



Instituto de Investigación en Recursos Cinegéticos (IREC)
Spanish Institute of Game and Wildlife Research
CSIC-UCLM-JCCM
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PhD Opportunity in Amphibian Ecotoxicology

Project TerAmphiTox - Designing a strategy based on toxicity evaluation to improve pesticide risk assessment for terrestrial amphibians

Ciudad Real, Spain, July 2020

We are seeking for a highly motivated candidate to develop a PhD project in the context of amphibian ecotoxicology and pesticide risk assessment.

The selected candidate will conduct his/her PhD in the framework of the project *TerAmphiTox Designing a strategy based on toxicity evaluation to improve pesticide risk assessment for terrestrial amphibians*, financed by the Federal Agency of the Environment of Germany (UBA). During the PhD, the selected candidate will investigate about the factors determining pesticide toxicity on terrestrial life stages of amphibians and elaborate recommendations for implementation in the regulatory risk assessment of these substances.

The PhD will be conducted at the Spanish Institute of Game and Wildlife Research (IREC, <https://www.irec.es/en/>) and will be supervised by Drs. Manuel Ortiz-Santaliestra (IREC) and Isabel Lopes (University of Aveiro, Portugal).

What we offer

- Possibility of conducting a PhD project at the IREC, a dynamic and multidisciplinary research institute located in Ciudad Real (Castilla-La Mancha, Spain) that belongs to the Spanish Council for Scientific Research (CSIC), the University of Castilla-La Mancha and the Castilla-La Mancha Government.
- A 3-year, full-time predoctoral contract expected to start between October 2020 and January 2021, with the possibility of extension up to an additional year depending on the project progress.
- High-level training in animal experimentation, toxicity characterization, analytical chemistry and determination of different types of biomarkers.
- Options to complement research and training objectives at the University of Aveiro.
- Options to conduct additional short-term stays in other academic, governmental or private institutions across Europe, especially through the activities planned as part of the COST action PERIAMAR (Pesticide Risk Assessment for Amphibians and Reptiles, <https://periamar.web.ua.pt/>).

What we are looking for

Applicants **MUST**:

- hold either
 - 1) a Master's degree OR
 - 2) a Bachelor's degree obtained after getting at least 300 ECTS, in an area relevant to the project objectives (e.g. Biology, Toxicology, Environmental Sciences, Veterinary Medicine, Ecology...)
- have finalised the abovementioned studies not before 01/01/2017.
- have an average grade of at least 6.5 in a 0-10 grading scale, or equivalent if a different grading scale is used.
- give proof of English proficiency during the course of the interview that will be done with shortlisted candidates.

The following aspects are not compulsory but will be given special consideration when examining the applications:

- Knowledge on amphibian biology and/or environmental toxicology.
- Experience in the preparation and examination of histological samples.
- Knowledge on data analysis and use of statistical software.
- Previous experience in scientific and academic writing.
- Previous experience in presenting research results in seminars, conferences, congresses or workshops.
- An official certification for using animals with experimental purposes.

There is no restriction relative to the applicant's nationality, but applicants from outside the European Economic Area should ensure their academic degrees will be homologated in Spain.

Project details

Half of the European amphibian species are present in arable lands, frequently within areas of pesticide application, hence pesticides have been pointed as one of the reasons for amphibian population declines. Amphibians have not been routinely considered in environmental risk assessment (ERA) of pesticides, which means that their protection from the impact of these substances is assumed to be achieved through the assessment conducted on other species, which act as surrogates. However, there is growing evidence that using surrogate taxa (i.e. birds and mammals) to extrapolate pesticide impacts to terrestrial amphibians leads to an underestimation of the actual risk. Amphibian skin is an organ with important physiological functions that lacks specialized structures of protection and is very permeable to the diffusion of chemical agents. The direct exposure to pesticides after overspray or because of contact with treated surfaces may affect skin functions and result in pesticide absorption and subsequent effects on other systems. This PhD project will include two phases: (1) an experimental phase focused on investigating the toxicity of different pesticides on amphibian terrestrial stages, determining effects on different organs with a particular attention to the skin when direct dermal exposure to pesticides happens; and (2) an analytical phase focused on the establishment of toxicity patterns based on the properties of the pesticides and on their toxicity relative to other taxa, with the purpose of recommending a protocol for implementation as part of the regulatory ERA of pesticides.

How to apply

Interested applicants must send a message to manuele.ortiz@uclm.es with the subject "PhD TerAmphiTox" and include **as attached PDF documents**:

- A motivation letter explaining the reasons why they apply for the contract (max. half page, in English).
- Copy of academic certificate of the required degree(s), with indication of grades and dates (in its original language).
- CV including previous experience, academic record and, in general, those aspects that the candidate considers relevant to the application (no pre-defined format, in English).

Application e-mails should be received **by August 20th 2020**.

Shortlisted candidates will be contacted back for an online interview during September. The selected candidate is expected to be announced during September or October 2020.

For any inquiry, please contact Manuel Ortiz (manuele.ortiz@uclm.es).