



Research scientist in molecular biology

Location : Suresnes (92), France

Contract type : full time

Starting : ASAP

Phagos is on a mission to create a cleaner, more sustainable future by using bacteria's natural predator, the bacteriophage, to win the fight against antibiotic resistance and to cure infectious diseases in animal farming.

To make our vision a reality, we are seeking a highly skilled and motivated Process Engineer to join our biotechnological company. As a bioprocess engineer, you will play a critical role in leading the scale-up of bacteriophage production, which presents a promising alternative to antibiotics. This position requires a deep understanding of bacterial fermentation principles. If you are looking to get in at the start of something novel and world changing, we would love to chat!

Responsibilities

- Engineer bacterial host strains to enhance phage production through strategic genome modifications and metabolic pathway optimization.
- Identify and eliminate genetic bottlenecks or host factors that limit phage replication, adsorption, or release.
- Develop strains with improved tolerance to high phage loads and efficient release mechanisms to maximize yields during fermentation.
- Develop host systems that are compatible with various phage families or strains, expanding the flexibility of production platforms.
- Investigate host-pathogen interactions and modify host defense mechanisms (e.g., restriction-modification systems, CRISPR-Cas) to enhance phage compatibility.
- Design bacterial strains with properties that minimize production costs and downstream processing challenges (e.g., reducing cell debris, endotoxins, or improving secretion of desired products).
- Apply high-throughput genetic screening approaches to identify optimal bacterial mutants for improved phage yields and streamlined downstream processes.
- Collaborate with the bioinformatics team to interpret genomic data and implement rational strain design strategies.
- Collaborate with the process engineering team to co-optimize strain designs for scalable, cost-effective production.

- Present findings to internal teams, contributing to strategic decisions in strain development and production optimization.

Education:

- PhD in molecular biology, microbiology, synthetic biology, genetic engineering, or related fields. Master's degree with equivalent industry experience will be considered.

Experience:

- 1-3 years of experience with bacterial genome engineering, especially in the context of phage biology or microbial production systems.
- Experience in metabolic engineering, microbial strain development, and optimizing systems for large-scale production.

Technical Skills:

- Proficiency with CRISPR/Cas9, recombineering, and other genome-editing tools for bacterial hosts.
- Hands-on experience with molecular biology techniques such as cloning, transformation, sequencing, and mutagenesis.
- Familiarity with phage-bacteria dynamics, phage therapy, or phage production in bacterial hosts.