Job title	Data Engineer
Division	Medical Sciences
Department	Nuffield Department of Medicine
Location	Centre for Medicines Discovery, NDM Research Building, Old Road Campus, Headington, Oxford, OX3 7FZ
Grade and salary	Grade 7: £36,024 - £44,263 with a discretionary range to £48,350 per annum
Hours	Full time
Contract type	Fixed-term contract for 3 years
Reporting to	Tamas Szommer, Research Informatics SRF Coordinator
Vacancy reference	171147

Hybrid working arrangements	**The successful person will need to work on site for a minimum of 4 days per week**
Additional information	This role meets the eligibility requirements for a Skilled Worker Certificate of Sponsorship or a Global Talent Visa under UK Visas and Immigration legislation. 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 - www.cmd.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

The Research Informatics team at the Centre for Medicines Discovery (CMD) provides diverse data management, informatics support and capabilities to researchers within discovery and translational science projects. These include database, web application and analytics solutions within the University and for customers in academia and industry around the world.

The team is actively working on multiple collaborative data platforms, supporting cutting-edge discovery projects involving complex extract-transform-load (ETL) data pipelines, data engineering, analysis and visualisation. To further develop and support the end-to-end data management, we are recruiting a highly motivated Data Engineer to join to our multi-skilled team here at the Nuffield Department of Medicine.

Reporting to the Research Informatics SRF Coordinator, you will be embedded within the Research Informatics team and work directly together with our scientists and researchers within the CMD, across Oxford and with collaborators and partners internationally. You will join projects such as the EUbOPEN Consortium, (https://www.eubopen.org/), the AI-driven Structure-enabled Antiviral Platform (ASAP), ASAP Discovery Consortium, (https://asapdiscovery.org/), and will have the opportunity to work with a highly skilled team from EMBL's European Bioinformatics Institute, (EMBL-EBI https://www.ebi.ac.uk/) to provide data deposition capabilities into public databases such as ChEMBL.

To do this, you will ensure that datasets are appropriately captured, annotated, and shared within the data platform. This will require innovation and further development of ETL pipelines, capture, sharing, and visualisation approaches following the findable, accessible, interoperable, and reproducible (FAIR) approach, as well as data cleansing, enabling governance by design of data, integration with existing data management solutions at Oxford and with external collaborators.

Responsibilities

You will:

- Implement end-to-end data engineering solutions, ensure that datasets and their metadata are captured in an unambiguous manner to support research hypothesis generation.
- Design and develop novel methodologies, providing performant, robust and scalable data products and services.
- Be responsible for ensuring that datasets are appropriately annotated and made available in a manner which is FAIR compliant (Findable, Accessible, Interoperable, Reusable) wherever possible.
- Work closely with all members of the Research Informatics Team, project researchers on all levels.
- Work with data owners to ensure that data sets are made available in a timely and self-documenting fashion.
- Keep detailed and comprehensive records of your work, preparing accurate reports that communicate approaches clearly and effectively.
- Assist in the preparation of manuscripts for publication in high profile peer-reviewed journals, taking leadership in more specialised publications on novel aspects of data engineering, and present approaches at scientific meetings.
- Contribute to discussions planning the overall aims and objectives of the team.
- Act as a source of information and advice to other members of the CMD on data capturing and solutions for data analysis
- Attend scientific seminars, meetings and to contribute to presentations or other means of disseminating outputs as appropriate.

- 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

- Hold a Masters Degree (or equivalent) in Bioinformatics, Biochemistry, Computer Science or other related computational subject.
- Experience in managing large and diverse multimodal biomedical data types.
- Proficiency in coding in either Python or R and other scripting languages.
- Experience of working with relational databases, including the development of bespoke schemas, and writing performant SQL.
- Experience of building data software solutions in Linux.
- Strong experience of software engineering approaches including CI/CD and agile approaches.
- Logical thinking, excellent analytical and quantitative skills with a proven ability to solve problems and think critically about scientific processes so as to generate robust, reproducible approaches.
- Evidence of ability to take a leadership role and drive project completion, working independently, and organising and prioritising work to deliver accurate results to the required standard and to an agreed schedule.
- Demonstrable ability to organise and prioritise work efficiently whilst delivering results to the required standard and to an agreed schedule.

Desirable

- Working knowledge of biology and experience in computational biology in an immunological context.
- Experience with no-SQL databases, knowledge graphs.
- Experience providing visualisation solutions for data science problems.
- Experience of web application development.

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.