

Bioinformatician

Type : Full time, permanent position

Location: Hybrid (min. 1 week per month on site, Ottignies-Louvain La Neuve, Belgium)

About us

Novobiom is a fast-growing impact start-up with three ambitions:

1. Environmental impact. This is our DNA: We leverage the incredible potential of fungal and regenerative biotechnologies to turn waste into wealth. Inspired by over 480 million years of natural R&D, we harness fungi to degrade complex molecules, power bioremediation, recycle textile and produce green chemicals.

2. Talent impact. We attract and grow individual talents that can fully contribute to the environmental change we want.

3. Organizational impact. We are on a mission to become a model organization with nature and people at the core, serving the environment and talent mission efficiently and effectively.

Job overview

To support the growth of our Computational Biology unit, we are seeking a highly motivated and skilled Bioinformatician, specializing in comparative genomics and long-read sequencing, to join our team and play a crucial role in our research and development efforts.

The Bioinformatician specializing in Nanopore Sequencing and Comparative Genomics will play a critical role in advancing our understanding of genomic functions and structures within fungal and bacterial strains, vital for innovative biorefinery and bioremediation processes. This position requires a deep expertise in genomics, specifically in analyzing long sequencing reads using Nanopore technology and conducting comparative genomic studies. The successful candidate will be responsible for conducting thorough literature reviews, data mining, and evolutionary analysis to identify and interpret genes crucial for biorefinery and bioremediation applications. Additionally, they will manage sequencing data assembly, quality control, and functional annotation, contributing significantly to the enrichment of the MycoBank database. The ideal candidate will have a robust background in bioinformatics or a

closely related field, paired with proven experience in a dynamic, collaborative research environment.

Responsibilities

Nanopore Sequencing

- **Quality check of sequencing reads**
 - Perform initial quality assessments on long sequencing reads obtained via Nanopore technology
 - Use bioinformatics tools to filter and clean data, ensuring high-quality inputs for further analysis
- **Assembly and annotation**
 - Assemble the cleaned long reads into a coherent genomic sequence
 - Perform functional annotation of the genome to identify and categorize genes based on their predicted functions
- **Collaboration on MycoBank database**
 - Work with a team to integrate sequencing data into the MycoBank database
 - Ensure that the data is well-organized and accessible, enhancing the database's utility for Novobiom internal development

Comparative Genomics

- **Literature investigation and data mining**
 - Survey existing literature to identify genes involved in critical biorefinery and bioremediation processes
 - Use data mining techniques to consolidate and summarize findings related to key enzymatic steps and metabolic pathways
- **Study of evolutionary routes**
 - Analyze the evolutionary history of specific genes in both fungal and bacterial strains
 - Utilize phylogenetic tools and databases to trace gene evolution and understand functional adaptations

- **Data analysis and interpretation**

- Collaborate on various projects to analyze genetic data, looking for patterns and insights related to biorefinery
- Use statistical tools and bioinformatics software to interpret the results and contribute to scientific discussions

Qualifications

- **Educational Background:** Master's degree or higher in Bioinformatics, Computational Biology, Genomics, or a related field.
- **Technical Expertise:**
 - Proficiency in programming languages such as Python for bioinformatics analysis
 - Advanced knowledge of bash scripting, version control systems like Git, and experience with bioinformatics pipeline construction
 - Hands-on experience with Nanopore sequencing data analysis and familiarity with associated bioinformatics tools and platforms
- **Specialized Knowledge:**
 - Deep understanding of comparative genomics, phylogenetics, and evolutionary biology
 - Familiarity with biological databases essential for genomics and metabolic modeling, such as KEGG, MetaCyc, NCBI, UniProt, and BiGG Models
 - Experience in genomic data assembly, annotation, and quality assessment
- **Research Skills:**
 - Strong background in microbial genomics or soil microbiology, with a particular interest in third-generation sequencing technologies
 - Ability to independently conduct literature reviews and data mining to support genomic research and pathway analysis
- **Analytical Skills:**
 - Exceptional analytical and problem-solving abilities, with a proven track record of interpreting complex genomic data

- **Communication Skills:**

- Excellent communication and presentation skills, capable of effectively presenting findings to both scientific and non-scientific audiences
- Experience in writing scientific papers or reports and contributing to collaborative research projects
- Fluency/ proficiency in English

- **Collaborative Experience:**

- Demonstrated ability to work effectively in a dynamic, collaborative environment, preferably in a startup or research-focused setting

To apply

Apply now by sending a cover letter and your cv to Bioinfo@novobiom.com.

In your cover letter, please highlight your experience related to the responsibilities of this role and qualifications required. Also, briefly describe your experience working in a startup or similar environment, if applicable.

To conclude

Joining Novobiom is an opportunity to be part of a high-impact, fast-growing and well-funded start-up, driven by innovation and a passion for nature. You will thrive in a collaborative environment, where your voice can be heard and your impact on earth can be huge!