Nuffield Department of Medicine

Job description and selection criteria

<table>
<thead>
<tr>
<th>Job title</th>
<th>Postdoctoral Scientist – Protein Biochemistry and Structural Biology</th>
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<tbody>
<tr>
<td>Division</td>
<td>Medical Sciences</td>
</tr>
<tr>
<td>Department</td>
<td>NDM Research Building, Nuffield Department of Clinical Medicine (NDM)</td>
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<tr>
<td>Location</td>
<td>NDM Research Building, Old Road Campus, Headington, Oxford</td>
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<tr>
<td>Grade and salary</td>
<td>Grade 7: £31,604 - £38,833 p.a.</td>
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<tr>
<td>Hours</td>
<td>Full time</td>
</tr>
<tr>
<td>Contract type</td>
<td>Fixed term until 29th February 2020</td>
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<tr>
<td>Reporting to</td>
<td>Dr Kilian Huber, Principal Investigator, Chemical Biology Group</td>
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<tr>
<td>Vacancy reference</td>
<td>131523</td>
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</tbody>
</table>

Introduction

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.
**Nuffield Department of Medicine**

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](http://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](http://www.medsci.ox.ac.uk)

**Nuffield Department of Clinical Medicine (NDM)… fostering your career in science**

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.

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. For more information please visit: [http://www.ndm.ox.ac.uk/home](http://www.ndm.ox.ac.uk/home)

The Nuffield Department of Clinical Medicine has been presented with a Departmental Athena SWAN Silver award in recognition of the commitment made to promote gender equality through our organisational and cultural practices and our efforts to improve the working environment for both men and women. For more information please see our Departmental Athena SWAN pages: [https://www.ndm.ox.ac.uk/working-for-ndm/aboutndmatheneswan/](https://www.ndm.ox.ac.uk/working-for-ndm/aboutndmatheneswan/)
Structural Genomics Consortium (SGC)

The Structural Genomics Consortium (SGC), a not-for-profit, public-private partnership funds pre-competitive research that contributes to new hypotheses in understanding and treating human disease, and the subsequent identification of new targets for drug discovery. The SGC supports pioneering research at the University of Oxford (UK), University of Toronto (Canada), University of Campinas (Brazil), and University of North Carolina (USA). The reagents and knowledge related to human proteins that the SGC supports are made openly accessible to researchers around the world to accelerate the discovery of new medicines in order to bring potentially life-saving drugs to market faster and at a lower cost.

SGC Oxford, a part of the Nuffield Department of Clinical Medicine, receives funding from public, charitable and private sector organisations such as the European Commission, UK Research Councils, Wellcome Trust, and pharmaceutical companies. Research in SGC Oxford is focused on the production and characterisation of the 3-dimensional structures of soluble and of integral membrane proteins, the discovery of selective chemical probes that can modulate protein function, and the development of target enabling packages that transform genetic hits into starting points for drug discovery. SGC Oxford shares its research outputs through collaborations with researchers worldwide.

For more information please visit: [http://www.thesgc.org/scientists/groups/oxford/](http://www.thesgc.org/scientists/groups/oxford/)

Job description

Overview of the role

The chemical biology team is seeking a post-doctoral scientist with extensive experience in protein purification, biophysical characterization of protein ligand interaction, functional assay development as well as crystallization and structure determination of proteins. The SGC’s chemical biology project aims to develop highly specific and potent chemical tool molecules that can be used to study the function of key signaling proteins in cellular systems as well as in the development of disease. The project milestones are very ambitious and you will have to be a self-motivated, skillful scientist in order to make a strong contribution to the project. Experience in preclinical drug development would be beneficial but is not a requirement. You will have a strong academic track record and several years of experience in protein biochemistry and/or structural biology. You will work in a multidisciplinary team and strong communication skills will be therefore required. The focus of the research project will be the generation of efficient protein expression systems for proteins involved in cancer and inflammation, assay development, biophysical interaction studies with chemical inhibitors as well as determination of co-crystal structures.
Responsibilities/duties

- Establish efficient expression and purification systems of proteins involved in cancer and inflammation.
- Develop biochemical assays and study the interaction of low molecular weight modulators to these protein interaction domains and understand the SAR (structure activity relationship) of compound classes with the goal to develop a highly selective chemical probe molecule.
- Unravel the molecular mechanisms of ligand recognition by co-crystallization of chemical tool compounds with related target proteins.
- Coordinate this project with other teams.
- Contribute to the scientific output of the SGC by publishing high quality manuscripts and by representing the group on scientific meetings.
- Supervise junior and technical staff.
- Effective communication on a day-to-day basis, both orally and in writing.
- To carry out any other relevant duties as may reasonably be associated with the post and which may be required from time to time.

All employees will have to ensure that their work in the laboratory is conducted safely at all times and, in particular, that work is undertaken following the appropriate health and safety policies and procedures for the particular area, without compromise to their own safety or that of others who may be affected.

Hazard-specific / Safety-critical duties

This job includes the following hazards or safety-critical activities which will require successful pre-employment health screening through our Occupational Health Service before the successful candidate will be allowed to start work:

- Night working (11pm-6am)
- Lone Working
- Work in hot or cold environments
- Working with Ionising Radiation
- Working with category 3b or 4 lasers (laser safety class)
- Working with infectious pathogens (hazard group 2/3) - Hazard Group 3 pathogens
- Work with allergens, Eg laboratory animals, pollen, dust, fish or insects etc.
- Work with any substance which has any of the following pictograms on their MSDS:

  - Manual handling
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- Travel outside of Europe or North America on University Business

Selection criteria

- PhD in protein biochemistry and structural biology with an excellent academic track record, or an equivalent combination of training and experience.
- Experience in protein crystallization and optimization of protein crystals.
- Extensive experience in cloning and recombinant protein purification using bacterial, insect cell and mammalian host systems.
- Demonstrable experience in biochemical assay development and biophysical ligand binding methods such as isothermal titration calorimetry (ITC) and surface plasmon resonance (SPR).
- Ability to work as part of a team and to collaborate with colleagues on a range of diverse projects.
- Experience supervising students and technical personnel.
- Excellent organisation and project management skills.
- Familiarity with databases and software necessary for protein structure determination, and MS Office products (Word, Excel and PowerPoint)
- Excellent oral presentation and written communication skills including experience independently writing scientific reports and manuscripts as well as project proposals.
- Knowledge of appropriate Health & Safety procedures, observe local codes of practice and observe & (if necessary) write COSHH assessments for all procedures used.

Desirable

- Experience in cryo-electron microscopy.
- Experience in working in a high throughput environment and lab automation.
- Experience in small molecule drug discovery.
Experience in working with interdisciplinary teams.

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. 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.

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.
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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](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 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/](http://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/](http://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](http://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/](http://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](http://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