JOB DESCRIPTION

JOB ROLE: Post-doctoral Research Assistant position 2 (algal ecophysiology)

JOB PURPOSE: This ERC funded post will investigate cell biology, physiology and signalling of single-celled algae. The post will involve designing and conducting co-culturing experiments with model diatom cultures. Fluorescence microscopy will also be employed to study transgenic diatom strains expressing fluorescent reporter constructs. Working together with a dedicated research technician the successful candidate will generate (using CRISPR-Cas9) and examine mutant lines.

ACCOUNTABILITY Reporting to: Dr Katherine Helliwell, Senior Research Fellow

Essential experience/skills/qualifications:

- PhD or comparable experience in Microbiology, Molecular Biology, Algal Biology, Plant Sciences or related fields.
- Advanced skills in aseptic technique, designing and implementing algal physiology and signaling experiments.
- Proficiency in molecular biology techniques, including cloning/plasmid design, plasmid preparation, PCR, RNA and DNA extraction and algal genetic modification.
- Microscopy/live-cell imaging, ideally with experience using light, epifluorescence and confocal microscopy.
- Experience and interest in writing research publications.
- Highly motivated to do fundamental scientific research to a high standard
- Demonstrated ability to work independently and as part of a team.
- Strong communication skills and ability to work effectively in a highly collaborative research environment.
- Excellent English language skills (both oral and written).

Desirable experience/skills/qualifications:

- Experience of diatom genetic modification/gene knockout approaches
- Ca^{2+} imaging/ reporter strain generation, imaging and analysis
- Knowledge of algal-bacterial interactions
- Experience in analysing and interpreting large 'omics datasets such as RNA-seq/proteomics.

Key responsibilities and skills

1. <u>To undertake research, as follows:</u>
    - Designing and conducting laboratory experiments to test defined research questions.
    - Analysing and interpreting the results of own research and generating original ideas based on outcomes.
    - Using new research techniques and methods.
    - Using initiative and creativity to identify areas for research, developing new research methods and extending the research portfolio.

- Using creativity to analyse and interpret research data and draw conclusions on the outcomes.
- Dealing with problems which may affect the achievement of research objectives and deadlines.
- Writing up research work for publication.
- Developing research objectives and proposals for own or joint research;
- Making presentations at national and international conferences and similar events.
- Ensure data management, storage and sharing of project data in compliance with relevant standards and protocols.
- Carry out tasks in compliance with Health and Safety and other relevant regulations in line with MBA policies.
- Undertake any other tasks identified as being within the job holders capabilities.

2. To collaborate with and assist other members of the team:
    - Including attending regular group meetings, and engaging in constructive discussions, providing support and feedback to colleagues. Sharing knowledge and expertise with students and other postdocs in the group.
3. To contribute to research-focussed teaching:
    - including assisting in the supervision of student projects and in the development of student research skills.
    - Where relevant, contributing to MRES practical's as part of the wider research group.