dissemination of results in the form of publications and potentially patents.

### **Your profile:**

The successful applicant must have the following:

- A Ph.D. in Physics, Engineering, Optics or a related discipline
- Excellent track record of research achievements and publications in top-ranked journals
- Strong motivation, scientific curiosity and commitment to scientific excellence
- Research experience in one or more of the following areas: optics; lasers; optical design; microscopy, particularly confocal, multi-photon microscopy
- Expert knowledge of imaging, image processing / data quantification and analysis
- In-depth programming skills in MATLAB / Labview for device control and synchronization
- Team player skills and enthusiasm to work in a multi-disciplinary, collaborative environment
- Excellent command of the English language
- Experience in construction of optical imaging systems “from scratch” is considered an advantage

### **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. We support career development, continued education and teaching and training opportunities.

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 2-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 E13). 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](mailto:cbi.recruitment@tum.de). Please indicate "Postdoctoral fellow in optoacoustic super-resolution microscopy (f/m/d)" in the subject line.

For any questions please contact:

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