

Job Vacancy

The University Hospital Essen offers first class medical services in the Ruhr metropolis. Every year, 225.000 patients are treated in 30 clinics, 27 institutes and specialized centers. The over 8.000 employees offer medical care with state-of-the art diagnostics and therapies, which meet highest international standards. Patient care is connected with basic and translational research at an internationally competitive level. State-of-the-art core facilities, including imaging, cell sorting and sequencing are available on site. The oncological research of our faculty was rated #2 nationally and #18 worldwide in the most recent „U.S. News Best Global Universities Ranking“.

The **University Duisburg-Essen** offers within the Else Kröner-Fresenius-Stiftung-funded **University Medicine Essen Medical Scientist Academy (UMESciA)**

Post-Doctoral Position (m/f/d) – Bioinformatics, Computational Biology, Systems Immunology or similar

(pay grade: 13 TV-L 100% - temporary employment)

Starting as soon as possible

The pay grade classification depends on the personal and collective legal requirements. The salary is in accordance with the German public service salary scale. The positions are temporary for 2 years in accordance with the laws regarding scientific fixed-term contracts in compliance with the maximum employment periods after the doctorate (Wissenschaftszeitvertragsgesetz) or the Teilzeit- und Befristungsgesetz. In accordance with the Teilzeit- und Befristungsgesetz (§ 14 Abs. 2 TzBfG) it is not possible to hire employees with fixed-term contracts according to § 14 Abs. 1 TzBfG or former employees of the University Duisburg-Essen in these positions.

The position offers a unique opportunity to

- i) link bioinformatics work with translational life science
- ii) start a scientific career up to the group leader and professorship level in Germany

The position and the project work will be linked to two recently established networks:

UMESCIA: A program that is run by the Medical Faculty of the University of Duisburg-Essen, Germany. It supports careers for PhDs in medical and clinical research (Medical Scientist Program; Chairman Prof. Sven Brandau). Further information about the program can be found here:

<https://hno.uk-essen.de/forschung/ag-brandau/#coop>

(temporary link, university servers are currently down)

Mye-InfoBank (Action Chair Prof. Sven Brandau): A network funded by COST (Cooperation in Science and Technology) that brings together experts from the areas of bioinformatics, transcriptomics, immunology, and biobanking.

Further information can be found here:

<https://www.mye-infobank.eu/home.html>

Job description, project aims and your tasks:

The candidate will be based in the Research Division, Department of ORL, West German Cancer Center, University Hospital Essen; <https://hno.uk-essen.de/forschung/ag-brandau/>

The candidate will work closely with bioinformaticians (Work group 1) and immunologists (work group 2) from the Mye-InfoBank network. Together with collaborating partners, we will identify and re-analyse published and proprietary data sets on immune cells in solid tumors and inflammatory disease. Initial focus will be on analysis of bulk and single cell RNA-Seq/transcriptomic data. Depending on initial results, the project will be extended to other data sets. It is the aim to identify novel biomarkers and generate new insight into the role of myeloid cells in cancer and inflammation. Identified candidate markers, targets and myeloid subsets will be validated by functions assays and on patient tissue material in collaborations with European Partners of the Mye-InfoBank network. Wet-lab studies will be carried out in the host institution, Essen, Germany, together with local immunologists and oncologists

Requirements:

The applicants must hold a Master and PhD in Bioinformatics, Computational Biology, Systems Biology, Data Science or a related subject.

The applicants should have:

- Experience in Python (for bioinformatics and deep learning) and/or R programming (R-cran, for statistical analyses and bioinformatics), Bash scripting, usage of high-performance computing (HPC). Databases language, such as SQL, will be also considered.
- Experience analysing single-cell and bulk RNA sequencing data (data pre-processing and curation, data integration, cell type annotation, differential gene expression, clustering, ...)
- Experience working with deconvolution tools to estimate sample composition from bulk transcriptomics will be appreciated.
- Documented experience in processing and analysis of large scale omics data from high-throughput sequencing, as well as data interpretation and visualization. Experience in machine learning is considered a plus.
- experience in sharing code in a publicly available repository (e.g. github) with clear documentation

We offer:

- Multi-disciplinary team & clinically relevant research
- Integration into local and international networks
- Initial funding is for two years, possibility to qualify for second funding period exists, candidates will be selected based on scientific achievements and overall fit to the program.

- Possibility to qualify for academic leadership position up to the professor (W) level – funded by medical faculty; University of Duisburg-Essen

Please send applications (CV, two letters of recommendation or the contact details of two referees, proof/certificate of PhD, Master Degree or Diploma, presentations/publications, summary of training/experience, spectrum of methods and an English abstract/summary of your PhD thesis) by **email in ONE single pdf** file to the tender number **9580** to bewerbung@uk-essen.de.

Contact:

Prof. Dr. Sven Brandau (UMESCIA Chairman), sven.brandau@uk-essen.de (for scientific inquiries)

Dr. Tanja Hardt-Knechtli (UMESCIA Coordination), UMESCIA@uk-essen.de (for applications)

We use your data exclusively for application purposes in accordance with the applicable data protection regulations. Further information can be found in the privacy statement on our homepage at: <http://www.uk-essen.de>