

Hier
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Zukunft!

Foto: Oliver Dietze



Saarland University is a campus university with an international reputation for research excellence, particularly in computer science and in the life sciences and nanosciences. The university is also distinguished by its close ties to France and its strong European focus. Around 17,000 students, studying over one hundred different academic disciplines, are currently enrolled at Saarland University. Saarland University is officially recognized as one of Germany's family-friendly higher-education institutions and with a combined workforce of more than 4000 it is one of the largest employers in the region.

The Chair for Clinical Bioinformatics at the Center for Bioinformatics in Saarbrücken is inviting applications for the following position commencing at the earliest opportunity.

Academic research assistant (m/f/x)

Reference number W2009, salary in accordance with the German TV-L salary scale¹, pay grade: E13, for 3 years, employment: 100 % of standard working time. There are two positions to be filled.

The job posting is part of the Chair's initiative aiming to establish a highly qualified junior research group of 2-4 individuals positioned around the new discipline of spatial transcriptomics.

Workplace/Department:

Current research in biomedicine finds on a steadily growing toolkit of complex experimental methods for high-throughput data generation that is essentially dependent on intelligent bioinformatics software solutions. Advanced single-cell analyses are among the biggest scientific achievements gained within the last decade and have revolutionized our understanding of the human body and its functional principles. Decrypting the spatial resolution of genetic and regulatory profiles of single cells in a tissue sample prepped by a (neuro)pathologist (2D histology followed by spatial transcriptomics) is currently considered to be the next big innovation in the field. Via targeted layering of many tissue slices using computational methods, realizing a reconstructed molecular landscape of entire organs is certainly closer than ever. Spatial transcriptomics integrates nicely with other methods to characterize molecular parameters on the single-cell level, such as single-cell RNA-seq (scRNA-seq) via machine learning approaches. Promising applications exist in drug discovery for aging research and evaluation of new therapies for prevalent neurodegenerative diseases.

¹ TV-L = collective agreement on remuneration of public sector employees in the German *Länder*

The pay grade assigned to an employee depends on their professional qualifications and the number of years of service. Each pay grade is further subdivided into levels. Entry-level employees with no previous experience will initially be assigned a level 1 rating. After one year at level 1 of the E10 pay grade, an employee will move up to level 2. After a further two years, the employee will move to level 3, etc.

To profoundly characterize this technology as well as to judge its best theoretic potential for biomedical applications in Organ and Systems biology, we are searching for creative individuals who join us for this challenge. Primarily required are advanced skills Programming, Algorithms, and Biostatistics as well as statistical and machine learning, whereas basic knowledge on modern neuroscience and molecular biology is desirable. To this end, being able to create analytical abstractions and communicating such effectively is considered a great plus for this position.

Together with its international partners and colleagues the Chair for Clinical Bioinformatics actively pursues collaborations with leading field industry and offers an excellent environment of research experts as well as the necessary computing infrastructure & key resources. The workgroup is moving into several exciting new branches of research and thereby allows talented junior bioinformaticians to generate their own scientific profile and to ultimately answer some of the most pressing questions to sustain human health.

Job requirements and responsibilities:

- **Focus** of the advertised position will be to analyse and develop data as well computational methods, respectively, for single-cell sequencing. A particular emphasizes lies on creating software for the efficient analysis of exciting new experimental methods such as spatially resolved gene expression measurements (spatial transcriptomics).
- **Alternative focus:** Integrative modelling of high-quality and existing reference datasets from neuroscience-related studies, each with different technological properties and data modalities. A gain of knowledge to answer complex but realistic biomedical hypotheses is expected by cleverly combining complementary data sets.
- **Ancillary tasks:** Evaluation of big data sets from biomedicine using innovative approaches from machine learning (ML) and artificial intelligence (AI).

Your academic qualifications:

- Completed academic degree (Master or PhD) in Bioinformatics, Medical informatics, Computational Biology, Data Science, Computer science with natural sciences minor, or a related profession, but in any case, with a strong proven computational track. The opportunity to pursue a PhD (Master entry level) or Habilitation (PhD entry level) will be granted.
- Well-developed skills in transforming facts and data relationships into abstract and theoretical frameworks being able to test and improve the latter with the aid of an implementation.
- Strong knowledge on scientific programming (C++ / Python / R, or similar), modern software engineering and efficient algorithms.

The successful candidate will also be expected to:

- Solid knowledge on molecular biology and human genetics.
- Previous experience and knowledge on how to analyse NGS data such as from RNA / DNA sequencing or metagenomics is desirable.
- Basic knowledge on how to operate computational tasks on a modern server cluster.
- Demonstrate practice on how to use UNIX-based operating systems and the according CLI-tools.
- Motivation to work independently and get to know new scientific topics.
- Motivation to supervise students during their thesis (Bachelor / Master).
- Knowledge on how to operate in the lab is **not required**, although a basic understanding of important wet-lab techniques is certainly advantageous.

What we can offer you:

- Access to a broad and flourishing branch of research along with contact to outstanding international peers
- Excellent compute infrastructure
- A flexible work schedule allowing you to balance work and family
- A broad range of further education and professional development programmes
- Individual supervising agreements to serve custom requirements for type and volume of scientific advisory

- An occupational health management model with numerous attractive options, such as our university sports programme
- Supplementary pension scheme ('RZVK')
- Discounted tickets on local public transport services ('Jobticket')

We look forward to receiving your **application**. Please quote **reference number W2009** when applying in full. Applications must be received by no later than **15 December 2021** and should be sent each of to the following addresses:

Mr. Fabian Kern, fabian.kern@ccb.uni-saarland.de

Prof. Dr. Andreas Keller, andreas.keller@ccb.uni-saarland.de

To qualify as full application please **include at least the following documents**:

- Personal cover letter with your current contact details referencing this exact job posting.
- Curriculum Vitae written in English language and following the academic standard formatting.
- Certificate of the latest obtained scientific degree (PhD / Master)
- List of all scientific publications, if applicable.

Optional: Personal statement letter of at most two pages written in English language, outlining your motivation on why you apply to the job posting and why you think you fit our team best.

If you have any **questions**, please contact Prof. Keller by E-Mail for assistance.

In accordance with the objectives of its equal opportunities plan, Saarland University seeks to increase the proportion of women in this field. Qualified women candidates are therefore strongly encouraged to apply. Preferential consideration will be given to applications from disabled candidates of equal eligibility. The successful candidate has the option of choosing to work part-time in this position.

Pay grade classification is based on the particular details of the position held and the extent to which the applicant meets the requirements of the pay grade within the TV-L salary scale.

When you submit a job application to Saarland University you will be transmitting personal data. [Please refer to our privacy notice for information on how we collect and process personal data in accordance with Art. 13 of the Datenschutz-Grundverordnung](#). By submitting your application you confirm that you have taken note of the information in the Saarland University privacy notice.