

Ph.D. position in intravascular fluorescence imaging (f/m/d)

The Chair of Biological Imaging (CBI) at the Technical University of Munich (TUM) and Institute of Biological and Medical Imaging (IBMI) at **Helmholtz Munich** are an integrated, multi-disciplinary research structure. Together they form the cornerstone of a rapidly expanding bioengineering ecosystem in Munich, Germany; 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.

We now seek a highly qualified and motivated **Ph.D. student (f/m/d)** to drive the development of novel technologies for hybrid fluorescence-ultrasound intravascular imaging.

The Mission:

The successful candidate will lead advances within an innovative research program that develops a novel catheter for hybrid fluorescence-ultrasound intravascular imaging. The goal is to shift the paradigm in the detection of multiple atheroma-related pathophysiological parameters, including plaque formation, protease activity, oxidized low-density lipoprotein content, plaque permeability, as well as fibrin deposition on coronary stents. The project is in collaboration with Harvard University and is geared toward the development of miniaturized catheters that will enable multimodal intravascular imaging *in vivo*. We expect this project to result in a substantial technology leap in intravascular imaging and will ultimately improve the assessment of plaque rupture risk.

Your profile:

The successful applicant must have the following:

- An M.Sc. in Electrical Engineering, Physics, Biomedical Engineering or related discipline.
- Excellent academic records.
- Strong motivation, scientific curiosity and commitment to scientific excellence.
- High knowledge of optics, fiber optics, miniaturized systems design and development.
- Previous experience in electronics, transducers, and/or optical sensors.
- In-depth programming skills in MATLAB for data analysis. LabVIEW programming, C++ skills and/or other relevant skills are an advantage.
- 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, 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. 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. Salary will commensurate with work experience and seniority (TV-L E13-65%). 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. Qualified applicants with physical disabilities will be given preference.

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 intravascular fluorescence imaging" in the subject line.

For any question, please contact:

Dr. Dimitris Gorpas

email: dimitrios.gkorpas@tum.de

tel.: +49-(0)89-4140-7210

Technical University of Munich (TUM)

Chair of Biological Imaging (CBI)

Ismaningerstr. 22

81675 Munich, Germany

Web page:

<https://web.med.tum.de/en/cbi/home/>

www.translatum.tum.de

www.pioneer-campus.de

<https://www.linkedin.com/company/munichimaging/>

www.facebook.com/MunichImaging

<https://twitter.com/MunichImaging>