

Research Associate or Senior Research Associate in Organic Geochemistry

1 JOB DESCRIPTION

Faculty / School or Division: **School of Earth Sciences**

Faculty/School or Division Address: Wills Memorial Building, Queens Road BS8 1RJ

Job Family:	Research		
Grade/Pathway:	I or J, depending on experience; PW2	Salary range:	£39,906 - £44,746 (Grade I) £44,746 - £50,253 (Grade J) Per annum
Hours of work:	35	Contract type:	Fixed term until 06/08/2027
Work pattern:	Full-time (1FTE)	Vacancy Reference Number: ACAD108730	

1.1 Main Job Purpose

The aim of this research is to understand how phytoplankton fractionate carbon under different environmental conditions (e.g., CO₂, light, pH), with the implications for understanding the evolution of photosynthesis and climate change over Earth history. This project is led by Dr Caitlyn Witkowski, funded by the Royal Society.

The role holder will be responsible for designing and conducting continuous culturing experiments using a chemostat bioreactor. Following the experiments, they will extract and analyse the phytoplankton lipids using analytical instrumentation (GC-FID, GC-MS, GC-C-IRMS, HPLC-MS). The role holder will communicate the findings from this project to the relevant research communities through the use of scientific conference presentations and peer-reviewed publications. The role holder will have opportunities to explore a wide range of organic geochemistry and biosynthesis questions, present at international conferences, develop their own scientific and interdisciplinary ideas, and work with local and international collaborators. They will be supported to take on leadership opportunities (e.g., student supervision) and have the freedom and resources to build their own career portfolio (e.g., via workshops, training, etc).

1.2 Main Statement of Responsibilities

Research Responsibilities

- Design, develop, and apply culturing methods using a chemostat bioreactor
- Analyse phytoplankton biomass for its lipid content

- Interpret findings in the framework of published literature on stable carbon isotopic fractionation
- Co-ordinate own work with that of others in the team and beyond, deal with problems which may affect the achievement of research objectives and contribute to the planning of the project(s)
- Contribute to positive and engaging research environment
- Be part of dynamic organic geochemistry laboratory
- Use initiative and creativity to analyse and interpret research data and draw conclusions on the outcomes.
- Effectively communicate results to scientific community through presentations and peer-reviewed publications
- May participate in outreach activities to achieve engagement with research and/or impact beyond academia.
- Appointment at the Senior Research Associate level will require previous experience in research at PDRA level or equivalent industry-level, and evidence of being able to independently lead the project.

Administration Responsibilities

- Maintain academic standards and work in accordance with the University of Bristol policies (e.g. acceptable behaviour, ethics, and relevant health and safety policies).
- Maintain a safe and active laboratory environment (e.g., contribute to general instrument maintenance, ordering consumables, upstanding health and safety for lab users)
- Engage effectively in the University's Staff Review and Development process and develop, with advice, an awareness of their own professional development needs and a personal development strategy, engaging with continuing professional development appropriate to the role.

Teaching Responsibilities

As this role is a Pathway 2 (Research) role, there are no formally specified teaching duties required of the role-holder. However, other commitments permitting, the role-holder may be given development opportunities to undertake activities such as teaching on Masters and Doctoral programmes and/ or supervising MSc dissertations within the School of Earth Sciences and the School of Chemistry, as appropriate.

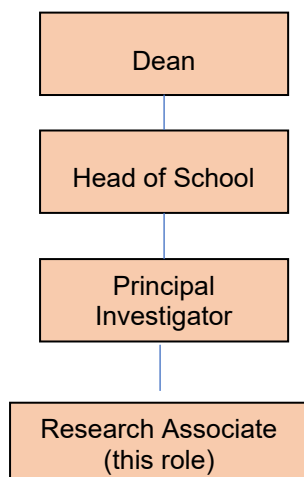
1.3 Relationships

The post holder will work with Dr Caitlyn Witkowski, members of the Organic Geochemistry Unit in the School of Chemistry where the bioreactor experiments and lipid analyses will take place, and members of ICL4 in the School of Earth Sciences where the setup for the culturing will take place.

Line manager: Caitlyn Witkowski

Line manager to (where appropriate): N/A

1.4 Organisation Charts



1.5 Job Hazards/Safety Critical Duties (Pre-employment health screening)

The following duties are an intrinsic part of the role and any offer of employment will be conditional upon satisfactory health screening by the University Occupational Health Service:

Chemical Hazards:

- Exposure to possible skin and respiratory irritants including those classified as:
 - Skin Corrosion Category 1A, 1B or 1C
 - Skin Irritation Category 2
 - Chemicals assigned the Hazard Phrases:
 - H314 Causes severe skin burns
 - H315 Causes skin irritation
 - H316 may cause mild skin irritation
 - H335 May cause respiratory irritation
 - Working with sensitising chemicals including those classified as:
 - Category 1, 1A and 1B skin sensitisers
 - Category 1, 1A and 1B respiratory sensitisers
 - Chemicals assigned the Hazard phrases:
 - H317 May cause allergic skin reaction
 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Exposure to dusts or activities which may give rise to excessive dust e.g.:
 - Silica dusts
 - Handling loose powders
 - Crushing & grinding activities
 - Regular use of latex or nitrile gloves.
 - Work with substances necessitating the use of RPE

2 PERSON SPECIFICATION

2.1 Relevant Experience, Skills and Knowledge

Essential

- Relevant experience in developing and applying analytical organic geochemical methods
- Relevant experience working with microbial biomass and its lipid content
- Excellent organisational skills and attention to detail
- Experience of working in teams
- Ability to write and publish scientific manuscripts, data reports and summaries
- Ability to develop, implement and monitor standard operating and QA procedures
- Ability and willingness to learn new skills and knowledge
- Appointment at the Senior Research Associate level will require previous experience in research and (under)graduate supervision at PDRA level or equivalent industry-level, as well as experience in leading independent project management

Desirable

- Experience working with lipid biomarkers
- Experience working with stable isotopes (C, H)
- Experience working with relevant analytical instrumentation (GC-FID, GC-MS, GC-C-IRMS, HPLC-MS)
- Experience supervising & mentoring (under)graduate students and visitors

2.2 Relevant Qualifications

Essential

- A PhD or near completion, or equivalent research experience in an academic, industrial or clinical setting equivalent to a PhD in Chemistry, Earth Sciences, Biology, Geography, or relevant subject

2.3 Communication and Interpersonal Skills

Essential

- Evidence of clear and concise writing skills including the production of scientific project reports, scientific journal articles, and presentations
- Excellent communication, interpersonal skills, and teamwork skills.
- Excellent people-management skills, particularly the ability to motivate other research staff and (under)graduates.

Desirable

- Evidence of contributing to outreach activities

3 CAREER PATHWAY AND OTHER RELEVANT INFORMATION

3.1 Career Pathways

All members of academic staff have a clear career pathway involving a series of levels with distinct role profiles, each with its unique requirements. Each profile sets out what is expected of an academic at the particular level. The role profiles also set out a collection of competencies expected for each level. Promotion to the next level may occur after these competencies have been attained in conjunction with the expectations outlined in the Promotions Process and Academic Promotions Framework (APF) applicable to the role. .

The academic pathways are as follows:

Career Pathway One - academic roles that combine teaching, research and administrative duties.

Career Pathway Two - academic roles focusing on research and associated administrative duties.

Career Pathway Three – academic roles focusing on teaching and associated administrative pathways

This post is located on Pathway Two. Role Summaries setting out what is expected of an academic at each particular profile level on pathway two can be found below. Please note that an appointment may be made at any level of the pathway.

A schematic diagram of the career pathways can be found at <http://www.bristol.ac.uk/hr/grading/academic/>.

The University has two procedures for promotions depending on the level of promotion being applied for as follows:

Promotion up to Senior Lecturer / Senior Research Fellow
Promotion to Associate Professor or Professor

The procedure for Promotion up to Senior Lecturer / Senior Research Fellow describes the process for anyone on the academic career pathways and is based on the concept of readiness as determined with managers using the Academic Promotions Framework (APF). Eligibility for making a case for promotion is subject to:

1. Having a contractual expectation and meeting the performance requirements described in the Promotion up to Senior Lecturer / Senior Research Fellow process
2. Completion of a full year of service following appointment and successful completion of their Initial Service Review (ISR)
3. Meeting the expectations set out in the CREATE policy for those with teaching responsibilities (pathway 1 and 3), e.g. those seeking promotion to Senior Lecturer should achieve and have been formally notified of their Fellowship (ratified outcome) through the University's CREATE scheme before applying

The procedure for Promotion to Professor covers staff for promotion to profile level d2 (Associate Professor) and profile level e (Professor) on all pathways in the [Academic Career Pathway](#) framework.

3.1.1 Role Summaries

Research Associate (Level a)

Role holders at this level are concerned with *assisting* an individual research leader or team to conduct a particular study (or group of studies). They will generally be involved in data generation and/or collection using standard and well-defined methods developed by others. They will be working under close supervision by, and direction from, a more senior researcher, who will be ultimately responsible for the project. This may be the entry level for some staff who are expected to train and/or develop to take on more senior researcher roles. Role holders will be provided with academic and pastoral support within the department (including counselling on realistic career opportunities) and training will be available designed to develop their competences and to prepare them to take on more responsibilities associated with a higher grade.

Senior Research Associate (Level b)

Role holders at this level will be experienced and professional researchers (or have considerable professional experience) and will be specialists in a particular area or methodology, drawing upon knowledge gained from postgraduate research and/or working within a Level a role. They will be *associated* with a particular project (or projects) and will contribute ideas, and/or enhancement of techniques or methodologies. They will be expected to do some writing for dissemination outside the Department. They will still be working under supervision, but will be expected to take significant initiatives in their work and consult with the Principal Investigator over the details of the project. They may, where practical, contribute to the department's teaching, through supervision of projects, overseeing practical classes, or taking small group classes. They will be provided with academic and pastoral support within the department and training will be available designed to develop their competences (including counselling on realistic career opportunities) and prepare them to take on more responsibilities associated with a higher grade.

3.2 Additional Statistical Information. This can also include any other relevant contextual or specific role or team information not included elsewhere

3.3 Relevant Physical and Environmental Information

3.4 Key Contacts

Contact Type

- Caitlyn Witkowski

Purpose of Contact

Line manager