A 18 months' post doc position is available at LABERCA (Oniris, Nantes, France) in close cooperation with McGill University (Québec, Canada).

The project will be starting in September 2018.

Proposal title: "Contribution to chemical risk evaluation through assessment of global contamination of fish samples, from historical to emerging contaminants"

Acronym: FISHCONTAM

Abstract

In a general context of rising suspicion among public health stakeholders that humans may be exposed to a wide range of chemicals, with most of them presenting endocrine disrupting properties, it is currently critical to establish a more systematic characterization of a largest set of contaminants in food and provide a comprehensive overview of the chemical exposition of the consumers. While fish specifically is known to contribute significantly to the overall chemical body burden (also referred as the exposome), the present project aims at investigating the global chemical contamination profiles of salmonids by quantifying the levels of both historical and emerging contaminants in actual trout fillets to provide a useful estimate of consumers' exposure. To achieve such a goal, the current project involves the collaboration of two (inter)nationally recognized research teams, with access to their analytical platforms running efficient mass spectrometric strategies (MS/MS, HRMS).

As a first objective, a large monitoring of contaminants from historical (dioxins, PCBs, BFRs, PAHs) to more recently described ones (PFAS, BPs, Phthalates, …) in salmonids will be performed using targeted analytical strategies. Secondly untargeted global profiling will be implemented as innovative strategies to (i) highlight emerging organo-halogen compounds and (ii) identify any food contact material residues which could have leached in the fish fillet from the packaging. Data interpretation will focus on both the investigation of co-contaminations profiles and comparison of contamination profiles among types of samples (packaged *vs* non-packaged) and production mode (conventional *vs* organic). Innovation of the proposed approach lies in the range of chemicals targeted, including historical and emerging contaminants, which will allow for the first time actual chemical exposure to be assessed. Strength of the proposal is related to complementary MS platforms involved through such collaboration between LABERCA and McGill University. The project will generate new knowledge and provide data to serve risk assessments by national and international competent authorities.

The recruited post-doc will be seconded at the Canadian partner for a 3 months' period.

Coordination /Supervision:

Gaud DERVILLY-PINEL, Dr, HDR (LABERCA)

Stéphane BAYEN, Dr (McGill University)

Qualifications

We are looking for a highly motivated scientist with a PhD degree.

- Strong chemical background with a PhD in Chemistry, Analytical Chemistry or equivalent
- Strong hands on experience with:
  - Purification and fractionation techniques
  - Chromatography
  - Experience in untargeted HRMS
- Good laboratory skills
- Good collaboration and communication skills (written and oral English)

- Structured and analytical working approach

Salary
The period of employment is 1,5 year, gross salary 4100 euros /month.

Further information
For further information, please contact Dr Gaud DERVILLY (gaud.dervilly@oniris-nantes.fr) and Dr BAYEN (stephane.bayen@mcgill.ca).

Application
Please submit your application no later than **April,15th 2018**

Applications must be submitted as **one pdf file** containing all materials to be given consideration. The file must include:

- A letter motivating the application (cover letter)
- Curriculum vitae
- 1 or 2 letters of support
- Master or PhD diploma

Candidates may apply prior to obtaining their PhD level, but cannot begin before having received it.

You can read more about LABERCA on www.laberca.org.

LABERCA's general domain of activity is the chemical food safety, in a global risk assessment perspective: generation and interpretation of exposure and body burden data, study of the transfer and metabolism of investigated chemicals from their sources to the consumers through the food chain. From an analytical point of view, the two main areas of competence of the laboratory are the treatment of complex biological samples for isolating the studied substances present at (ultra-trace)- level, and the hyphenated measurement of these compounds by various mass spectrometric coupling techniques. Besides these targeted approaches, the laboratory has been developing over the last 10 years an expertise in untargeted approaches (metabolomics) to reveal biomarkers of chemical exposure. The analytical platform is considered as one of the most complete at the national and European level (> 15 last generation MS instruments). All these activities (assays and research) are conducted under management quality system combining accreditation (ISO17025) and certification (ISO9001:2015).

You can read more about the Food Toxicants Laboratory @ McGill University http://foodtox.lab.mcgill.ca/ .

The Food Toxicant Laboratory, led by Dr Bayen, explores the occurrence, the physico-chemistry and the bioavailability of food contaminants from the field to the consumer. The specific research objectives are to (i) develop Foodomics tools to analyse trace chemicals in complex matrices, (ii) investigate the sources and levels of emerging food toxicants, and (iii) study the chemistry of the target contaminants along the food supply chain. The laboratory is equipped with a range of analytical tools, including a new Agilent Technologies 1290 Infinity II coupled with a hybrid 6545 quadrupole time-of-flight MS/MS. Dr Bayen is member of the INAF, the largest group of researchers in Canada dedicated entirely to foods and the complex interactions between food components, nutrition and health.