

Date : 20/07/2023

Job vacancy	<b>Post-doctoral position in small molecules/proteins interactomics (M/F)</b>
Job category	<b>Category 2</b>
Type of contract	<b>Fixed term appointment (24 month)</b>
Location	<b>Fougères (Brittany region in France)</b>
Starting date	<b>end 2023</b>
Salary	<b><i>According to qualifications and experience, with due reference to the standards of French Sanitary Agencies, according to “décret n° 2003-224 du 7 mars 2003”, or according to special status if already civil servant.</i></b>

## ANSES and Job location

The French Agency for Food, Environmental and Occupational Health & Safety (ANSES) is an administrative public establishment accountable to the French Ministries of Health, Agriculture, the Environment, Labour and Consumer Affairs. ANSES undertakes monitoring, expert assessment, research and reference activities in a broad range of topics that encompass human health, animal health and well-being, and plant health. It offers a cross-cutting perspective on health issues by assessing health risks and benefits, often through the prism of the human and social sciences. Its monitoring, vigilance and surveillance work provides input for risk assessment. ANSES fully addresses all types of risks (chemical, biological, physical, etc.) to which a person may be subjected, intentionally or otherwise, at all ages and stages of life, including through exposure at work, while travelling, while engaging in leisure activities, or via their diet. ANSES also includes 11 reference, surveillance and research laboratories across France dealing with those issues.

### ANSES facts and figures

- 1400 staff members
- 800 external experts consulted
- Annual budget of 141 million euros
- More than 14,000 opinions issued since 1999
- 66 national reference mandates
- 8 million euros a year allocated to support for research projects

Find out more: [www.anses.fr](http://www.anses.fr)

### Location of the unit

The Fougères laboratory has about 60 agents working in 4 departments: Analysis of Residues of Contaminants (ARC), Contaminants Toxicology (TC), Experimentation, Modelling and Data Analysis (EMAD) and Antibiotics, Biocides, Residues and Resistance (AB2R). The laboratory conducts research and reference activities on several types of chemical and biological hazards that can affect food safety and food quality. It holds several reference mandates as the National Reference Laboratory (NRL) for veterinary drug residues, the European Union Reference Laboratory (EU-RL) for antibiotic and dye residues, and the NRL for antimicrobial resistance.

### Missions / context

The post doctoral position is available (2 years, end 2023) in the “Toxicology of contaminants” Unit of the French Agency for Food, environmental and occupational Health & Safety (ANSES) at Fougères (Brittany region, France). The team is held by Dr. Valérie Fessard and includes around 10 persons (scientists, technicians and students) with strong and original interdisciplinary skills including chemistry, toxicology, cellular and molecular biology. We are mostly dealing with hazard characterization of food contaminants. Research of interest of the unit are

toxicology and cell biology but more recently proteomics, metabolomics and exposomics in order to decipher biological response associated to xenobiotics exposure. The aim of the project is to develop interactomics to study the interaction of food contaminants with proteins. The laboratory is well equipped including image analysis for High Content Analysis and 2 HR-MS mass spectrometers for proteomics and metabolomics (Q-Exactive Plus and Vion IMS Q-TOF) as well as cell culture and animal facilities. A nano-LC HRMS system will arrive at the laboratory at the end of 2023.

## Job description

- Missions** The project “**XenoInte**” is to characterize metabolic and toxicological mechanisms induced by xenobiotics (pesticides and toxins) by studying their interactions with proteins (Interactomics) in biological fluids and liver cells. The applicant will develop several methodologies based on proteomics: (i) DARTS (Drug Affinity Responsive Target Stability) or “LiP-small molecule mapping”, (ii) immobilization of pesticides or toxins on solid support with several methodologies to perform affinity purification-MS. For that antibodies (when available for toxins) will be used but also several coupling methods of xenobiotics with biotin tags such as click chemistry followed by avidin-biotin purification of proteins extracted from liver, liver cells or plasma and proteomic experiments.
- Activities**
- Conduct a bibliographic review to select the different methodologies to apply
  - Develop the adapted methodologies to characterize xenobiotics interactions with proteins in different biological matrices
  - Write and implement experimental protocols to evaluate these methodologies
  - Use Q-TOF and Orbitrap type mass spectrometers and participate in their maintenance
  - Analyze data with adapted omics tools, interpret results and write project reports
  - Write scientific publications in international peer-reviewed journals and participate in European or international congresses.
- Special conditions** He/she can be of any country including France as soon as he/she has spent **more than 18 months outside France between the 1<sup>st</sup> of May 2019 and the beginning of the project** (condition from the funder: French Brittany region).

## Profile

**Education :** PhD in analytical chemistry and/or proteomics.

**Experiences :**

- Required experience in proteomics and analyzes by LC-MS/MS
- Desired experience in interactomics
- Strong training in chemistry and biochemistry
- Experience in conducting research projects is desired.

**Skills**

- Required knowledge in proteomics, chemistry and analytical chemistry
- Ability to manage a project and report the research outcomes to the project advisory manager
- Ability to communicate through high-quality scientific channels, e.g. peer reviewed publications
- Excellent interpersonal skills required and ability to work with minimal supervision
- Desired skills in Python, R, and biostatistics
- Desired knowledge in cell biology

## Contacts

**Closing date: nov 2023**

**Applications (CV + cover letter) to be emailed to [Thibaut.leger@anses.fr](mailto:Thibaut.leger@anses.fr)**