

# Job description

Job title	Java Web Application Developer (China Kadoorie Biobank)
Division	Medical Sciences Division
Department	Oxford Population Health (Nuffield Department of Population Health, University of Oxford)
Location	Old Road Campus, Headington, Oxford, OX3 7LF
Grade and salary	Grade 7: £36,024 - £44,263 per annum (with a discretionary range to £48,350).
Hours	Full time (part time considered)
Contract type	Fixed-term (3 years in the first instance)
Reporting to	Programmer (Xiaoming Yang)
Vacancy reference	170327



## About Oxford Population Health

Oxford Population Health (the Nuffield Department of Population Health) provides an excellent environment for multi-disciplinary research and teaching and for professional and support staff. We work together to answer some of the most important questions about the causes, prevention and treatment of disease.

The Department has around 900 staff, students and academic visitors working in a number of world-renowned population health research groups, including the Clinical Trial Service Unit and Epidemiological Studies Unit (CTSU), the Cancer Epidemiology Unit (CEU), the National Perinatal Epidemiology Unit (NPEU) and other groups working on public health, health economics, ethics and health record linkage. It is also a key partner in the Oxford University's Big Data Institute.

In the 2021 Research Excellence Framework (REF), 96% of the research submitted to Unit of Assessment 2: Public Health, Health Services and Primary Care, was ranked either 4\* (world-leading in terms of originality, significance and rigour) or 3\* (internationally excellent in terms of originality, significance and rigour). This comprised research from Oxford Population Health and research from the Nuffield Department of Primary Care Health Sciences. We scored particularly well for having an environment that is conducive to producing research of world-leading quality and enabling outstanding impact, in terms of its vitality and sustainability.

In addition to its research activities, the Department is home to the [MSc in Global Health Science and Epidemiology](#), the [MSc in Clinical Trials](#), and a variety of short courses. Students also come to undertake research for [DPhil degrees](#). Teaching is provided for undergraduates reading for Medicine and for public health doctors in specialist training.

For more information please visit the [Oxford Population Health website](#).

## About the Medical Sciences Division

The Medical Sciences Division is an internationally recognised centre of excellence for biomedical and clinical research and teaching, and the largest academic division in the University of Oxford.

World-leading programmes, housed in state-of-the-art facilities, cover the full range of scientific endeavour from the molecule to the population. With our NHS partners we also foster the highest possible standards in patient care.

For more information please visit the [Medical Sciences Division website](#).

## About the University of Oxford

Welcome to the University of Oxford. We aim to lead the world in research and education for the benefit of society both in the UK and globally. Oxford's researchers engage with academic, commercial and cultural partners across the world to stimulate high-quality research and enable innovation through a broad range of social, policy and economic impacts.

We believe our strengths lie both in empowering individuals and teams to address fundamental questions of global significance, while providing all our staff with a welcoming and inclusive workplace that enables everyone to develop and do their best

work. Recognising that diversity is our strength, vital for innovation and creativity, we aspire to build a truly diverse community which values and respects every individual's unique contribution.

While we have long traditions of scholarship, we are also forward-looking, creative and cutting-edge. Oxford is one of Europe's most entrepreneurial universities and we rank first in the UK for university spin-outs, and in recent years we have spun out 15-20 new companies every year. We are also recognised as leaders in support for social enterprise.

Join us and you will find a unique, democratic and international community, a great range of staff benefits and access to a vibrant array of cultural activities in the beautiful city of Oxford.

For more information please visit the [Oxford University website](#).

## The China Kadoorie Biobank Study

The China Kadoorie Biobank (CKB) Study ([www.ckbiobank.org](http://www.ckbiobank.org)) is a uniquely rich and powerful resource for investigating the environmental and genetic determinants of chronic disease. It is a long term prospective cohort study of 513,000 men and women aged 30-79 years recruited from ten geographically diverse urban and rural regions in China. The study aims to investigate the lifestyle, behavioural, environmental and genetic factors contributing to the aetiology of common chronic diseases, including heart disease, stroke, cancer and respiratory disease.

To date, 102,000 CKB participants have been genotyped and imputed into the TopMed/WBCC reference panels, and 10,000 CKB whole genome sequences have been completed. This provides a unique resource for investigating Chinese population history and for conducting genome-wide association studies, including collaboration in large international consortia such as GIANT, DIAMANTE, SpiroMeta, and the International Stroke Genetics Consortium.

A wide range of disease endpoints and quantitative phenotypes are available for these analyses. Extensive data on environmental, physiological and lifestyle risk factors were collected at time of recruitment, with periodic resurvey of a subset of participants every 5 years. Participants are actively followed-up through established morbidity and mortality registries, and by linkage to the national health insurance system. To date, ~55,000 deaths and ~0.9M ICD-10-coded hospitalised disease events have been recorded among participants, including 60,000 strokes, 50,000 heart disease, 30,000 cancers and 20,000 cases of diabetes. This comprehensive resource has been complemented with data for a wide range of blood biomarkers including clinical chemistry (20,000 participants), NMR metabolomics (9,000), MS metabolomics (400), proteomics (5,000), and fatty acids (10,000), with additional assays and increased sample sizes in the near future.

These extensive multi-dimensional datasets provides rich and detailed information concerning potential disease risk factors. Over the next few decades, the China Kadoorie Biobank will generate many important novel findings about the genetic and non-genetic causes of common chronic diseases both in China and worldwide.

The study is conducted jointly by the CTSU in Oxford and the Chinese Academy of Medical Sciences and Peking University in Beijing, and was established with funding from the Kadoorie Charitable Foundation in Hong Kong, with further support from the Wellcome Trust, the Medical Research Council, the British Heart Foundation and Cancer Research UK. Details of this interdisciplinary research centre can be found at: [www.ckbiobank.org](http://www.ckbiobank.org)

## The role

We are looking for an experienced Java web application developer with an excellent computing background and various web programming skills to join the CKB IT team. The main responsibility of the post holder will be to design, develop, update, and maintain study related web applications including assisting with management and use of large and complex data.

The post holder will be based within the CKB study group in Oxford and will work closely with a wider team of IT developers, statisticians, epidemiologists, administrative and laboratory staff to ensure the successful and smooth continuation and expansion of the study. The post holder will report directly to the CKB Programmer.

## Responsibilities

- Collect user requirements in conjunction with other study staff and write user requirement (URS) documents.
- Prototype and demonstrate new applications, in consultation with other IT, research and administrative staff.
- Design, develop, test and deploy web applications (frontend & backend)
- Produce design documentation, user manuals and application release notes
- Update, maintain, debug and tune existing and future web applications
- Investigate new web technologies for usability and applications in the study
- Ensure compliance with relevant policies, procedures and regulatory requirements relevant for the development and use of the system and data.
- Carry out any other duties relevant to this grade which may arise during the course of the study.

The above list is not exhaustive and the role-holder is required to undertake such duties as may reasonably be requested within the scope of the post. All staff are required to act in a professional, cooperative and flexible manner, in line with the requirements of the post.

## Selection criteria

## Essential

- A BSc in computing science or relevant numerate subjects
- Substantial experience of Java web application development (frontend & backend) and familiar/skillful with most of the IT platform and software we use (see list below).
- Good knowledge, understanding and application of the principles, objectives and practices of software design and implementation within the software development life cycle.
- Demonstrable ability to develop, manage and complete simultaneous projects, prioritising short and long term goals and deliver within deadlines.
- Excellent written and verbal communication skills.
- Working effectively both within a team and independently.
- Ability to work under pressure to meet a tight deadline.
- A positive attitude to learning and acquiring new skills.
- Ability to pay attention to details, including documentations.

## Desirable

- Experience of or an interest in medical/epidemiological research.
- Knowledge of Chinese language.

## IT platform and software used

- Linux and Windows
- MySQL, PostgreSQL
- OOP, REST, MVC, IoC frameworks
- UML, SQL, XML, XSD, JSON, HTML, CSS, JavaScript, jQuery
- Java SE 11+, Java EE 8+ (Servlets/JSP/JDBC/EJB/JPA/JTA etc.), Apache Wicket
- Apache HTTP, Payara/GlassFish, NetBeans, Maven, Junit, Arquillian, GIT, Bugzilla

## Pre-employment screening

### Standard checks

If you are offered the post, the offer will be subject to standard pre-employment checks. You will be asked to provide: proof of your right-to-work in the UK; proof of your identity; and (if we haven't done so already) we will contact the referees you have nominated. You will also

be asked to complete a health declaration so that you can tell us about any health conditions or disabilities for which you may need us to make appropriate adjustments.

Please read the [candidate notes](#) on the University's pre-employment screening procedures.

Hazard-specific / Safety-critical duties *[if not relevant delete whole section]*

This job includes hazards or safety-critical activities. If you are offered the post, you will be asked to complete a health questionnaire which will be assessed by our Occupational Health Service, and the offer of employment will be subject a successful outcome of this assessment.

The hazards or safety-critical duties involved are as follows:

*[Delete as appropriate:]*

- Working at heights
- Night working (11pm-6am)
- Lone Working
- Work in hot or cold environments
- Driving on University business
- Working with Ionising Radiation
- Regular manual handling
- Open food handling
- Working with category 3b or 4 lasers (laser safety class)
- Working with infectious pathogens (hazard group 2/3) - Hazard Group 3 pathogens
- Working with blood, human products and human tissues
- Work in clinical areas with direct contact with patients (NOT administrative roles)
- Work with allergens, Eg laboratory animals, pollen, dust, fish or insects etc.
- Work with any substance which has any of the following pictograms on their MSDS:



- Travel outside of Europe or North America on University Business

Additional security pre-employment checks *[if not relevant delete whole section]*

This job includes duties that will require additional security pre-employment checks:

- List duties associated with the required security checks

*Include one of the following statements:*

- A satisfactory enhanced Disclosure and Barring Service check due to [give reasons, eg regulated activity involving children OR regulated activity involving 'at risk' adults] *[delete if not appropriate]*

- A satisfactory basic Disclosure and Barring Service check due to [give reasons] **[delete if not appropriate]**
- University security screening (eg identity checks) **[delete if not appropriate]**

## How to apply

Applications are made through our e-recruitment system and you will find all the information you need about how to apply on our [Jobs website](#).

Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

As part of your application you will be asked to provide details of two referees and indicate whether we can contact them now.

You will be asked to upload a CV and a supporting statement. The supporting statement must explain how you meet each of the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants).

Please upload your CV and supporting statement **as PDF files** with your name and the document type in the filename.

All applications must be received by **midday** UK time on the closing date stated in the online advertisement.

## Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing departments.

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments).

## If you need help

Help and support is available from the [HR Systems Recruitment support webpage](#). If you require any further assistance please [email the Recruitment Support team](#).

To return to the online application at any stage, please go to the [University's recruitment website](#). Please note that you will receive an automated email from our e-recruitment system to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email.

## Important information for candidates

### Data privacy

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the [University's Privacy Notice for Job Applicants](#). The University's Policy on Data Protection is available on the [University's Compliance webpages](#).

### The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at grade RSIV/D35 and clinical equivalents E62 and E82, which with effect from 1 October 2023 will be 30 September before the 70th birthday. The justification for this is explained at: <https://hr.admin.ox.ac.uk/the-ejra>.

For existing employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: <https://hr.admin.ox.ac.uk/the-ejra>.

There is no normal or fixed age at which staff in posts at other grades have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

### Equality of opportunity

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.



# Benefits of working at the University

## Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, travel discounts, and a variety of professional development opportunities. Our [range of other employee benefits and discounts](#) also includes free entry to the Botanic Gardens and University colleges, and discounts at University museums.

## University Club and sports facilities

Membership of the [University Club](#) is free for all University staff. The University Club offers social, sporting, and hospitality facilities. Staff can also use the [University Sports Centre](#) on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool.

## Information for staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's [Welcome Service website](#) includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. There is also a [visa loan scheme](#) to cover the costs of UK visa applications for staff and their dependents.

## Family-friendly benefits

With one of the most generous family leave schemes in the Higher Education sector, and a range of flexible working options, Oxford aims to be a family-friendly employer. We also subscribe to the [Work+Family Space](#), a service that provides practical advice and support for employees who have caring responsibilities. The service offers a free telephone advice line, and the ability to book emergency back-up care for children, adult dependents and elderly relatives.

The University has excellent childcare services, including five University nurseries as well as University-supported places at many other private nurseries. For full details, including how to apply and the costs, see the [Childcare Services webpages](#).

## Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. For further details, including information about how to make contact, in confidence, with the University's Staff Disability Advisor, see the [Disability Support webpages](#).

## Staff networks

The University has a number of staff networks including the Oxford Research Staff Society, BME staff network, LGBT+ staff network and a disabled staff network. You can find more information on the [Equality and Diversity at Oxford webpages](#).

## The University of Oxford Newcomers' Club

The University of Oxford [Newcomers' Club](#) is an organisation run by volunteers that aims to assist the partners of new staff settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area.