

Director of the National Pollen and Aerobiology Research Unit

An introduction

The University of Worcester is Britain's fastest growing University. Applications through the Universities and Colleges Admissions Service are up by more than 100% over the past four years. This success has been recognised by many, including HEFCE, (the Higher Education Funding Council for England), which has awarded the University significant increases in grant funding in recent years.

The University is also developing a sustainable research environment, based on the expertise and excellence of its staff and encouraged through support for research including staff development provision and periods of research leave. There is an application under active consideration for separate research degree awarding powers.

Positioned at the centre of a beautiful region with an excellent, yet affordable quality of life, the University enjoys strong partnerships with the region, leading business, voluntary, public and governmental organisations.

Amongst the notable developments currently underway are:

- A new City Centre development with a combination of modern and restored historic buildings.
- Britain's first joint University and Public Library and History Centre, which will be immediately adjacent.
- further modernisation of the University's undergraduate, postgraduate and professional course offer, re-invigoration of the science based curriculum which is attracting increased applications for courses
- New laboratories for the National Pollen and Aerobiology Research Unit (opened September 2009) at the University's St. John's parkland campus.

Director of the National Pollen and Aerobiology Research Unit

We are seeking to appoint a new Director of the National Pollen and Aerobiology Research Unit, following the retirement of the current Director, Professor Jean Emberlin. This is an exciting time for an experienced and ambitious candidate to assume the role of Director. The University has recently opened new, purpose built facilities to house the Research Centre and wishes to appoint a dynamic leader to further develop its research and commercial potential. The successful applicant will be an established research scientist with substantial experience in one or more of the following areas: aerobiology; air quality testing and research; pollution, bioaerosols and volatile organic compound monitoring and research; pollen and fungal spore biology and analysis; allergies and related clinical research; forensic science; appropriate areas of product development and testing; microbiology; human physiology.

S/he will have a proper grounding in commercial activities and will show clear evidence of leadership skills. S/he will be able to seize the opportunities offered to enhance the reputation of this established Research Centre. Particularly attractive characteristics of the post include:

- the new state-of-the-art facilities available in the Charles Darwin building
- the plan to appoint several new members of staff within the unit during the next five years.

The National Pollen and Aerobiology Research Unit – within the Institute of Science and Environment

This research centre was founded in London in 1986 and the Director, Prof Jean Emberlin, moved to the University of Worcester in 1994 re-forming the unit here. Since that time, the unit has developed into a team that carries out research, commercial activities and training across a broad range of scientific areas. The Unit already has an international reputation and the appointment of a new Director is expected to both consolidate its established activities and drive it forward in areas defined by the new appointee. The unit currently has nine members of staff but this number will increase during the next five years.

The unit is best known among the general public for its provision of pollen forecasts during the 'hay fever season'. The forecasts are compiled using data collected by a network of stations across the UK with NPARU acting as the data handling hub and the information dissemination centre. Contracts with the BBC, national newspapers etc are negotiated annually. This activity, along with work within a parallel European network, provides the funding for two of the staff. Furthermore, these networking activities have facilitated the development of EU-funded research projects.

Early in the history of the unit, the work with pollen led naturally to its importance in hay fever and over the years this has developed into the more general study of allergies. For example, the unit carries out allergen testing of various kinds both on individual sufferers and on commercial products; many contracts have been carried out to test products such as vacuum cleaners, washing machines, ionisers, filters and bedding to test their effect on the interaction between allergens and sufferers. In this way the unit becomes involved in the development of new products.

Clinical trials are also carried out on treatments, devices and medications to test their effectiveness in sufferers. These are planned and conducted in collaboration with clinicians; the increasingly large cohort of students on site is useful in organising participants. Following the initial work with hay fever, the unit has developed interests in several other allergic and irritant reactions including asthma, conjunctivitis and chronic obstructive pulmonary disease. For example, a recent AWM (Advantage West Midlands) Science City - funded project on Ocular Allergy was carried out jointly with colleagues at Aston University.

Members of the unit are also involved in several aspects of air monitoring. They carry out commercial work to monitor bioaerosol release from equipment and in specific environments and have particular skills in fungal spore (as well as pollen) identification. This leads to interactions with agencies and companies engaged in occupational health. They are also able to establish the causes of fouling and biodeterioration of surfaces and products using microbiological techniques. One of the commercial activities that is growing rapidly in scale is the identification and quantification of Volatile Organic Compounds (VOCs) emitted from commercial products. Some of these are known to be irritants and, again, the unit is often involved in the development of safer products.

The unit also provides expert forensic advice during the investigation of major crimes. This work is undertaken by a member of the unit and provides consultancy income. NPARU's reputation in the identification of pollen is central to this activity although other plant and fungal samples can also be involved. Although the nature of the activity can vary, it often involves visiting crime scenes, assessing whether pollen or other trace material from specific plant species from the scene would be expected to be present on materials taken to the scene by a suspect, the isolation and analysis of samples from vehicles, shoes, clothes, drugs, firearms etc, the production of reports, and attendance in court as an expert witness.

The unit has recently received a major boost with the provision of a new £7m suite of facilities within the Charles Darwin building which adjoins the unit's existing laboratories. The building was formally opened by the Duke of Gloucester (the Chancellor of the University) on Dec 2nd 2009 and the facilities now available represent a major opportunity for future developments. The staff of the unit has formed two sections - a research group and a commercial group and both are actively developing their respective portfolios.

The new facilities comprise a dedicated microbiology lab, a dedicated forensics lab, a training room and a large new controlled environment room. Together, these expand the scope of the research and commercial activities that will be carried out by the unit and markedly increase its capacity. The controlled environment room offers particularly exciting possibilities because, in allowing the control of temperature, humidity and oxygen levels, it can effectively mimic environmental conditions in any part of the world. This expands the opportunities to carry out commercial work since it is now possible to house items as large as cars within the room and, for example, monitor pollen levels and other aspects of air quality within the cabin under different, and precisely controlled external conditions; one can also monitor the release of VOCs within the vehicle in different environments.

The University contains groups of colleagues who have a research interest in areas that coincide and overlap with those of NPARU staff. It is expected that existing collaborations, in their various forms, will be extended to the mutual benefit of all participants. There are many directions in which future collaborations might go, and there are also some obvious possibilities. For example, the controlled environment room offers the possibility to carry out work on human physiology under different environmental conditions and this is of great interest to members of the Institute of Sport and Exercise Science and the Institute of Science and the Environment. The latter Institute runs a degree course in Forensic Science, and there are opportunities to develop research in this area to run alongside the established practitioner activities. Further opportunities exist, and will emerge, with colleagues in the Institute of Health and Society and with colleagues working in Environmental Management. Which of these opportunities become effective collaborations will largely depend upon the specific interest and expertise of the new Director.

The 5-year plan for NPARU includes the following performance indicators:

- 9 jobs currently in place; several more to be created
- 257 businesses assisted
- 257 collaborations with the knowledge base
- 525 people assisted in skills development (NVQ4+)

Institute of Science and the Environment

The Institute comprises 25 members of academic staff and is responsible for a wide range of courses, including undergraduate degrees in Biological Sciences, Forensic and Applied Biology, Environmental Management, Geography, and Archaeology and Heritage Studies. All of these courses are taught entirely at the University's campus. The commitment of the University to growing its Science base is evident from its investment in the new Charles Darwin building, which, as well as housing new facilities for the NPARU, also contains a large state of the art teaching laboratory. Other teaching laboratories have been, or are undergoing, refurbishment and in the last year we have opened a specialist Geographical Information Systems (GIS) laboratory.

Undergraduate student numbers have expanded in recent years, and, with the introduction of the new teaching laboratory, a review of the curriculum and changes in the recruitment strategy, this trend is clearly continuing. By autumn 2010, the Institute will also be recruiting to new Postgraduate courses that are currently being developed.

Staff members of the Institute undertake a range of different research activities. Members of the Geography group have the highest profile containing both the Centre for Rural Research (CRR) and the embryonic River Science Research Centre (RSRC); this was recognised in the RAE 2008. The CRR conducts academic and applied research into economic, environmental and social change in the countryside. Projects include studies of farm diversification, economic adjustment in market towns and poverty initiatives at county level. The developing RSRC provides research and scientific policy support in river management and hydro-ecology. Like the CRR, its clients include government organizations (e.g. the Environment Agency), research institutions (e.g. the Centre for Ecology and Hydrology), local government (e.g. Worcestershire County Council) and environmental consultancies (e.g. CDM Ireland). The small group of prehistoric archaeologists is also active in research, carrying out annual field investigations, analysing the development of ancient technologies and disseminating information particularly widely through conferences and publications. Within Biology there is a wide spread of expertise. Some members of the group have a background in molecular biology, genetics and biotechnology. Others, including some relatively new appointees, have expertise in human physiology, nutrition and pharmacology. Many members of staff have field skills and the ecological skills base has recently been enhanced by the appointment of a colleague with particular expertise in animal conservation. Many of the staff carry out research in collaboration with colleagues at other UK universities and jointly publish with them. There is a healthy and growing group of PhD students supervised by Institute staff, some in collaboration with the NPARU. Many members of the Institute are also involved in pedagogic research and in the development of text books.

The University

Location and investments

St John's centre - In addition to the new facilities for the NPARU, The University of Worcester has invested in a wealth of developments on its existing St John's campus including a new Digital Arts Centre, a world-class sports centre and laboratories, a purpose-built drama studio and a high-tech 3D motion analysis centre.

The University has also built new student residences using sustainable technologies within the buildings – including rainwater harvesting and recyclable construction materials.

City centre – The University has recently embarked on a plan to create a vibrant learning centre in the heart of Worcester.

This will be a centre of educational excellence for the whole community. It is an important component in realising Worcester's vision of becoming a first-rate University and Cathedral City.

The University has secured significant funding towards the project, including capital grants from The Higher Education Funding Council for England and Advantage West Midlands.

The first stage of this development, including restoration of historic Georgian buildings, new buildings for around 200 student residences, and a well-being centre will be fully opened by September 2010.

Joint Library and History Centre - This is a joint initiative between the University and Worcestershire County Council, and will create a University and Public Library, a children's library, a history centre and a business 'hub' all under one roof. It is believed to be the first joint University and Public development of its kind in Europe. It will link to the new city centre developments.

Riverside developments - The University has been able to invest in three riverside developments, located between the city centre and St Johns. This project will revitalise derelict areas of the city and provide specialist space for sports and humanities based subjects. This will enable expansion for other subjects within St John's.

Park land - A site of 43 acres has been acquired approx 2 miles from the current St John's location – this is a long term project and might well include science related developments.

Research, Generating Knowledge and Promoting Enterprise

The University has identified a number of aims, objectives and success criteria relevant to research, scholarship and knowledge transfer which, together, inform the University's definition of research, and its emerging Research and Knowledge Transfer Strategy. The stated aims are:

- To become a vibrant centre of scholarship which contributes to inspiring research informed learning, teaching and practice

- To achieve effective synergy between scholarship, research, teaching, knowledge transfer and enterprise to benefit society and contribute to economic prosperity.
- To develop outstanding expertise in selected areas which secure national and international recognition
- To become a first-class provider of research and consultancy to public and private sector organisations in the sub-region

These aims are supported by a set of key objectives set out in the research strategy which are:

- The improvement of research achievement and infrastructure throughout the University by identifying, supporting and rewarding excellence and achievement in research and innovation
- Ensuring the research capability of staff at all levels is nurtured
- The enhancement of the Institution's research profile by the establishment of direction and policies for cross disciplinary research both internally and externally
- Increasing the amount of income from research grants
- The achievement of Research Degree Awarding Powers
- The continued support for both full-time and part-time research degree students and their research programmes with the aim to achieve 200 research degree completions by 2012
- The diversification of the research student portfolio

Learning and Teaching

At the University of Worcester we continually assess and improve the quality of our teaching. The wide range of innovative teaching and assessment methods employed ensure that we effectively engage with our diverse student body. We have strategies in place that encourage learning at any age, and our practice and research keeps teaching relevant, exciting and fully up to date.

The University offers a relatively broad curriculum to its 8,000 part and full-time students and, as we continue to grow we are systematically reviewing the range of courses offered to undergraduate, postgraduate and continuing professional development students. This ensures that all courses meet the needs of students and future employers. Learning how to learn and how to think independently and constructively are core skills at the centre of all courses, and students are encouraged to tailor their education around their other life commitments.

The University is deeply committed to vocational education and offers opportunities for professional accreditation across a range of disciplines and vocations, at both undergraduate and postgraduate level. The University has particular strengths in interdisciplinary and inter-professional areas, including the provision of integrated services for children. These are already in great demand and will continue to be developed in innovative and creative ways.

Location and lifestyle

Beautifully situated on the banks of the river Severn, the city of Worcester blends its ancient heritage with all the characteristics of an energetic modern city. Built around a magnificent 11th

century cathedral and famed as a key battleground in the English Civil War, Worcester is justly proud of its history but enthusiastic in its approach to the future.

As you would expect from one of the fastest growing cities in Europe, Worcester has a thriving cultural scene. The city and its surrounding towns offer a wide range of restaurants, theatre and concerts.

Sport is one of Worcester's passions and keen competitors and spectators alike will find the city hard to beat. Rowing, basketball, rugby union and cricket are all represented at a high level and the city boasts one of the oldest racecourses in the country.

The city's location in the heart of England means that countless other areas of interest are within easy reach. The Malvern Hills, Forest of Dean and Wyre Forest are all close by, and Stratford-upon-Avon is twenty five miles away. Birmingham is just a short train journey away, and London can be reached in a couple of hours.

Worcester is a family centred city – the schools are successful and provide a good choice for parents and children. Property is affordable and there is a wide range of 'life style' options from city centre apartments to rural retreats, and everything in- between.

The role of Director of the NPARU

This is a key appointment in the University. The successful candidate will be the leader of the largest, longest established and best resourced Research Centre of the University. S/he will be an active research scientist with an established reputation in an area falling within the range of activities of NPARU. S/he will have a good understanding of the commercial world and contract work with industry. NPARU is within the Institute of Science and the Environment and the appointee will report directly to the Head of that Institute.

The key responsibilities of the role are to:

1. Develop the vision and mission for NPARU and develop a 5-year strategic plan to take the Research Centre forward. This will include the development of the commercial sector of NPARU, which includes:
 - a) 9 jobs currently in place; further posts to be created
 - b) 257 businesses assisted
 - c) 257 collaborations with the knowledge base
 - d) 525 people assisted in skills development (NVQ4+)
2. Establish the Centre strategically as a significant leader in commercial activity and knowledge transfer within the subject area, seeking further means to generate external income that align with the strategic plan.
3. Produce clear and analytical reports, including the Annual Research Report and explain future strategy.
4. Support existing members of NPARU staff including their career development and lead the phased appointment of new staff members with the skills and experience necessary to implement the strategic plan.

5. Lead the development of selected areas of research within NPARU resulting in outputs that are valued by international colleagues engaged in academic pursuits and scholarship and increase the submission of strong applications for research funding to appropriate external agencies.
6. Actively pursue collaborative interactions with other scientists, professional practitioners and professional bodies and associations within the University, in other institutions within the UK and internationally.
7. Give outstanding and inspirational academic and organisational leadership to staff.
8. Control the budget of the Research and Commercial sectors of NPARU ensuring that established financial processes are followed and appropriate reporting is carried out.
9. Contribute to the development of the Research and Knowledge Transfer Strategy and of general research activities of the University (e.g. by participation at its Research and Knowledge Transfer Committee). This will include supporting the development of the University's REF submission.
10. Contribute some teaching in appropriate specialist areas and organise teaching contributions by other NPARU staff.
11. Maintain personal academic credibility through undertaking high quality research, scholarship and consultancy which may well be collaborative.
12. Take steps to ensure and enhance the health, safety and well being of staff and students in the Research Centre, taking responsibility for its Health and Safety policy.
13. Ensure that relevant aspects of the research framework relating to ethical approval, intellectual property, insurance etc has been obtained for NPARU's projects.
14. Take a clear lead on diversity and inclusion issues, and take into account the University's commitment to environmentally sustainable ways of working.

Person specification

The successful candidate will be able to demonstrate:

Qualifications, Knowledge and Experience

- Extensive professional success and achievement in one or more of the following subject areas: aerobiology; air quality testing and research; pollution, bioaerosols and volatile organic compound monitoring and research; pollen and fungal spore biology and analysis; allergies and related clinical research; forensic science; appropriate areas of product development and testing; microbiology; human physiology.
- A proven track record of credible academic leadership preferably with experience of leading a research team
- A proven track record of winning support for new research funding from external bodies

- Evidence of successful interaction with commercial partners
- Awareness of national strategic and policy developments in research
- Active membership of professional networks and associations in related fields
- A record appropriate to appointment to a substantive professorial position within the University**

Planning and Organising:

- Proven ability to think and plan strategically
- Excellent planning and organisational skills to ensure efficiency, timeliness and budget compliance
- An ability to achieve maximum added value in coordinated strategic partnerships

Problem Solving and Initiative:

- Exceptional ability to solve problems and critically analyse situations

Leadership, Management and Teamwork:

- Ability to work cooperatively, influentially and effectively with the others across the University and with other Universities and partners
- Ability to build and lead teams through a process of change and to handle sensitive people management issues
- understanding of, and commitment to, diversity and inclusion
- Leadership by example, including acting with integrity and transparency

Communicating and Influencing:

- Excellent oral and written communication skills
- Strong interpersonal skills, able to persuade and negotiate to help in developing and maintaining strong relationships with staff and key partners, and an effective ambassador for the University

Application and selection process

Informal enquiries can be made to Professor John Newbury, Head of the Institute of Science and the Environment, j.newbury@worc.ac.uk

The role description is now available on the University of Worcester website, where you can also apply on-line, or if you prefer, you can complete a Word version of the application form which can be downloaded from:

<http://cms2.worc.ac.uk/personnel/pdf/wordversionapplicationform.doc>.

CVs are welcome provided that you have also completed an application form.

The closing date for applications will be 7 March 2010 and the selection event will take place over two days on 24 and 25 March 2010. Overnight accommodation will be provided in a local hotel and candidates on the shortlist will be required to attend for both days.

The selection event will include:

- a) A guided tour of the current facilities and information about the developments at St John's Campus and other University sites.
- b) Briefings with members of staff in the NPARU.
- c) A presentation to senior members of staff of the University on 'A vision for the next five years in the National Pollen and Aerobiology Research Unit'.
- d) A structured discussion with relevant University managers to explore and share proposals for meaningful engagement with commercial partners. Feedback will be given to the selection panel.
- e) The appointment will be made by the main selection panel chaired by the Vice Chancellor, supported by the Deputy Vice Chancellor and other senior members of staff.
- f) Referees' reports will normally be sought after short-listing to inform the interview panel.

Appointment and contract

The initial salary is likely to be in the £55,000-£68,000 a year range, depending on experience. There will be a regular, annual opportunity to apply for further salary progression based on achievement, contribution and performance.

The benefits package also includes a final salary pension scheme, relocation support and access to a University day care nursery and the option of childcare vouchers through a salary sacrifice scheme.

The person appointed will be provided with a mentor, induction and appropriate professional development to support the first two years in post. The University has a leadership and management programme in which the appointee will be invited to participate. A mentor external to the University will also be available.

Annual leave will be 30 days a year, plus 8 public days and four University holidays.

****Professorial criteria**

- A national or international contribution – by scholarship, research, consultancy or creative achievement – to the furtherance of knowledge or its application to society.
- A national or international reputation as a teacher as exemplified by contribution to the development of subjects or fields of study; to pioneering developments in pedagogy; or to creativity or other innovation in teaching and learning.
- National or international standing of the individual in his or her profession, Learned Societies, subject associations or other such organizations.

- Qualities of academic leadership relevant to the vision, values and strategic objectives of the University of Worcester.
- Creative achievement may be recognised in any field, for example, Fine Art, Design, Creative Writing, Film, Visual Media, Performance and may be evidenced through other than traditional research or scholarly publication; this might include artifacts, texts, exhibitions, performance or some other form, but must demonstrate how knowledge and its application in the field concerned has been furthered.

A candidate must be outstanding in at least one of the criteria and have substantial strengths in at least one other. The candidate's area of work must be appropriate to the strategic objectives of the University.

An application for professorial title should include a statement to indicate by which criterion or criteria the applicant is claiming to be outstanding. Similarly, the candidate must make explicit the nature of the high level of achievement claimed in respect of any other criteria. Dependent on which key criterion is selected, the statement should include some of the following:

- A list of publications and/or other research output as follows: Books: single authored or co-authored; Chapters in books: single authored or co-authored; Papers/articles in refereed journals; Refereed papers presented to conferences; Non-refereed papers/articles in journals, other publications or conferences; research reports; research income.
- Evidence of commissions, exhibitions, including catalogues, guides etc.
- Teaching profile/portfolio; work as a mentor; research into teaching (e.g. Action research); student feedback results (e.g. institutional questionnaires); on-going and reflective continuous improvement in teaching through self-assessment and evaluation; innovation in teaching and learning; activities aimed at improving the student experience (e.g. learner support, working with students with disabilities and from different cultural backgrounds); external recognition of involvement in improving teaching (e.g. funded projects, consultancy work, contribution to conferences); QAA reports or external examiner's reports.
- Evidence of academic leadership, and management; innovative work within a Department or within the Institution; local, national or international policy or strategy development.