



CANDIDATE INFORMATION PACK

CHIEF TECHNOLOGY OFFICER UK BIOBANK



CONTENTS

THE ORGANISATION	3
THE ROLE	7
THE PERSON	10
THE LOCATION	12
HOW TO APPLY	13



THE ORGANISATION

UK Biobank is a world-leading biomedical database and research resource based on a large prospective cohort study of 500,000 individuals from across the United Kingdom recruited between 2006 and 2010. A rich variety of genetic, biochemical, lifestyle and health-related information is available on each participant, making the resource unprecedented in its size and scope. For more details on what we do, see the video here: [What is UK Biobank?](#)

The database is regularly augmented with additional data and the study continues to collect extensive information about its participants, including data from questionnaires, physical measures, physical activity monitors, multimodal imaging, cohort-wide assays, including whole exome and genome sequencing, together with longitudinal health information as all participants provided consent for follow-up of their health through linkage to their health-related records.

These de-identified data – the largest and richest dataset of its kind – have been made accessible to many thousands of researchers around the world who are applying their expertise and imagination to make scientific discoveries that will improve human health. There are more than 20,000 researchers in over 60 countries currently using UK Biobank data today. With over 75% of all new researcher registrations coming from outside of the UK, it truly is a global resource openly accessible to approved researchers undertaking vital research into the most common and life-threatening diseases.

UK Biobank is a major contributor to the advancement of modern medicine and treatment and has enabled several scientific discoveries that improve human health, with more than 12,000 papers published to-date arising from the use of UK Biobank data.

With £127.6m funding recently committed by UKRI, the organisation is investing in its future infrastructure and will be moving to new 'state-of-the-art' premises in Manchester during 2026. Together with commitments of additional philanthropic funding, UK Biobank has an ambitious programme to build upon its existing capabilities to support the piloting of several new enhancements to the resource, and to extend its breadth of health record linkages and curated health outcomes.

IMPACT

Data drives discovery. UK Biobank’s unique, biomedical database – the largest, most detailed and most widely accessible of its kind – is enabling the global research community to make scientific discoveries that improve public health.

De-identified UK Biobank data are used by approved researchers from all types of academic, charity, government and commercial organisations for health-related research that is in the public interest.

Examples of how UK Biobank is helping scientists and researchers to evolve our understanding of human health and the most common life-threatening diseases include:

- [Revealing the impact of COVID-19 on the brain](#)
- [Predicting Parkinson’s disease earlier](#)
- [Identifying drug discovery targets to manage obesity](#)
- [Illuminating the impact of diabetes on the heart](#)
- [Deciphering the links between physical activity, sleep & health](#)



GOVERNANCE

Development of UK Biobank involves engagement with our funders and extensive consultation with the public and scientific community. We seek to implement scientifically rigorous processes on a very large-scale, that are ethically robust and ensure we achieve our aim to enable novel scientific discoveries.

UK Biobank receives direction from the UK Biobank Board of Trustees who work to achieve the aims of the project. Members bring broad expertise from across academic, charitable and industry backgrounds.

The Board is accountable to the members of the company (the Medical Research Council and The Wellcome Trust), act as company directors and as charity trustees. They have overall responsibility for the direction, management, and control of UK Biobank Limited.

The Board maintains several sub-committees that support the Board in its role to assist UK Biobank to meet its strategic goals, including:

The UK Biobank Access Committee

The Access Committee of the UK Biobank Board is responsible for making the key decisions about scientific access to the resource, notably those regarding the use of depletable samples or potentially contentious research.

The Ethics Advisory Committee (EAC)

The UK Biobank Ethics Advisory Committee (EAC) is a Committee of the UK Biobank Board whose remit is to provide advice to the Board on ethical issues that arise during the maintenance, development and use of UK Biobank, including:

- Identifying, defining and examining current ethical issues or those on the horizon
- Providing advice, guidance and recommendations on relevant ethical issues
- Reviewing and advising on policies which have an ethical dimension that are relevant to UK Biobank
- Conducting detailed conceptual and empirical ethics research to ensure that advice is evidence-based, and that UK Biobank maintains its robust ethical justification for current and future activity.

UK Biobank additionally receives support from a range of committees and expert advisory groups:

International Scientific Advisory Board (ISAB)

The UK Biobank International Scientific Advisory Board (ISAB) provides advice, support and guidance to the CEO/PI, Board and Funders on UK Biobank's scientific direction, strategy, operations and the furtherance of its scientific mission.

Members give their time and expertise to the project freely and meet annually to discuss proposals that are pivotal in advancing the resource to deliver its strategy. Their broad skills and expertise ensure enhancements to UK Biobank meet the needs of the global research community, are scientifically relevant, and will meet the challenge of improving public health.

The UK Biobank Strategic Oversight Committee

The UK Biobank Strategic Oversight Committee acts as an adviser to Professor Rory Collins, the project's Principal Investigator and Chief Executive Officer. The Committee comprises leading scientists from a wide range of health research backgrounds.

Strategic Oversight Committee members provide expert knowledge on how UK Biobank might best achieve its aims to enhance the resource through detailed, accurate data collection. This knowledge enables robust scientific measures to maximise cost-effective, efficient, and scientifically valuable future enhancements.

Expert working groups

UK Biobank's expert working groups play a key advisory role in supporting the Executive Team to develop and implement important enhancements. Through their support of the project, they play a vital role in shaping new enhancements that will support world leading health research.

Drawing on their expertise, members guide UK Biobank to develop new data collection that provides the most scientific value to the global health research community. Our current working groups focus on our most recent, large-scale projects, whole-genome sequencing on the full cohort of half a million people, and the detailed imaging of 100,000 participants, and an additional Informatics Working Group is currently being incepted.





THE ROLE

- REPORTS TO:** Principal Investigator / Chief Executive
- RESPONSIBLE FOR:** Data & Technology (Full-time role)
- LOCATION:** UK based at UK Biobank's Coordinating Centre in Manchester. Flexible working (2-3 days on-site per week) with regular travel to sites in Oxford & London and including occasional international travel.
- PURPOSE OF ROLE:** Enabling the data and technology needs of the organisation to maximise the value of the UK Biobank resource, enable greater researcher use of our data, and ensure information security at all levels across the organisation.

Within UK Biobank, the role of the Chief Technology Officer (CTO) works at Board level with responsibility for setting the strategy and vision for our data and technology needs and for ensuring information security across the organisation. The CTO will provide strategic direction and set priorities for the IT Director (who is primarily responsible for IT implementation and delivery), and the DevOps teams (that are responsible for developing and maintaining our application and data systems and supporting technology services).

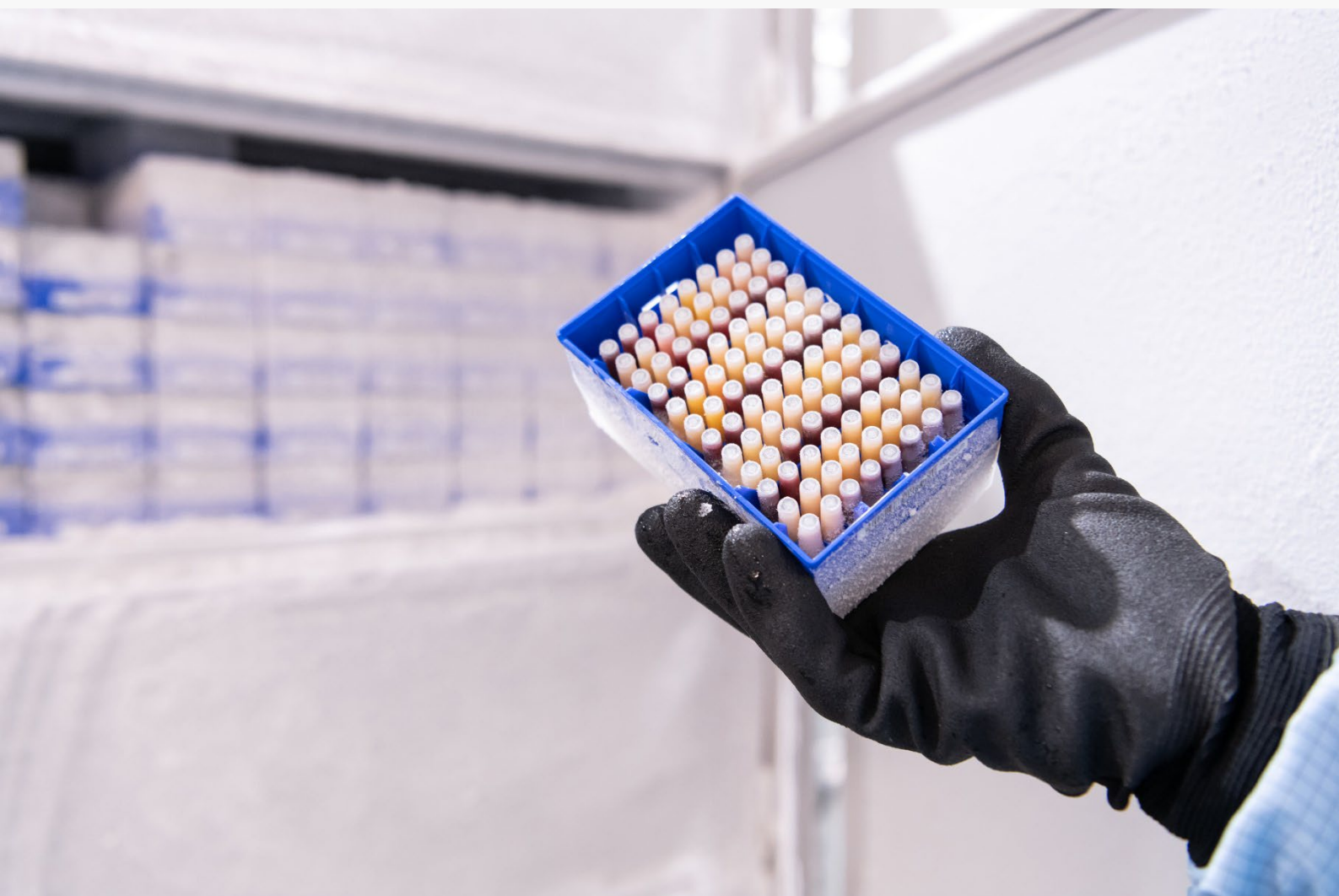
UK Biobank is at a pivotal point of transformation, and we are seeking a highly experienced and innovative CTO to take responsibility for enabling technology-led change across the organisation, to maximise the ways in which UK Biobank can further enhance the research resource, and to ensure the efficient, effective and secure accessibility of our data and samples (including >30PB of health, lifestyle and socioeconomic data) to an ever-growing researcher community.

As the CTO, you will play a key role in developing and executing our technology strategy, shaping our technological vision and goals, and overseeing all aspects of technology development and implementation. This includes managing our development teams, driving innovation, identifying opportunities for growth, and ensuring the security and reliability of our systems. The CTO will cultivate a culture of innovation and ongoing enhancement within the technology department, encouraging teamwork and a proactive stance on problem-solving. Ultimately, the CTO will play a key role in driving the organisation's future success through strategic technological advancements, identifying solutions to petabyte scale data distribution strategies for complex international life science data sets with usage across academia, pharmaceutical and wider industry.

PRINCIPAL DUTIES AND RESPONSIBILITIES:

- To set the data and technology direction for the organisation, working with internal and external IT teams to architect and implement software and systems to support UK Biobank's functions, prioritising activities, establishing key performance indicators and ensuring staff are allocated accordingly. Within this, to maintain a strategy (infrastructure, data & application architecture) to support current operations within the organisation and to promote resilience and agility to support the future development of the organisation.
- To chair a technology advisory board and advise senior staff of the organisation on new technologies or technology developments that enable new approaches to data acquisition, storage or use, or the identification of creative and /or innovative solutions to further support the organisation. Within this, to ensure any new technology is assessed, acquired and integrated (either directly or through strategic partnerships) into the services required by the organisation in line with budget expectations.
- To communicate and engage with all other areas of the organisation to understand requirements and articulate technology roadmaps, objectives, and feature developments.
- To ensure an information and cyber security programme is maintained, with support of the Head of Information Security, appropriate to the type and complexity of data held and assessment of risk, and to report on information security to the Board and funders.
- To ensure appropriate governance is in place such that the data and technology elements of new projects or initiatives are planned and specified and that the data and technology team works collaboratively with other parts of the organisation to ensure successful delivery on time and to budget as part of an overall implementation plan.
- To manage the relationships between the organisation and its partners (and the development of new relationships/partnerships), ensuring joint planning and effective working, and to support effective forecasting of demand and supply.
- To ensure the training needs of UK Biobank's data and technology team are defined and personal development plans are in place and proactively managed.
- To ensure quality accreditations are achieved and maintained (such as ISO27001) through close working with the IT Director, Head of Information Security and Head of Quality.

- To ensure compliance with the GDPR and the Human Tissue Act in tandem with the Company Secretary who is the Data Protection Officer registered with the Information Commissioner, and the Head of Laboratory who is the Designated Individual for the Human Tissue Authority.
- Working with the Chief Financial Officer, to ensure that all financial requirements are fully met (budgets, cost estimates, invoicing, etc.) in a timely manner.
- Working with other members of the senior management team, to embed a culture that is an enabler to progress for the organisation.





THE PERSON

ESSENTIAL CRITERIA:

- Degree in a technology field (ideally in a computing or computing intensive discipline). Evidence of ongoing professional development, for example, recognised certification in appropriate technology and non-technology areas.
- Proven senior-level experience in managing and motivating diverse high-performing teams, fostering organisational progress, and building effective relationships with internal and external stakeholders.
- Knowledge of information security, risk management, and compliance with data security standards, with experience of implementing robust data protection measures.
- Experience in technology assessment and integration in large organisations, with knowledge of cloud computing architectures and best practices.

- Experience of large-scale data architectures and the available technologies to manage petabyte scale datasets, and data management best practice.
- Experience of leveraging industry standards and contributing to the development of new standards and approaches (where they do not currently exist, as is often the case with UK Biobank initiatives).
- Demonstrable experience in programme management and strategic planning within large organisations, prioritising complex project portfolios, implementing transformation initiatives, and managing high-level financial planning.
- Highly developed negotiation, communication and interpersonal skills, with the ability to articulate priorities, and effectively to engage and influence others at all levels, internally and externally, including through presentations and public speaking.

DESIRABLE CRITERIA:

- Higher degree in a computing or computing intensive discipline, and other relevant qualifications.
- Demonstrable experience in developing and implementing strategies for large-scale data challenges and Secure Data Environment architectures.
- Knowledge of approaches to support federated data analysis across secure environments, including experience of emerging international standards (such as GA4GH).
- Knowledge of AI and machine learning technologies, including concepts, application, and potential concerns.

REPORTING:

- The CTO will be a critical member of the UK Biobank Executive team and will attend Board meetings of the organisation as appropriate. The post will involve some national travel (principally between the main UK Biobank sites, Manchester and Oxford, and London).

THE LOCATION



Manchester is a vibrant and dynamic city that offers a unique blend of rich industrial heritage and modern innovation. As one of the UK's largest and most influential cities, Manchester is renowned for its thriving cultural scene, diverse population, and strong economic growth. The city boasts an array of world-class amenities, including top-tier restaurants, shopping districts and entertainment venues, ensuring a high quality of life. The city offers excellent educational institutions and numerous green spaces.

Providing access to a robust business ecosystem, with key industries such as finance, technology, and media driving the local economy, Manchester is home to numerous multinational corporations, innovative startups and prestigious universities, fostering a collaborative and forward-thinking professional environment. Manchester's well-connected transport infrastructure, including an international airport and extensive rail and road networks, ensures seamless connectivity both domestically and internationally.

UK Biobank's new home at Manchester Science Park will occupy 3 floors, including laboratory space and a latest-generation robotic freezer that stores and retrieves UK Biobank's 20 million biological samples 4 times faster than before, revolutionising the pace of scientific discovery. It will increase UK Biobank's capacity, speed and efficiency and is supported by a £127.6m award from UK Research and Innovation for the next phase of UK Biobank's development.

UK Biobank will be located alongside fast-growth life science businesses working in diagnostics, genomics, biotech and precision medicine in the highly specialist purpose-built building, which includes specialist labs and features such as piped gas distribution systems, enhanced cooling and ventilation systems, high security access and 100GB superfast connectivity. The new facility will be 100% electric and net zero carbon in construction and operation in its shared spaces - one of the first lab spaces in the UK to be so.





HOW TO APPLY

Enquiries or applications can be made, in confidence, to **Evan Yeckley** or **Natalie Derry** at WittKieffer.

Applications should include the following:

- an up-to-date Curriculum Vitae; and
- a covering letter (of no more than two pages) summarising your experience, attributes and your view of your overall suitability for the role.

Completed applications should be submitted electronically to eyeckley@wittkieffer.com or nderry@wittkieffer.com.

The closing date for applications is **15 November 2024**.