Job description and selection criteria

<table>
<thead>
<tr>
<th>Job title</th>
<th>Bioinformatician</th>
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<tbody>
<tr>
<td>Division</td>
<td>Medical Sciences</td>
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<tr>
<td>Department</td>
<td>Nuffield Department of Medicine (NDM)</td>
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<tr>
<td>Location</td>
<td>Ludwig Institute for Cancer Research, Old Road Campus Research Building, Headington, Oxford</td>
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<tr>
<td>Grade and salary</td>
<td>Grade 8: £39,992 - £47,722 per annum</td>
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<tr>
<td>Hours</td>
<td>Full time</td>
</tr>
<tr>
<td>Contract type</td>
<td>Fixed-term – 1 year in the first instance.</td>
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<tr>
<td>Reporting to</td>
<td>Professor Skirmantas Kriaucionis &amp; Dr Benjamin Schuster-Boeckler</td>
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<tr>
<td>Vacancy reference</td>
<td>133209</td>
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The role

Epigenetic DNA modifications form a crucial part of gene regulation and play an important role in cancer. One important effect of epigenetic changes that we are particularly interested in is their influence on mutagenesis. For example, it is well known that methylation on cytosine leads to higher mutation rates at CpG dinucleotides, which has been explained by spontaneous deamination of methylated cytosine to thymine. However, recent computational results from our group suggest that other mechanisms might contribute to this phenomenon. To investigate this and other related effects of DNA modifications on mutagenesis, we are performing computational analyses and wet lab experiments.

As the lead Bioinformatician in a multi-disciplinary team, you will be involved in the design of experiments, the analysis of results derived from those experiments and the comparison of to the existing public data. You will be expected to take full ownership of this project and further develop new lines of investigation based on the findings that arise from this work. You will also be a first point of reference for computational questions by other more members of the team. Good coding skills and a high level of organisation are crucial, as we expect all code to be made available with any publication. Any new algorithms or tools should also be developed into resources for the wider community.
Responsibilities

- Identify, define and plan new projects which contribute to the overall aims of the research groups of Professor Skirmantas Kriaucionis and Dr Schuester Boeckler.
- Advise and supervise biostatistical and laboratory staff on a day-to-day basis
- Conduct detailed analysis of datasets
- Develop novel methodologies for analysis and data collection in collaboration with members of the research team
- Develop or tailor analytical tools and resources appropriate to the work
- Identify and troubleshoot technical or scientific problems, working collaboratively with database experts and scientific programmers
- Contribute to discussions planning the overall aims and objectives of the group
- Provide bioinformatics input into outline and full grant proposals, as a co-applicant
- Contribute to the production of scientific reports and publications for high profile journals, including taking leadership in more specialised publications on novel aspects of bioinformatics.
- Attend scientific seminars, meetings and to contribute to presentations or other means of disseminating results as appropriate

Selection criteria

Essential
- A PhD (or equivalent) in a relevant scientific subject
- Demonstrable experience, ability and practical success in biostatistics or bioinformatics
- Research experience and a publication record
- Ability to supervise staff
- Proficiency in the use of statistical programming languages, especially Matlab or R
- Experience of developing scientific techniques
- Experience with the analysis of Maximum-Depth-Sequencing data
- Experience in analyzing whole genome bisulfite sequencing
- In-depth knowledge of non-negative matrix factorization for the analysis of mutation frequencies
Desirable

- Experience of contributing to grant proposals
- A good understanding of different sequencing technologies
- A good understanding of epigenetic mechanisms and DNA modifications

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 2014/15 exceeded £522.9m 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

Medical Sciences

The Medical Sciences Division is an internationally recognized centre of excellence for biomedical and clinical research and teaching.

We are the largest academic division in the University of Oxford World-leading programmes, housed in state-of-the-art facilities, cover the full range of scientific endeavour from the molecule to the population. With our NHS partners we also foster the highest possible standards in patient care.

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

Nuffield Department of Clinical Medicine (NDM)

The Nuffield Department of Clinical Medicine (NDM) is one of the largest departments of the University of Oxford and is part of the Medical Sciences Division, with responsibility for a
significant part of the teaching of clinical students within the Medical School. The Department also has a substantial research programme which requires high quality administrative management.

NDM has significant financial turnover and complexity, resulting from its diverse research portfolio, its geographical spread and its close links with NHS funding and strategic teams involved in the development and delivery of increasingly integrated clinical research platforms.

...fostering your career in science

For more information please visit: www.ndm.ox.ac.uk/home

The University of Oxford is a member of the Athena SWAN Charter and holds an institutional Bronze Athena SWAN award. The Nuffield Department of Medicine holds a Silver Athena SWAN award to recognise advancement of gender equality: representation, progression and success for all.

For more information please visit: https://www.ndm.ox.ac.uk/working-for-ndm/aboutndmatheneswan/

The Ludwig Institute for Cancer Research (LICR)

Ludwig Cancer Research, Oxford Branch is headed by Professor Xin Lu. Research within the Branch is focused on identifying molecular switches that determine cancer cell heterogeneity, with the aim of sensitising cancer cells to therapy and improving patients’ response to treatment.

To combat tumour heterogeneity, the scientists are researching a wealth of different molecular mechanisms with molecular switches of cell fate being a major theme of their research. One of the main research focuses is the identification of target selectivity of transcription factors in cell growth or death (Professor Xin Lu), stem cells and differentiation (Professor Colin Goding), as well as hypoxia and oxygen sensing (Professor Sir Peter Ratcliffe). This research is complemented by transcriptional networks governing the formation of blood vessels (Dr Sarah De Val), genetic markers that indicate how a cancer cell will respond to therapy (Dr Gareth Bond), epigenetic regulators of cell fate (Dr Skirmantas Kriaucionis), the structural and functional role of BET (Bromo and Extra Terminal) proteins in transcription initiation (Dr Panagis Filippakopoulos), inflammation and cancer (Dr Mads Gyrd-Hansen); and bioinformatics (Dr Benjamin Schuster-Boeckler).

The research groups at Ludwig Cancer Research, University of Oxford, have strong overlapping interests yet maintain diversity, enabling the effective sharing of ideas and technologies. By working together the scientists maximise their research potential.

The Oxford Branch currently employs approximately 120 staff at the Old Road Campus Research Building in Headington, Oxford, and has plans for further expansion over the coming 2-3 years.

For more information please visit: http://www.ludwig.ox.ac.uk/
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 www.ox.ac.uk/about/jobs/supportandtechnical/.

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. Please provide details of two referees and indicate whether we can contact them now.

You will also 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). 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.

All applications must be received by midday on the closing date stated in the online advertisement.

Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing departments.

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments).

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/.

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/revisedejra/revaim/.

For existing employees, any employment beyond the retirement age is subject to approval through the procedures: www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revproc/.

Form 1 October 2017, 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

The University Club provides social, sporting and hospitality facilities. It incorporates a bar, café and sporting facilities, including a gym. 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 (or those relocating from another part of the UK)

If you are relocating to Oxfordshire from overseas, or elsewhere in the UK, the University's International Staff website includes practical information related to moving to and settling in Oxford such as advice on immigration, relocation, accommodation, or registering with a doctor.
See: www.internationalstaffwelcome.admin.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 (www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/) and staff are eligible to register for emergency back-up childcare and adultcare services, a 'speak to an expert' phone line and a wide range of guides and webinars through a website called the Work + Family space.

Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. Please visit www.admin.ox.ac.uk/eop/disab/staff for further details including information about how to make contact, in confidence, with the University's Staff Disability Advisor.

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/

Other benefits

Staff can enjoy a range of other benefits such as free visitor access to the University's colleges and the Botanic Gardens as well as a range of discounts. See www.admin.ox.ac.uk/personnel/staffinfo/benefits