



MATHEMATICAL INSTITUTE
ANDREW WILES BUILDING

Job Description and Selection Criteria

Job title	Departmental Lecturer in Applied Mathematics
Division	Mathematical, Physical and Life Sciences
Department	Mathematical Institute
Location	Andrew Wiles Building, Radcliffe Observatory Quarter, Woodstock Road, Oxford, OX2 6GG. Christ Church, St Aldate's, Oxford, OX1 1DP.
Grade and salary	Grade 8: £43,414 - £51,805 per annum
Hours	Full time (37.5 hours per week)
Contract type	Fixed-term until 31 st March 2025
Reporting to	Head of Department
Vacancy reference	161699
Additional information	<p>This is 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 12-month probationary period.</p> <p>(PLEASE NOTE: Applicants are responsible for contacting their referees and making sure that their letters are received by the closing date)</p>

The role

The Mathematical Institute, University of Oxford, proposes to appoint a Departmental Lecturer in Applied Mathematics, in collaboration with Christ Church, from 1st April 2023 or as soon as possible thereafter. The appointment will be for a fixed period until 31st March 2025.

In summary, the postholder will engage in advanced study and academic research in applied mathematics, and will be based in the Oxford Centre for Industrial and Applied Mathematics (OCIAM). They will deliver lectures to undergraduate and/or graduate students, and high-quality undergraduate tutorial teaching to mathematicians at Christ Church, for an average of six hours per week over the 24 weeks of the academic year, weighted in accordance with the Senior Tutor's Committee scales (in which a one-to-one tutorial counts as one stint hour, a double



tutorial as 1.25 hours; a triple as 1.5 hours; the scaling is nonlinear after this point). Tutorials consist of an hour of academic discussion between tutor and students, and tutors are expected to mark written work as part of each tutorial. The successful candidate will be expected to teach topics including, for example, differential equations, probability, quantum theory, some second-year optional subjects in applied mathematics, constructive mathematics, and associated revision classes, as well as possibly contribute to the University's Intercollegiate Class scheme for third- and fourth-year undergraduates, on Christ Church's behalf. Details of all courses can be found at <https://courses.maths.ox.ac.uk/>. The postholder will also be expected to lead independent graduate and undergraduate research projects.

Responsibilities

The successful candidate will be expected to undertake the following duties:

For the Department

- Undertake high-quality independent research involving applied mathematics, write research articles for leading peer-reviewed journals, present papers at conferences, and deliver seminars to disseminate research findings;
- Deliver one 16-hr lecture course per year. This will involve development of material and undertaking advanced academic study to underpin the course, producing lecture notes and other course materials, gathering and analysing feedback, and assessing the course;
- Participate in the graduate student admissions processes (DPhil and Master levels);
- Supervise short projects for Doctoral, Masters and Undergraduate students;
- Provide guidance to students on matters relating to attendance, conduct, coursework performance, and welfare (referring matters to appropriate others);
- Allocate tasks and provide day-to-day supervision to teaching assistants, or academic support staff.

For the College

- Teach undergraduates in mathematics for an average of six hours per week, over the 24 weeks of the academic year (three terms of eight weeks);
- Assist with the general administration of mathematics teaching at Christ Church;
- Participate in the undergraduate admissions exercise; this may include marking of candidates' written work, conducting interviews and participating in the decision process of admitted students;
- Organise and mark termly formative assessments (called collections) of mathematics students and to participate in termly oral evaluations of college students;
- Participate in access and outreach activities as deemed appropriate by the Tutor for Admissions;
- Be a first point of contact for undergraduate students in Mathematics as required in matters relating to attendance, conduct, coursework, performance, and welfare (referring matters to appropriate other staff at Christ Church as needed), and liaising with other subject tutors in the college as needed;

- Advise a limited number of graduate students in the college in mathematics and related fields.

Selection criteria

Your application will be judged only against the criteria which are set out below. You should ensure that your application shows clearly how your skills and experience meet these criteria.

The Selection Committee for this process is expected to comprise;

- Professor Ian Hewitt (Chair, Mathematical Institute)
- Professor Chris Breward (Mathematical Institute and Christ Church)
- Professor Yuji Nakatsukasa (Mathematical Institute and Christ Church)
- Professor Helen Byrne (Mathematical Institute)
- Professor Jon Chapman (Mathematical Institute)

The University is committed to fairness, consistency and transparency in selection decisions. Members of the selection committee are aware of the principles of equality of opportunity, fair selection and the risks of bias.

If, for any reason, you have taken a career break, parental leave or have had an atypical career and wish to disclose this in your application, the selection committee will take this into account, recognising that the quantity of your experience may be reduced as a result.

Essential selection criteria

The successful candidate will be expected to meet the following criteria:

Essential

- Hold a doctorate in mathematics or a related discipline;
- Experience of working at postdoctoral level;
- Evidence of the ability to devise and carry out an independent programme of research;
- An excellent publication record in accordance with the applicant's career status (including high-quality papers in the last three years);
- An aptitude for teaching and an ability to lecture at an appropriate level and in an engaging and stimulating manner;
- Evidence of the skills for successful tutorial teaching, including the ability to explain problems and ideas lucidly, listen to students' questions and views sympathetically, and enthuse and inspire them;
- Sufficient specialist knowledge to carry out high-quality research and supervise research projects relating to the existing activities and/or expertise encompassed within the Oxford Centre for Industrial and Applied Mathematics;
- Evidence of interpersonal and organisational skills and an ability and willingness to fulfil the administrative and pastoral functions outlined in these further particulars;
- Demonstrate willingness to participate in access initiatives in order to encourage applications from students from a wide range of educational backgrounds;
- Experience of, and competence in, administration;
- Excellent verbal and written communication skills.

Desirable

- Evidence of the ability to write research proposals;
- Experience in the supervision of Master's level students and above

Offer of employment

Applications for this post will be considered by a selection committee containing representatives from both the Mathematical Institute and Christ Church. The selection committee is responsible for conducting all aspects of the recruitment and selection process; it does not, however, have the authority to make the final decision as to who should be appointed. No offer of appointment will be valid, therefore, until and unless the recommendation has been approved by the governing body of Christ Church, and a formal contractual offer has been made.

Pre-employment screening

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 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 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 have twice been ranked first in the UK, in the 2021 and 2014 Research Excellence Framework exercises, 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) 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). The range of our research interests is well reflected by the profile of our faculty as listed at 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.

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 laboratory for carrying out table-top experiments. For more information, see 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 with teaching relief, offer flexible working arrangements, and the department sponsors University nursery places to support the priority allocation of childcare to our staff. Further information about family support can be found below under University Benefits, Terms and Conditions. Our [Equality, Diversity & Inclusion Committee](#)¹ contributes to many aspects of our work.

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.

We have a number of family-friendly policies, such as the right to apply for flexible working, hybrid working, and support for staff returning from periods of extended absence. We are committed to ensuring an inclusive interview process and will reimburse up to £250 towards any additional care costs (for a dependent child or adult) incurred as a result of attending an interview for this position, which may not be applicable if the interviews are held remotely.

For more information on the Mathematical Institute, please visit: www.maths.ox.ac.uk

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

¹ The Mathematical Institute was a founding supporter of the London Mathematical Society's Good Practice Scheme (www.lms.ac.uk/women/good-practice-scheme). We have held an Athena SWAN Silver Award since 2016.

Christ Church

Christ Church, one of the largest colleges of Oxford University, is strongly committed to teaching and research. The College has around 420 undergraduates and 230 graduates, and around 200 senior members. Our academics teach their students in tutorials, a system which enables undergraduates to work with experienced tutors in small groups. The subjects offered at Christ Church cover the whole spectrum, including Arts, Social Sciences, Medical Sciences and Physical Sciences. Christ Church tutors strongly believe in the joint pursuit of teaching and research. For more information please visit: <https://www.chch.ox.ac.uk/>

Mathematics at Christ Church

Christ Church currently admits eight students per year to read Mathematics, including joint schools (Mathematics, Mathematics and Statistics, Mathematics and Computer Science, and Mathematics and Philosophy). Students are taught mainly in college for their first two years, then in Intercollegiate classes in years 3 and 4. The permanent mathematics tutors are Professors Chris Breward, Sam Howison, Kevin McGerty and Yuji Nakatsukasa. Professor McGerty is currently Christ Church's Junior Censor and his teaching is being undertaken by a stipendiary lecturer. Professor Howison is currently Head of the MPLS division, and this Department Lecturership is to provide his replacement teaching. Christ Church has an active Mathematical Sciences society which has termly academic and social events.

The Lecturer will be entitled to membership of the Senior Common Room at Christ Church and up to three lunches and dinners per week (free of charge) during weeks 0-9 of each term. They will also be entitled to a College allowance for the purchase of books for teaching use (up to a current maximum of £615 per annum) and an allowance for work-related entertainment (up to a current maximum of £225 per annum).

More general information about the College may be obtained at www.chch.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. In the results of the six-yearly UK-wide assessment of university research, REF2014, the MPLS division received the highest overall grade point average (GPA) and the highest GPA for outputs. We received the highest proportion of 4* outputs, and the highest proportion of 4* activity overall. More than 50 per cent of MPLS activity was assessed as world leading.

The MPLS Division's 10 departments and 3 interdisciplinary units 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 addresses major societal and technological challenges and is increasingly focused on key interdisciplinary issues. MPLS is proud to be the home of some of the most creative and innovative scientific thinkers and leaders working in academe. We have a strong tradition of attracting and nurturing the very best early career researchers who regularly secure prestigious fellowships.

We have around 6,000 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 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 (<http://www.oxfordsparks.net/>) and a large variety of outreach activities. We also endeavour to

bring the potential of our scientific efforts forward for practical and beneficial application to the real world and our desire is to link our best scientific minds with industry and public policy makers.

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

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 <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.

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

You will also be required to upload a curriculum vitae, list of publications, details of your teaching experience, a statement of your research interests, and a supporting statement. The supporting statement must explicitly 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, quoting vacancy reference **161699**.

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

The Recruitment Coordinator (Vacancies)
Mathematical Institute, Andrew Wiles Building, Radcliffe Observatory Quarter, Woodstock Road, Oxford, OX2 6GG. Tel: 01865 273525: Email: vacancies@maths.ox.ac.uk

by the closing date (a letter by email is sufficient) **quoting the vacancy reference 161699**.

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.**

All applications must be received by **12.00 noon** UK time on **Friday 9th December 2022**.

Interviews for this position will be taking place on **Thursday 12th January 2023**.

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.

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 at vacancies@maths.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**, 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. See <https://hr.admin.ox.ac.uk/staff-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 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 website 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 dependents. 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 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. See <https://hr.admin.ox.ac.uk/my-family-care>

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 <https://childcare.admin.ox.ac.uk/>

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 <https://edu.admin.ox.ac.uk/disability-support>

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 <https://edu.admin.ox.ac.uk/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.