Would you like to contribute to sustainable data use through your work? Then the subinstitute of Bioinformatics (IBG-4) at the Institute of Bio- and Geosciences is the right place for you. Our team works on and develops methods and algorithms to achieve a fundamental understanding of high-dimensional data and processes in the bio-economy, focusing on e.g. data analysis, property prediction, research data management, and data integration.

The position described here will be part of a project focusing on the development of biotechnological approaches to achieve carbon neutrality by combining the strengths of different scientific disciplines.

We are looking to recruit a

**Postdoc – Molecular and bioinformatic-based identification of optimized enzymes for biotechnological applications**

**Your Job:**
- You will perform RNAseq experiments and analyze the data with respect to the identification and functional annotation of genes involved in, for example, cell wall degradation, carbon flux etc.
- Screening of metagenomic and genomic data using deep learning methods in order to identify degrading enzymes from different data resources
- Use of Hidden Markov Models and similar tools as well as machine learning for the identification of novel and better enzyme variants from a large proteome compendium
- Generating structural models of enzymes and use machine learning methods to predict their enzymatic function and characterize their molecular recognition properties

We look forward to receiving your application until 22.11.2023 via our Online-Recruitment-System!

Questions about the vacancy?
Get in touch with us by using our contact form.
Please note that for technical reasons we cannot accept applications via email.
www.fz-juelich.de
You will use machine learning methods and simulation techniques to understand environmental effects on the enzymes and improve their stability and activity.

Publishing the scientific results in international journals and travel to national and international conferences.

You will (co)-supervise PhD students.

Your Profile:
- University degree (Master) and PhD in bioinformatics, computer science, data science, biophysics, or life science-related fields with a proven track record in bioinformatics, biophysics, data analysis, and simulation sciences.
- Very good practical experience in molecular biology, Next Generation Sequencing, and structural biology.
- Extensive experience in analyzing large datasets (especially genomics, transcriptomics, metagenomics, enzyme data, and structural data).
- Experience with the application of machine learning methods for data analysis and interpretation.
- Knowledge in programming languages (e.g. Java, Rust, C/C++, Python) and statistical analysis using R/BioConductor/python.
- Proven scientific communication skills in the form of scientific publications or equivalent.
- Willingness to complement and collaborate with existing research units at the research center.
- Excellent English language skills, both written and spoken are a requirement due to the international nature of the institute and collaborations.

Our Offer:
We work on the very latest issues that impact our society and are offering you the opportunity to actively help in shaping change. Here is what Forschungszentrum Jülich can offer you:
- The Forschungszentrum Jülich is one of the largest research centres in Europe with excellent scientific equipment, including the fastest supercomputer in Europe, is located on a green campus, and near the cultural centres of Cologne, Düsseldorf, and Bonn.
- Outstanding scientific and technical infrastructure.
- Developing the potential of our employees is important to us, which is why we offer individual professional development opportunities.
- We support you right from the beginning: We help new colleagues to find their feet at Jülich – e.g. through our Welcome Days and Welcome Guide.
- Creative and international team that conducts research at the frontiers of science.
- The possibility to develop your own research program in line with the institute and center strategy.
- 30 days of annual leave and provision for days off between public holidays and weekends (e.g. between Christmas and New Year).
- Flexible working hours in a full-time position (39 hours/week) with the option of slightly reduced working hours.
- Capital-forming benefits and an employee pension scheme.
- Targeted services for international employees, e.g. through our International Advisory Service.

The position is initially for a fixed term of 3 years, with possible long-term prospects. Salary and social security benefits will conform to the provisions of the Collective Agreement for the Public Service (TVöD-Bund), pay group 13, depending on your current qualifications and the precise nature of the tasks assigned to you.
In addition to exciting tasks and a collaborative working atmosphere at Jülich, we have a lot more to offer: https://go.fzj.de/benefits

We welcome applications from people with diverse backgrounds, e.g. in terms of age, gender, disability, sexual orientation / identity, and social, ethnic and religious origin. A diverse and inclusive working environment with equal opportunities in which everyone can realize their potential is important to us.