

Job Description

1. Job Details

Department:	PDRA in Metabolomics and Biochemistry	Job Family:	Science
Line Manager:	Principal Investigator in Molecular Microbiology	Grade Range:	Grade 5 £32,546 - £34,132 per annum
Full Time/Part Time	Full Time – 37 hours per week	Duration of appointment	2.5 years

2. Job Purpose

- To investigate cultivation of thraustochytrids on different marine waste streams and biochemically analyse the effects on the production of lipids, metabolites and other putative biotechnological products.
- To lead development and identification of novel biotechnological products resulting from the cultivation of thraustochytrids.
- To lead investigation in using bioinformatic analysis to guide design of cultivation media.
- To develop streamlined work flows and methods for metabolite analysis.
- To participate and communicate research outputs in planned project meetings and national or international conferences.
- To work and interact with EU project partners (Germany, Republic of Ireland).
- 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>
Development of media and methods for the cultivation of thraustochytrids on marine biomass waste streams for the biotechnological exploitation of their metabolites.	35
Co-ordinate development and delivery metabolomic and biochemical methods and analyses to identify exploitable lipids and metabolites.	35
Use of bioinformatic analyses to design cultivation media	10
Prepare and write peer-reviewed publications to support project and contribute to future project proposals to su	15

Lead report preparation and project meeting organisation.	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 organise development and application of cultivation methods.
- Plan and coordinate marine biomass collection and product delivery with EU project partners.
- Plan and deliver metabolomic and biochemical analysis and data interpretation.
- Plan time for data compilation and writing of project reports and peer-reviewed publications.

5. Problem-Solving

- To have highly developed problem-solving and investigative skills required to: adopt and develop innovative approaches for the cultivation of thraustochytrids on non-standard media; develop and deliver metabolomic analysis and data analysis; explore the use of bioinformatic data to design better cultivation media.

6. Decision-Making

- To be proficient in independent thinking and decision making to develop and evaluate appropriate routes to solve problems.

7. Key Contacts/Relationships

- Prof. Adam Hughes and David Green and the wider research community at SAMS, including metabolomic and analytical chemistry team for support of instruments and method development.
- Additional contacts will be with the project's EU partners in Germany and Republic of Ireland.

8. Knowledge, Skills and Experience we are looking for

- PhD in Metabolomics, Lipidomics, Biochemistry, Algal Biotechnology, Fermentation or related disciplines.
- Demonstratable expertise in cultivation of phototrophic or heterotrophic microorganisms
- Demonstratable expertise with sample preparation, instrument use and analysis of metabolomic data
- Good quantitative and statistical data analysis skills.
- Proficiency with genomic data and use of relevant software for bioinformatic analysis
- Relevant publication record relative to career stage.
- Desirable experience working with marine eukaryotic microorganisms, understanding of biorefineries and circular biotechnology.

9. Dimensions – Scope of role

- Work independently to deliver laboratory-based research.
- Communicate and coordinate with the SAMS project team (A. Hughes and D. Green) to achieve and support delivery of outputs, communications and publications.
- Deliver ca. 1-2 3*-4* publications.

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. The role is potentially suitable for remote working. The postholder will be required to work away from home/SAMS from time to time. The post may include periods of seagoing and the applicant must therefore be able to obtain the ENG1 medical certification and complete the STCW 95 Personal Survival Techniques training.