

Job Description

1. Job Details

Department:	PDRA in Macroalgal Population Genetics	Job Family:	Science
Line Manager:	Senior Principal Investigator	Grade Range:	Grade 5/6 £32,546 - £38,249
Full Time/Part Time	Full Time – 37 hours per week	Duration of appointment	3 years

Please note: Responsibilities, depth and outputs of activities will be adjusted where a candidate is appointed at Grade 6. At G6 there is an expectation that candidates will be more established in their career trajectory than Grade 5.

2. Job Purpose

The post holder will be joining the NSF/UKRI BBSRC International Bioeconomy Macroalgal Centre project. The role will be required to -

- Investigate the population structure, genetic diversity, connectivity, adaptation and demographic history of kelps (macroalgae).
- Contribute to developing sample DNA extraction protocols that enable genome skimming of kelps using long-read DNA sequencing technology.
- Develop and adapt reproducible bioinformatic workflows for the analysis of genomic datasets and population genetics.
- Coordinate research with the SAMS team for the field and laboratory collection and processing of kelp samples.
- Participate and communicate research outputs in planned workshops and national and international conferences.
- Work and interact with international project partners (USA, Canada, Norway, Korea).
- Lead and contribute to peer-reviewed publications.
- Contribute to the development of research proposals and funding applications.

3. Main Responsibilities

<i>Responsibility Areas</i>	<i>Approx. % of time</i>
Undertake development and application of DNA extraction and related DNA sequencing technologies for generation of population genetic and genomic datasets. Assist with fieldwork.	25
Develop and execute the use reproducible bioinformatic workflows for population genetic and genomic analyses.	50
Lead and contribute to writing of peer-reviewed publications and income generation.	15
Contribute to workshop development and participation.	5
Contribute to wider SAMS activities in education (undergraduate and postgraduate teaching/mentoring), innovation and enterprise.	Ongoing
Be proactive in the application of SAMS Health and Safety Procedures.	Ongoing

4. Planning and Organising

- Plan and coordinate sample collection and processing with SAMS project team.
- Plan and organise development and application of bioinformatic workflows.
- Plan and deliver population genetic and genomic analyses in a timely manner.
- Plan and manage workload within own area. Ensure work is up to date and meets deliverables to time and quality.
- Attend project and other meetings as and when required.
- Plan and complete own set career objectives including writing of publications, developing own research area, developing new areas/contribution to future proposals.

5. Problem-Solving

Highly developed problem-solving and investigative skills required to:

- Adopt and develop innovative approaches for use of long-read DNA sequencing technology for macroalgal population genetic analyses;
- Develop and undertake bioinformatic analyses of macroalgal genomic datasets; explore and discover the basis of macroalgal population structure.
- Able to solve problems within own work area. Seek assistance with areas of less developed knowledge or application, or more complex situations.

6. Decision-Making

- Be proficient in independent thinking and decision making to develop and evaluate appropriate routes to solve problems.
- Determine best course of action to take research forward, seeking support from peers and PI, where required.

7. Key Contacts/Relationships

- Prof. Michele Stanley and the SAMS project team (Kati Michalek, Reina Veenhof, David Green, Puja Kumari, Suzi Billing).
- Wider research community at SAMS, including IT for support of bioinformatic servers at SAMS. Additional contacts will be with the project's international partners in the USA, Canada, Norway and Korea.

8. Knowledge, Skills and Experience we are looking for

- PhD in Population Genetics, Evolutionary Biology, Genomics, Algal or Plant Genetics, Molecular Ecology or related disciplines.
- Demonstratable expertise working with population genetic or population genomic data and analyses.
- Good statistical and quantitative data analysis skills.
- Proficiency in R and/or Python or other relevant code base for population/genomic data analyses.
- Experience working in Linux/HPC environment.
- Strong publication record relative to career stage.
- Desirable experience of genome assembly, annotation and comparative genomics or marine environmental genomics.

9. Dimensions – Scope of role

- Work independently to deliver laboratory and computer-based research.
- Communicate and coordinate with the SAMS project team (5 staff) to achieve and support delivery of outputs, communications and publications.
- Deliver ca. two 3*-4* publications.
- Contribute to future income generation in the form of proposals and contracts.
- Support wider SAMS activities, including Education.

10. Any other relevant information

The post holder may be required to perform duties other than those given in the job description for the post. The particular duties and responsibilities attached to posts may vary from time to time without changing the general character of the duties or the level of responsibilities entailed. If the normal duties of the post include going to sea (apart from small boats e.g. RHIB's) the applicant must be able to obtain the ENG1 medical certification and complete the STCW 95 Personal Survival Techniques training.