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 research group for Data Driven Drug Design at the Center for Bioinformatics is inviting applications for the following position commencing at the earliest opportunity.

**Academic research assistant (m/f/x)**

**Reference number W2187**, salary in accordance with the German TV-L salary scale¹, pay grade: E13 TV-L, duration of employment: 3 years, volume of employment: 100 % of standard working time.

**Workplace/Department:**
The group: We (Volkamer lab) are a young, energetic and interdisciplinary research group with focus on development and application of data driven methods for computer-aided drug design (CADD) and risk assessment. The research field of the group englobes diverse aspects of structural bioinformatics (e.g., protein active site prediction, analysis and comparison, pharmacophores, (off-)target prediction, docking and inhibitor design and optimization) and cheminformatics (e.g. machine/deep learning for activity and toxicity prediction). Find out more about us at: [https://volkamerlab.org/](https://volkamerlab.org/).

The project: The position will be part of the BMBF-funded MORPHEUS project together with the collaboration partners BfR (Dr. S. Dunst) and FMP (Dr. J. v. Kries), Berlin. The project is entitled “Combination of in silico and in vitro methods for the detection of substance effects based on morphological and molecular fingerprints by HT / HC screening”. In the MORPHEUS project, an animal-free testing strategy consisting of in silico and in vitro methods will be developed which enables the efficient identification and characterization of substances with harmful effects on humans and the environment. To this end, cell painting-based high-throughput imaging and novel machine learning techniques, more precisely deep learning, will be established and combined to derive characteristic “morphological fingerprints” based on changes in sub-/cellular structures, which are indicative for specific effects of substances or substance groups on cells.

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¹ TV-L = collective agreement on remuneration of public sector employees in the German Länder
Focus area: The focus of PhD project in the Volkamer group is thereby the development of in silico methods, more precisely DL models, based on morphological and molecular input data for predicting the effects of substances and for the identification of characteristic fingerprints. These models will be iteratively trained and validated based on freely available data, as well as applied and optimized on new profiles successively generated by the project partners from BfR and FMP. Finally, the newly generated in silico models will be applied to effectively search extensive substance libraries for substances with specific modes of action, which will also be experimentally verified.

We are looking for a motivated and creative person to join our team. The opportunity to pursue a PhD is provided, given that all requirements are met.

**Job requirements and responsibilities:**
- Development of DL methods based on morphological and molecular input data for predicting the toxic effects of substances and for the identification of characteristic fingerprints
- Close collaboration with the experimental partners (BfR and FMP Berlin)

**Your academic qualifications:**
- Completed university studies in life- or computer sciences, bioinformatics or related disciplines, with an excellent scientific degree
- Language skills (according to GER): fluent (written/spoken) English

**The successful candidate will also be expected to:**
- Experience with cheminformatics and/or structural bioinformatics
- Strong mathematical/computer science background with knowledge in modern machine learning frameworks (e.g. TensorFlow, PyTorch)
- Strong programming skills (preferably Python), experience with version control (Github) and Linux operating system
- Good multidisciplinary team working and communication skills
- Exposure to modern open-source software development best practices
- Experience with high-performance computing clusters
- Familiarity with big data handling and database/API queries is an advantage
- Experience with or expressed interest in biological/toxicological applications

**What we can offer you:**
- A flexible work schedule allowing you to balance work and family, among other things the possibility of teleworking
- Secure and future-oriented employment with attractive conditions
- A broad range of further education and professional development programmes (for example language courses)
- 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 (‘Job-Ticket Plus’ of the saarVV)

We look forward to receiving your meaningful online application (in a PDF file) by 31.10.2022 to andrea.volkamer@uni-saarland.de. Please include the reference number W2187 in the subject line of the e-mail.

If you have any questions, please contact us for assistance. Your contact:
Frau Prof. Dr. Andrea Volkamer
Data Driven Drug Design
Tel.: +49 681 302-50801

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. Part-time employment is generally possible.
If you have obtained a foreign university degree, a proof of the equivalence of this degree with a German degree by the Zentralstelle für ausländisches Bildungswesen (ZAB) is needed before hiring. If necessary, please apply for this in time. You can find more information at [https://www.kmk.org/zeugnisbewertung](https://www.kmk.org/zeugnisbewertung).

Unfortunately, neither costs for attending an interview at Saarland University nor costs for any certificate evaluation by the ZAB can be reimbursed in principle.

We welcome applications regardless of gender, nationality, ethnic and social origin, religion/belief, disability, age, and sexual orientation and identity. In accordance with its policy of increasing the proportion of women, the University actively encourages applications from women. Applications from severely disabled persons will be given preferential consideration in the event of equal suitability.

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.