

Job description

Job title	Big Data Institute Director
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	Competitive salary
Hours	Full time (Part time considered)
Contract type	Fixed-term for 5 years in the first instance
Reporting to	Heads of Departments: Nuffield Department of Medicine, Nuffield Department of Population Health Chair of the BDI Oversight Committee
Vacancy reference	173301
Additional information	Funded by the Li Ka Shing Foundation



The Big Data Institute (BDI)

The Big Data Institute (BDI), which opened in May 2017, is an interdisciplinary research centre housing 350 staff and students, located within the University of Oxford's Old Road Campus. The Institute combines researchers from genomics, epidemiology, population health, and infectious disease alongside those from computer science, statistics and engineering to develop the field of big data as applied to biomedical research. Scientists working in the Institute form an analytical hub, deeply connected to the wider experimental and clinical community in Oxford and beyond, working to solve some of the major challenges in medical research.

The BDI aims to develop, evaluate and deploy efficient methods for acquiring and analysing information at scale and for exploiting the opportunities presented by large-scale studies. Its activity includes the analysis of population scale data, derived from health records, genetics and biomarkers, the analysis of images and application of machine learning, and the analysis of single cells and molecular proteomic and transcriptomic data. The Institute has core facilities in high-performance computing and high-capacity data management.

The BDI is part of the Li Ka Shing Centre for Health Information and Discovery at the University of Oxford's Old Road Campus. It is an Institute of Oxford Population Health (the Nuffield Department of Population Health), although it also hosts scientists from a number of other Departments within the University. The Institute's space is allocated between NDPH (2/3) and NDM (1/3).

For more information please visit: <http://www.bdi.ox.ac.uk/>

About Oxford Population Health

Oxford 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.

NDPH is committed to promoting awareness and understanding of equality, diversity and inclusion and embedding these principles among staff and students. NDPH holds an Athena SWAN Silver award. Contact equality@admin.ox.ac.uk for further information about Athena SWAN at the University of Oxford.

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

About the Nuffield Department of Medicine (NDM)

The Nuffield Department of Medicine aims to improve healthcare internationally through its research and teaching. Over the last fifty years, it has pioneered the use of genetics, structural and cellular biology to understand susceptibility to human disease; at the same time, it remains a department of clinical medicine with a clinical interface at the core of its success. The NDM is the largest department in the University of Oxford and the largest department of medicine in Europe by research income.

The department is organised around a series of strong and identifiably unique institutes, centres and units; but its aim is to be as non-hierarchical and closely-knit as possible, to encourage the very best interactions and the exchange of ideas between its staff. It supports teaching to encourage the very best students to join academic research. It maintains a £1,000m portfolio of externally funded research from over 140 different sponsors/funders, and has an annual turnover in excess of £210m. The department's activity is run directly through the University, but also through a series of subsidiary companies and other legal vehicles, tailored to the activity and the countries within which it operates. Across these vehicles and partnerships, the department has over 3,500 staff and students working solely on, or supporting, its research and teaching; and 1,200 of these staff are based in Oxford. The NDM holds collaborative grants with ~40 other departments or centres in the University of Oxford.

The NDM has a strong commitment to careers and equality of opportunity and treatment. The Department holds an Athena SWAN Silver award in recognition of the commitment made to promote gender equality through our organisational and cultural practices and our efforts to improve the working environment for both men and women. For more information, please see the NDM pages of Equality, Diversity and Inclusion.

For more information please visit the [NDM 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 role

The Big Data Institute (BDI) focuses on the analysis of large, complex, heterogeneous data sets for research into the causes and consequences, prevention and treatment of disease. This work is invaluable in identifying the associations between lifestyle exposures, genetic variants, infections and health outcomes around the globe.

The use of biomedical big data has become a central theme across most areas of biomedical research, involving collaborative and interdisciplinary science within the university and across many partners nationally and internationally. The BDI Director is responsible for developing and successfully implementing a clear and ambitious strategic vision for the BDI, providing inspirational leadership to ensure success of the institute and the university. Their vision is critical for building and maintaining a thriving and interactive community, which supports researchers at every stage in their careers.

You will be supported by a strong group of senior Professorial academics who form the BDI's Oversight Committee (Professor Sir Rory Collins, Professor Gavin Sreaton, and Professor Richard Cornall), and Senior Leadership Team (consisting of Deputy Director, Associate Head of Translation and Culture Professor Eva Morris, Associate Head of Quantitative Research Professor Chris Holmes, and Associate Head of Innovation and Training Professor Thomas Nichols). You will also be assisted by an experienced team of administrative and support staff who manage the BDI's strategic and day-to-day operations, including a BDI Head of Scientific Operations.

You may already be working at the level expected of a substantive Professor, for example leading your own internationally-competitive programme of research for which you will have obtained substantial external grant funding. Such research activity could be incorporated into the responsibilities of this role.

Informal discussion about the post is encouraged, and prospective applications may contact any of the following senior academic leaders:

Professor Rory Collins, Head of the Nuffield Department of Population Health, via his PA: emsie.nicholson@ndph.ox.ac.uk,

Professor Richard Cornall, Nuffield Professor of Medicine, Head of the Nuffield Department of Medicine, via his PA: kathryn.smith@ndm.ox.ac.uk

Responsibilities

In providing the strong and visionary strategic leadership required to sustain the world class scientific output of the BDI, specific duties will include:

- Working with the BDI's senior academic staff and group leaders to manage the research direction of the Institute and to develop agreed strategic plans which implement the Institute's academic and scientific aims.
- Developing a strategy to strengthen the BDI's expertise in machine learning and artificial intelligence.
- Developing and leading BDI-wide strategic partnerships within the University of Oxford, as well as nationally and internationally with academic, governmental and industrial organisations.
- Maintaining an outstanding environment for the conduct of world-class scientific research in the analysis of biomedical big data and for the development of the BDI's early career researchers, including overseeing training. This will include ensuring alignment and integration with the NDPH and NDM's initiatives around research culture and equality and diversity among others.
- Representing the BDI, and developing its profile, within the University and at national and international levels.
- Working with researchers to develop the funding strategy for the BDI.
- Overseeing the effective deployment of resources available to the BDI, and ensuring effective communication among participating departments. Given the nature of space allocation between NDPH and NDM (on a 2/3 and 1/3 basis respectively), the postholder, in concert with the NDPH and NDM operations teams, will need to manage competing demands for space ensuring equitable access is maintained in line with core principles. Space allocations into the NDM and NDPH space should be discussed and agreed by the NDM and NDPH Heads of Department respectively.
- Reporting to the BDI Oversight Committee on matters relating to the Institute.
- Working with the senior research computing team to oversee the development, governance and financial sustainability of the Biomedical Research Computing infrastructure co-housed in the BDI.
- Working with the Administration Teams to develop and sustain appropriate structures for management, consultation, decision-making, and communication with the BDI's staff and students.

- Along with staff based in the BDI, engaging with the public in order to develop and promote the Institute's mission.
- Ensuring that the principles of good research practice, including information governance, data sharing and preservation are observed in line with best practice and university and data-controllers' requirements.

As BDI Director, you may be asked to serve on other departmental or senior Medical Sciences Division and University committees and bodies as appropriate to the position.

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

- Postgraduate degree in a relevant subject.
- An understanding of the BDI's mission, the capacity to develop a clear vision for its future, and the proven ability to develop, plan, and implement the BDI's strategic aims.
- The demonstrable ability to provide strong leadership and vision across a range of academic disciplines, to enthuse and inspire, to promote excellence in teaching and research, a commitment to public engagement with science, and to create an environment in which these can all flourish and excel.
- Demonstrate a clear understanding of the impact and opportunities of machine learning and artificial intelligence, and other analytic approaches, in biomedical research.
- An up-to-date understanding of the computational needs of researchers in biomedical data science and the information governance and security needs of data controllers, with sufficient knowledge of the landscape to oversee the biomedical research computing infrastructure.
- Being of such senior standing as to have credibility within the BDI, affiliated departments, and University, and to represent the BDI across the wider national and international community and with external stakeholders.
- The ability and enthusiasm to support interdisciplinary science and to develop productive interactions with scientists, both within the BDI and the wider University of Oxford.
- A strong record of obtaining funding and evidence of providing strategic leadership in a research environment.
- Excellent team leadership and communication skills, an innovative mind-set, the ability to delegate effectively, and the ability to use outstanding advocacy, influencing, and negotiating skills to effect change.
- The ability to contribute to the academic endeavour and culture of a world-class academic department committed to excellence, diversity and equality.

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.

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.