

## Postdoctoral fellow in live-cell chemical 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, healthcare and environmental applications? 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 Muenchen** (HMGU), Germany, is the ideal environment for you!

At CBI we are now looking for a highly qualified and passionate **postdoctoral fellow** (f/m/d) to drive the development and applications—to push the limits—of our unique **label-free live-cell molecular microscopy** systems.

### The mission:

The successful candidate will lead advances within an innovative microscopy program that develops live-cell optoacoustic microscopy with label-free molecular contrast. The goal is to expand the technical abilities and the application scope of vibrational microscopy to study metabolism in living cells and organoids by fast hyperspectral imaging, developing a new chemical-bond-specific imaging modality with no parallel. The project is geared toward system and methodology development of an advanced imaging modality that delivers label-free metabolic imaging in living cells and tissues. We expect this endeavour to result in a substantial technology leap, leading to important biological breakthroughs and clinical translation.

### CBI profile:

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, medicine and the environment. 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.

In our Translational Optoacoustics team, we are reaching the next frontiers in label-free optical microscopy and non-invasive biosensing by development and application of mid-infrared optoacoustic imaging and spectroscopy that have a direct impact in the clinics. Optoacoustic sensing combines the high-contrast and high-resolution of optical excitation with the imaging depth of ultrasound detection. Additionally, the high-scalability and multidimensionality of optoacoustic imaging allows its combination with chemical-specific laser excitation that can be applied in living cells, animal models, and humans. To accomplish this, we develop innovative custom-built sensing technologies and apply state-of-the-art laser technologies found in just few places around the world.

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, biomedicine and computer science and our pipeline frequently yields high-impact papers, successful technology spin-offs and commercialization. Our research is regularly featured in major news channels and has received broad recognition including several prestigious awards and considerable research funding from national and international sources.

## Your profile:

The applicant must have the following:

- Strong motivation, scientific curiosity, and commitment to scientific excellence
- A PhD in Physics, Optics, Engineering, Biochemistry, Electrochemistry, Medical Technology, or a related field
- An outstanding academic record
- Excellent programming skills (for example: Matlab, LabView, C/C++, Python, etc); in particular in real-world programming
- Team player skills and enthusiasm to work in a collaborative, multi-disciplinary, and highly-competitive environment
- Excellent communication skills
- Excellent command of the English language

The following qualifications are considered advantageous:

- Proven experience in experimental research
- Excellent control of written and spoken English
- Knowledge on microscopy
- Practical experience with cell cultures, biological tissues, wet lab, etc.
- 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, medicine and environmental health 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 and gain international exposure through our partners and collaborators across Europe and the world. We support 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 have a 2-year contract. 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). 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 live-cell chemical microscopy (f/m/d)" in the subject line.

For any question please contact:

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