

Postdoctoral Position in Microbial Fermentation and Isolation Techniques

Location: University of Tübingen, Germany

Duration: 2 years

Exploring the Frontiers of Microbial Cultivation – Cultivating the Uncultivables

In natural environments, microbial communities are highly diverse and complex. Many microbes within these communities remain uncultivable as pure cultures using conventional laboratory techniques, often due to their intricate interactions and dependencies on other microbes. Unlocking the potential of these elusive organisms is crucial for advancements in ecology, biotechnology, and medicine. Our research focuses on developing innovative techniques to better understand and cultivate these 'uncultivables,' shedding light on their unique niches and contributions to microbial ecosystems.

We are seeking a highly motivated Postdoctoral Researcher with a strong background in microbial fermentation to join our team in the Environmental Biotechnology Group (www.envbiotech.de) at the University of Tübingen. This position offers an exciting opportunity to work on cutting-edge approaches in microbial cultivation and isolation, utilizing advanced fermentation systems and technologies.

Key Responsibilities:

- **Operate and Optimize Fermentation Systems:** Manage pure culture fermentation systems ranging from 0.5-L to 2-L bioreactors.
- **Conduct Long-Term Retentostat Cultivations:** Perform continuous operations lasting 1-2 months to study microbial growth dynamics.
- **Utilize Quantitative Cultivation Techniques:**
 - Real-time data processing and analysis.
 - Online monitoring of off-gas composition, acid/base dosage, influent/effluent flows, redox potential, dissolved oxygen (DO), and more.
- **Develop New Cultivation Technologies:** Innovate and implement new methods for microbial cultivation and enrichment.
- **Collaborate with Multidisciplinary Team:** Work closely with other researchers in our team from various fields to advance research objectives.

Qualifications:

- Ph.D. in Microbiology, Biotechnology, Biochemical Engineering, or a related field.
- Demonstrated experience with pure-culture fermentations.
- Affinity for hands-on work with equipment and technological development.
- Strong analytical and problem-solving skills.
- Mastery of the English language is mandatory.

- Excellent communication and teamwork abilities.
- Preferably experienced with:
 - Retentostat cultivation methods.
 - Membrane technologies in bioreactor systems.
 - Real-time data processing and analysis.
 - Online monitoring equipment and software.

What We Offer:

- A [Humboldt Research Fellowship](#) through the [Henriette Herz scouting program](#)
- A stimulating research environment within a leading institution.
- Access to state-of-the-art laboratory facilities and equipment.
- Opportunities for professional development and networking.
- No teaching obligations, allowing full focus on research activities.

Application Process:

Interested candidates should submit the following:

- A cover letter detailing your motivation and relevant experience
- Key publications, including a short description on how they are relevant to the position
- Curriculum vitae (CV)
- Contact information for at least two academic references

The University of Tübingen is committed to equal opportunities and diversity and is seeking to increase the proportion of women in science and teaching, and therefore we are especially asking qualified women to apply. Disabled persons will be preferred in case of equal qualification.

Application Deadline: December 31, 2024

Please send your application as a single PDF file to application-envbiotech@ifg.uni-tuebingen.de with the subject line “PostDoc Application – Microbial Fermentation”

Contact Information:

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