



## Research scientist in Molecular Ecotoxicology (m/f)

### Lyon – Villeurbanne (69)

BAP/ research area: Molecular Biology / biochemistry

#### **Position open to candidates with a Phd**

NB: in some cases and under certain conditions, applicants may apply for recognition of equivalence of diplomas that are not in the list of qualifications required for this examination (diplomas issued or recognized by a Member State of the European Union or the States Parties to the agreement of the European Economic Area, or the professional qualification obtained).

#### **Description**

Irstea (formerly called Cemagref) is the National Research Institute of Science and Technology for Environment and Agriculture. It focuses on three main social challenges: Sustainable management of land and water, natural hazards and environmental quality. Within the framework of French and European research, the Institute carries out research in support of public policies and in partnership with industry. It employs 1,600 people across nine regional centres in France.

The Research Unit "Freshwater Systems, Ecology and Pollution" (MAEP) of the Irstea Centre of Lyon-Villeurbanne consists of research teams aiming to develop fundamental and technical activities to evaluate and improve the biological and chemical quality and the functioning assessment of freshwater systems and to reduce discharge linked to human activities. As part of the research theme BELCA (Biological and ecological responses to pollution in aquatic environments (<http://www.irstea.fr/la-recherche/themes-de-recherche/milieu-aquatique>), the team "ecotoxicology" in Lyon-Villeurbanne develops its research about the transfer and the impact of chemical contaminants on freshwater organisms and populations. The objectives of the ecotoxicology team are the production of fundamental knowledges, methods and tools in order to assess and predict the hazard of pollutants for aquatic organisms and populations, as well as, for the diagnosis of contamination levels and their toxicity in aquatic systems.

The requested research profile is part of research activities which were initiated several years ago in our team and in collaboration with key partners, based on the development of innovative molecular approaches (proteomic, mass spectrometry, transcriptomic,) in "non model" aquatic species. These methods offer promising opportunities in ecotoxicology, because they allow the identification and quantification of transcripts and proteins of interest in test species to improve environmental risk assessment (biomarker approach). These activities are currently carried on through strong collaborations with several academic partners CEA-Marcoule, ISA (university Lyon) and IGFL (Functional Genomics Institute of Lyon). The requested profile will strengthen these activities within our team, by developing its own scientific activities and finally by improving current partnerships and building new ones.

The candidate will develop its research activities on molecular markers to assess impact of chemical compounds on freshwater species, in invertebrates at first. Based on his/her training and skills in biochemistry and molecular biology, the research activities of the selected candidate will focus on :

1 – acquisition of data and knowledge in molecular biology in species of interest for our team (crustaceans, gastropods, insects),

2 – development of new generation biomarkers – with a focus on mechanisms involved in endocrine disruption in invertebrate species and mechanism of adaption related to a contamination exposure.

The candidate will participate to build and develop the scientific project of our team, through proposal of transversal research activities and by developing collaborations with external and internal partners.

The main activities of the researcher will be the development of research in molecular ecotoxicology, via biochemistry approaches on proteins identification and quantification, but also on transcriptomics, metabolomics through collaborations. The candidate will also participate in the building and implementation of national and international research programs, in the dissemination of the results via articles in international scientific journals. In addition, the candidate will participate in educational programs, especially by supervising students and Post-docs.

#### **Abilities**

PhD in molecular biology, you have a sound knowledge in biochemistry and in analytical chemistry, including proteomics and mass spectrometry. You have theoretical and practical knowledge on approaches and methodologies in genomic and transcriptomic in order to improve development on proteins, especially with experience in comparative or environmental omics allowing to conduct such developments in poorly documented taxonomic groups. You have theoretical and practical skills in bioinformatics, allowing you to analyse available omic database.

You have the capacity to construct scientific programs and partnerships. You have skills in scientific English and you are able to communicate in French. You have the ability to implement ecotoxicological studies and you have an aptitude for teamwork in an interdisciplinary environment

#### **Contacts**

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## How to apply

Application form can be obtained:

- on the website: [www.irstea.fr](http://www.irstea.fr) link "Nous rejoindre" and then link "concours externe"
- or by contacting the recruitment centre: [concours@irstea.fr](mailto:concours@irstea.fr) - +33 (0)1.40.96.60.37 ou 6091

Full application should be submitted before **august 29<sup>th</sup> 2016**

and sent to: Irstea  
Direction des Ressources Humaines et des Relations  
Sociales – Pôle RMDC  
1 rue Pierre-Gilles de Gennes CS 10030  
F-92761 ANTONY Cedex