

Two Research Fellows and two PhD positions to study the genetic and epigenetic basis of fish domestication and the early detection of aquatic

invasive species

We are looking for 2 Postdoctoral Research Fellows and 2 PhD students to work on an exciting project that will use a multidisciplinary, cutting-edge approach to: 1. bridge, for the first time, the behavioural, genetic and environmental (epigenetic) components of fish undergoing domestication 2. disentangle the role of domestication in disease resistance in response to stress and temperature change, and 3. model pathways of introduction and dispersal of aquaculture-related invasive species (AIS) under different environmental conditions, combining state-of-the-art methods for early detection (environmental DNA) and citizen science. The AquaWales Research Cluster combines academic (Swansea, Cardiff and Aberystwyth Universities) and non-academic participants, including stakeholders and local government involved in policy and regulation, and will target these challenges by capitalising on the diverse and complementary expertise of the group (from behavioural ecology to genomics, citizen-science and fisheries policy). We will use a multidisciplinary approach to disentangle the basis of domestication and the response to crowding (stress and parasite susceptibility), an aspect often neglected in breeding programs, and to investigate the potential effects of climate change on the risk of expansion and establishment of non-native aquatic species associated with aquaculture and fisheries using state-of-the-art methods. Research Fellow positions are available for 42 months starting approximately April 2015. Applicants are expected to match the following criteria: - Have a PhD in a relevant field (e.g. Biology, Ecology, Genetics). - Not be awarded their first PhD less than 2 years and more than 8 years prior to the starting date of the position. - Have published, confirmed accepted or in press, at least 5 papers in ISI accredited peer-reviewed journals by the starting date of the position. (Applicants with longer periods of postdoctoral experience will be expected to have proportionally higher numbers). Desirable criteria are: experience working on fish behaviour, genetics/genomics background, experience programming in R/Python

RF1: will be working on behavioural and epigenetic basis of fish domestication. RF1 will be mainly based at Swansea University developing behavioural and genetic/epigenetic methods for lines 1 & 2 of research.

RF2: will be working on the relation between domestication and disease resistance under stressful conditions crowding & disease: tilapia, salmon). RF2 will be mainly based at Cardiff University working on infection and resistance under crowding conditions and developing infection protocols, culture assay methods and performing genomic/transcriptomic analyses.

PhD studentships are available for 42 months starting approximately April 2015. Applicants are expected to have a good 1st/2.1 degree in a relevant field (e.g. Biology, Ecology, Genetics). Desirable criteria are: - Molecular laboratory experience (or an interest in learning) - Knowledge of R/Python - Good statistical background

PhD1: will be based at Aberystwyth working on the gene expression underlying disease resistance in different temperature conditions under domestication conditions.

PhD2: will be based at Swansea working on the development of molecular methods for early detection of aquatic invasive species in combination with citizen science approached (e.g. mobile apps). The three Research Lines are integrated and fully collaborative among all the 3 institutions and RFs and PhD students are expected to collaborate closely in all of them. Informal enquiries can be directed to RF1, PhD2: Sonia Consuegra (s.consuegra@swansea.ac.uk)

-)- Carlos Garcia de Leaniz (c.garciadeleaniz@swanea.ac.uk)
 -) RF2: Jo Cable (CableJ@cardiff.ac.uk)
 -) Pablo Orozco-terWengel (Orozco-terWengelPA@cardiff.ac.uk)
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