



We are looking to support our rapidly growing team as soon as possible:

PhD student (f/m/x) in image analysis in cancer research

Department of Biomedical Informatics - AG Bozek



TV-L: 29 h/week (75,32%)



fixed-term employment for 3.5 years within the framework of a doctoral project under the German Academic Fixed-Term Contract Act (WissZeitVG)



Your salary will be based on TV-L EG 13

Your tasks

- Development of computational methods and processing pipelines dedicated to the project
- Application of existing and development of new analytical and ML solutions
- Data visualization and communication
- Work in close collaboration with our medical collaboration partners
- Managing the project in terms of data organization and analysis

Your profile

- M.Sc. degree in computer science, physics, bioinformatics, or a related field
- Excellence in programming (Python)
- Proven experience with deep learning
- Experience with computation on cluster architectures is a plus
- Great communication and organizational skills, capacity of working in a team and in an interdisciplinary environment

Your future with us

We are one of the leading university hospitals in Germany and network research, teaching and health care at the highest level. That's why many things are a lot bigger for us: the spectrum of exciting development opportunities. The limitless openness with which specialists from all over the world work together here. Or our commitment as an employer to support all employees as best we can in reconciling their job with their goals and life situations.

This is the University Hospital of Cologne: Everything but ordinary.

Your future in detail

Research overview:

We are looking for a PhD candidate to join our project within the Collaborative Research Center 1530 *"Elucidation and targeting of pathogenic mechanisms in B cell malignancies"*.

As a part of this interdisciplinary research consortium, we will analyze histopathology image data to improve

Our offer

- Opportunity to apply and develop cutting-edge machine learning and computational technologies to resolve timely medical and scientific problems
- Collaborative, and international multi-disciplinary working environment where colloquial and working language is English
- Development and networking through participation in workshop and conferences both ML and biology or medicine

diagnosis, risk stratification and outcome prediction in patients with chronic lymphocytic leukemia. A major focus of the project is the identification of morphological and spatial tissue features associated with Richter transformation, i.e. the progression of CLL into aggressive lymphoma.

The project combines state-of-the-art machine learning, image analysis and cancer biology. In later stages of the project, image-derived information will be integrated with other data modalities, such as transcriptomic and genomic data.

The PhD project is jointly supervised by two principal investigators with complementary expertise in computational image analysis and hematology.

Research Environment:

Bozek Lab: Located at the biomedical campus of the University of Cologne the "*Data Science of Bioimages lab*" is working on data-intensive problems in biomedicine by combining machine learning, statistical and other computational methods. Image data and deep learning solutions represent key focus of our research. Embedded in the thriving biomedical research hub of Cologne, we are involved in scientific collaborations with partners across medical disciplines and address questions ranging from histopathology of cancer to behavioral changes in neurodegenerative diseases. Please visit <https://www.bozeklab.com/> to learn more about the group's interests and ongoing research.

Al-Sawaf Lab: Also located at the biomedical campus of the University of Cologne, at the CECAD research center, the "*Integrated Cancer Research Laboratory*" focuses on translational research in hematological malignancies, particularly chronic lymphocytic leukemia, lymphoma and secondary solid cancers. The group combines clinical, molecular and computational approaches to study disease progression, treatment response and mechanisms of transformation. Please visit <https://www.al-sawaf-lab.com/> to learn more about the group's research activities.

For further inquiries please visit <https://www.bozeklab.com/> / <https://www.al-sawaf-lab.com>.

Applications should include CV, cover letter, and contact to 2 references.

Applications from female candidates are expressly welcome and will be given priority in the event of equal suitability, competence and professional performance. People with disabilities are welcome to apply and will be treated preferentially in the event of equal suitability and qualification.

Contact

Univ.-Prof. Dr. Katarzyna Portugal & Prof. Dr. Othman Al-Sawaf

Universitätsklinikum Köln AöR
Geschäftsbereich Personal

Tel: +49 221 478-84816

Kerpener Str. 62
50937 Köln

[Uniklinik Köln Karriere](#)

Application deadline: August 16, 2026

Job-ID: yozsylvzd

[apply now](#)

We look forward to receiving your application and getting to know you!