



**MATHEMATICAL INSTITUTE**  
ANDREW WILES BUILDING

## Job Description and Selection Criteria

<b>Job title</b>	Hooke Research Fellow
<b>Division</b>	Mathematical, Physical and Life Sciences
<b>Department</b>	Mathematical Institute
<b>Location</b>	Andrew Wiles Building, Radcliffe Observatory Quarter, Woodstock Road, Oxford, OX2 6GG.
<b>Grade and salary</b>	Grade 7: salary £32,817 - £40,322 p.a.
<b>Hours</b>	Full time
<b>Contract type</b>	36 months Fixed-term
<b>Reporting to</b>	Professor Jared Tanner, Head of Data Science Research Group
<b>Vacancy reference</b>	147713
<b>Additional information</b>	<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>Applications for job shares or for part-time working to accommodate family circumstances will be considered</p> <p>These positions are subject to a 9 month probationary period.</p> <p><b>(PLEASE NOTE: Applicants are responsible for contacting their referees and making sure that their letters are received by the closing date)</b></p>

### The Role

We invite applications from talented postdoctoral researchers for a Hooke Research Fellowship in data science. This is a fixed-term position for 36 months at the University of Oxford and is subject to specific conditions as detailed below. The Department is also advertising a similar fellowship scheme for a Titchmarsh Research Fellowship across multiple different research groups, details of which can be found at:

[https://my.corehr.com/pls/uoxrecruit/erq\\_jobspec\\_details\\_form.jobspec?p\\_id=147712](https://my.corehr.com/pls/uoxrecruit/erq_jobspec_details_form.jobspec?p_id=147712)

There will be a total of one appointment made to each of the Hooke or Titchmarsh Fellowships in this recruitment.



## Hooke Research Fellowship

This Fellowship is named after Robert Hooke, one of Oxford's most illustrious scientists who made contributions to mathematics as well as to a wide range of what was then known as natural philosophy. He was a core member of the group of Oxford scientists who founded the Royal Society. Candidates for this Fellowship should have research interests compatible with those of the existing faculty in the Data Science research group, and should indicate within their supporting letter one or more research group members they could envision working alongside as a potential mentor or future collaborator.

If you think your research straddles the border between the Hooke and Titchmarsh Research Fellowship, please indicate this in your application, **and apply for both positions**. The panels will then decide which Fellowship is more appropriate for you.

## Data Science at Oxford

Data science is being developed using wide ranging mathematical techniques. Our particular research expertise at the Mathematical Institute includes: applied and computational harmonic analysis, stochastic analysis, networks, optimisation, deep learning, random matrix theory, rough paths, topological data analysis, and the application of these methods.

For further details please see the individual research pages of the group members, please visit <https://www.maths.ox.ac.uk/groups/data-science/members>.

## Responsibilities

The successful applicant will be talented researcher, who has already produced excellent research during their PhD and in any postdoctoral positions. They will be free to conduct their own research programme. They will be expected to:

- undertake original research of the highest academic standard;
- disseminate their results via conference presentations and journal publications;
- manage their own academic and administrative activities;
- assist in the supervision of student projects and the development of student research skills;
- participate in and contribute to the life of the department.

To aid the development of their academic profile, the Fellow will be required to contribute up to three hours of departmental teaching per week for the 24 weeks of each academic year, averaged over the period of the Fellowship to allow for extended visits elsewhere.

The Fellow will be provided with office space, a desktop computer and access to £3000 per annum for travel and other academic expenses.

## Pre-employment screening

All offers of employment are made subject to standard pre-employment screening, as applicable to the post.

If you are offered the post, you will be asked to provide proof of your right-to-work and your identity. You will also be asked to complete a health declaration (so that you can tell us about any health conditions or disabilities so that we can discuss appropriate adjustments with you), and a declaration of any unspent criminal convictions.

We advise all applicants to read the candidate notes on the University's pre-employment screening procedures, found at: [www.ox.ac.uk/about/jobs/preemploymentscreening/](http://www.ox.ac.uk/about/jobs/preemploymentscreening/).

## **Selection criteria**

### **Essential criteria**

The successful applicants will

- have, or be close to completing, a PhD in mathematics or a related discipline.

In addition, they will be expected to show evidence of:

- independence and ability to undertake research of the highest academic standard;
- an outstanding record (for the stage of their career) of papers published in major international journals, some of which should have a clear data science focus;
- a realisable research plan, relevant to the existing activities and/or expertise of the Data Science research group, which would enhance the Mathematical Institute's overall research profile;
- their research aligning with the existing research interests of the Data Science research group;
- participation in conferences, seminars or research workshops;
- the ability to teach students in small groups;
- the ability to communicate mathematics effectively in English, both verbally and in writing.

### **Desirable criteria**

- Postdoctoral experience;
- Experience of more than one academic institution.

## **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. Income from external research contracts in 2016/17 exceeded £564m and we rank first in the UK for university spin-outs, with more than 130 companies created to date. 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](http://www.ox.ac.uk/about/organisation).

## **The Mathematical Institute**

The Mathematical Institute, as Oxford's Department of Mathematics is known, is one of the leading mathematics departments in the world. Our mathematical research, impact and environment were all ranked first in the UK in the 2014 Research Excellence Framework

exercise, a government review of research in all UK universities. The Mathematical Institute is the focus of research into both fundamental mathematics and its applications, and our inclusive nature and overall size are key factors in the provision of an outstanding research environment for our members. The large number of faculty, postdocs and students in the Mathematical Institute, all supported by excellent facilities, allows us to maintain a critical mass in research groups encompassing a wide spectrum of mathematics, while our integrated nature fosters collaboration between fields. We also host a large number of academic visitors. Our web pages ([www.maths.ox.ac.uk](http://www.maths.ox.ac.uk)) provide comprehensive information about all of our activities.

The research activities of the Institute as a whole can be gauged from the web pages of the research groups and centres within the Institute ([www.maths.ox.ac.uk/research](http://www.maths.ox.ac.uk/research)). The range of our research interests is well reflected by the profile of our faculty as listed at [www.maths.ox.ac.uk/people](http://www.maths.ox.ac.uk/people). Many members of the Institute have received prestigious prizes and other special recognition for their work; some recent examples can be found at [www.maths.ox.ac.uk/news/awards-and-prizes](http://www.maths.ox.ac.uk/news/awards-and-prizes).

The Mathematical Institute moved into the purpose-built Andrew Wiles Building in the University's Radcliffe Observatory Quarter in September 2013. As well as providing offices for all staff and graduate students, it houses a range of other facilities available to members of the department, including the Whitehead Library, a large range of meeting rooms, teaching spaces, lecture rooms, and social spaces, and a small facility for carrying out table-top experiments. For more information, see [www.maths.ox.ac.uk/about-us](http://www.maths.ox.ac.uk/about-us).

Teaching is central to the life of the Mathematical Institute and we have around 900 undergraduates on course, some on joint courses with other departments. We teach around 250 students each year across five taught master's degree courses, and have over 250 doctoral students in residence at any one time. Our doctoral programme always attracts the best research students from across the world, and we have a broad mentoring and training programme.

The Mathematical Institute strives to ensure that all staff and students are given the opportunities and support they need to achieve their potential. We are committed to equality of opportunities and to advancing women's careers. We support staff returning from long-term absence and provide flexible arrangements for staff with parental responsibilities. Further information about family support can be found in the Standard Terms and Conditions. Our Good Practice Committee<sup>1</sup> contributes to many aspects of our work, see [www.maths.ox.ac.uk/members/good-practice](http://www.maths.ox.ac.uk/members/good-practice).

As part of the department's commitment to openness, inclusivity and transparency, we strongly encourage applications from all who consider they meet the requirements of the post, and particularly from women and ethnic minorities.

## MPLS Division

The university's Division of Mathematical Physical and Life Sciences contains [departments](#) that span the full spectrum of the mathematical, computational, physical, engineering and life sciences. Between them, they undertake a huge range of fundamental research and develop application that respond to the great societal and technological challenges of our time. Research across the Division is increasingly interdisciplinary in nature.

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<sup>1</sup> The Mathematical Institute was a founding supporter of the London Mathematical Society's Good Practice Scheme ([www.lms.ac.uk/women/good-practice-scheme](http://www.lms.ac.uk/women/good-practice-scheme)). We have held an Athena SWAN Bronze Award since 2013, upgraded to Silver in 2017.

MPLS's scientists collaborate closely with colleagues in other Divisions across Oxford, with other universities, research organisations and industrial partners across the globe.

Our senior researchers have been awarded some of the most significant scientific honours (including Nobel prizes and prestigious titles such as FRS and FREng). The Division is equally proud of its tradition of attracting and nurturing the very best early career researchers, many of whom regularly secure prestigious fellowships.

The Division holds ten Athena Swan Awards (three silver and seven bronze) illustrating its commitment to encouraging women in science research and careers.

For more information visit <http://www.mpls.ox.ac.uk/about/about-mpls-division>

## How to Apply

Before submitting an application, you may find it helpful to read the 'Tips on applying for a job at the University of Oxford' document, at <https://www.ox.ac.uk/about/jobs/research/>

If you would like to apply, click on the **Apply Now** button on the 'Job Details' page and follow the on-screen instructions to register as a new user or log-in if you have applied previously.

You will then be required to complete a number of screens with your application details, relating to your skills and experience. When prompted, please provide details of two referees, one should include the applicant's current or most recent employer, whenever possible and indicate whether we can contact them now.

You will also be required to upload your application materials: a letter describing how you meet the selection criteria; a curriculum vitae; a full list of publications with your top three papers starred; a statement of research interests including a plan for research to be undertaken during the Fellowship. Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

Please upload all documents **as PDF files** with your name and the document type in the filename.

### **Applicants should ask their referees to send their letters of reference DIRECTLY to**

The Recruitment Co-ordinator (Vacancies)  
Mathematical Institute, Andrew Wiles Building, Radcliffe Observatory Quarter, Woodstock Road, Oxford, OX2 6GG. Tel: 01865 273518: Email: [vacancies@maths.ox.ac.uk](mailto:vacancies@maths.ox.ac.uk)

**by the closing date** (a letter by email is sufficient) **quoting the vacancy reference 147713**. Referees should preferably not all be from the same institution and whenever possible one should be the applicant's current, or most recent, supervisor. **NOTE: reference letters must be received from your referees by the closing date for your application to be complete.**

**Interviews for this position will take place on Monday 30 November 2020.**

All applications must be received by **12:00 noon UK time on Monday 2 November 2020.**

### **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).*

**DATA PROTECTION:** All data supplied by applicants will be used only for the purposes of determining their suitability for the post, and will be held in accordance with the principles of the Data Protection Act 1998 and the department's data protection policy.

<https://www.maths.ox.ac.uk/members/policies/data-protection/statement>

Due to the large volume of recruitment that the department administers we are unable to provide feedback to non-shortlisted applicants.

Should you experience any difficulties using the online application system, please email [recruitment.support@admin.ox.ac.uk](mailto:recruitment.support@admin.ox.ac.uk). Further help and support is available from [www.ox.ac.uk/about the university/jobs/support/](http://www.ox.ac.uk/about_the_university/jobs/support/). To return to the online application at any stage, please go to: [www.recruit.ox.ac.uk](http://www.recruit.ox.ac.uk).

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 at: [www.admin.ox.ac.uk/councilsec/compliance/gdpr/privacynotices/job/](http://www.admin.ox.ac.uk/councilsec/compliance/gdpr/privacynotices/job/). The University's Policy on Data Protection is available at: [www.admin.ox.ac.uk/councilsec/compliance/gdpr/universitypolicyondataprotection/](http://www.admin.ox.ac.uk/councilsec/compliance/gdpr/universitypolicyondataprotection/).

### The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for all academic posts and some academic-related posts. The University has adopted an EJRA of 30 September before the 69<sup>th</sup> birthday for all academic and academic-related staff in posts at **grade 8 and above**. The justification for this is explained at: [www.admin.ox.ac.uk/personnel/end/retirement/acrelretire8+/](http://www.admin.ox.ac.uk/personnel/end/retirement/acrelretire8+/).

For **existing** employees, any employment beyond the retirement age is subject to approval through the procedures: [www.admin.ox.ac.uk/personnel/end/retirement/acrelretire8+/](http://www.admin.ox.ac.uk/personnel/end/retirement/acrelretire8+/).

There is no normal or fixed age at which staff in posts at **grades 1–7** 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. See [www.admin.ox.ac.uk/personnel/staffinfo/benefits](http://www.admin.ox.ac.uk/personnel/staffinfo/benefits).

### 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. See [www.club.ox.ac.uk](http://www.club.ox.ac.uk) and [www.sport.ox.ac.uk/oxford-university-sports-facilities](http://www.sport.ox.ac.uk/oxford-university-sports-facilities).

### 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. See [www.welcome.ox.ac.uk](http://www.welcome.ox.ac.uk). There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependents. See [www.admin.ox.ac.uk/personnel/permits/reimburse&loanscheme/](http://www.admin.ox.ac.uk/personnel/permits/reimburse&loanscheme/).

### 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 My Family Care, 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. See [www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/](http://www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/).

### Childcare

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 [www.admin.ox.ac.uk/childcare/](http://www.admin.ox.ac.uk/childcare/).

### 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 [www.admin.ox.ac.uk/eop/disab/staff](http://www.admin.ox.ac.uk/eop/disab/staff).

### 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 at [www.admin.ox.ac.uk/eop/inpractice/networks/](http://www.admin.ox.ac.uk/eop/inpractice/networks/).

### 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. See [www.newcomers.ox.ac.uk](http://www.newcomers.ox.ac.uk).