

Position Offered: UNIVERSITY GRADUATE

Project: *Computational biology for the analysis of island biodiversity BIG DATA*

Technological and scientific fields: Computational Biology; Artificial Intelligence; High Performance Computing

Location: San Cristóbal de La Laguna, Santa Cruz de Tenerife, Instituto de Productos Naturales y Agrobiología, IPNA <https://www.ipna.csic.es>

Research Group/PI: Island Ecology and Evolution / Prof. Brent C. Emerson

PROJECT SUMMARY

The Ecology and Evolution in Islands Group (GEEI) is a pioneer group in the generation and analysis of Island Biodiversity BIG DATA, from the generation of barcode sequences on a massive scale to the sequencing of complete genomes. The group is at a crossroads, requiring complementary skills in computational biology and bioinformatics to make the most of the different geospatial and genomic data that is being generated, within the disciplines of ecology, evolution and conservation of island biodiversity. The chosen candidate will benefit from a training program that will allow them to collaborate in research projects where they are responsible for assembling an arthropod genome at the chromosomal level, assembling genomes through resequencing, and applying Artificial Intelligence to the analysis of metabarcoding data.

PROFESSIONAL PROFILE

Minimum requirements:

MSc in Bioinformatics

Experience in programming with Python, R, BASH and PHP languages

Fluent in Spanish and English

Merits to be considered:

Experience in bioinformatics applied to genomic data, especially with long-read sequences.

Experience in bioinformatics applied to metabarcoding data of arthropod communities.

A strong biological background.

Experience in the development and implementation of next generation sequencing pipelines.

WHAT IS OFFERED

The project offers the successful candidate the opportunity to train in bioinformatics skills related to the analysis of genomic data and metabarcoding, and participate in research activities related to the training to be undertaken. The training includes a total of 242.5 ECTS, which is divided into 4 blocks. The project is made up of four work packages (WPs), each having a duration of 1 year, with a final report of 20 ECTS. The four WPs will connect the successful candidate with different research projects within the Ecology and Evolution in Islands Group, within a collaborative framework. For example, WP 1 is focused on the chromosomal-level assembly of a de novo genome through high-fidelity long-read sequencing with PacBio sequencing, with scaffolding informed by Hi-C chromosome contact data and genetic annotation informed by transcriptomes. The successful candidate's work within WP 1 is linked to a project within the GEEI that uses subgenomic data (ddRAD-seq) of the focal species of WP 1. The successful candidate will benefit from two training stays in leading international research centers (40 ECTS) and training in digital skills (95 ECTS) and complementary training (27.5 ECTS).

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

Email: bemerson@ipna.csic.es

Phone: 922474325

[momentum@csic.es](https://momentum.csic.es/) | <https://momentum.csic.es/>



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