Post Reference: P.4.G

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

One objective of the MTH infrastructure are large-scale metabolomic studies. An automatic tool has been developed for preprocessing of 2D NMR spectra generated from these high-throughput studies. However, annotation is still a bottleneck in metabolomic studies. To streamline this step, the Peakforest spectral database and automatic annotation tools have been developed within MetaboHUB to share 1D and 2D NMR spectra as well as peak lists. But, populating this database is very time-consuming and false positive metabolites result from annotation tools.
The first objective of this position is to develop an automated tool to populate the PeakForest database with NMR spectra of standard compounds, enabling the extraction of:
- Acquisition parameters from manufacturer files,
- Peak lists from one- and two-dimensional NMR sequences, obtained using automated tools such as the one developed.

The second objective is to combine for automatic annotation of complex NMR spectra from spectra of reference compounds available in the Peakforest database. Finally, the position includes training and supporting users in using these tools.

Key Responsabilities

The person recruited will be responsible for
(i) The development of an automatic tool to implement the PeakForest database, with NMR data;
(ii) The combination of algorithms for the automatic annotation of one- and two-dimensional NMR spectra;
(iii) The training and supporting users in using both tools, as well the writing developer and user guides.

Profile

- Engineer, MSc in informatics
- Attraction for analytical chemistry and VIBE coding
- Appreciated experience : Junior to mid-level developer (1+ years experience preferred)

Skills

- programming (R, Python)
- forge (Gitlab, Github)
- database management
- English mandatory

Informations

CDD -Engineer
12 months contract
Salary range (gross salary): 2245-2815 euros/month depending on experience
Place of work: Toulouse, France
Trips: Clermont-Ferrand
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