Job title	Cloud Engineer, Oxford-GSK Institute of Molecular and Computational Medicine
Division	Medical Sciences
Department	Nuffield Department of Medicine
Location	Centre for Human Genetics, Building for Genomic Medicine, Old Road Campus, Roosevelt Drive, Headington, Oxford, OX3 7BN And on occasion, the Big Data Institute, Li Ka Shing Centre for Health Information and Discovery, Old Road Campus, Oxford, OX3 7LF
Grade and salary	Grade 8: £45,585 - £54,395 with a discretionary range to £59,421 per annum Whilst this role is a Grade 8 position, we would be willing to consider less experienced candidates who might be suitable for the role with adjusted duties to then be offered as an under fill at Grade 7: £36,024 – £44,263, with discretionary range to £448,350 per annum This would be discussed with applicants at interview/appointment where appropriate.
Hours	Full time
Contract type	Fixed-term contract until 30 September 2027 Funding is provided by GSK
Reporting to	Associate Professor Brian Marsden, Director of Data Management and Research Informatics, and Adam Huffman, Research Computing Manager
Vacancy reference	174974

Additional information	This role meets the eligibility requirements for a Skilled Worker Certificate of Sponsorship under UK Visas and Immigration legislation, but eligibility will depend on the chosen candidate's details so, if a visa is required, this will be determined once the selection has been completed. Therefore, the Nuffield Department of Medicine welcomes applications from international applicants who require a visa.
About us	• University of Oxford - www.ox.ac.uk/about/organisation • Nuffield Department of Medicine (NDM) - https://www.ndm.ox.ac.uk • Unit - https://www.chg.ox.ac.uk/
What we offer	https://hr.admin.ox.ac.uk/staff-benefits • An excellent contributory pension scheme • 38 days annual leave • A comprehensive range of childcare services • Family leave schemes • Cycle loan scheme • Discounted bus travel and Season Ticket travel loans • Membership to a variety of social and sports clubs • A welcoming and diverse community

The role

This post provides an exciting opportunity to join the newly established multidisciplinary Oxford-GSK Institute of Molecular & Computational Medicine (IMCM) operating within Nuffield Department of Medicine (NDM) in collaboration with Nuffield Department of Clinical Neuroscience (NDCN), Nuffield Department of Population Health (NDPH) and Department of Physiology, Anatomy and Genetics (DPAG). The Institute is bringing together the very best scientific, clinical, technological and computational expertise from Oxford University and GSK in a unique industry/academic partnership. The aim of the Institute is to improve tools in, and knowledge from, genetics, genomics, molecular and single cell biology, spatial imaging, machine learning and novel methods of data handling to study the pattern of diseases in new ways. The Institute is developing disease agnostic platforms to change the clinical practise of pathology, helping to identify and validate early potential drug targets, and biomarkers to predict disease progression.

The Institute is built around fellows and Oxford-GSK project teams located across different departments within the Medical Sciences Division of the University. The initial projects focus on neurodegeneration and the central nervous system, specifically Alzheimer's disease, Parkinson's disease and amyotrophic lateral sclerosis but it is anticipated the range of activities will expand into other research areas in future.

A highly motivated and ambitious Cloud Engineer is required to help establish and support the IMCM Data Platform, reporting to Brian Marsden and Adam Huffman, (Research Computing Manager in the Biomedical Research Computing (BMRC) team based at the Big Data Institute (BDI)) and working closely with the IMCM Data Management and Data Science teams. The vision for the Data Platform is to be a Trusted Research Environment (TRE) where datasets are safely stored with appropriate access controls, and where IMCM researchers from both Oxford and GSK will carry out their research collaboratively. You will be responsible for ensuring it meets those researchers' requirements as they evolve, while satisfying the governance obligations arising from the datasets they are using. You will also deploy environments in the cloud for developing, testing and implementing tools and solutions for data managers and bioinformaticians apart from the cloud hosted TRE vendor product. This will entail close and regular collaboration and consultation with Data Managers, Bioinformaticians, researchers, Public Cloud providers, information security and compliance teams, and colleagues in Oxford and GSK.

Close and ongoing engagement will be needed with the TRE vendor. You will create and track the progress of feature requests to supply new or modified functionality on the platform. Similarly, you will report faults or issues with the platform, and track their resolution.

You will be responsible for monitoring and optimising the costs of public cloud hosting, keeping up to date with service and pricing changes, making use of alerts and capacity planning tools, and looking for opportunities to work more cost effectively. You will look for opportunities to leverage cloud pay-as-you-go model to reduce the cost by various strategies like just-in-time systems or environments through cloud-based automation.

While some use of and exposure to public cloud services and technologies is expected, we see this as a role well suited to someone looking to build their experience in this area as a focus for their career. As such, we will consider applications that do not meet all the essential requirements.

Responsibilities

You will:

- Lead the design, planning, provisioning, ongoing maintenance and development of the IMCM Data Platform.
- Create and update documentation for the IMCM-specific aspects of the Data Platform.
- Identify then swiftly and effectively resolve problems reported on the Platform.
- Identify potential tools that can enhance the observability capabilities of the platform. Setup monitoring of the Platform to inform capacity planning and help spot potential problems before they affect researchers.
- Setup cost monitoring using all appropriate tools to maximise cost-effectiveness of the Platform.
- Work with the data management and data science teams to ensure IMCM researchers' software requirements on the Platform are met.
- Ensure the security of the Platform is in line with the security guidelines provided by the University infosec teams and also from GSK. This includes developing and applying security policies (policy-as-code), applying updates and configuration checks, arranging penetration tests if needed.
- Provide reporting on Data Platform usage as requested by the IMCM Leadership.
- Collaborate with Data Managers, Information Compliance and Information Security teams to ensure datasets are safely and appropriately managed.
- Communicate effectively with colleagues at all levels both within Oxford and at GSK to identify needs, risks and develop appropriate solutions, escalating where appropriate.
- Perform other relevant duties as required to support IMCM's activities.
- 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.

Selection criteria

Essential

- Educated to degree level, with relevant experience.
- Extensive experience of deploying workloads across virtualisation platforms at scale.
- Experience of cloud platform engineering for production services. GCP experience is essential; experience with an additional provider preferred (Azure).
- Demonstrable experience of the fundamentals of cloud security and security compliance.
- Experience designing for scale and troubleshooting scaling and performance problems.
- Good understanding of technology stacks from networks up to applications.
- Shell scripting and related tooling (awk, sed, grep etc).
- Containerisation.
- Hands-on experience with infrastructure-as-code tools such as Terraform, Ansible, Pulumi.
- Experience of CI/CD pipelines like github actions, jenkins etc.
- Experience of continuous monitoring using cloud native tools, prometheus, dynatrace etc.
- Good experience coding and automating tasks in a high-level language, preferably Python.
- Excellent written and verbal communication skills, including the ability to communicate deeply technical concepts to non-technical audiences and contribute to strategic discussions.
- Strong interpersonal skills and the ability to contribute to a supportive, helpful culture and work very closely with end users.
- Enjoy working independently in a small team.
- Self-motivated with a drive for performance and quality improvement.

Desirable

- Hold a PhD/DPhil in computer science or bioinformatics.
- Experience of biomedical research environments, either academic or industrial.
- Experience with Trusted Research Environments (Terra.bio, AzureTRE).

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. 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

How to apply

Applications are made through our e-recruitment system and you will find all the information you need about how to apply on our Jobs website https://www.jobs.ox.ac.uk/how-to-apply.

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.

As part of your application you will be asked to provide details of two 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). 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. Please note using a long file name may prevent you from uploading your documents.

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

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 recruitment@ndm.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**, which with effect from 1 October 2023 will be 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.