Post Reference: P.5.6.A

Informatician/ Bioinformatician

About MetaboHUB

MetaboHUB (MTH) is the national French metabolomics and fluxomics infrastructure. Launched in 2013, MTH is a leading international infrastructure serving more than 700 scientists worldwide. MetaboHUB gathers 6 **regional facilities** including more than **80 permanent staffs, 16 NMRs, 68 MS, robotic and computational platforms**. MTH aims at pushing forward the field to develop metabolomics, lipidomics and fluxomics from single cell to population. **Your contribution will serve a broad range of researchers** in the fields of biotechnologies, Human health, nutrition and plant science. **Joining MTH, you will be involved in cutting edge research within a highly skilled and motivated consortium.**

About MTH-Metatoul

MetaToul, launched in 2007, is a multi-institutional platform uniting INRAE, CNRS, INSERM, INSA, the University of Toulouse, and Toulouse Hospitals. ISC- and IBiSA-labeled, and recognized by INRAE as a national strategic platform, MetaToul brings together about 50 staff members with expertise in biochemistry, chemistry, bioinformatics, biostatistics, automation, mass spectrometry, NMR, and chromatography. These complementary skills support the study of metabolism through metabolomics, lipidomics, and fluxomics workflows.

The mission

The platform MTH-Metatoul-MetExplore develops bioinformatics solutions to analyze and model organism-level metabolism as metabolic networks, i.e. collections of biochemical reactions. A growing number of research projects investigate metabolic interactions such as cooperation and competition within microbial ecosystems (e.g. human and plant microbiomes) or between cell types in complex organisms. However, existing tools cannot efficiently query and model thousands of metabolic networks simultaneously, each containing thousands of reactions and metabolites. To address this scalability challenge, MetaboHub has deployed a Big Data architecture based on a data lake.

Your mission will be to design and deploy tools to analyze, model, and query a knowledge base comprising thousands of metabolic networks.

Key Responsabilities

The person recruited will be responsible for

1. Develop tools to generate knowledge graphs from collections of metabolic networks.
2. Design efficient approaches for querying these knowledge bases.
3. Develop an API to make these tools accessible to external applications.
4. Work closely with biologists and bioinformaticians to adapt the tools to targeted scientific questions.

Profile

- Engineer, MSc in informatics or bioinformatics
- Appreciated experience : Junior to mid-level developer (1+ years experience preferred)

Skills

- Semantic Web technologies (RDF, SPARQL)
- Apache Spark (ideally GraphFrames)
- Programming languages: preferably Scala, alternatively Java
- Optional: graph theory
- Optional : knowledge of biochemistry and metabolism
- English mandatory

Informations

CDD -Engineer
12 months contract
Salary range (gross salary): 2245-2815 euros/month depending on experience
Place of work: Toulouse, France
Starting from: 2027 January 1st

How to apply ?

The application should contain the following attachments:
• a motivation letter reasoning your interest for a specific research project described on our webpage (max. one page)
• a full CV (max. two pages) including contact details of two references,
• Copies of relevant diplomas or university certificates

Contacts

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More information

www.metabohub.fr
https://mth-metatoul.com/
https://metexplore.toulouse.inrae.fr