

Research Assistant – School of Geographical Sciences

FURTHER PARTICULARS

JOB DESCRIPTION

Department/ Address: School of Geographical Sciences, University Road, Bristol, BS8 1SS

Academic Faculty/ Support Services Division:

Staff Category/ Grade: 1A

Salary Range: £20,044 - £24,352

Hours of Work: 35 hours per week

Work Pattern: Flexible

Contract Type: 3-year time-limited contract

Main Job Purpose:

The School of Geographical Sciences is looking to appoint a highly skilled, well organized individual to be responsible for fire-ecological data analysis and vegetation-fire modelling. The work is part of the **EU-FP6-funded Integrated Project “FIREPARADOX” (An Innovative Approach of Integrated Wildland Fire Management Regulating the Wildfire Problem by the Wise Use of Fire: Solving the Fire Paradox)**, involving scientists from 13 European and North-African countries. The aim of the project is to provide the scientific and technological basis for new practices and policies under integrated wildland fire management, which is to balance the natural role of fire for European natural ecosystems with preventing human threats resulting from wildfire hazards. Three major domains of related activities are considered in the project: research (understanding and modelling of fire-associated processes), development (establishing a technological platform to integrate fire modelling, contemporary burning conditions and potential impacts) and dissemination (develop strategies for public awareness, academic and professional training and new policy strategies). The post-holder will be responsible for analyzing the influence of land use/ land cover change on wildfire initiation and spread in human-dominated fire regimes in Europe, providing analyses that will be used to incorporate a more realistic treatment of human influence on wildfire within an existing vegetation-fire modelling framework and for conducting simulation experiments with its improved model.

The post-holder should have excellent organizational and interpersonal skills, a background in environmental science, experience in modelling, and in the management and analysis of environmental data. Duties include management of existing data sets, production of maps and statistical analyses of fire-ecological and land use data, preparation of prescribed burning scenarios for contemporary and future climate simulation experiments and production of technical and scientific reports. The post-holder will be expected to take an active role in the comparison of human influence on fire regimes in various ecosystems and in working on best-option scenarios for prescribed burning scenarios to reduce wildfire hazards. S/he will also be expected to interact with other members of the project, including forest and fire managers as well as modellers and database managers.

Responsibilities and Tasks:

1. **Accountable to Dr. Sandy Harrison**
2. **To contribute to the organisation and analysis of land use and fire data**
3. **To design methods to analyse explanatory variables that explain human influence on European fire regimes using assembled case study data sets. These analyses will form the basis for improvement of an existing vegetation-fire model (LPJ-SPITFIRE).**
4. **To conduct and analyse simulation experiments with different climate data input**
5. **To organise, compare and visualise observation and simulation data**
6. **To communicate with other experts to obtain knowledge about fire observations**
7. **To participate in the production of technical and scientific reports and publication**
8. **To utilise information technology and information systems appropriate to the task and be willing to undergo training in new techniques and systems**
9. **You may be asked to perform other duties occasionally that are not included above but which will be consistent with the role.**

Relationships and Contacts:

Line Manager: Dr. Sandy P. Harrison

Internal Contacts:

Dr. Kirsten Thonicke

External Contacts:

Academic and research staff from other institutions in Europe involved in the Fire PARADOX project

Organisation Chart:

PERSON SPECIFICATION

The skills, abilities, experience and knowledge outlined below provide a summary of what is required to carry out this job effectively. They also form the selection criteria on which the decision on who to appoint will be made. Please ensure that you show how you meet the criteria outlined below in your application.

Relevant Experience, Skills and Knowledge

Essential

- o Good working knowledge in GIS, including data base programming (e.g. ACCESS, SQL)
- o Experience in visualisation software (e.g. IDL, Matlab)
- o Good working knowledge in computer modelling and programming (e.g. Fortran, C)

Desirable

- o Experience in statistical analysis
- o Familiarity with different data sources (fire statistics, remote sensing)
- o Experience in working in a research-oriented environment with international partnerships
- o Knowledge in disturbance/fire ecology, fire management or land use management
- o Knowledge in forestry, agriculture or tourism

Relevant Qualifications

Essential

- o PhD in a relevant discipline (e.g. Environmental Sciences, Geography, Ecology, Physics, Earth Sciences)

Desirable

Communication and Interpersonal Skills

Essential

Good spoken/ written communication skills; ability to work as part of an international team; excellent interpersonal skills

Desirable

Evidence of scientific presentation and publication

Additional Criteria

Essential

Willingness to work within a team, to work flexibly and to acquire new skills; accuracy and attention to detail; ability to multi-task and to work to tight deadlines.

Desirable

Experience that enables prioritisation of tasks to be quickly and easily determined, not always be reference to a line manager

BACKGROUND INFORMATION

In many areas of Europe, and particularly in the Mediterranean, the last decades have been characterized by drastic changes in land use, especially grazing pattern and land abandonment combined with increasing urbanization. This changed settlement pattern and life style and affected vegetation-fire interactions. Recent extreme fire events outlined the effect of (mis-) management and (missing) public awareness about fire risk. How did these processes affect the distribution of land use classes in conjunction with changes in ignition pattern, and consequently fire behaviour and area burnt? How do the fire regimes in temperate and boreal forests of Europe differ in these aspects, despite having also 80 to 90% human-caused fires? What needs to be considered, when developing a modelling approach to consider these patterns at the European scale? The fire proneness of different land use classes and socioeconomic categories under different categorical classification schemes will be quantitatively evaluated. From a practical viewpoint, this analysis will result in a predictive tool for inferring how landscape changes as derived for example from socioeconomic or political events will affect the fire regime of the study site. Also, the results obtained will be used for developing scenarios that prescribe the changes in land use and urbanisation in order to expand or limit the potential fuel bed for fire spread in vegetation-fire models.

APPLICATION PROCESS

If you have received an application pack, please complete and return the enclosed application form in the envelope

provided. Alternatively, you can complete the form on line or download a copy from our web site at www.bristol.ac.uk/vacancies To access the on line and downloadable versions of the form simply enter the vacancy reference number in the search facility.

Please note the following:

- We will only be able to consider you for this vacancy if you complete the application form. Whilst you are welcome to include a CV with your application form, a CV alone will not be considered.
- It is important that you quote the **reference number** on the application form.
- **The closing date for applications is 9.00am, 16th January 2006.**
- **The post is scheduled to start 1st March 2006.**

Non-EU Nationals please also note:

The University has a legal responsibility to ensure that all employees are eligible to live and work in the UK. For **academic and research vacancies or those that require highly specialist skills and qualifications** we will often be able to obtain a work permit for a suitably qualified applicant who is not currently eligible to work in the UK, if there are no suitable 'resident' (i.e. European Economic Area - EEA) candidates. **However, for vacancies that are not academic, research or highly specialist it is extremely unlikely that a work permit would be granted.** In such cases we will therefore be unable to consider an application from someone who is not currently eligible to work in the UK. If you have any queries regarding your eligibility to apply for one of our vacancies please e-mail recruitment@bristol.ac.uk

Additional Information

New pay and grading structure

The University is developing a new pay, grading and terms and conditions structure that will be applied across all staff groups. All our jobs are currently being evaluated and we plan to implement a new structure by no later than August 2006. You can find further information at www.bris.ac.uk/personnel/reward/

SELECTION PROCESS

It is expected that interviews will be held on 6th February 2006.