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Job offer

JOB GERMANY

RWTH Aachen University | Posted on: 9 December 2025

Research Assistant (f/m/d) - PhD position - Bioreactor modeling and simulation - V000010481

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9 Dec 2025

Job Information

Organisation/Company	Chair of Applied Microbiology
Research Field	Technology
Researcher Profile	First Stage Researcher (R1)
Application Deadline	28 Mar 2026 - 22:59 (UTC)
Country	Germany
Type of Contract	Temporary
Job Status	Full-time
Hours Per Week	39,83 hours/week
Offer Starting Date	1 May 2026
Is the job funded through the EU Research Framework Programme?	Not funded by a EU programme
Is the Job related to staff position within a Research Infrastructure?	No

Offer Description

Our Profile

At the Institute of Applied Microbiology, RWTH Aachen University, we develop **next-generation biotechnological processes to convert sustainable resources into valuable products**, using synthetic biology, fermentation, data analysis, and modeling to address global environmental challenges and advance an industrial-scale, sustainable bioeconomy.

To support our aims, we are searching for a **PhD student in computational biotechnology and modeling and simulation of fermentation processes,** respectively, as a new member for our recent **project FrameBio** (Multiscale Frameworks for BioSolutions) funded by the European Union through the Horizon Europe, Marie Skłodowska-Curie Actions (MSCA) grant. FrameBio's goal is to revolutionize biotechnology by developing **comprehensive computational modules that simulate microbial behavior of bioproducts** (for food applications, such as Single Cell Proteins) and quantifying its resource dependencies across various scales: Microorganism Design and Engineering - Fermentation Design of Experiments coupled with High Throughput Screening - Commercial Production Scheme Simulations - Supply Chain Design - Planetary Resource Utilization and its Impact on Earths Geophysical Synergies, to predict the broad sustainability impacts of BioSolutions.

This PhD position is part of a **Doctoral Network (DN)** that will train 13 PhDs in genomics, metabolomics, fermentation and process optimization, and data science and sustainability assessments in a unique venture. **Secondments at the Technical University of Berlin and the Bio Base Europe Pilot Plant in Belgium, lasting a total of six months, are integral parts of the PhD program.**

Your duties and responsibilities

This position is an exciting opportunity to work on a seminal topic and use cutting-edge technologies towards our vision of a sustainable bioeconomy. Your specific tasks will be:

- Setup, validation, and evaluation of Computational Fluid Dynamic (CFD) models for the elucidation of bioreactor heterogeneities.
- Development and application of compartment modeling approaches for approximating CFD results.
- Analyze and interpret data from scale-down and scale-up experiments.
- Collaborate on strain and fermentation process design efforts.
- Participate in scientific conferences, write scientific manuscripts, and supervise student projects and internships.

Where to apply

E-mail	tobias.alter@iamb.rwth-aachen.de

Requirements

Skills/Qualifications

The successful applicant has

- University degree (Master's or equivalent) in bioinformatics, biotechnology, process engineering, mechanical engineering or equivalent programs
- **At the time of hiring, applicants must not have lived in Germany for more than 12 months in the last 3 years or have carried out their main activity (work, studies, etc.) there.**
- Good programming skills
- Experience in modeling and simulation of fluid dynamics, preferably for bioreactor environments
- Basic biological knowledge of microbial metabolism and fermentation processing
- Good written and spoken English as well as presentation skills
- Excellent interpersonal, and organizational skills with an ability to work efficiently both independently and in a team
- a creative, open, and resilient mind

Languages	ENGLISH
Level	Basic
Research Field	Technology
Years of Research Experience	None

Additional Information

Additional comments

What we offer

The successful candidate will be employed under a regular employment contract.
The position is to be filled by 5/1/2026 and offered for a fixed term of three years.
The fixed-term employment is possible as it constitutes one of the fixed-term options of the Wissenschaftszeitvertragsgesetz (German Act on Fixed-term Scientific Contracts).
This is a full-time position.
The successful candidate has the opportunity to pursue a doctoral degree in this position.
The salary is based on the German public service salary scale (TV-L).
The position corresponds to a pay grade of EG 13 TV-L.

About us

RWTH is a certified family-friendly University. We support our employees in maintaining a good work-life balance with a wide range of health, advising, and prevention services, for example university sports. Employees who are covered by collective bargaining agreements and civil servants have access to an extensive range of further training courses and the opportunity to purchase a job ticket.
RWTH is an equal opportunities employer. We therefore welcome and encourage applications from all suitably qualified candidates, particularly from groups that are underrepresented at the University. All qualified applicants will receive consideration for employment and will not be discriminated against on the basis of national or ethnic origin, sex, sexual orientation, gender identity, religion, disability or age. RWTH is strongly committed to encouraging women in their careers. Female applicants are given preference if they are equally suitable, competent, and professionally qualified, unless a fellow candidate is favored for a specific reason.
As RWTH is committed to equality of opportunity, we ask you not to include a photo in your application.
You can find information on the personal data we collect from applicants in accordance with Articles 13 and 14 of the European Union's General Data Protection Regulation (GDPR) at http://www.rwth-aachen.de/dsgvo-information-bewerbung .

Website for additional job details	https://jobs.rwth-aachen.de/?ac=jobad&id=10975&view=external

Work Location(s)

Number of offers available	1
Company/Institute	Chair of Applied Microbiology
Country	Germany
City	Aachen
Postal Code	52074
Street	Worringerweg 1
Geofield	

Contact

City	Aachen
Website	https://jobs.rwth-aachen.de
Street	Worringerweg 1
Postal Code	52074
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