

**Cynorthwydd Ymchwil Ôl-ddoethurol ym maes  
Rhyngweithiadau Planhigion-Microbau  
Athrofa y Gwyddirau, Amgylcheddol a Gwledig**

Cyfnod penodol hyd at 18 mis  
Gradd 7: £32,958 - £38,183 y flwyddyn

*I hyrwyddo gweithlu hyblyg, bydd y Brifysgol yn ystyried ceisiadau gan unigolion sy'n ceisio am swydd gyda threfniadau gweithio llawn amser, rhan amser, rhannu swydd, neu yn ystod y tymor yn unig.*

Rydym yn awyddus i benodi Cynorthwydd Ymchwil Ôl-ddoethurol brwdfrydig i ymuno â labordy Farrar yn IBERS, Prifysgol Aberystwyth.

Nod cyffredinol y prosiect 'Understanding and Exploiting Biological Nitrogen Fixation for Improvement of Brazilian Agriculture', a ariennir gan Gronfa Newton, yw datblygu technolegau arloesol i gynyddu cynhyrchiant cnydau ym Mrasil trwy ddefnyddio bacteria sy'n sefydlogi nitrogen fel ffynhonnell gynaliadwy o nitrogen sefydlog. Bydd deiliad y swydd yn ymuno â rhwydwaith o ymchwilwyr o'r DU a Brasil sy'n cydweithio'n agos fel Cyd-Ganolfan Rithwyr (<http://ubnfc.org/>).

Bydd y Cynorthwydd Ymchwil Ôl-ddoethurol yn Aberystwyth yn nodweddu endoffytau bacterol newydd i asesu eu potensial ar gyfer sefydlogi nitrogen a hybu twf planhigion. Mae yna ddiddordeb cynyddol mewn microbiomau planhigion fel ffynhonnell o nodweddion manteisiol y tu hwnt i genomau planhigion. Bydd y prosiect yn astudio'r rhyngweithiadau rhwng bacteria unigol a phlanhigion cnwd mewn manylder, yn cynnwys o dan amodau lle mae maetholion a dŵr yn gyfyngedig, yn y Ganolfan Ffenomeg Planhigion Genedlaethol yn Aberystwyth ([https://www.aber.ac.uk/cy/ibers/about-us/facilities/national\\_plant\\_phenomics\\_centre/](https://www.aber.ac.uk/cy/ibers/about-us/facilities/national_plant_phenomics_centre/)), a bydd yr elfennau genetig yn cael eu pennu trwy ddadansoddi transcriptom. Dilynir y prosesau cytrefu yn ficrosgopig. Bydd mathau dethol o facteria sy'n cynnig manteision sylweddol o safbwynt perfformiad planhigion yn cael eu dilyniannu, a'r genomau yn cael eu dadansoddi.

Ariennir yr ymchwil gan Gronfa Newton trwy'r Cyngor Ymchwil Biotechnoleg a Gwyddorau Biolegol (BBSRC) a Chyngor Cenedlaethol Brasil ar gyfer Asiantaethau Cyllido Taleithiol (CONFAP). Bydd yr ymchwil yn cael ei gynnal yn labordai Athrofa'r Gwyddorau Biolegol, Amgylcheddol a Gwledig (IBERS, <https://www.aber.ac.uk/cy/ibers/>), ym Mhrifysgol Aberystwyth o dan oruchwyliaeth Dr Kerrie Farrar (<https://www.aber.ac.uk/en/ibers/staff-profiles/listing/profile/kkf/>).

Gellir gwneud ymholiadau anffurfiol drwy gysylltu ag Dr Farrar ar 01970 823097 neu [kkf@aber.ac.uk](mailto:kkf@aber.ac.uk).

**Cyf: IBERS.17.1551**

Am fwy o wybodaeth ac i ymgeisio, ewch i <http://jobs.aber.ac.uk>.

Sefydliad Dwyieithog sy'n gweithredu Cynllun Iaith Gymraeg ac yn ymroddedig i Gyfle Cyfartal.

FEL ARFER FE BENODIR I SWYDDI O FEWN 4-8 WYTHNOS WEDI'R DYDDIAD CAU.



**Post-doctoral Research Assistant in Plant-Microbe Interactions  
Institute of Biological, Environmental and Rural Sciences**

Fixed term for 18 months  
Grade 7: £32,958 - £38,183 per annum

*To promote a flexible workforce, the University will consider applications from individuals seeking full time, part time, job share, or term time only working arrangements.*

Applications are invited for a highly motivated Post-Doctoral Research Associate (PDRA) to join the Farrar laboratory at IBERS, Aberystwyth University.

The overall aim of the Newton Fund project 'Understanding and Exploiting Biological Nitrogen Fixation for Improvement of Brazilian Agriculture' is to develop innovative technologies to increase crop productivity in Brazil using nitrogen-fixing bacteria as a sustainable source of fixed nitrogen. The post holder will join a network of UK and Brazilian researchers working closely together as a Virtual Joint Centre (<http://ubnfc.org/>).

The PDRA at Aberystwyth will characterise novel bacterial endophytes for biological nitrogen fixation and plant growth promotion potential. The plant microbiome is under growing interest as a source of beneficial plant traits beyond the plant genome. Interactions between isolated bacteria and crop plants will be studied in detail, including under limiting nutrient and water conditions in the National Plant Phenomics Centre at Aberystwyth ([https://www.aber.ac.uk/en/ibers/about-us/facilities/national\\_plant\\_phenomics\\_centre/](https://www.aber.ac.uk/en/ibers/about-us/facilities/national_plant_phenomics_centre/)), and genetic components will be determined via transcriptome analysis. Colonisation will be followed microscopically. Selected bacterial strains conferring significant benefit to plant performance will be sequenced and the genomes analysed.

The research is co-funded by the Newton Fund via the Biotechnology and Biological Sciences Research Council (BBSRC) and the Brazilian National Council for State Funding Agencies (CONFAP) and will be undertaken in the well-equipped laboratories of the Institute of Biological, Rural and Environmental Sciences (IBERS, <http://www.aber.ac.uk/en/ibers/>), Aberystwyth University under the supervision of Dr Kerrie Farrar (<https://www.aber.ac.uk/en/ibers/staff-profiles/listing/profile/kkf/>).

To make an informal enquiry please contact Dr Farrar on 01970 823097 or [kkf@aber.ac.uk](mailto:kkf@aber.ac.uk).

**Ref: IBERS.17.1551**

For information and to apply, please go to <http://jobs.aber.ac.uk>.

We are a Bilingual Institution which operates a Welsh Language scheme and is committed to Equal Opportunities.

APPOINTMENTS ARE NORMALLY MADE WITHIN 4-8 WEEKS OF THE CLOSING DATE.



## **Further Particulars (Yn Saesneg yn Unig)**

**This job description is subject to review and amendment in the light of the changing needs of the University, to provide appropriate development opportunities and/or the addition of any other reasonable duties.**

We are seeking a self-motivated and creative individual who can work both independently and collaborate successfully as part of an international team. They will hold a PhD in microbiology, plant science or a related discipline and have a track record of conference presentations and contribution to peer reviewed publications.

The post holder will be responsible for leading the experimental work and analysing and integrating diverse datasets (e.g. phenomic, genomic, transcriptomic, microscopic data) to identify and understand morphological and genetic components of successful plant-microbe interactions. They will have a proven track record in experimental design and execution, practical experience of working with plants and microbes and expertise in bioinformatics and genome analysis.

Good interpersonal skills, as well as oral and written communication skills and the ability to record, analyse and present data are essential. The post holder will be expected to participate in the communication of results at project meetings and conferences and writing up findings for publication. The successful candidate will interact with project partners in the UK and Brazil and must be available to travel to meetings and for short visits to collaborating laboratories in Brazil.

### **Main Duties & Responsibilities:**

- Construct experiments, tests, observations, field studies and the like within research project parameters;
- Carry out experiments, test, observations, field studies and the like;
- Conduct literature and database searches;
- Analyse, interpret and report results;
- Contribute to the publication of the results of the research and present as required;
- To undertake health and safety duties and responsibilities appropriate to the post;
- To be committed to the University's Equal Opportunities and Diversity Policy, together with an understanding of how it operates within the responsibilities of the post;
- To be committed to your own development and that of your staff through the effective use of the University's staff development and performance review;
- Any other duties reasonably requested.

The responsibilities of this vacancy have been matched to the Academic Role Profile Research 2. Details of the role profile can be found at:

<https://www.aber.ac.uk/en/media/departmental/humanresources/frameworkagreement/academicprofiles/R2.pdf>



## Person Specification

Essential	Desirable
<b>Qualifications</b> <ul style="list-style-type: none"> <li>PhD in plant biology, microbiology or a related subject, or equivalent experience;</li> </ul>	
<b>Experience</b> <ul style="list-style-type: none"> <li>Practical experience of working with plants and microbes;</li> <li>Track record of conference presentations and contribution to peer reviewed publications;</li> <li>Proven track record of carrying out research and contributing to research projects;</li> </ul>	<ul style="list-style-type: none"> <li>Experience of isolating, culturing and identification of environmental bacteria;</li> <li>Experience of plant-microbe inoculation experiments;</li> <li>Excellent publication record;</li> </ul>
<b>Knowledge</b> <ul style="list-style-type: none"> <li>An in-depth knowledge of bioinformatics and genome analysis;</li> </ul>	<ul style="list-style-type: none"> <li>Expertise in plant-microbe interactions;</li> <li>Expertise in biological nitrogen fixation;</li> </ul>
<b>Skills</b> <ul style="list-style-type: none"> <li>Good interpersonal skills, as well as oral and written communication skills;</li> <li>Ability to design and conduct statistically robust experiments;</li> <li>Ability to record, analyse and present data;</li> <li>Ability to travel to Brazil annually;</li> <li>Self-motivated with an ability to prioritise workload and deliver outputs to a high standard;</li> </ul>	<ul style="list-style-type: none"> <li>Excellent bioinformatics skills;</li> <li>Full valid UK driving licence, or equivalent right to drive in the UK and Brazil;</li> </ul>
<b>Language</b> <ul style="list-style-type: none"> <li>An ability to understand the bilingual nature of the University and an awareness of the procedures in place to support working through the medium of Welsh.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to speak Portuguese.</li> </ul>

