Job description and selection criteria

Job title	Virus Screening/Production Scientist
Division	Medical Sciences
Department	Radcliffe Department of Medicine
Location	MRC Weatherall Institute of Molecular Medicine, John Radcliffe Hospital, Headington, Oxford, OX3 9DS
Grade and salary	Grade 7: £36,024 - £44,263 per annum
Hours	Full time (37.5 hours per week)
Contract type	Fixed-term until 31 March 2027
Reporting to	Head of Genome Engineering Facility
Vacancy reference	**166431**

The role

Forming part of the Institute's Genome Engineering and Transgencis Facility the postholder will manage virus and viral screening/production related projects, providing an outstanding service to researchers at the Institute, as well as the wider University of Oxford research community. Working under the direction of the Head of the Facility and alongside other members of the team, you will take responsibility for all aspects of the virus screening/production service and will ensure adaptation of the scientific output, if changes are required.

Services will include the provision of expert advice and design of experiments, customised purification packages to deliver high quality reagents adapted to the experimental needs, covering lentivirus, non-integrating lentivirus, retrovirus as well as diverse serotype AAV production pipelines. You will be expected to provide researchers with validated, ready-to-use lentivirus preparations of commercial or custom-made viral barcoding, sgRNA- and shRNA-libraries, as well as designing custom libraries and the assembly of library components.

You will have the ability to communicate across a wide-range of staff and students, excellent problem-solving skills and the ability to work under minimal day-to-day supervision.

Responsibilities

- Provide expert advice and knowledge to facilitate experiments to fulfil orders for virus screening/production at the Institute and across the wider University of Oxford research community.

- Generate high-quality virus reagents (lentivirus, retrovirus, Adeno-Associated Virus).

- Assist in the design of transduction experiments taking into account varying experimental models (i.e., primary cells, transplantations, cell cultures) and help to establish custom-solutions when required.

- Plan and carry out research experiments to assist PIs in library screening approaches.

- Act as a source of expertise, advice and information to researchers in the area of Virus Screening. Serve as a share-point of information and expertise to build relationships and collaborate with research staff.

- Design custom libraries, assembly of library components as well as verification and maintenance of proper representation of shRNAs and sgRNAs in the ready-to-use libraries, including development of NGS validation protocols.

- Application, refinement and development of scientific techniques and protocols involved in the overall workflow (concerning cell culture, lentivirus production, MOI determination, advanced CRISPR/Cas9 applications, library screening).

- Design and execution of cell culture and *in vivo*-based screening using the generated custom libraries. In close collaboration with PIs and user groups, perform retrieval and deep sequencing of libraries at the end of the screen, as required by service agreement.

- Development of new screening platforms and pipelines.

- Maintain an up-to-date knowledge of new developments in the field.

- Independently analyze and interpret screening data to identify dropouts (including basic statistical analysis) and to use the data in downstream experiments.

- Consultation with requesting researchers on technical possibilities and their implementation on a per-project basis. Updating and discussing results and project development with involved customers/stakeholders.

- In collaboration with the Head of Genome Engineering Facility ensure that high levels of service are maintained and that charges for the virus screening services offered, are regularly reviewed to ensure a full cost recovery model.

- General laboratory management duties, including managing the infrastructure and reagents, methods, resources, maintenance of equipment, awareness of health and safety issues, and maintenance of a viral repository for the Institute.

- Maintaining good laboratory and data records.

- Play an active role in the Institute's Genetic Modification Committee, providing expert advice on new Risk Assessments submitted to the Committee.

Selection criteria

Essential

- A minimum of a BSc degree in a relevant scientific discipline with sufficient practical working experience within a laboratory.
- Expertise and experience in the production, purification and titration of common recombinant viral vectors including but not limited to Lentivirus, Retrovirus and Adeno Associated Virus.
- Experience in core molecular biology and cell culture techniques including shRNA and CRISPR/Cas9 biology.
- Experience in the design custom libraries and the assembly of library components.
- Ability to adapt to customer requests and to implement new cutting-edge technologies as required.
- Excellent organisational skills: demonstrable ability to plan, manage and organize own work with minimal supervision, plan and analyze experiments, troubleshoot problems effectively, efficiently meet time lines, as well as communicate results to customers/stakeholders.
- Excellent interpersonal and communication skills to interact effectively to build and maintain relationships with a wide range of researchers, including students and administrative staff.
- Experience of following and adapting protocols and selecting appropriate experimental methodologies.
- Good record keeping, including IT skills in all Microsoft Office applications.
- High level of commitment and an interest in furthering the scientific research.
- Self-motivated, able to work independently and as part of a team and to work flexibly as the work dictates, which may include some out of hours work.

Desirable

- Bioinformatics training in NGS data analysis for de-convolution and analysis of results and to optimize quality control in the process of library construction.
- Experience with library design and library QC (assurance of viral representation).
- Experience in tumor biology and animal models of cancer.
- A working knowledge of genome engineering technologies.
- Proficiency in plasmid- and sequence-management software.
- Experience with pooled or arrayed library screening applications.

Pre-employment screening

Standard checks

If you are offered the post, the offer will be subject to standard pre-employment checks. You will be asked to provide: proof of your right-to-work in the UK; proof of your identity; and (if we haven't done so already) we will contact the referees you have nominated. If you have previously worked for the University we will also verify key information such as your dates of employment and reason for leaving

your previous role with the department/unit where you worked. You will also be asked to complete a health declaration so that you can tell us about any health conditions or disabilities for which you may need us to make appropriate adjustments.

Please read the candidate notes on the University's pre-employment screening procedures at: https://www.jobs.ox.ac.uk/pre-employment-checks

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, 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 infectious pathogens (hazard group 2/3) - Hazard Group 3 pathogens
- Work with any substance which has any of the following pictograms on their MSDS:

Additional security pre-employment checks

This job will require additional security pre-employment checks:

- A satisfactory basic Disclosure and Barring (DBS) or University overseas security check due to a research environment where the postholder may have knowledge or information concerning animal research and/or other knowledge of pathogens and toxins.

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 and we rank first in the UK for university spin-outs, and in recent years we have spun out 15-20 new companies every year. 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.

Radcliffe Department of Medicine (RDM)

The Radcliffe Department of Medicine (RDM) within the Medical Sciences Division is one of the largest departments in the University of Oxford. Headed by Professor Keith Channon, RDM is a multi-disciplinary department which aims to tackle some of the world's biggest health challenges by integrating innovative basic biology with cutting edge clinical research. The Department was formed in 2012 and comprises:

- The Division of Cardiovascular Medicine (CVM)
- The Investigative Medicine Division (IMD)
- The Nuffield Division of Clinical Laboratory Sciences (NDCLS)
- The Oxford Centre for Diabetes, Endocrinology and Metabolism (OCDEM)
- The majority of research groups from the MRC Weatherall Institute of Molecular Medicine (WIMM)

The Department has internationally renowned programmes in a range of areas, including cardiovascular sciences, diabetes and endocrinology, immunology, haematology and pathology. Our work is underpinned by excellence in molecular medicine, stem cell biology, genomics and clinical laboratory science.

The Department employs in the region of 535 staff, has around 140 postgraduate research students and has an annual turnover of around £63m of which £42m is externally funded grants and contracts.

RDM supports a culture that is inclusive and supportive of all members, including those with caring responsibilities and those who work flexibly for other reasons. We are proud to be a family friendly department, and are committed to creating a working environment that offers opportunities for working parents/carers to achieve their professional goals and develop their careers without having a detrimental effect on family life. To support this, we have a range of family friendly policies and practices including maternity, paternity and adoption leave, shared parental leave and unpaid parental leave, flexible/part-time working and scheduling meetings within core hours (9.30am - 2.30pm). Many of our staff work flexibly, with arrangements managed informally or formally.

The University of Oxford is a member of the Athena Swan Charter and holds an institutional Silver Athena Swan award. RDM also holds a departmental Silver Athena Swan award in recognition of our

efforts to introduce organisational and cultural practices that promote gender equality to create a better working environment.

For more information on the Department please visit: www.rdm.ox.ac.uk

MRC Weatherall Institute of Molecular Medicine

The MRC Weatherall Institute of Molecular Medicine (MRC WIMM) at the University of Oxford was founded in 1989 by Sir David Weatherall to foster research in molecular and cell biology, with the aim of improving human health. Through our excellent basic and applied research, we have become leaders in translational medicine. Our research has resulted in improved understanding, diagnosis and treatment of a wide range of human diseases.

The Institute hosts staff and students from seven different departments within the Medical Sciences Division. We bring together over 500 researchers, staff and students with a passion for translational science and who share an interest in our five core research areas: rare diseases, haematology, immunology and infection, stem cells and developmental biology and cancer biology.

Our interaction with clinical departments at the Oxford University Hospitals Foundation NHS Trust, is a vital aspect of our work. A third of our faculty are clinically qualified and many are practicing clinicians. Half our groups have productive collaborations with biotech and pharma and we collaborate extensively with researchers and clinicians across the UK and further afield. Our international collaborations in the US, China, Vietnam, Thailand, Sri Lanka, East and West Africa form a major aspect of our clinical programmes directed towards progress in global health.

We also centrally provide excellent, state-of-the-art core Facilities to support our researchers and work with them to develop and apply new technologies to current scientific and clinical problems.

Medical Sciences Division

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: http://www.medsci.ox.ac.uk

How to apply

Applications are made through our online recruitment portal. Information about how to apply is available on our Jobs website https://www.jobs.ox.ac.uk/how-to-apply.

Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

As part of your application you will be asked to provide details of three referees and indicate whether we can contact them now.

You will 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)

Please upload all documents **as PDF files** with your name and the document type in the filename.

All applications must be received by **midday** UK time 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).

If you need help

Application FAQs, including technical troubleshooting advice is available at: https://staff.web.ox.ac.uk/recruitment-support-faqs

Non-technical questions about this job should be addressed to the recruiting department directly – please email recruitment@imm.ox.ac.uk

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 online recruitment portal 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: https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy. The University's Policy on Data Protection is available at: https://compliance.admin.ox.ac.uk/data-protection-policy.

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at **grade RSIV/D35 and clinical equivalents E62 and E82** of 30 September before the 70th birthday. The justification for this is explained at: https://hr.admin.ox.ac.uk/the-ejra.

For **existing** employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: https://hr.admin.ox.ac.uk/the-ejra.
There is no normal or fixed age at which staff in posts at other grades 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, flexible working options travel discounts including salary sacrifice schemes for bicycles and electric cars and other discounts. Staff can access a huge range of personal and professional development opportunities. See https://hr.admin.ox.ac.uk/staff-benefits.

Employee Assistance Programme

As part of our wellbeing offering staff get free access to Health Assured, a confidential employee assistance programme, available 24/7 for 365 days a year. Find out more https://staff.admin.ox.ac.uk/health-assured-eap

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 https://www.sport.ox.ac.uk/.

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 https://welcome.ox.ac.uk/
There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependants. See https://staffimmigration.admin.ox.ac.uk/visa-loan-scheme

Family-friendly benefits

We are a family-friendly employer with one of the most generous family leave schemes in the Higher Education sector. Our Childcare Services team provides guidance and support on childcare provision, and offers a range of high quality childcare options at affordable prices for staff. In addition to 5 University nurseries, we partner with a number of local providers to offer in excess of 450 full time nursery places to our staff. Eligible parents are able to pay for childcare through salary sacrifice, further reducing costs. See https://childcare.admin.ox.ac.uk/. We also subscribe to the Work+Family Space, a service that provides practical advice and support for employees who have caring responsibilities for dependants of all types. See https://hr.admin.ox.ac.uk/my-family-care

Supporting disability and health-related issues (inc menopause)

We are committed to supporting members of staff with disabilities or long-term health conditions, including those experiencing negative effects of menopause. Information about the University's Staff Disability Advisor, is at https://edu.admin.ox.ac.uk/disability-support. For information about how we support those going through menopause see https://hr.admin.ox.ac.uk/menopause-guidance

Staff networks

The University has a number of staff networks including for research staff, BME staff, LGBT+ staff, disabled staff network and those going through menopause. Find out more at https://edu.admin.ox.ac.uk/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.

Research staff

The Researcher Hub supports all researchers on fixed-term contracts. They aim to help you settle in comfortably, make connections, grow as a person, extend your research expertise and approach your next career step with confidence. Find out more https://www.ox.ac.uk/research/support-researchers/researcher-hub

Oxford's Research Staff Society is a collective voice for our researchers. They also organise social and professional networking activities for researchers. Find out more https://www.ox.ac.uk/research/support-researchers/connecting-other-researchers/oxford-research-staff-society