

Ph.D. student for protein engineering of imaging tools (f/m/d)

The **CellEngineering group** at the Chair of Biological Imaging (CBI) at the Technical University of Munich (TUM) and the **Institute of Biological and Medical Imaging (IBMI)** at **Helmholtz Munich** and is looking for a highly qualified and motivated **PhD. student (f/m/d)** for **protein engineering: focus on development of genetically encoded sensors**.

Genetically encoded sensors are a major tool to unravel the functioning of life on the cellular level. We are developing dedicated genetically encoded sensors for optoacoustics measurements. The candidate will focus on engineering chimeric proteins that show a small-molecule binding dependent change of photophysics. The candidate will further explore and exploit their intricate and exciting mechanisms and driving such proteins towards a use in life-science imaging applications. The projects will be very diverse and include methods from protein-engineering and high-throughput screening over photophysical and structural characterization to mammalian cell culture and eventual *in vivo* application. The work will be conducted in close collaboration with other laboratories of the Technical University Munich (TUM) and HMGU that are leading in the respective research areas, e.g. *in vivo* application or protein structure elucidation. Hence, the position is an exciting interface between protein-engineering, basic photophysical research, development of molecular tools as well as imaging. Beyond that, the project is part of a larger European funded initiative to expand the possibilities of life-science *in vivo* imaging – working together with renowned researcher from the Netherlands, Switzerland and France, focusing, for example, on physics (imaging setups) and computational studies (AI based analysis). Hence the successful candidate will not only develop new imaging agents but also function as the linking hub between the partner groups – resulting in truly interdisciplinary work.

The successful applicant must have the following:

- Strong motivation, resilience, scientific curiosity and commitment to scientific excellence
- Master degree in Biology, Biochemistry, Chemistry or Physics
- Experience in protein engineering
- Background in molecular biology and cell biology
- Background in excited state photophysics, and photoisomerization processes will be appreciated as well as understanding of (protein-) environmental effects on the photophysical properties of chromophores
- Background in fluorescent or chromophoric proteins will be appreciated
- Strong interest in imaging and optical spectroscopy techniques
- Team player skills and enthusiasm to work in a multi-disciplinary, collaborative environment
- Excellent command of the English language

Our offer:

The successful applicant will initially have a 3-year contract, with the possibility of extension. Salary will commensurate with work experience and seniority (TV EntgO Bund EG 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. Qualified applicants with physical disabilities will be given preference.

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 “**Ph.D. student _PEIT 002 (f/m/d)**” in the subject line.

For any question, please contact (but please send your application only to recruiting address above):

Dr. Andre C. Stiel

email: andre.stiel@tum.de

Background Employer and city of Munich:

The Chair of Biological Imaging (CBI) at the Technical University of Munich (TUM) and the Institute of Biological and Medical Imaging (IBMI) at **Helmholtz Munich** and are an integrated, multi-disciplinary research structure and 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.

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, chemistry, engineering, and biomedicine and attract significant investment from national and international sources. Our scientists serve in international societies and conferences and are recipients of a multitude of top international and German awards, including the prestigious Gottfried Wilhelm Leibniz prize and 11 ERC awards. In addition to scientific excellence, CBI promotes entrepreneurship, company spin-off activities, and collaborations with other top academic institutions and leading corporations in the photonics, pharmaceuticals and healthcare sectors.

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.

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