



DEPARTMENT OF STATISTICS

Job Description

Summary

Job title	Senior Research Fellow in Statistical Quantitative Finance
Division	Mathematical, Physical and Life Sciences
Department	Statistics
Location	24-29 St Giles', Oxford, OX1 3LB
Grade and salary	Grade 10: £61,198-£70,918 per annum (with discretionary range to £77,476)
Hours	Full time
Contract type	Permanent
Reporting to	Head of Department
Vacancy reference	172188
Additional information	<p>This is a permanent post held in the Department of Statistics, with funding from the Man Endowment for Quantitative Finance in place for the first 10 years.</p> <p>This permanent position is comparable in status with an Associate Professorship. Applicants should note the possibility for MPLS Division to confer the title of Associate Professor on appointment, should the successful candidate meet the University's criteria.</p> <p>In addition, the successful candidate will be elected to a 5-year Senior Research Fellowship at Reuben College, renewable for a further five years.</p> <p>This is a full-time position that cannot be held concurrently with any other substantive post without the explicit permission of the Head of Department.</p> <p>This post is subject to a 2-year probationary period.</p>



The role

We are looking to appoint a Senior Research Fellow to join the Department of Statistics and the Oxford-Man Institute of Quantitative Finance (OMI). The postholder will split their time roughly 40/60 between the two departments, but the appointment is formally held in the Department of Statistics.

The appointment will be in the areas of statistical quantitative finance, in particular data science and machine learning applied to quantitative finance, and the postholder will lead an independent programme of research, as well contributing to the teaching and administration of the Department of Statistics and the OMI. At the OMI, the postholder will collaborate with faculty members from various departments of the University (e.g., Mathematics, Engineering, and Saïd Business School).

The postholder will join the dynamic and collaborative Department of Statistics. The Department carries out world-leading research in computational statistics, machine learning, theoretical statistics, and probability as well as applied statistics fields, including statistical finance (including arbitrage and market microstructure), statistical and population genetics, bioinformatics and statistical epidemiology. We possess state-of-the-art facilities for our teaching and research, including two lecture theatres. Research from the Department of Statistics and the Mathematical Institute in Oxford was submitted together for the UK's most recent national research assessment exercise, the Research Excellence Framework (REF) 2021. Overall, 78% of our submission was judged to be 4* (the highest score available, for research quality that is world-leading in terms of originality, significance, and rigour). This outstanding result is a testament to the breadth, quality and impact of the research produced by colleagues in our two departments, and the outstanding environment in which they work, supported by our excellent professional services staff.

In addition, the successful candidate will be elected to a 5-year Senior Research Fellowship at Reuben College, renewable for a further five years.

If you would like to discuss this post and find out more about joining the academic community at Oxford, please contact Christl Donnelly (christl.donnelly@stats.ox.ac.uk) or Frank Windmeijer (frank.windmeijer@stats.ox.ac.uk). All enquiries will be treated in strict confidence and will not form part of the selection decision.

The Department of Statistics holds an Athena SWAN Silver Award in recognition of its efforts to introduce organisational and cultural practices that promote gender equality in SET and create a better working environment for both men and women. Information about Athena Swan in MPLS can be found at <http://www.mpls.ox.ac.uk/equality-and-diversity/athena-swan>.

Responsibilities

Research

- to engage in original research within statistical finance, in particular data science and/or machine learning applied to quantitative finance;
- to secure research funding and engage in the management of research projects;
- to disseminate their research through publication in scholarly international journals, participation in international conferences and seminars, and through other media;
- to engage with the quantitative research teams at Man Group both to disseminate their research and identify suitable projects for academic study;
- to lead a research group - attracting and recruiting post-doctoral research associates, supervising research, and managing staff performance;
- to engage in knowledge transfer activities.

Teaching

- to carry out teaching at undergraduate and graduate level including lectures, classes, demonstrations, and project supervision, under the direction of the Head of Department;
- to supervise research students.

Examining

- to take part in University examining as and when requested to do so.

Administration

- to participate in the administration of the department as and when requested by the Head of Department.

For the College, the postholder will be expected to

- act as College Advisor for a small number of student members of the College, supporting the progress of each advisee, building the advisory relationship and being available for consultation on academic or pastoral matters
- work alongside other Fellows in organising regular seminars, workshops, reading groups and/or invited lectures, for the college community
- regularly attend academic and social events organised by the College or other Fellows
- take part in public engagement projects and events, development, access and outreach work, and/or other activities which help to sustain a thriving college community
- be appropriately involved in the administration of the College, including committee membership

Selection criteria

Essential selection criteria

- A doctorate in the field of Statistics or related discipline from a major research university;
- Proven research record of high quality at international level in the areas of statistical finance, data science and/or machine learning in quantitative finance;
- Research interests in statistical finance that complement and extend those of existing Department members;
- Ability to attract research funding and develop an independent programme of research;
- Experience of and ability to teach effectively, both at undergraduate and graduate level, a wide range of topics within the field of computational statistics;
- Ability to supervise and provide support and guidance to graduate students;
- Excellent interpersonal skills necessary for undertaking teaching and pastoral care of students;
- Ability and willingness to undertake the full range of administrative duties within the department;
- A commitment to promoting equality, diversity and inclusion in statistics and in the college.

Desirable selection criteria

- Excellent track record of obtaining research grants;
- Experience of research collaborations at national and international level;
- Experience of supervising research students.

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 already received your references) we will ask you to contact the referees you have nominated. If you have previously worked for the University we will also verify key information such as your dates of employment and reason for leaving your previous role with the department/unit where you worked. 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 at:

<https://www.jobs.ox.ac.uk/pre-employment-checks>

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 www.ox.ac.uk/about/organisation.

The Department of Statistics

The Department of Statistics at Oxford is a world-leading centre for research with a broad portfolio that covers pure theory, the development of innovative methods to analyse and understand data, and their applications to scientific and societal problems. Research is loosely structured around seven interconnected research groups: Statistical Theory and Methodology; Computational Statistics and Machine Learning; the Oxford Protein Informatics Group; Probability; Statistical Genetics and Epidemiology; Economics and Population Statistics; and Computational Biology and Bioinformatics. The Department has recently undergone a period of rapid expansion, growing from 21 submitted researchers in the 2014 Research Excellence Framework exercise to 32 in REF 2021.

The Department relocated to a newly renovated building on St Giles' in the heart of the University of Oxford in 2015. The building provides state-of-the-art teaching facilities and modern space to facilitate collaboration and integration, creating a highly visible centre for Statistics in Oxford. Since moving to St Giles', Faculty have secured over £14m in research funding from a variety of funders including UKRI, the Wellcome Trust, the European Commission, NIH, and industrial partners from sectors ranging from services to pharma. Research from the Department of Statistics and the Mathematical Institute in

Oxford was submitted together for the UK's most recent national research assessment exercise, the Research Excellence Framework (REF) 2021. Overall, 78% of our submission was judged to be 4* (the highest score available, for research quality that is world-leading in terms of originality, significance, and rigour). This outstanding result is a testament to the breadth, quality and impact of the research produced by colleagues in our two departments, and the outstanding environment in which they work, supported by our excellent professional services staff.

The Department's research excellence has been recognised both collectively, through success in REF 2021, and individually. Awards include Fellowships of the Royal Society to Christl Donnelly and Alison Etheridge; FMedSci and the Zoological Society of London's Frink Award to Christl Donnelly; the Royal Statistical Society Guy Medal in Bronze to Chris Holmes, and the Guy Medal in Silver to Arnaud Doucet; the Weldon Memorial Prize, the Francis Crick Prize Lecture, and the Genetics Society Balfour Prize to Simon Myers. Arnaud Doucet, Alison Etheridge, Christina Goldschmidt, Gesine Reinert and Judith Rousseau are all Fellows of the Institute of Mathematical Statistics, and Alison Etheridge is a former President. Christl Donnelly is the Vice President for External Affairs of the Royal Statistical Society.

The Department is home to Oxford University Statistical Consulting, which provides comprehensive statistical consultancy services to both internal departments and external businesses. It operates across a wide range of sectors, and offers experience in all aspects of data-based research. The service includes two Research Software Engineers who take new and existing software platforms from the Oxford Protein Informatics Group, and provide support to industry to maximise their impact.

The Department of Statistics offers an undergraduate degree (BA or MMath) in Mathematics and Statistics and an MSc in Mathematical Science (OMMS), both joint with the Mathematical Institute, and an MSc in Statistical Science, as well as a lively and stimulating environment for postgraduate researchers (DPhil or MSc by Research). The Department is involved in four Centres for Doctoral Training (CDTs): the EPSRC CDT in Modern Statistics and Statistical Machine Learning (led by Imperial), the EPSRC CDT in Sustainable Approaches to Biomedical Science: Responsible and Reproducible Research, the EPSRC CDT in Mathematics of Random Systems (with the Mathematical Institute and Imperial), and the EPSRC CDT in Health Data Science (with the Big Data Institute). The Department is also part of the National Academy for PhD Training in Statistics, which provides training in fundamental areas of Statistics and Applied Probability. Our graduate students go on to varied careers, the most popular being academia (45%) and the technology (nearly 30%) and finance sectors.

The Department maintains close links with interdisciplinary centres such as the Wellcome Centre for Human Genetics and the Big Data Institute. Many Faculty have associations with the Alan Turing Institute (the Turing), the UK's national centre for data science, in which Oxford is a founding partner, and Chris Holmes is Programme Director for Health and Medical Sciences at the Turing.

The Department of Statistics holds a silver Athena Swan award to recognise advancement of gender equality: representation, progression and success for all.

For more information please visit: www.stats.ox.ac.uk.

Oxford-Man Institute of Quantitative Finance

The Oxford-Man Institute (OMI) is hosted by the Department of Engineering Science, and it is underpinned by various departments of The Mathematical, Physical, and Life Sciences Division (Statistics, Computer Science, Mathematical Institute) and the Social Sciences Division (Economics and Saïd Business School).

At the OMI we address fundamental problems in quantitative finance with a strong focus on data driven models. We achieve this by providing a forum for academics from various disciplines and industry

participants to create and implement ideas. Our members and visitors employ tools from various sources such as machine learning, artificial intelligence, financial theory and practice, and mathematics. Among our objectives are to provide new insights into how markets work, and to develop new tools for financial decision making. As a result, our research output and activities are relevant to all stakeholders in the economy, including industry participants, and financial regulators

The OMI provides the freedom to do innovative work. One of our main strengths is to attract distinguished experts and young researchers to an environment that stimulates collaboration. We endeavour to facilitate research and increase the impact of the OMI's research output in a number of ways, including cross-collaboration, seminars, and providing data and physical space. The breadth of the University of Oxford affiliated departments speaks to our interdisciplinary approach to problem solving. Our seminars and conferences are pivotal in the life of the OMI and key to the dissemination of cutting-edge ideas. Finally, we provide working space at the OMI offices in a premium location of the university and in a vibrant neighbourhood of Oxford.

For more information please visit: www.oxford-man.ox.ac.uk.

Reuben College

There are 39 self-governing and independent colleges at Oxford, giving both academic staff and students the benefits of belonging to a small, interdisciplinary community as well as to a large, internationally-renowned institution. The collegiate system fosters a strong sense of community, bringing together leading academics and students across subjects, and from different cultures and countries.

The founding of Reuben College in 2019, supported by a generous benefaction from the Reuben Foundation of £71 million (including £15 million for graduate scholarships), has offered an exciting opportunity to bring together researchers and postgraduate students focused on exploring some of the most important questions of the 21st century. [Reuben College](https://reuben.ox.ac.uk) provides an environment that stimulates and facilitates interdisciplinary research, while emphasising the qualities of innovation, leadership and entrepreneurship. It supports a community of Fellows and graduates who embrace opportunities to interact with researchers beyond the boundaries of their own disciplines and to engage with colleagues beyond the realm of academia.

To promote the ethos and practice of interdisciplinary interaction, there is an initial focus on four research clusters, whose themes have been chosen for their wide reach across the University, their strongly interdisciplinary nature, Oxford's existing and potential strengths in these areas, and their innovation and entrepreneurship potential. The initial clusters focus on the topics of (a) [Artificial Intelligence & Machine Learning](#), (b) [Environmental Change](#), (c) [Cellular Life](#), and (d) [Ethics & Values](#). These clusters have natural synergies, enabling cross-cutting discussions and research collaborations to emerge. Each of the four areas is interpreted as broadly as possible, as the College is keen to attract researchers from all four of the University's Academic Divisions. The four themes are complemented by a number of strategic stands, notably in [Innovation and Entrepreneurship](#) and in [Public Engagement in Research](#).

As a new college, we are building a community of people and practice that recognises the importance of equality and diversity in our community and in our intellectual endeavours. All Fellows are expected to subscribe proactively to the college ethos and to commit to developing both its intellectual and outreach activities. The College Fellows together foster a culture of interdisciplinary exchange through regular college events, such as seminars, workshops and reading groups.

For more information, please visit <https://reuben.ox.ac.uk/>

The Mathematical, Physical and Life Sciences Division

The Mathematical, Physical, and Life Sciences (MPLS) Division is one of the four academic divisions of the University. Oxford is widely recognised as one of the world's leading science universities and the MPLS Division is home to our non-medical sciences, with 9 academic departments that span the full spectrum of the mathematical, computational, physical, engineering and life sciences, and undertake both fundamental research and cutting-edge applied work. Our research tackles major societal and technological challenges – whether developing new energy solutions or improved cancer treatments, understanding climate change processes, or helping to preserve biodiversity, and is increasingly focused on key interdisciplinary issues. We collaborate closely with colleagues in Oxford across the medical sciences, social sciences and humanities, and with other universities, research organisations and industrial partners across the globe in pursuit of innovative research geared to address critical and fundamental scientific questions.

The disciplines within the MPLS Division regularly appear at the highest levels in rankings, including the Times Higher Education and QS world rankings. Nationally, the quality of the Division's research outputs and environment, and the resulting impact, was recognised through strong performances in the UK Research Excellence Framework in both 2014 and 2021.

MPLS is proud to be the home of some of the most creative and innovative scientific thinkers and leaders working in academe. Our senior researchers have been awarded some of the most significant scientific honours and we have a strong tradition of attracting and nurturing the very best early career researchers who regularly secure prestigious fellowships and faculty positions. MPLS continues in its work to support diversity in its staffing, seeing that it will bring benefits to all, and we are pleased to note that all academic departments in the Division hold Athena Swan Awards.

We have around 7,000 full and part-time students (including approximately 3,500 graduate students) and play a major role in training the next generation of leading scientists. Oxford's international reputation for excellence in teaching is reflected in its position at the top of the major league tables and subject assessments. MPLS academics educate students of high academic merit and potential from all over the world. Through a mixture of lectures, practical work and the distinctive college tutorial system, students develop their ability to solve diverse mathematical, scientific and engineering problems.

MPLS is dedicated to bringing the wonder and potential of science to the attention of audiences far beyond the world of academia. We have a strong commitment to supporting public engagement in science through initiatives including the Oxford Sparks portal (www.oxfordsparks.ox.ac.uk) and a large variety of outreach activities; these are crucial activities given so many societal and technological issues demand an understanding of the science that underpins them. We also bring the potential of our scientific efforts forward for practical and beneficial application to the real world and our desire, aided by the work of Oxford University Innovation and Oxford Sciences Innovation, is to link our best scientific minds with industry and public policy makers.

For more information about the MPLS division, please visit: www.mpls.ox.ac.uk

College Benefits, Terms and Conditions

The postholder will be elected to a five-year Senior Research Fellowship at the College, with the possibility of renewal for a further five years, and with probationary period assessed in tandem with the associated University post. However, a Fellowship at the College does not itself constitute employment and does not confer any rights to employment with the University. Fellows are required to inform the President and Senior Tutor of the College if they are given notice under their University contract of employment: any Fellowship will expire automatically on the same dates as the expiry of a contract of employment with the University.

The postholder will receive the following College benefits:

- Subsidised dining and luncheon rights (in accordance with the facilities available at the time).
- The right to bring guests to college meals, subject to capacity, and at their own costs.
- Membership of the Common Room.

Benefits will continue as normal during any period of family leave, or sickness absence but will be suspended for the period of any research or other leave (excepting the above) during which the postholder elects not to fulfil their college duties. All decisions in these regards will be taken by the President in consultation with the Senior Tutor, with a view to promoting fairness and consistency of treatment amongst the Fellows.

As a Senior Research Fellow, the postholder is required to hold the Fellowship under the terms of the College Statutes and By-laws in force. All Fellows are thus bound by the relevant policies and procedures of the College as published on the College's website and in internal directories and the College has the right to terminate any Fellowship with immediate effect if these are not adhered to.

Fellows may not hold a Senior Research Fellowship at any other college concurrently with their Fellowship at the College.

How to apply

Applications are made through our online recruitment portal. Information about how to apply is available on our Jobs website <https://www.jobs.ox.ac.uk/how-to-apply>.

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

Applicants should ask their referees to send their letters of reference directly to the HR Administrator by email to HR@stats.ox.ac.uk by the closing date quoting the vacancy reference 172188.

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 all documents **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 department(s).

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

Application FAQs, including technical troubleshooting advice is available at:
<https://staff.web.ox.ac.uk/recruitment-support-faqs>

Non-technical questions about this job should be addressed to the recruiting department directly
hr@stats.ox.ac.uk

To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will receive an automated email from our online recruitment portal 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 at:

<https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy>. The University's Policy on Data Protection is available at: <https://compliance.admin.ox.ac.uk/data-protection-policy>.

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** of 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 including salary sacrifice schemes for bicycles and electric cars and other discounts. Staff can access a huge range of personal and professional development opportunities. See <https://hr.admin.ox.ac.uk/staff-benefits>

Employee Assistance Programme

As part of our wellbeing offering staff get free access to Health Assured, a confidential employee assistance programme which is available 24/7 for 365 days a year. Find out more <https://staff.admin.ox.ac.uk/health-assured-eap>

University Club and sports facilities

Membership of the University Club is free for University staff. It 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. See www.club.ox.ac.uk and <https://www.sport.ox.ac.uk/>.

Information for staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's Welcome Service includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. See <https://welcome.ox.ac.uk/>

There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependants. See <https://staffimmigration.admin.ox.ac.uk/visa-loan-scheme>

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 have excellent childcare services, including five University nurseries as well as places at many other private nurseries. See <https://childcare.admin.ox.ac.uk/>

We also subscribe to the Work+Family Space, a service that provides practical advice and support for employees who have caring responsibilities for dependants of all types. See <https://hr.admin.ox.ac.uk/my-family-care>

Supporting disability and health-related issues (inc menopause)

We are committed to supporting members of staff with disabilities or long-term health conditions, including those experiencing negative effects of menopause. Information about the University's Staff Disability Advisor, is at <https://edu.admin.ox.ac.uk/disability-support>. For information about how we support those going through menopause see <https://hr.admin.ox.ac.uk/menopause-guidance>

Staff networks

The University has a number of staff networks including for research staff, BME staff, LGBT+ staff, disabled staff network and those going through menopause. Find out more at <https://edu.admin.ox.ac.uk/networks>

The University of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is 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. See www.newcomers.ox.ac.uk.

Research staff

The Researcher Hub supports all researchers on fixed-term contracts. They aim to help you settle in comfortably, make connections, grow as a person, extend your research expertise and approach your next career step with confidence. Find out more <https://www.ox.ac.uk/research/support-researchers/researcher-hub>

Oxford's Research Staff Society is a collective voice for our researchers. They also organise social and professional networking activities for researchers. Find out more <https://www.ox.ac.uk/research/support-researchers/connecting-other-researchers/oxford-research-staff-society>