



Postdoctoral position (18 months)

HRMS-based non-targeted analysis of organic compounds contaminants in common dolphins from the North-East Atlantic

La Rochelle Université (LRUniv, France) is recruiting an postdoctoral fellow for 18 months, within the “Observatoire Pelagis” unit (UAR 3462 CNRS/ LRUniv; <https://www.observatoire-pelagis.cnrs.fr/>) and in collaboration with Ifremer (Nantes, France), to characterize the chemical exposome of the common dolphin *Delphinus delphis* from the Bay of Biscay (NE Atlantic) using a non-targeted analysis approach.

Scientific context:

The position is part of the **DELMOGES** (“DELphinus MOuvements GESTion”) research project (<https://delmoges.recherche.univ-lr.fr/>) led by LRUniv, Ifremer (“Institut Français de Recherche pour l’Exploitation de la Mer”) and the CNRS (“Centre National de la Recherche Scientifique”) in partnership with the UBO (“Université de Bretagne Occidentale”), the CNPMM (“Comité National des Pêches Maritimes et des Élevages Marins”), and the OFB (“Office Français de la Biodiversité”). This project aims to better understand the interactions between common dolphins and fishing activities to better identify solutions that will reduce their accidental catches. DELMOGES is a multidisciplinary project that goes from ecology to management and is multiparty, associating scientists and professionals. The theme of accidental captures is widely covered in French media and the socio-economic issues are significant. DELMOGES started on March 2022 for a period of 3 years.

Post-doctoral position:

We are offering an exciting and challenging postdoctoral position in a dynamic research group between LRUniv/Observatoire Pelagis and Ifremer Nantes/Chemical Contamination of Marine Ecosystems unit, which has already developed analytical methods based on GC-IMS-HRMS to detect a wide range of bioaccumulative organic chemicals in complex biotic and abiotic matrices from the marine environment, and an in-house semi-automatized prioritization and annotation workflow.

The selected candidate will process dolphin blubber and liver samples using an analytical workflow based on GC-IMS-HRMS to study the chemical exposome of dolphins, and to determine whether there are differences in the small (m/z range: 100-1200) molecule profile of stranded dolphins with obvious marks of bycatch *versus* other causes of (natural) death (e.g. pathology, predation/competition, topographical navigation error, and old age). Ifremer Nantes is in the process of acquiring its own HRMS system, but close collaborations exist with groups that have Orbitraps, Agilent QToF, and Bruker timsTOF systems if the interest in them arise.

Candidate qualifications:

We seek a highly motivated and enthusiastic candidate with a PhD in the area of HRMS-based analytical chemistry, exposomics, or metabolomics with experience and demonstrated success of working independently and as part of a team in analytical or academic research facility. Essential skills for this job include:

- Experience in sample preparation, extraction, and purification of complex matrices such as biota samples.
- Strong practical expertise in GC- based HRMS analysis for environmental contaminants.
- Significant experience in using data processing software (e.g. MS-DIAL, HaloSeeker, El-Maven, etc.) for data pre-treatment, mass spectral and database matching, statistical analyses and annotation of prioritized features.
- Experience in the manual and automated structural elucidation of unknown features from their respective fragmentation spectrum is a must. Experience in working with polyhalogenated organic molecules will be considered an asset but is not a requirement.
- Practice on IMS data treatment would be appreciated.
- Knowledge of marine ecosystems would definitely be considered a strength.
- French is NOT required for this job but a good command of French will be beneficial for the chosen candidate.

Duration, conditions of work and collaborations:

The duration of the fellowship is 18 months. The candidate will spend the first 9 months based at Ifremer, center of Nantes with short term trips (project-funded) to Pau (located in the SW of France) for instrumental analysis. The remaining 9 months will be spent at La Rochelle Université to complete data treatment and publication of the results.

As a non-permanent (contract) researcher recruited by LRUniv, the candidate will receive a salary from 2,300€ gross salary (about 2,000€ net salary) depending on his/her experience. The position will include close collaborations with researchers primarily involved in the project, as well as engineers and technicians, in designing and carrying out experimental work. The candidate might also work in close collaboration with graduate (Master and PhD level) students involved in other research projects.

Application:

The successful candidate is expected to start ideally in Summer 2023 depending on candidates' availabilities. **The closing date for applications is April 7th.**

Please submit a single PDF containing your current curriculum vitae (including list of publications), and a cover letter describing your interest in the position and how your qualifications meet the criteria outlined above, to :

- **Randolph Singh** (randolph.singh@ifremer.fr) and
- **Tiphaine Chauvelon** (tiphaine.chouvelon@univ-lr.fr).

Contact information for three professional references and if possible, recommendation letters would be appreciated. Interested applicants can email Randolph Singh for further information.

Pre-selected applicants will be interviewed in visio-conference **in the second half of April.**