

## Candidate Information

|                                    |   |
|------------------------------------|---|
| <b>Position:</b>                   | Research Fellow                         |
| <b>School/Department:</b>          | School of Biological Sciences           |
| <b>Reference:</b>                  | 22/110496                               |
| <b>Closing Date:</b>               | Monday 9 January 2023                   |
| <b>Salary:</b>                     | £35,333 - £42,155 per annum.            |
| <b>Anticipated Interview Date:</b> | Thursday 19 January 2023                |
| <b>Duration:</b>                   | Fixed term available until 31 July 2023 |

### JOB PURPOSE:

To be an active member of the research team working a project entitled "Evidence of Biological and Genetic Bottlenecks of Irish Sea Whiting". The aim of this project is to assess the fishery impact on the biology and genetic diversity of the Irish Sea whiting. The Irish Sea whiting stock is currently in a sustained depleted state, having below Blim (Biomass limit below which a stock is considered to have reduced reproductive capacity) since 1994. Whiting recruitment has been at a low level since 1991, and individual weight at age has declined by around 50% since 1980. Using modern genomics techniques, the objective of this project is to establish whether fishing pressure has resulted in a fishery induced genetic change (fisheries induced evolution) in the Irish Sea whiting. The ultimate goal is to explore (through modelling) the potential for the Irish Sea whiting stock to revert to former exploitable status.

### MAJOR DUTIES:

1. Develop, plan and deliver an area of personal research and expertise, and lead research, in collaboration with project PIs, within the research programme aiming. Using modern genomics techniques, to establish whether fishing pressure has resulted in a fishery induced genetic change (fisheries induced evolution) in the Irish Sea whiting.
2. Catalogue and prepare biological material for genetics and genomics.
3. Design, develop and implement genetic and genomics methodologies (e.g. microsatellite and SNP genotyping of both nuclear and mtDNA genes), and associated analytical laboratory capabilities (e.g. DNA extraction, quantification and quality assessment), in order to generate reliable data to address project objectives.
4. Carry out population genetic analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of population and evolutionary genetics research.
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. Prepare, often in consultation with project PIs, material for publication in national and international journals and presentations at international conferences.
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, financial control, stock management/procurement, risk assessment of research activities and development of SOPs.

### ESSENTIAL CRITERIA:

1. Have or about to hold a PhD in a relevant area such as Population Genetics, Genomics or Evolutionary Biology.
2. At least 3 years' recent relevant research experience.
3. Practical experience with curation/cataloguing large number and variety of biological tissue material for genetics and genomics analyses.
4. Practical laboratory experience in molecular genetics including DNA extraction, PCR, microsatellite and SNP genotyping.
5. Proven experience of genomic DNA extraction using a number of protocols and from a variety of biological species.
6. Experience with high throughput genetic screening protocols and methodologies.
7. Experience with population genetics analyses of microsatellites and SNPs data (e.g. GeneMapper, GeneMarker, STRUCTURE, Genepop, diversity, etc).
8. Experience with paper and research report writing.

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

**DESIRABLE CRITERIA:**

1. PhD in Fish Population Genetics, Genomics or Evolutionary Biology.
2. Professional experience in the area of Population Genetics or Genomics.
3. Experience with the population genetics of finfish.
4. Experience with ABI DNA analyser and high throughput microsatellite genotyping and analyses.
5. Experience with automated systems for molecular analyses including maintenance, training, SOPs and day to day operation.
6. Experience with high throughput SNP genotyping and analyses.
7. Experience with automated (robotic) systems.
8. Experience with teaching and/or supervision.
9. Experience with Research project management.
10. Experience with mentoring and supervision of research students and colleagues.
11. Presentation to Project Workshop and other relevant venues.