

## Postdoctoral fellow in molecular mouse biology and imaging (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 Muenchen (HMGU), Germany, is the ideal environment for you! We are now teaming up with the II Medical Department of the Klinikum rechts der Isar of TUM to propel clinical translation to the next level.

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.

The Klinikum rechts der Isar of TUM is located in the city centre of Munich and a leading institution of higher education and research. The II Medical Department at Klinikum rechts der Isar is dedicated to the discovery of pathomechanisms of gut related diseases with a strong emphasis on inflammation-induced cancer formation.

Join our interdisciplinary 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 and biomedicine 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 the development of novel animal models for gastrointestinal tract cancer and imaging modalities based on Raman and Scattering in a joint research project together with the II Medical Department at Klinikum rechts der Isar.

The mission:

Cancer is a major cause of death worldwide and gastrointestinal (GI) tract tumors are among the most common and deadliest ones, accounting for over 20% of newly diagnosed cases and 15% of fatalities. Despite recent progress in diagnosis and therapies, the socio-economic impact of cancer is enormous. All parties in the health sector agree that prevention and/or early diagnosis is the most effective means to deal with cancer; yet until today, malignant tumors are most often only identified when symptomatic or large enough to be visible in body scans or when histological alterations are already present. Until now, we are urgently missing an imaging method that detects tissue changes and facilitates or predicts tumor development at an early stage.

These alterations, collectively referred to as “field cancerization”, are an exciting field of study in cancer biology with profound ramifications in clinical practice. This is a highly translational project with focus on molecular mouse biology in GI carcinogenesis and imaging technologies.

The successful candidate will develop animal models for GI tract cancer and will gain hands-on experience with imaging modalities like Raman, Scattering, and Fluorescence. All systems will be built upon current expertise and preliminary data and will be the world’s first to demonstrate detection of “field-cancerization” based on molecular biomarkers. The project aims to interrogate the link between structural and molecular changes in epithelial tissues during the early stages of the tumorigenesis process.

Your profile:

The successful applicant must have the following:

- A Ph.D. in Biology or related discipline.
- Excellent track record of research achievement and publications in top-ranked journals
- Strong motivation, scientific curiosity and commitment to scientific excellence
- Experience in an area of biology, microscopy, or similar area, preferable with background or interest to develop experimental protocols and apply them to measurements and data interpretation
- In-depth knowledge of mouse biology and handling, experience with genetically engineered mouse models and analysis of molecular pathways in carcinogenesis
- Team player skills and enthusiasm to work in a multi-disciplinary, collaborative environment
- Excellent command of the English language

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 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 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 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 molecular mouse biology and imaging (f/m/d)" in the subject line.

For any questions please contact:

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