

Job title	Postdoctoral Scientist in Immunology
Division	Medical Sciences
Department	Nuffield Department of Medicine, Jenner Institute
Location	Old Road Campus Research Building, Headington, Oxford, OX3 7DQ
Grade and salary	Grade 7: £32,817 - £40,322 per annum
Hours	Full time
Contract type	Fixed-term (3 years)
Reporting to	Dr Anita Milicic
Vacancy reference	144565
Additional information	Position Funded by Bill and Melinda Gates Foundation

Research topic	Vaccine Adjuvant development and Mechanisms of Action
Principal Investigator / supervisor	Dr Anita Milicic
Project team	Vaccine Formulation Group
Project web site	www.ndm.ox.ac.uk/principal-investigators/researcher/anita-milicic
Funding partner	
Recent publications	

The role

This exciting new role has arisen as a result of a new collaborative research project aimed at studying the immunological mechanisms of action of vaccine adjuvants in the context of adjuvant development for clinical application. The project will be carried out in close partnership with the Vaccine Formulation Institute (based in Geneva, Switzerland), a non-for profit organisation dedicated to open access for vaccine adjuvants and their clinical development. The post is funded by the Bill and Melinda Gates Foundation and is initially for 3 years, with a possibility of an extension.



We are seeking an exceptional, enthusiastic and motivated scientist with a passion for uncovering the mechanisms that link the innate and adaptive immune responses. The successful applicant will work within the Vaccine Formulation Group at the Jenner Institute, under the supervision of Dr Anita Milicic, as part of a larger programme of work involving colleagues at VFI, Geneva, and external partners internationally.

The R&D activities of the programme (Geneva) will produce a series of novel vaccine adjuvants and biosimilars of the current clinically most advanced adjuvants. These compounds will be assessed pre-clinically in Oxford by the successful candidate: the adjuvants will be combined with our leading malaria vaccines and tested for immunogenicity and efficacy in a mouse model of malaria. This will be accompanied by a spatio-temporal characterisation of the innate and adaptive immune activation, with the analysis of the cellular and molecular events at the site of injection, draining lymph nodes, peripheral blood, spleen and liver.

Techniques used will include multi-parameter flow cytometry, ELISA, ELISpot, CyTOF, confocal microscopy, qPCR, antibody affinity and avidity assays and other relevant approaches. Existing experience in at least two of these methods is essential. In addition, different *in vitro* and *in silico* methods will be employed, such as activation of ex-vivo derived murine macrophages, systems for in vitro assessment of adjuvant activity using human immune cells or PBMCs, mathematical modelling of adjuvant activity supported by *in vivo* studies and, if appropriate, investigation of transcriptional and/or epigenetic changes in relevant cell subsets. Training will be provided or access to technologies facilitated for the required techniques.

The successful candidate will have the opportunity to work and train at the Jenner Institute, a world-leading Academic Institute for vaccine development, with over 50 vaccines taken through clinical trials in the UK and Africa to date. Expertise in pre-clinical animal models of malaria infection will be gained within this post, along with a proficiency in novel approaches to the characterisation of the immune response to adjuvanted vaccines, and the dissection of key cellular and molecular events leading to effective vaccine development. The Jenner Institute is located in close proximity to several other Institutes housing state-of-the-art technologies for medical research, access to which will be facilitated if required.

Informal enquires about the post are welcome. Please contact anita.milicic@ndm.ox.ac.uk

Responsibilities

- Design and perform original research using mouse models of infectious diseases (primarily malaria).
- Adapt existing and develop new scientific techniques and experimental protocols.
- Maintain awareness of the relevant literature.
- Work independently, testing hypotheses and analysing scientific data, reviewing and refining working hypotheses as appropriate.
- Manage own academic research and administrative activities. This involves small scale project management, to co-ordinate multiple aspects of work to meet deadlines.
- Collaborate in the preparation of scientific reports and journal articles and occasionally present papers and posters.
- Regularly communicate with Dr Anita Milicic, colleagues at VFI and other members of the group as required, ensuring that they are kept fully up to date with progress and any difficulties in the research project.
- To be responsible for overseeing the daily housekeeping of the laboratory area and performing any other comparable duties as may be required to ensure the efficient running of the laboratory.
- Attend appropriate scientific seminars, training opportunities and meetings in the Institute and University.

- To be responsible with others for the biological safety of the laboratory.
- Assist in dissemination of findings of the research group by authorship of manuscripts, presentation of results at meetings, and contribution to the group website.
- 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.
- Undertake mandatory training as required by the University, Division and Department. The specific list of training courses may change from time-to-time, in response to both legal and internal University requirements.

Once trained the post holder's performance will be continually monitored to ensure that the required standard of accuracy and efficiency is maintained.

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.

Pre-employment screening

All offers of employment are made subject to standard pre-employment screening, as applicable to the post.

If you are offered the post, you will be asked to provide proof of your right-to-work, your identity, and we will contact the referees you have nominated. You will also be asked to complete a health declaration (so that you can tell us about any health conditions or disabilities so that we can discuss appropriate adjustments with you), and a declaration of any unspent criminal convictions.

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/.

Hazard-specific / Safety-critical duties

This job includes hazards or safety-critical activities. If you are offered the post, you will be asked to complete a health questionnaire which will be assessed by our Occupational Health Service (OHS), and the offer of employment will be subject a successful outcome of this assessment.

The hazards or safety-critical duties involved are as follows:

- Lone Working
- Working with category 3b or 4 lasers (laser safety class)
- Working with infectious pathogens (hazard group 2)
- Working with blood, human products and human tissues
- Work in clinical areas with direct contact with patients (NOT administrative roles)
- 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



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- Travel outside of Europe or North America on University Business

Additional security pre-employment checks

This job includes duties that will require additional security pre-employment checks:

- A satisfactory basic Disclosure and Barring Service check due to working with animals and access to certain pathogens or toxins
- University security screening (eg. identity checks)

Selection criteria

Essential selection criteria

- PhD (or near to completion) in the field of immunology
- Experience with animal procedures (mouse work in particular)
- Proven ability to work independently
- Meticulous approach to designing and performing experiments
- Positive (“can do”) and open-minded attitude to scientific research
- Technical ability in cell biology techniques (sterile work)
- Proven experience in at least two of the following techniques: flow cytometry, ELISA, ELISpot, confocal microscopy, CyTOF, qPCR, antibody assays.
- High level of precision and attention to detail
- Demonstrable competence in lab calculations
- Ability to drive a project to completion
- Clear and effective communication skills (oral and written)
- Organisational and interpersonal skills to collaborate with other researchers within and outside of the Institute
- Motivation to learn new technologies

Desirable selection criteria

- UK Home Office animal licence
- Ability to write manuscripts for peer review and publication
- Experience in supervising junior staff/students

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.

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)...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>

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: www.ndm.ox.ac.uk/working-for-ndm/aboutndmatheneswan/ .

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/>

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

http://www.ox.ac.uk/about_the_university/jobs/research/

http://www.ox.ac.uk/about_the_university/jobs/professionalandmanagement/

http://www.ox.ac.uk/about_the_university/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 three 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 department(s).

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 receive an automated email from our e-recruitment system to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email.

Important information for candidates

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. 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

Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, travel discounts, and a variety of professional development opportunities. Our range of other employee benefits and discounts also includes free entry to the Botanic Gardens and University colleges, and discounts at University museums. See www.admin.ox.ac.uk/personnel/staffinfo/benefits.

University Club and sports facilities

Membership of the University Club is free for all University staff. The University Club offers 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 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.

There is also 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/.

Family-friendly benefits

With one of the most generous family leave schemes in the Higher Education sector, and a range of flexible working options, Oxford aims to be a family-friendly employer. We also subscribe to My Family Care, a service that provides practical advice and support for employees who have caring responsibilities. The service offers a free telephone advice line, and the ability to book emergency back-up care for children, adult dependents and elderly relatives. See www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/.

Childcare

The University has excellent childcare services, including 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/.

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/.

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 settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area. See www.newcomers.ox.ac.uk.