



Candidate Information

Position:	Research Assistant
School/Department:	School of Biological Sciences
Reference:	22/110492
Closing Date:	Monday 9 January 2023
Salary:	£29,619 - £34,308 per annum.
Anticipated Interview Date:	Thursday 19 December 2022
Duration:	Available until 31 December 2023

JOB PURPOSE:

To be an active member of the research team working on a project entitled "Coupling CRISPR-Cas environmental DNA assays with lateral flow for rapid on-site detection of species of conservation management concern on the island of Ireland (CREDA)".

Project summary: Ireland and the world are experiencing a biodiversity crisis, including our endemic freshwater fish species which are currently listed as threatened and/or vulnerable in both Ireland and Northern Ireland. CREDA is a cooperative project between DCU and QUB that seeks to support the conservation management of our threatened species and enhance the education and cultural understanding North and South.

The project aims to develop DNA based methods to detect specific fish species that can give results at the water source using a paper strip, similar to a pregnancy test. The method is based on environmental DNA or eDNA, a methodology that has been considered a 'game changer' by the International Union for the Conservation of Nature as it enables surveys to be carried out much faster, is potentially more informative and does not require fish capture or sighting.

MAJOR DUTIES:

1. Support the research team working on the CREDA genetic project in the acquisition of sequencing data from target species for the development of eDNA assays.
2. Further develop and utilise genomics methodologies (e.g. Sanger and Next Generation sequencing), and associated analytical laboratory capabilities (e.g. DNA extraction, quantification and quality assessment), in order to generate reliable data to address project objectives.
3. Catalogue and prepare biological material for sequencing analyses.
4. Assist with sequencing analyses for the identification of species and/or lineage specific SNPs for the subsequent development of CRISPR-Cas eDNA assays.
5. Present regular progress reports on research to members of the research team and/or to external audiences to disseminate and publicise research findings.
6. Assist with the preparation, in consultation with project PIs, material for publication in national and international journals.
7. Carry out routine administrative tasks associated with the research project to ensure that it is completed on time and within budget. These might include organisation of project/group meetings and documentation, stock management, risk assessment of research activities and development of SOPs.

ESSENTIAL CRITERIA:

1. Have a degree or equivalent in such as Population Genetics, Marine Biology or Molecular Biology and Genetics.
2. Minimum one year of proven practical experience with curation/cataloguing large number and variety of biological tissue material for genetics and genomics analyses.
3. Minimum one year of proven practical experience with electronic databases.
4. Minimum one year of proven experience with genomic DNA extraction of biological samples and quality assessment of resulting DNA.
5. Possess sufficient breadth or depth of specialist knowledge to work within the area of finfish and shellfish population genetics.

6. Experience with research report writing.
7. Methodical approach to project management and meticulous with regard to experimental procedures and record keeping.
8. Contribute to general culture of the laboratory, particularly passing on skills to new members.
9. Highly ambitious, motivated, efficient, organised and show a commitment to, and interest in, research topic.
10. Ability to communicate complex information clearly.
11. Ability to build contacts and participate in internal and external networks.
12. Demonstrable intellectual ability.
13. Ability to assess and organise resources.
14. Irregular hours including evening, weekend and other out-of-hours working will be a component of the research at times.

DESIRABLE CRITERIA:

1. MSc or PhD in Fish or Shellfish Population Genetics, Genomics, Evolutionary Biology.
2. Practical experience of genomic DNA extraction using a number of protocols and from a variety of biological species.
3. Practical experience with DNA quantification using both electrophoretic and fluorescent based methods.
4. Experience working in a molecular laboratory associated with high throughput genetic screening methodologies.
5. Experience with Research project management.
6. Presentation to Project Workshop and other relevant venues.