# Job description and selection criteria

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| Job title | Postdoctoral Research Associate in Molecular Mechanisms of DNA Interstrand Crosslink Repair |
| Division | Medical Sciences Division |
| Department  | Biochemistry |
| Location | New Biochemistry, South Parks Rd, Oxford |
| Grade and salary | Grade 7: £30,738 - £37,768 p.a.  |
| Hours | Full time (37.5 hours per week) |
| Contract type | Fixed-term (up to 3 years) |
| Reporting to | Dr. Martin Cohn |
| Vacancy reference | 122931 |
| Additional information | Contact: martin.cohn@bioch.ox.ac.uk  |

## Introduction

### The University

The University of Oxford is a complex and stimulating organisation, which enjoys an international reputation as a world-class centre of excellence in research and teaching. It employs over 11,000 staff and has a student population of over 22,000.

Our annual income in 2013/14 was £1,174.4m. Oxford is one of Europe's most innovative and entrepreneurial universities: income from external research contracts exceeds £478.3m p.a., and more than 80 spin-off companies have been created.

Oxford is a collegiate university, consisting of the central University and colleges. The central University is composed of academic departments and research centres, administrative departments, libraries and museums. There is a highly devolved operational structure, which is split across four academic divisions, Academic Services and University Collections and University Administrative Services. For further information, please see:

[www.ox.ac.uk/staff/about\_the\_university/new\_to\_the\_university/structure\_of\_university](http://www.ox.ac.uk/staff/about_the_university/new_to_the_university/structure_of_university).

For more information please visit <http://www.ox.ac.uk/about>

### Medical Sciences Division

The Medical Sciences Division is an internationally recognized centre of excellence for biomedical and clinical research and teaching, and the largest academic division in the University of Oxford. It includes 15 clinical departments and 5 non-clinical departments.

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: <http://www.ox.ac.uk/divisions/medical_sciences.html>

### Department of Biochemistry

The Department of Biochemistry in Oxford was established in 1920 and is now one of the largest in Europe. Situated in an attractive area close to the University Parks and River Cherwell, the Department is housed in the University Science Area and is currently undergoing a major expansion programme centred on the recently completed and award-winning New Biochemistry Building. The Science Area includes the Radcliffe Science Library and the Natural History Museum, and is conveniently located for easy access to the town centre and colleges.

The department includes research laboratories working in the areas of glycobiology, cell and chromosome biology, genes and development, molecular and systems biology, and molecular biophysics. It is particularly well equipped with an extensive computer network, all the basic hardware essential in today's research, together with an excellent range of state-of-the-art specialist equipment.

For more information please visit: <http://www.bioch.ox.ac.uk/>

## The University of Oxford is a member of the [Athena SWAN Charter](http://www.ecu.ac.uk/equality-charter-marks/athena-swan/) and holds an institutional Bronze Athena SWAN award. The Department of Biochemistry is strongly committed to equality and valuing diversity and we operate a flexible working policy for all staff. The Department holds a departmental Silver Athena award in recognition of its efforts to introduce organisational and cultural practices that promote gender equality in SET and create a better working environment for both men and women.



## Job description

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| --- | --- |
| Research topic | Molecular Mechanisms of DNA Interstrand Crosslink Repair |
| Principal Investigator / supervisor  | Dr. Martin Cohn |
| Project team  | Research group of Dr. Martin Cohn |
| Project web site  | <http://www.bioch.ox.ac.uk/research/cohn>  |
| Funding partner  | The funds supporting this research project are provided by The Medical Research Council |
| Recent publications  | 1. Liang, C-C. and **Cohn, M.A.** (2015). UHRF1 is a sensor for DNA intrastrand crosslinks. **Oncotarget.** 7(1):3-4.
2. Schwab, R., Nieminuszczy, J., Shah, F., Langton, J., Lopez Martinez, D., Liang, C.C., **Cohn, M.A.**, Gibbons, R., Deans, A. and Niedzwiedz, W. (2015). The Fanconi anaemia pathway maintains genome stability by coordinating replication and transcription. **Mol. Cell.** 60:351-61.
3. Liang, C-C., Zhan, B., Yoshikawa, Y., Haas, W., Gygi, S.P. and **Cohn, M.A.** (2015). UHRF is a sensor for DNA interstrand crosslinks and recruits FANCD2 in the Fanconi Anemia pathway. **Cell Rep.** 10(12):1947-56**.**
4. Zhang, J., Dewar, J.M., Budzowska, M., Motnenko, A., **Cohn, M.A.**, Walter, J.C. (2015). DNA interstrand cross-link repair requires replication-fork convergence. **Nat Struct Mol Biol**. 22(3):242-7**.**
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| Technical skills | Biochemistry, cell biology, molecular biology, CRISPR/Cas9 genome editing, cryo-EM |

### Overview of the role

### This position has been created to exploit new technical advances in biochemistry, live-cell imaging, CRISPR/Cas9-mediated genome engineering and in cryo-EM. The focus of the research is to understand the molecular mechanisms of DNA interstrand crosslink repair and the Fanconi Anemia DNA repair pathway, which plays a key role in genome stability in human.

### Responsibilities/duties

* To undertake full-time research under the supervision of Dr. Martin Cohn
* To undertake training and experiments using biochemistry, cell biology and CRISPR/Cas9 mediated genome engineering
* To undertake training and experiments using live-cell microscopy and cryo-EM
* To maintain accurate laboratory records
* To take safe and healthy steps while undertaking research
* Carry out collaborative projects with colleagues in partner institutions, and research groups
* Adapt existing and develop new scientific techniques and experimental protocols
* To interact productively with other group and Department researchers

## Selection criteria

### Essential

* A Ph.D., or expect to obtain soon, a Ph.D. in a relevant subject
* Previous experience in expression and purification of recombinant proteins
* Experience in genetic engineering of human cell lines
* A proven research record in biochemical and cell biological research
* Previous experience of contributing to publications
* Be highly motivated with good communication skills and have the ability to work as part of a team

### Desirable

* Experience with *in vitro* biochemical assays
* Experience in live-cell microscopy or other microscopy

**The University’s policy on retirement**

The University operates an employer justified retirement age for all academic and academic-related posts (any grade above grade 5), for which the retirement date is the 30 September immediately preceding the 68th birthday.

The justification for this is explained at:

[www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revaim/](http://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 outlined at:

[www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revproc/](http://www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revproc/)

**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. All applicants must 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/).

## Working at the University of Oxford

For further information about working at Oxford, please see:

[www.ox.ac.uk/about\_the\_university/jobs/research/](http://www.ox.ac.uk/about_the_university/jobs/research/)

## How to apply

If you consider that you meet the selection criteria, click on the **Apply Now** button on the ‘Job Details’ page and follow the on-screen instructions to register as a user. 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 three referees and indicate whether we can contact them at this stage. You will also be required to upload a CV and supporting statement which explains how you meet the selection criteria for the post. The supporting statement should explain your relevant experience which may have been gained in employment, education, or you may have taken time away from these activities in order to raise a family, care for a dependant, or travel for example.  Your application will be judged solely on the basis of how you demonstrate that that you meet the selection criteria outlined above and we are happy to consider evidence of transferable skills or experience which you may have gained outside the context of paid employment or education.

Please save all uploaded documents to show your name and the document type.

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 owing to the fact that he or she has 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 and this letter* ***must*** *be attached to any application they submit.*

*If you are a priority candidate,* ***please ensure*** *that you:*

*- attach your redeployment letter to your application*

*- explain in your covering letter how you meet the selection criteria for the post.*

*If you are applying for a post within the Department of Biochemistry as a priority candidate, please contact the Recruitment Team at the following address to alert them to your application –* *jobs@bioch.ox.ac.uk*

**Full details of the priority application process are available at:** [**www.admin.ox.ac.uk/personnel/end/red/redproc/prioritycandidate**](http://www.admin.ox.ac.uk/personnel/end/red/redproc/prioritycandidate)

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 <http://www.ox.ac.uk/about_the_university/jobs/support/>

To return to the online application at any stage, please click on the following link [www.recruit.ox.ac.uk](http://www.recruit.ox.ac.uk)

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