

University of Barcelona, Faculty of Biology  
Department of Cell Biology, Physiology and Immunology  
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CP.08020

We are looking for a PhD candidate for a project within the Horizons 2020 EU-funded project Advancing European Aquaculture by Genome Functional Annotation (AQUA-FAANG) to be developed in the Cell Biology, Physiology and Immunology department of the University of Barcelona. The project offers great opportunities of collaboration with international partners in the consortium and within the Department.

The overall objective of the AQUA-FAANG consortium is the functional annotation of the genomes from six highly valuable aquaculture species using both transcriptomic and epigenetic information while performing comparative analyses to understand fundamental differences between species at molecular level and in an evolutionary context.

As part of the Work Package 6 (WP6) our group will contribute to the project performing bioinformatic and functional analysis of the transcriptomic and epigenetic data. Their expression will be characterized across the six species at different developmental stages (embryos, juveniles and adults), a variety of tissues and two sexes in order to functionally annotate their genomes. The PhD candidate will perform a comparative analysis of the data at different levels to identify molecular networks and their dynamics between tissues, stages, sexes and species. We will focus on paralogues subfunctionalization/neofunctionalization between tissues and stages. We will also characterize miRNA and lncRNA between tissues and species while identifying new lncRNA and their possible role in fish physiology. We will also work to unveil co-regulatory networks between protein coding genes and ncRNA. There is also the test specific hypothesis derived from the analysis of the data using *in vivo* and *in vitro* models. The PhD will be developed in the Cell Biology, Physiology and Immunology department under Dr Daniel Garcia de la Serrana, recently appointed Serra Hunter Tenure Track Lecturer, supervision. The PhD offers great opportunities for the development of a research career in genomics, acquisition of new skills and be able to work in related side project. There are also possible collaborations with partners of the consortium such as the European Bioinformatics Institute, Roslyn Institute or the Hellenic Centre for Marine Research and within the different groups of the Department with strong fish physiology background.

We are looking for a student with either a degree/Msc in Bioinformatics or a degree in Biology/Biochemistry/Biotechnology with a strong Bioinformatics background. It is also indispensable to have a competitive curriculum to be able to apply for PhD grants. International applicants with their own PhD funds are also welcome to apply. The candidate will have to be able to work independently, work on side projects related to the main AQUAFAANG objective and be able to cooperate with others groups. The PhD will might have to attend some of the AQUAFAANG meetings and/or show the results obtained in international conferences. Due to this is an EU project, English is a requirement.

Interested candidates please send an email with CV attached to  
Dr Daniel Garcia de la Serrana ([garciadelaserrana@ub.edu](mailto:garciadelaserrana@ub.edu)).



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