



THE POST

College:	Life and Environmental Sciences
Post:	Postdoctoral Research Fellow: Permafrost carbon dynamics
Reference No:	P70024
Grade:	F
HERA:	RFEL
Reporting To:	Prof. Iain Hartley
Responsible For:	Leading the research on a NERC-funded permafrost carbon dynamics project

The above full-time post is available from 1st January 2020 to 31st July 2023 in the College of Life and Environmental Sciences.

Job Description

Main purpose of the job:

This PDRF position will take a leading role in delivering the science in a new NERC-funded project that aims to determine the extent to which the formation of new soil organic matter can offset carbon emissions from thawing permafrost soils. The successful applicant will establish and maintain swards of *Eriophorum vaginatum* growing under a ¹³C-labelled atmosphere within Exeter's laboratories, and trace the new carbon fixed by photosynthesis into contrasting active-layer and permafrost soils. Soil samples were collected in August 2019 from a range of arctic and boreal permafrost regions in Northwest Territories and Yukon, Canada. The soils are now in Exeter, ready for carrying out some novel and pioneering experiments as part of an experienced interdisciplinary science team (soil and ecosystem science, plant ecology and permafrost science from the Universities of Exeter, Sussex, Sheffield and Stockholm).

The key responsibilities of the post will include:

1. Establishing and maintaining plant-soil mesocosms in controlled laboratory conditions.
2. Measuring rates of soil CO₂ release and its isotopic composition.
3. Completing isotopic analyses of different soil organic matter fractions in contrasting soils.
4. Analysing large datasets using hypothesis-testing statistics.
5. Leading the presentation of findings at national and international conferences, and in leading academic journals

Main duties and accountabilities:

1. To undertake research as appropriate to the field of study. The responsibilities may include all or some of the following:
 - Acting as principal investigator on research projects;
 - Developing research objectives, projects and proposals;
 - Conducting individual or collaborative research projects;
 - Identifying sources of funding and contributing to the process of securing funds;
 - Extending, transforming and applying knowledge acquired from scholarship to research and appropriate external activities;
 - Writing or contributing to publications or disseminating research findings using media appropriate to the discipline;
 - Making presentations at conferences or exhibiting work in other appropriate events;
 - Assessing, interpreting and evaluating outcomes of research;
 - Developing new concepts and ideas to extend intellectual understanding;

- Resolving problems of meeting research objectives and deadlines;
 - Developing ideas for generating income and promoting research area;
 - Developing ideas for application of research outcomes;
 - Deciding on /following research programmes and methodologies, often in collaboration with colleagues and sometimes subject to the approval of the head of the research programme on fundamental issues.
2. To contribute to teaching and learning programmes in the School and to supervise postgraduate research students.
 3. To act as research team leader including:
 - Mentoring colleagues with less experience and advising on their professional development;
 - Coaching and supporting colleagues in developing their research techniques;
 - Supervising the work of others, for example in research teams or projects;
 - Developing productive working relationships with other members of staff;
 - Co-ordinating the work of colleagues to ensure equitable access to resources and facilities;
 - Dealing with standard problems and help colleagues to resolve their concerns about progress in research.
 4. To routinely communicate complex and conceptual ideas to those with limited knowledge as well as to peers using high level skills and a range of media and to present the results of scientific research to sponsors and at conferences.
 5. As determined by the nature of the project and at the direction of the PI, to plan, co-ordinate and implement research programme activity including:
 - Managing the use of research resources and ensuring that effective use is made of them;
 - Monitoring and reporting on the use of research budgets;
 - Helping to plan and implement commercial and consultancy activities;
 - Where appropriate, to plan and manage own consultancy assignments.

This job description summarises the main duties and accountabilities of the post and is not comprehensive: the post-holder may be required to undertake other duties of similar level and responsibility. Please visit the Human Resources website to view the Research Fellow role profiles.

Person Specification

Competency	Essential	Desirable
Attainments/Qualifications	PhD or equivalent in a terrestrial ecosystem science or biogeochemistry.	Be a nationally-recognised authority in the subject area.
Skills and Understanding	<p>Possess sufficient specialist knowledge in terrestrial ecosystem science to develop/follow research programmes and methodologies.</p> <p>Have good understanding of the functioning of high-latitude or high-altitude ecosystems.</p> <p>Strong record of research outputs in high-quality publications, commensurate to career stage.</p>	
Prior Experience	<p>Experience of measuring carbon storage in soils and/or carbon fluxes from plants and soils.</p> <p>Experience of managing research projects and research teams</p>	<p>Experience of using stable isotopes in carbon cycle science.</p> <p>Experience of undergraduate /postgraduate teaching and supervision. Experience of acting as principal investigator on</p>

		<p>research projects.</p> <p>Experience of managing a research project and/or research teams.</p> <p>Experience of growing plants under controlled environmental conditions</p>
Behavioural Characteristics	<p>Excellent written and verbal communication skills.</p> <p>Proven ability to solve and overcome problems.</p> <p>Able to communicate complex and conceptual ideas to a range of groups.</p> <p>Evidence of the ability to collaborate actively within the Institution and externally to complete research projects and advance thinking.</p> <p>Able to participate in and develop external networks.</p> <p>Able to balance the pressures of research, administrative demands and competing deadlines, specifically, strong organisational and time-management skills.</p>	<p>Able to identify sources of funding, generate income, obtain consultancy projects, or build relationships for future activities.</p>
Circumstances		

Informal Enquiries

Before submitting an application you may wish to discuss the post further by contacting Prof. Iain Hartley: telephone (01392 724362) or email i.hartley@exeter.ac.uk.

Terms & Conditions

Our Terms and Conditions of Employment can be viewed [here](#).

Further Information

Please see our [website](#) for further information on working at the University of Exeter.