LMU KLINIKUM

Postdoc – AI-Based Motion Monitoring for Gated CBCT-Guided Adaptive Radiotherapy (m/f/d)

Klinik und Poliklinik für Strahlentherapie und Radioonkologie

The Hospital of the University of Munich, Germany, is one of the largest and most competitive university hospitals in Germany and Europe. 48 specialized hospitals, departments and institutions harbouring excellent research and education provide patient care at the highest medical level with around 11.000 employees.

WORKPLACE	Campus Großhadern	DATE OF ENTRY	01.03.2026
WORKING HOURS	Full time	APPLICATION DEADLINE	01.02.2026
INSTITUTION	Klinik und Poliklinik für Strahlentherapie und Radioonkologie	REFERENCE NUMBER	2025-K-0447
DEPARTMENT	Research Group		

Scope of duties

In a multi-institutional research project funded by the German Research Foundation (DFG), a Postdoc position investigating the use of AI models for markerless lung tumor tracking during cone-beam CT (CBCT)-guided radiotherapy is open at the Department of Radiation Oncology of the LMU Munich University Hospital (Prof. Guillaume Landry & PD Christopher Kurz).

The project aims at developing state-of-the-art AI models for real-time, markerless tracking of lung tumors on continuously acquired CBCT projections (360° rotation) during irradiation. Focus will be set on developing patient-specific models that make use of available prior knowledge. The project also foresees validation on external CBCT data from our project partners at the University Hospital Cologne (PD Florian Kamp), as well as experimental validation with dedicated lung phantoms at MAASTRO Clinic.

The candidate is expected to:

- Develop state-of-the-art AI models for markerless lung tumor tracking on CBCT projections
- Investigate options for dose reduction by means of AI-based super-resolution
- Evaluate the developed tools on external data and perform phantom-based validation

Our requirements

- Highly ranked PhD in Medical Physics, Biomedical Engineering, or Computer Science
- Good understanding of medical imaging (CBCT, X-ray) and radiotherapy
- Excellent programming skills in Python
- Experience in deep learning, preferably with PyTorch
- Ability to implement and adapt state-of-the-art deep learning architectures independently
- Fluent English skills (spoken and written)
- Technical proficiency, scientific creativity, and strong teamwork skills

Our offer

- The working place will be at the LMU Klinikum Großhadern.
- To apply for the position, please send your electronic application (letter of motivation, curriculum vitae, last school certificate and university degrees, PhD certificate, publication list, other qualification certificates such as TOEFL, and the contact information of two references), preferably in PDF format.
- The successful candidate will work in a highly motivated and well-established research group (2 senior researchers, 2 postdocs, 10 PhD students, and MSc students) within a multidisciplinary and international network embedded in a stimulating scientific environment at LMU Munich, with a long tradition of collaboration and excellence in biomedical research and with outstanding research and clinical infrastructures.
- Remuneration is based on the Collective Agreement for the Public Sector of the Länder (TV-L) including all allowances customary in the public sector. The Postdoc position is available for 36 months.

Offers and services of the employer

Further education and training
Company pension scheme
Childcare services
Mobile work (if suitable)
Job ticket
Discounts
Staff accommodation (if available)

Herr Dr.rer.nat. Kurz, Christopher

089 4400 76762

Application format

Please use the Online-Form for your application

http://www.lmu-klinikum.de/f9feffdf935d9f2d

Disabled persons will be preferentially considered in case of equal qualification. Presentation costs cannot be refunded.

Please note that we cannot reimburse travel expenses incurred through interviews.

We ask you for your understanding that postal applications will not be returned, but will be destroyed in accordance with data protection regulations. The data usage information also applies to postal applications