Position Offered: UNIVERSITY GRADUATE

Project: *Emerging strategies in vaccinology against haematophagous vectors: integration, analysis, and interpretation of big data in systems biology*

Technological and scientific fields: Big Data and Information Processing Technologies. Computational Biology. Data Analysis and Integration

Location: Salamanca. Castilla y León. Instituto de recursos Naturales y Agrobiología de Salamanca. https://www.irnasa.csic.es/

Research Group/PI: Livestock Parasitoses and Parasitic Zoonoses. Haematophagous Vectors. Ricardo Pérez Sánchez. https://www.irnasa.csic.es/grupo-de-parasitosis-de-la-ganaderia-y-zoonosis-parasitarias/

PROJECT SUMMARY

Ornithodoros erraticus and O. moubata ticks are the primary reservoirs and vectors of Human Relapsing Fever (HRF) and African Swine Fever (ASF) in the Mediterranean-Asia and Africa, respectively. Controlling these diseases requires effective control of these vectors, and the most promising method, as an alternative to chemical acaricides, is anti-tick vaccines. The development of anti-tick vaccines depends on the identification of protective antigens. To this end, this project proposes a multi-omic study of the tick-host interface in O. erraticus and O. moubata, including the sequencing, analysis, and integration of transcriptome, proteome, miRNAome, metagenome, and metatranscriptome data from their salivary glands, gut, and ovary.

PROFESSIONAL PROFILE

Minimum requirements:

- Academic qualification: Degree in Biochemistry, Molecular Biology, or Biotechnology.
- Additional qualification: Master or Diploma in Bioinformatics, Computational Biology, or similar.
- Proficiency in Spanish and English

Merits to be considered:

- Other qualifications: Official Master or Diploma in Molecular and Cellular Biology, Biotechnology, or similar.
- Knowledge/Experience in in silico analysis of proteins, mRNAs, miRNAs, and microbial networks of hematophagous arthropods.
- Experience in handling, culturing, and dissecting ticks, and in obtaining and processing tissue samples.
- Experience in cell culture and recombinant protein production.

WHAT IS OFFERED

Integration into a research group with extensive experience in the development of tick vaccines. Opportunity to acquire knowledge and skills based on omics data analysis, systems biology, and computational biology, and to apply them in the development of new tools for the immunological control of ticks. Training plan in digital competencies of 260-280 ECTS. Collaboration with international groups.

Contract conditions:

Indefinite contract for a University Graduate associated with the Momentum Project of 4 years' duration according to Spanish science law. Gross annual salary (37.000 € - 41.000 €).

Start of contract: before 31 December 2024

PRINCIPAL INVESTIGATOR CONTACT

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