

Post-doctoral position in Lipidomics

A postdoctoral researcher fellowship position (18 months) in lipidomics/sterolomics is available at ISA (ANABIO-MS team) in close collaboration with Ecotoxicology group (Irstea). The fellowship funded by the ANR will be starting in September 2019.

Project

Aquatic ecosystems are exposed to environmental stressors such as chemical micropollutants from natural environment or anthropogenic activities. These chemical contaminations may result in alterations of the internal biochemical homeostasis of the aquatic organisms. The major limitation in the mechanistic knowledge of environmental chemical toxicity effects on aquatic organisms is the absence of molecular information notably at the genome wide scale in environmentally relevant species. The “omics” technologies - such as Transcriptomics, Proteomics, Lipidomics, Metabolomics - offer a great promises to help to elucidate molecular responses to exposures in aquatic organisms during specific and vulnerable life cycle stages. Lipid metabolism is the major fundamental metabolic pathway producing energy in animals. In fresh water organisms, lipids play a pivotal role in vulnerable stages like molting, reproduction, development. Recently, it has been shown that pharmaceutical drugs like hypolipidemic drugs have been detected in sewages, affecting the reproduction and population growth of crustacean amphipods (genus *Gammarus*). To understand and predict the effects of toxic exposures, it is crucial to describe the lipidome and to identify the affected metabolic networks. The project aim to gain a mechanistic understanding of toxic effects of hypolidaemia drugs (statins and fibrates) on the sentinel organism, *G. fossarum*.

An innovative multi-omics approach (proteomics and lipidomics) will be developed to monitor metabolic perturbation on different development stages and reproductive cycles of *G. fossarum* after exposure with hypolidaemia drugs.

For further details of the project, please follow the link : <http://www.agence-nationale-recherche.fr/Project-ANR-18-CE34-0008>

Profile

We seek a highly motivated and enthusiastic candidate with a PhD in the area of lipidomics with a focus on sterols analysis, or analytical chemistry or ecotoxicology with an interest in analytical chemistry.

The successful applicant will work at the Institute of Analytical Sciences (ANABIO-MS team) in collaboration with Ecotoxicology group at Irstea.

The requested skills include:

- Strong chemical background with a PhD in Analytical Chemistry or Biochemistry with hands-on mass spectrometry
- A significant level of technical knowledge and experience in mass spectrometry (Triple quadrupole, Q-TOF) including its applications in lipidomics or metabolomics
- Experience in biological sample preparation techniques
- Experience in chemometrics (intermediate to strong skills) and data mining will be an asset (R, Matlab).
- Evidence of peer-reviewed publications
- Good collaboration and communication skills (written and oral English)

Salary and appointments terms

The salary and appointment terms are consistent with the current rules for post-doctoral fellows. The period of employment is 18-months starting in September 2019.

Application

The successful candidate is expected to start in September 2019. The closing date for applications is **15th May 2019**. Applications must be submitted as a single PDF containing:

- Current curriculum vitae including the list of publications
- A cover letter
- PhD diploma
- References (with letters of support)

Further information / contact

Sophie Ayciriex, PhD
Institute of Analytical Sciences (ISA),
CNRS UMR 5280 - ENS Lyon - University Claude Bernard Lyon 1
5 Rue de la Doua- 69100 Villeurbanne (France)
sophie.aycirix@univ-lyon1.fr