NUFFIELD DEPARTMENT of MEDICINE

UNIVERSITY OF OXFORD

Old Road Campus Research Building

Job description and selection criteria

Job title	Postdoctoral Scientist - Vaccinology
Division	Medical Sciences
Department	Nuffield Department of Medicine (NDM)
Location	Jenner Institute, Old Road Campus Research Building, Headington, Oxford
Grade and salary	Grade 7: £30,738 -£37,768 per annum
Hours	Full time
Contract type	Fixed-term, externally funded for 18 months in first instance
Reporting to	Prof Calman A. MacLennan
Vacancy reference	122237
Additional information	Security screening will apply for this position. Relocation costs are not supported for this role.

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.

Athena SWAN Silver Award

HR EXCELLENCE IN RESEARCH

For more information please visit www.ox.ac.uk/about

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.

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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 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.

For more information please visit: www.ndm.ox.ac.uk/athena-swan

The Jenner Institute

The Jenner Institute was founded in November 2005 to develop innovative vaccines against major global diseases. Uniquely it focuses both on diseases of humans and livestock and tests new vaccine approaches in parallel in different species. A major theme is translational research involving the rapid early-stage development and assessment of new vaccines in clinical trials.

For more information please visit: department website http://www.jenner.ac.uk/

Job description

Overview of the role

Prof Cal MacLennan has recently joined the Jenner Institute from a background in human immunology, the vaccine industry and clinical tropical medicine, and is establishing a new research group within the Institute. The focus of his group is vaccines and immunity to Gram-negative bacterial infections, with a particular focus on *Salmonella* and *Neisseria*. The group has a strong translational emphasis and seeks to follow parallel objectives, working on the development of new innovative vaccines, while better understanding the immunological mechanisms underlying the diseases which these vaccines are designed to prevent. The underlying principle is that through enhanced understanding of protective immunity to a pathogen and what goes wrong in individuals who develop clinical disease, we can develop more effective vaccines.

The group benefits from an extensive network of collaborators and collaborating institutes overseas, particularly in Africa, with access to clinical materials from these sites. It has close links with the Department of Clinical Immunology, in which Prof MacLennan is a practicing clinician, and other departments of the Oxford University Hospitals NHS Trust, including Infectious Diseases and Genito-Urinary Medicine. The group also has ongoing interactions with the vaccine industry and other academic partners in the fields of immunology and vaccinology.

We now require a postdoctoral scientist to join the group in order to initiate a new project developing an outer membrane particle-based vaccine against *Neisseria gonorrhoea* (gonococcus). Similar technological approaches have been applied to the development of vaccines against *Neisseria meningitidis* and other Gram-negative bacteria. There is a pressing unmet need for a vaccine against gonorrhoea. With increasing levels of anti-microbial resistance, the emergence of untreatable gonorrhoea is a real threat. The project is externally supported by a grant from the Wellcome Trust. The aim of the project is to develop particle-based vaccines through to preclinical proof of concept, testing immunogenicity and ability of clear gonococcal infection in a rodent model of gonorrhoea.

We are particularly looking for someone with a range of skills within the broad remit of vaccinology, including molecular biology, immunology and microbiology. Previous experience with Gram-negative bacteria and previous in vivo work would be highly desirable. The post will require good interpersonal skills and the ability to interact productively and accurately with other team members. We are looking for an enthusiastic, dedicated and driven postdoctoral scientist to establish this programme of work. You need to be highly organised, with proven experience in a laboratory environment and experience of vaccinology. The position will be based at the Jenner Institute Laboratories, at the University's Old Road Campus in Headington.

Informal enquiries about this post can be addressed to calman.maclennan@ndm.ox.ac.uk

Responsibilities/duties

- To participate in the research project led by Prof Cal MacLennan to develop a particle-based vaccine against gonococcus.
- To help supervise students and other members of the group, as required.
- To liaise and coordinate with industrial and/or academic collaborators, where required.

- To contribute vaccinology/molecular biology/immunology/microbiology expertise, as requested, to other Jenner Institute programmes and collaborating Institutes.
- To operate laboratory equipment used for all relevant aspects of immunology and vaccine development.
- To interpret results and to present to members of the MacLennan Group, and the Jenner Institute.
- To contribute to the efficient running, cleanliness and tidiness of the laboratory.

Communication

- To communicate with Prof Cal MacLennan and other members of the group as required, ensuring that they are kept fully up to date with progress in the research project.
- To help prepare scientific papers for publication, present the research at scientific conferences and contribute to the Jenner website.
- To participate in and contribute directly to scientific discussions with other members of the research group and collaborators on Jenner Institute projects.
- To maintain confidentiality regarding research data when interacting with non-collaborating researchers.

Education and Training

- To attend appropriate scientific seminars, training opportunities and meetings in the Institute and University.
- To participate in the education and training of other staff as necessary and appropriate.
- Once trained, the post holder's performance will be continually monitored to ensure that the required standard of accuracy and efficiency is maintained.

Further Responsibilities

- To act at all times in the interests of the Institute to ensure good laboratory practice.
- To be accountable for personal professional conduct within the project.
- To undertake such other duties as may be required from time to time that are commensurate with the grade and responsibilities of this post.
- To ensure that work in the laboratory is conducted safely and, in particular, that work is undertaken using appropriate safety procedures and in the dedicated areas.
- To accord due regard to the University Equal Opportunities and Data Protection policies.
- To participate in and support the public engagement and widening access activities of the Department and the University. This is anticipated to be not more than 2 days per year.

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.

Selection criteria

Essential

- A doctoral degree (or equivalent) in a subject relevant to vaccine development/immunology/microbiology/molecular biology.
- Experience of bacterial culture and genetic manipulation.
- Experience of advanced molecular biology techniques.
- Experience of humoral and cellular immunological techniques, including flow cytometry.
- Self-motivated, technically competent and capable of working independently in a laboratory.
- Excellent communication, and interpersonal skills, and ability to work effectively with others.
- Ability to research complex issues; interpret, analyse, and present scientific data; and publish scientific results in peer-reviewed international journals.
- Well-developed organisation skills to be able to manage multiple projects with competing priorities effectively.

Desirable

Experience of the following areas would be desirable:

- Experience of vaccine design and development
- Work with Gram-negative bacteria at BSL2 containment level.
- In vivo work, particularly rodent immunology (ideally including a personal animal licence)
- Experience of bioinformatics
- Experience of mass spectrometry
- Previous experience of supervising and training others

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/

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/

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/.

Furthermore, additional pre-employment screening is required for this post, as such; the successful candidate will be required to undergo University security screening.

As this role involves specific hazards, e.g. handling of pathogenic bacteria, satisfactory pre-employment health clearance will be required prior to the successful candidate commencing work.

Working at the University of Oxford

For further information about working at Oxford, please see:
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 two 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.
Please upload all documents **as PDF files** with your name and the document type in the filename.
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.

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.

If you are a priority candidate, please ensure that you:
- attach your redeployment letter to your application (or e-mail it to the contact address on the advert if the application form used for the vacancy does not allow attachments)
- explain in your supporting statement how you meet the selection criteria for the post.

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 click on the following link 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.