|  |
| --- |
| THE UNIVERSITY OF NOTTINGHAM  RECRUITMENT ROLE PROFILE FORM |

**Job Title:** Research Associate/Fellow (fixed term) – Arthritis Research UK

Centre for Sport, Exercise and Osteoarthritis

**School/Department:** School of Medicine - Division of Rheumatology, Orthopaedics &

Dermatology, Academic Orthopaedics, Trauma and Sports

Medicine

**Salary:** £25,513 - £37,394 depending on skills and experience (£28,695

minimum with a PhD). Salary progression beyond this scale is subject to performance

**Job Family and Level:** Research and Teaching Level 4 Career Training Grade/Level 4

**Contract Status:** This post will be offered on a fixed term contract until 31 December 2017.

**Hours of work:** Full-time, 36.25 hours per week

**Location:** Centre for Sports Medicine, Academic Orthopaedics, Trauma and

Sports Medicine, C Floor West Block, Queen's Medical Centre,

Nottingham

**Reporting to:** Dr Kim Edwards, Director of Sports and Exercise Medicine MSc

and Honorary Professor Mark Batt, Director of ARUK Sport, Exercise and Osteoarthritis Centre

**Job Outline:**

This post is based in the Centre for Sport Medicine, which is in Academic Orthopaedics, Trauma and Sports Medicine. The work will be divided between CSM, working within the Arthritis Research UK Centre for Sport Exercise and Osteoarthritis, and the Centre for Spinal Studies and Surgery (CSSS) with a 60% to 40% respective work-load.

The Arthritis Research UK Centre for Sport Exercise and OA is an international collaboration of world leading experts in the fields of sport, medicine and science, which is centred in Nottingham. It aims to improve the understanding of the relationship between exercise, sport and osteoarthritis. Within this Centre, the post holder will use spatial microsimulation modelling to describe the small area distribution of osteoarthritis and covariates across the UK, thus creating a new micro-level dataset of osteoarthritis. This will enable detailed investigation into these data in terms of non-stationarity, clusters of prevalence, and ‘what if’ scenario analyses, in order to inform future tailored intervention strategies. Previous experience of spatial microsimulation modelling is not necessary as training will be provided, but an aptitude with numbers is essential.

Additionally, the post holder will provide statistical support, assisting the CSSS team in trial design for commercial and clinical trials as well as completing or reviewing the statistical analyses of manuscripts prepared for publication.

This work will require a high level of concentration and attention to detail. The post-holder is expected to work flexibly and respond positively to changing needs.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Main Responsibilities** | | | **% time per year** | |
| 1. | **Research (Arthritis Research UK Centre for Sport Exercise and OA)**   * Use spatial microsimulation modelling to describe the small area distribution of osteoarthritis and covariates across the UK and to undertake different ‘what if’ scenario analyses, to determine what impact changes to the covariates would have on osteoarthritis prevalence. * Investigate, test and possibly develop different spatial microsimulation models and approaches. * Supervise MSc (research projects), PhD and DM students as appropriate to own interests and skills. * Write up research work for publication and to publish research work within refereed journals in order to begin to develop a national reputation through published work. * Give presentations to multidisciplinary groups and attend local, national and international conferences for the purpose of disseminating research findings. * Maintain effective communication with members of the research team, working with staff in other departments/institutions as required. | | | 60% | |
| 2. | **Research (CSSS)**   * Contribute to existing and new research projects, to facilitate study design and data collection and to undertake data analyses for these projects, including writing up the research for publication. * Plan, develop and conduct individual or collaborative research that will make a contribution to the relevant CSSS research programme, with assistance if required. * Maintain effective communication with members of the research team, working with staff in other departments/institutions as required. | | | 40% | |
|  | | **Essential** | **Desirable** | |
| **Qualifications/ Education** | | PhD (or close to completion) or equivalent in a relevant field. | MSc in statistics or statistical epidemiology, health geography or other relevant qualification | |
| **Skills/Training** | | Excellent oral and written communication skills, including the ability to communicate with clarity on complex information.  Evidence of sufficient breadth or depth of research methodologies and techniques to work in research area.  Developing research skills, with the ability to creatively apply relevant research approaches, models, techniques and methods  Ability to build relationships and collaborate with others, internally and externally.  High level of IT skills, including MS Word, Excel and PowerPoint.  Excellent organisational and time-management skills. | Expertise in statistical analysis packages, e.g. GWR, SatScan, SPSS, Stata, MLwiN software  Effective management of MSc student research projects and/or PhD or DM students.  Ability to initiate and lead research.  Ability to interact with leading research groups nationally and internationally. | |
| **Experience** | | Extensive knowledge of medical statistics and expertise in handling large patient level datasets  Expertise in statistical analysis software package(s), e.g. SAS, R, SPSS, Stata  Extensive knowledge of epidemiological study design  Experience of conducting research and presenting results. | Previous microsimulation (spatial or aspatial) experience.  Previous postdoctoral experience in a field relevant to Sport, Exercise, Epidemiology or Osteoarthritis or health geography.  Evidence of scholarly research activity with peer reviewed academic publications. | |

Informal enquiries may be addressed to Dr Kimberley Edwards, Course Director, Centre for Sport Medicine, tel: 0115 8231109 or Email: [Kimberley.edwards@nottingham.ac.uk](mailto:Kimberley.edwards@nottingham.ac.uk). Please note that applications sent directly to this Email address will not be accepted.

### **Appendix 1**

### **ADDITIONAL INFORMATION:**

The University of Nottingham is a global-leading, research-intensive university with campuses in the UK, Malaysia and China. Our reputation for world-class research has yielded major scientific breakthroughs such as Nobel-winning MRI techniques, drug discovery, food technologies and engineering solutions for future economic, social and cultural progress.

Already ranked among the UK’s elite universities and global polls for research excellence, our reputation for world-class research has been further enhanced with the 2008 results of the Research Assessment Exercise (RAE).

In addition to scoring highly in quality rankings covering major disciplines in science, engineering, the social sciences, medicine, business and the arts, it is Nottingham’s increase in research power rankings which demonstrate the impressive volume of excellent research which is carried out. We are now ranked in the Top 7 of all British universities and are one of only two institutions to move into the UK Top 10 since 2001 – an increase of seven places, making us the highest mover of any university.

Following the RAE results, 90% of all research at Nottingham has been classified of an ‘international standard’ and 60% as ‘world-leading’ or ‘internationally excellent’.

The main University campus is set beside a lake, in an extensive belt of woodland, parks and playing fields. The 330 acre University Park Campus is the focus of life for more than 32,000 students and houses the majority of the University’s academic schools and many of the central Services. The Jubilee campus is situated 2 miles away from the University Park, and provides extra capacity. The University Medical School is situated next to the University Park. Together with the University Hospital, it forms the Queen’s Medical Centre (QMC).

**University of Nottingham Medical School**

Nottingham has a strong reputation for both clinical medicine and teaching. As one of the most popular medical schools in the country, it is able to select excellent students and produce and attract good junior doctors.

**The School of Medicine** was formed following Faculty reconfiguration on August 1st 2013. The new School of Medicine comprises the Divisions of Cancer and Stem Cell Sciences, Child Health, Obstetrics and Gynaecology; Clinical Neuroscience; Epidemiology and Public Health; Primary Care; Psychiatry and Applied Psychology; Rehabilitation and Ageing; Medical Sciences and Graduate Entry Medicine; Respiratory Medicine; Rheumatology, Orthopaedics and Dermatology and the Nottingham Digestive Diseases Centre. The School also hosts the Medical Education Centre, the Centre for Interprofessional Education and Learning, the Clinical Research Facility, the Clinical Skills Centre, NIHR design Service East Midlands, Nottingham Clinical Trials Unit, PRIMIS and Medical Imaging Unit.

The new School of Medicine brings together in one School staff undertaking research for the benefit of the health of patients. It includes all primary care and hospital-based medical and surgical disciplines, principally in the Queen’s Medical Centre and City Hospital Nottingham Campuses, Royal Derby Hospitals NHS Foundation Trust and also at the University’s main campus and at the King’s Meadow and Jubilee Campuses. Most of our School’s Senior Researchers and Teachers are also clinicians who dedicate 50% of their time to patient care within the Nottingham University Hospitals NHS Trust & Royal Derby Hospitals NHS Trust. This close juxtaposition brings cutting-edge clinical care to our patients and clinical relevance to our research and teaching. We are closely integrated with our full time NHS clinical colleagues, many of whom are themselves leaders in research and teaching and who work closely with the University and this increases the mutual benefit from integration between the University and NHS.

Mission:

Our mission is to improve human health and quality of life locally, nationally and internationally through outstanding education, research and patient care.

Priorities:

1. **Teaching and learning**, particularly training tomorrow’s doctors and teaching specialised postgraduates
2. **Research and research training:** We will perform and support the highest quality “big” research which impacts on human health and disease
3. **Partnership with the NHS** and other healthcare providers
4. **Visibility and profile of the School of Medicine:** We will do what we do better, and we will tell others about it

Ethos and principles:

1. **Having people and patients at the heart of all we do**: our teaching and learning, our research and our patient care
2. **Contribution within the School of** **Medicine and to society** beyond our immediate roles; helpfulness and service
3. **Openness and fairness**, with particular emphasis on communication (both internal and external) and on equality and diversity among students and staff
4. **Personal and group responsibility** for all aspects of our work, within a culture of opportunity and reward

Our research spans 11 major themes, ranging from cancer to vascular medicine. We work closely with industry and the NHS. Our world-leading research ranges from basic and translational science through to clinical trials, epidemiology, and health services research. Our clear theme is improving human health, underpinning a vibrant postgraduate research training programme leading to PhD or DM. Many of our academics are clinicians, using their expertise to provide cutting edge specialised treatment to NHS patients; reflecting our ethos that patients are at the heart of all we do.

Our major research themes are in Cancer and Stem Cells; Child Health, Obstetrics & Gynaecology; Clinical Neurosciences; Digestive Diseases; Epidemiology and Public Health; Mental Health; Musculoskeletal and Dermatology; Primary Care; Rehabilitation and Ageing; Respiratory Medicine and Vascular and Renal Medicine.

The School of Medicine trains tomorrow’s doctors on a vibrant undergraduate medical course with a unique intercalated BMedSci, as well in a specialised graduate-entry programme built around clinical problem solving. We teach medicine and related disciplines at both undergraduate and postgraduate level. We have a dedicated clinical academic training programme and are committed to training PhD and doctoral research students and to supporting postdoctoral clinicians and scientists in their research.

Professor John Atherton is Dean of the School of Medicine.

For further information, please see our website <http://www.nottingham.ac.uk/medicine>

**Nottingham**

Central within the East Midlands, Nottingham is a vibrant and prosperous city with something to offer everyone. It is one of the UK’s leading retail centres and has a huge variety of restaurants, bars and nightclubs which attract people from all over the UK. Culturally, it has good theatres, an arena which attracts both national and international performers and a range of historical interests relating to subjects such as the lace industry, Lord Byron and DH Lawrence. Nottingham is also known for sport, being the home of Trent Bridge Cricket Ground, Nottingham Forest and Notts County Football Clubs, the National Water Sports Centre and the Nottingham Tennis Centre. There is a good network of roads with easy access to the M1 and the A1, a fast frequent rail service to London and other major cities. Nottingham East Midlands Airport is only eighteen miles away.

The city is set within a county of outstanding natural beauty which includes Sherwood Forest, Wollaton Park, lively market towns and wonderful historic buildings. Housing is relatively inexpensive and, in addition to the two Universities, there are excellent schools and colleges available.

**To find out more about Nottingham, use the following links:**

Nottingham County Council – Tourism <http://www.experiencenottinghamshire.com/>

University of Nottingham <http://www.nottingham.ac.uk>

Zoopla (Guide to local properties) <http://www.zoopla.co.uk/>

**My Nottingham** (information on schools, term dates, school transport etc.)

<http://www.nottinghamcity.gov.uk/index.aspx?articleid=8524>

**Appendix 2**

### **ADDITIONAL INFORMATION:**

### **Arthritis Research UK CENTRE FOR SPORT EXERCISE AND OSTEOARTHRITIS**

Nottingham University Hospitals (NUH) NHS Trust has identified excellence in research for the benefit of patients as a core component of its corporate vision to be the best acute teaching organisation by 2016. NUH has been awarded a prestigious award to host the Arthritis Research UK centre for Sport, Exercise and Osteoarthritis led by Professor Mark Batt.

***Aims and Objectives of the Centre***

Sport provides a unique and special opportunity to study joint damage and the development of subsequent arthritis. The Centre’s research will be of benefit for everyday exercisers, recreational sportsmen and sportswomen, and elite athletes. Our Centre is an international collaboration of world leading experts in the fields of sport, medicine and science and aims to improve the understanding of the relationship between exercise, sport and osteoarthritis (OA). We know that some individuals will sustain acute severe sports injuries in contact or collision sports (e.g. rugby or football). We also know that another group of individuals develop overuse injuries through hours of participation in non-contact sports such as tennis or rowing. However, we lack fundamental knowledge in understanding who gets injured and why? Similarly there is a poor understanding of who does well or badly following injury, and why some people develop debilitating OA.

The aim of this collaborative Centre is to better understand the number and nature of sports injuries based on studies of athletes currently or recently in training, and analyses of sportspersons whose careers have finished but are now left with disabling OA. We hope these studies will give us insight into the processes producing degenerative joint disease post-injury and lead to effective prevention and treatment strategies. This will be investigated through new research programmes based in the Centre studying ankle, hip, knee and shoulder injuries in the general population and athletes. These new clinical and population-based studies will allow us to understand factors that may determine the eventual outcome following injury, through analysis of training history, injury, movement, blood, joint fluid, x-rays and MRI scans.

Ultimately we aim to produce three key changes. Firstly, a predictive model to help exercisers,

Sports participants and their carers better understand the risks of injury and OA following injury-induced joint damage. Secondly, to shape targeted prevention strategies to minimise risk of injury and risk of joint damage and deterioration post-injury. Lastly, to develop better treatments for symptomatic OA resulting from injury or high-volume training.

The collaboration will be led by a Nottingham-Oxford axis supported by Bath, Leeds, Loughborough, Southampton and UCL universities. The consortium will be strengthened by an expert international advisory group and specific collaborators based in Sweden, The Netherlands, Switzerland and The USA. We will also draw on expertise and experience of lead doctors and patients from sport and the Military through our Sports Advisory group to help ensure our research remains patient focused.

### **Appendix 3**

### **ADDITIONAL INFORMATION:**

**Academic Orthopaedics, Trauma and Sports Medicine** in Nottingham combines research, teaching and patient care in a friendly and stimulating environment. The Division has excellent research facilities and is fully involved in acute medical services.

University Hospital Nottingham (UHN) is one of the two major teaching hospitals in Nottingham. It is based within the Queen’s Medical Centre close to the main University of Nottingham campus. It has the major Nottingham Accident and Emergency Centre and extensive outpatient facilities with modern equipment and accommodation. UHN is an NHS Trust. Since its inception the Division of Orthopaedic and Accident Surgery has been an integral part of health care provision in Nottingham. An excellent relationship of mutual co-operation and support exists between the University and NHS consultants. At present there are 36 Trauma and Orthopaedic Consultants, two Sports and Exercise Medicine Consultants (one of which is also a Special Professor in Sports and Exercise Medicine), a locum Consultant in Sports and Exercise Medicine, one trainee Sports Medicine SpR and a clinical teacher.

The current research interests of Academic Orthopaedics, Trauma and Sports Medicine are broadly within the following areas:

1. Arthritis

2. Sports and Exercise Medicine

3. Biomaterial related infection

Within the Division there is the Centre for Sports Medicine, a bone biology laboratory and an orthopaedic library. The library has recently benefited from a donation, which has increased the range of relevant texts available to staff and students. The biomechanics laboratory is on the main University campus and is a shared facility with the School of Mechanical, Materials and Manufacturing Engineering.

**The Centre for Sports Medicine** was created in 1995 to formalise the collaboration between the Division of Orthopaedic and Accident Surgery and the then Department of Physiology and Pharmacology (subsequently incorporated into the School of Biomedical Sciences). These two departments had previously worked in collaboration with the Department of General Practice to establish the MSc in Sports Medicine in 1991. The Division of Orthopaedic and Accident Surgery assumed the administrative role for the MSc in 1995 following the appointment of a Senior Lecturer in Sports Medicine. It provides a focus for the MSc in Sports Medicine, but in addition houses the Secretariat for Clinical Sports Medicine.

**Research Collaborations**

An interdisciplinary approach is encouraged. Academic Orthopaedics, Trauma and Sports Medicine is situated in University Hospital, Queen’s Medical Centre, which is an integrated Medical School and hospital linked by a footbridge to the University campus. Research collaboration between clinical, basic medical science and other University departments is, therefore, considerably easier than in many other institutions and is a particular strength of the Nottingham Medical School.

The person appointed will be encouraged to develop and pursue their own research, within the general sphere of interests of the Division of Orthopaedic and Accident Surgery, where appropriate to the Centre for Sports Medicine. The Director will be expected to generate necessary funds to support their own research interest. Whilst this post would be based in Academic Orthopaedics, Trauma and Sports Medicine, the opportunity exists to establish links with other Divisions or specialist firms depending on the successful candidate's interests.

**Appendix 4**

### **ADDITIONAL INFORMATION:**

**NOTTINGHAM UNIVERSITY HOSPITALS NHS TRUST**

The Nottingham University Hospitals NHS Trust is one of the largest hospital Trusts in the UK with an annual budget of more than £500 million, a total of 2,200 hospital beds across both campuses and over 11,500 staff. NUH is a major teaching Trust, enjoying close links with the region’s Universities and attracting and developing the highest calibre of staff. The work carried out at NUH has led to a reputation for excellence and is making a very real difference to people’s lives. NUH is also a cancer centre – a major element of the Mid-Trent Cancer Network.