



Job offer 30/23

The Leibniz Institute DSMZ-German Collection of Microorganisms and Cell Cultures GmbH, Braunschweig offers the position for a

Bioinformatician for Metabolic Pathway Reconstruction (m/f/d).

The position has a salary level up to TV-L 13 according to the qualification. The position is offered as full time (39.8 hours per week) and is limited to 3 years.

Background:

The BRENDA database (<https://www.brenda-enzymes.org/>) is a globally recognized information resource for enzymes, their ligands, and metabolic pathways. Currently, BRENDA contains maps of more than 169 metabolic pathways, which include more than 1,843 different enzymes. *BacDive* (<https://bacdive.dsmz.de/>) is the world's largest database for prokaryotes with data on over 90,000 strains. Based on these two resources, metabolic pathways will be predicted and strain-specific metabolic maps will be generated. These pathways will enrich the *DSMZ Digital Diversity Hub*, a new integrated and highly visible resource that aggregates extensive microbial knowledge and makes it available to the international research community.

The task:

As part of the *Data Integration* team, you will develop software to predict metabolic pathways based on data from BRENDA, *BacDive* and freely available genome sequences. Part of your work will be to map partially existing metabolic pathways to reference pathways, highlight gaps and also reconstruct new metabolic pathways. You will also explore novel methods of pathway visualization to automatically visualize metabolic maps. Your predictions and metabolic maps will be applied to more than 19,000 prokaryotic species and made available to hundreds of thousands of scientists via our newly developed web platform.

We offer:

- Room for your own ideas, to actively participate in the design of the project
- Opportunity to participate in (international) conferences
- Excellent scientific and technical infrastructure, including access to state-of-the-art computing clusters
- A motivated team and a pleasant working atmosphere
- Flexible working hours and the possibility to work from home
- Continuing education and training
- An employer certified according to the audit berufundfamilie® (work and family audit)
- 30 days of annual vacation, annual bonus, and company pension plan

Your profile:

- Excellent master's degree in bioinformatics, or a comparable field
- Experience in object-oriented programming (PHP, Python, Java, C#, C++...) and databases (SQL, ArangoDB) as well as their modeling, hands-on experience with Python and JavaScript is a plus



- You have good knowledge of artificial intelligence (AI) or machine learning (ML) methods; hands-on experience is a plus
- Experience with graph databases and the corresponding query languages is beneficial
- Experience with web development is a plus
- Interest in metabolic pathways and networks, enzymes and reactions; theoretical background in biochemistry is an asset
- Fluent in English / knowledge in German is beneficial
- You are communicative, able to work in a team and willing to learn
- You are interested in interdisciplinary work in a dynamic team

We welcome applications from people with diverse backgrounds, such as age, gender, disability, sexual orientation/identity, and social, ethnic, and religious backgrounds. A diverse and inclusive work environment where all can realize their potential is important to the Leibniz Institute DSMZ.

The DSMZ is funded by the State of Lower Saxony and the German Federal government and is a member of the Leibniz Association. The DSMZ strives to increase the proportion of females and encourages female candidates to apply. Disabled applicants with identical technical and personal qualifications will be preferentially selected. In the case of degrees obtained abroad, proof of equivalence with a German degree must be enclosed. For further information, please refer to the website of the Central Office for Foreign Education (ZAB).

The DSMZ is an equal opportunity employer, supports balanced work-life career development, and holds the certificate of the audit berufundfamilie®.

For further information please contact Lorenz Reimer (lorenz.reimer@dsmz.de) or Julia Koblitz (julia.koblitz@dsmz.de). Please send your complete application documents including a CV, motivation letter, copies of certificates with application number 30/23 as a single pdf file to bewerbung@dsmz.de (max 10 MB).

Applications are welcome in English or German and will be accepted on a rolling basis so early applicants are encouraged!

The deadline for this application is 04.10.2023, but we may continue to review applications until the position is filled.