

Job Title: Research Scientist – Bacterial Cellulose Optimization

Location: Delft

Job Type: Full-time

Application Period: March 1, 2025 - April 1, 2025

About FoamLab:

FoamLab is an innovative startup dedicated to developing sustainable alternatives to traditional plastic foams. Originating from research at Delft University of Technology, FoamLab specializes in bacterial nanocellulose, a highly versatile and biodegradable material with applications in packaging, biomedical fields, and more. With a strong commitment to environmental sustainability, FoamLab aims to replace pollutive materials like polystyrene with compostable and high-performance biopolymers.

Job Summary:

We are seeking a highly skilled and motivated **PhD/MSc+ in Microbiology** with expertise in bacterial cellulose production and optimization, and bioprocess development. The ideal candidate will contribute to research and development efforts aimed at improving bacterial cellulose yield, quality, and scalability for various industrial applications.

Key Responsibilities:

- Design, conduct, and optimize experiments focused on bacterial cellulose production and strain engineering.
- Develop and implement strategies for improving cellulose yield, mechanical properties, and biocompatibility.
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- Analyze bacterial cellulose structure, composition, and physicochemical properties using advanced analytical techniques (e.g., SEM, FTIR, XRD, AFM).
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- Work collaboratively with multidisciplinary teams, including biotechnologists, material scientists, biodesigners, and engineers.
- Stay up to date with recent advancements in bacterial cellulose research and publish findings in peer-reviewed journals or patents.
- Maintain accurate records, write technical reports, and present research findings to stakeholders.
- Ensure compliance with biosafety regulations and good laboratory practices (GLP).

Qualifications & Experience:

- PhD or MSc in Microbiology, Biotechnology, Bioengineering, or a related field.

- Demonstrated expertise in bacterial cellulose production, microbial fermentation, and bioprocess engineering.
- Experience with genetic modification of bacteria (e.g., *Acetobacter*, *Komagataeibacter*) for enhanced cellulose production.
- Proficiency in analytical methods for characterizing bacterial cellulose and microbial metabolites.
- Knowledge of bioreactor operation, fermentation kinetics, and scale-up methodologies.
- Strong problem-solving skills and ability to work independently in a fast-paced research environment.
- Excellent written and verbal communication skills for scientific documentation and presentations.

Preferred Qualifications:

- Experience in metabolic pathway engineering and systems biology approaches.
- Familiarity with bioinformatics tools for genomic and transcriptomic analysis.
- Prior experience in industrial or applied microbiology settings.
- Familiarity with scaling up fermentation processes from laboratory to pilot-scale production.

Benefits & Opportunities:

- Competitive salary and benefits package.
- Opportunity to work on cutting-edge research with real-world applications.
- Professional development through conferences, workshops, and collaborations.
- Potential for career growth in a dynamic and innovative environment.

How to Apply:

Interested candidates should submit a CV, cover letter, and relevant publications to jeroen@foamlab.co. Applications will be reviewed on a rolling basis until the position is filled.

Join us in advancing sustainable biomaterials through innovative microbial research!