Job Description and Selection Criteria

<table>
<thead>
<tr>
<th>Job title</th>
<th>Lead Researcher</th>
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<tbody>
<tr>
<td>Division</td>
<td>Mathematical, Physical and Life Sciences</td>
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<tr>
<td>Department</td>
<td>Mathematical Institute</td>
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<tr>
<td>Location</td>
<td>Andrew Wiles Building, Radcliffe Observatory Quarter, Woodstock Road, Oxford, OX2 6GG</td>
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<tr>
<td>Grade and salary</td>
<td>Grade 9: salary £47,263</td>
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<tr>
<td>Hours</td>
<td>Full time</td>
</tr>
<tr>
<td>Contract type</td>
<td>4 year fixed-term</td>
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<tr>
<td>Reporting to</td>
<td>Professor Doyne Farmer</td>
</tr>
<tr>
<td>Vacancy reference</td>
<td>138223</td>
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Additional information

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.

This position is subject to a 9 month probationary period.

This is an externally funded position available from 1 October 2019.

(PLEASE NOTE: Applicants are responsible for contacting their referees and making sure that their letters are received by the closing date)

Overview of the Role

The Institute for New Economic Thinking at the Oxford Martin School and the Mathematical Institute are looking for an outstanding scholar to lead a large project focusing on understanding macroeconomics and long-run technological change from the bottom-up using micro-level data and complex systems methods. This program will develop new models of the global economy using network analysis, agent-based modelling and other approaches.
The post holder will report to Professor J. Doyne Farmer, who is Complexity Economics Programme Director and Principal Investigator on the project. The post holder will be a recognised authority in the field of complexity economics and the economics of innovation, and will act in a leadership role supporting Professor Farmer in running the Complexity Economics Group, which consists of eight postdocs and twelve Dphil students, as well as visitors.

The post holder will act as the team leader for the group, setting clear task objectives, developing productive working relations and line-managing the other members of the team. The post holder will contribute to the development of the DPhil students and postdoctoral researchers in the group through induction, appraisal, and coaching. Other duties will include management of the budget, leading and initiating collaborations and partnerships, representing the programme to internal and external stakeholders, managing the visitor programme and presenting at international conferences.

The post holder will be expected to lead in the design of research questions and methodologies, and write up the results for publication in leading economics and interdisciplinary journals. This will also include leadership in the strategic direction of the research and taking a leading role in initiating and developing funding applications.

Applications are invited from scholars who are a recognized authority in complex systems approaches to economics. The post holder must have a proven track record of research at a high standard in economics, complex systems, data science and applied mathematics. The postholder will be entitled to office space at the Institute for New Economic Thinking.

Responsibilities/duties

- Lead the research programme and develop research questions and methodologies
- Manage and monitor research resources and budgets
- Contribute to establishing the strategic direction and setting standards for the work of the wider group, agreeing clear task objectives, organising, and delegating work to other members of the team and coaching other members of the group on specialist methodologies or procedures
- Monitor the funding landscape, develop ideas for generating research income, promote the research area and write funding applications for specific avenues of independent research
- Regularly write research articles for prestigious journals in economics, complex systems and high impact generalist journals, as well as book chapters and reviews as appropriate
- Present papers at conferences and lead seminars to disseminate research findings
- Provide academic supervision for DPhil students and postdoctoral researchers and supervise or coordinate supervision of summer interns and research assistants
- Play an active role in the intellectual life and the various activities of the Complexity Economics group, the Institute for New Economic Thinking, and the Mathematical Institute, including internal seminars and ad-hoc meetings, organization and coordination of the visitors’ programme, and other duties as directed by the Programme Director
• Actively promote the research group locally, nationally and internationally in the various communities relevant to the project (economics, innovation, complex systems, data science, etc.), represent the research group at external meetings/seminars and liaise with sponsors, stakeholders, national agencies, and professional bodies.

• Carry out collaborative projects with colleagues in partner institutions and research groups

Selection criteria

Essential

• Hold a Ph.D/D.Phil in Economics, Applied Mathematics or related area with significant post-qualification research experience

• Possess specialist knowledge in quantitative micro- and macroeconomics, econometrics, data science, networks and complex systems, technological change and innovation

• Experience with Input-Output economics, firm-level data, financial networks, theories of inflation, endogenous business cycles, and long-run economic growth

• An established international reputation and publication record

• Ability to lead and motivate a team of research staff

• Experience of managing a research budget

• Possess a track record of successful grant applications

• Excellent communication skills for academic and non-academic audiences, including the ability to represent the research group at meetings with influential partners or stakeholders

Desirable

• Experience of providing academic supervision

• Familiarity with novel approaches to economic data, such as Natural Language Processing.

• Understanding of economic and technological taxonomies and data structures

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

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) 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/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.

Teaching is central to the life of the Mathematical Institute and we have an annual intake of approximately 300 undergraduates, some on courses jointly with other departments. We admit around 150 students each year across five taught master’s degree courses and have over 230 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. Our provision expanded in 2014 following the award of two EPSRC-funded Centres for Doctoral Training.

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.
Good Practice Committee\(^1\) contributes to many aspects of our work, see 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.

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 also be required to upload a curriculum vitae, list of publications, a statement of research interests and supporting statement. The supporting statement should describe how you meet the selection criteria outlined in the job description.

Please also provide details of three referees, one should include the applicant’s current or most recent employer, whenever possible and indicate whether we can contact them now.

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

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\(^1\) 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 Bronze Award since 2013, upgraded to Silver in 2017.
Applicants should ask their referees to send their letters of reference DIRECTLY to

The Recruitment Administrator (Vacancies)
The 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 138222. 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 8th February 2019.

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)

Should you experience any difficulties using the online application system, please email recruitment.support@admin.ox.ac.uk. Further help and support is available from 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.

Please note that you will be notified of the progress of your application by automatic emails from our e-recruitment system. Please check your spam/junk mail regularly to ensure that you receive all emails.
Important information for candidates

Pre-employment screening

Please note that the appointment of the successful candidate will be subject to standard pre-employment screening, as applicable to the post. This will include right-to-work, proof of identity and references. 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/.

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/. The University’s Policy on Data Protection is available at: 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. From 1 October 2017, the University has adopted an EJRA of 30 September before the 69th 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+./

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+/.

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

University Club and sports facilities
Membership of the University Club is free for all University staff. The University Club provides 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 www.sport.ox.ac.uk/oxford-university-sports-facilities.

Information for international staff
The University offers support and advice to international staff, including 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/.

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.

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 to settle into Oxford and to provide them with an opportunity to meet people in the area. See www.newcomers.ox.ac.uk.

Childcare
The University has excellent childcare services with 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.

Family-friendly benefits
The University subscribes to My Family Care service through which staff are eligible to register for emergency back-up childcare and adultcare services, a 'speak to an expert' advice service and a wide range of guides and webinars through a website called the Work+Family space. See: www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/.

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.

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/.

Additional benefits
Staff can enjoy a range of other benefits and discounts, including free entry to the Botanic Gardens and University colleges, and discounts at University museums. See www.admin.ox.ac.uk/personnel/staffinfo/benefits.