



The University of Manchester

THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF BIOLOGY, MEDICINE & HEALTH

SCHOOL OF HEALTH SCIENCES

**DIVISION OF POPULATION HEALTH, HEALTH SERVICES
RESEARCH AND PRIMARY CARE**

POST-DOCTORAL RESEARCH ASSOCIATE IN CANCER GENOMICS

VACANCY REF: BMH-032444

Salary:	Grade 6/7, £37,694 to £58,225 per annum, depending on relevant experience
Hours:	35 hours per week
Duration:	Fixed Term available for 12 months
Location:	Oxford Road, Manchester

Enquiries about the vacancy, shortlisting and interviews:

Name: Samuel Merriel

Email: samuel.merriel@manchester.ac.uk

Project Summary and Purpose of the Job

The primary role of the Research Associate will be cleaning and analysing genomic data and calculating polygenic risk scores (PRS) for the 'Modernising General Practice Testing for the detection of clinically significant Prostate cancer study (GP-TEST-Pro)'. The GP-TEST-Pro study is a fully paired, diagnostic cohort study of tests to detect clinically significant prostate cancer amongst symptomatic males presenting to NHS primary care. GP-TEST-Pro will evaluate promising biomarkers and imaging techniques against the current standard of care to identify ways to improve prostate cancer risk stratification and detection in primary care settings.

The post is available for 12 months in the first instance, starting on the 4th of January 2027. You will join a multi-disciplinary team of researchers at the University of Manchester, Queen Mary University London, University College London, and the Institute for Cancer Research, and have the opportunity to take advantage of exciting training and collaboration activities within the University of Manchester and the NIHR Academy.

This position offers the opportunity to contribute to a clinical study focused on improving the early detection of clinically significant prostate cancer in UK primary care. The role will involve

receiving, handling, and cleaning genomic data to identify relevant SNVs for the calculation of a 451-SNV prostate cancer PRS. The Research Associate will also evaluate other potential genomic markers for clinically significant prostate cancer for further evaluation.

You will need to hold a PhD that includes training in cancer genomics and calculating polygenic risk scores. You will have experience with cleaning and handling genomic data, and the use of relevant software such as PLINK and imputation servers. Experience with STATA is essential. Experience with multivariable risk modelling, clinical research, and diagnostic test accuracy studies is desirable.

The Institution

The Centre for Primary Care & Health Services Research

The post-holder will be working within the Centre for Primary Care & Health Services Research (CPCHSR), part of the School of Health Sciences in the Faculty of Biology, Medicine and Health. CPCHSR is one of the leading primary care research centres in the UK with an international reputation for excellence in healthcare policy and health services research. CPCHSR is a member of the prestigious National Institute for Health and Care Research (NIHR) School for Primary Care Research (SPCR), having been part of SPCR since its inception. CPCHSR hosts over 100 researchers and post-graduate students with a diverse range of methodological and clinical expertise including primary care, healthcare policy, health economics, qualitative research, and patient and public involvement and engagement.

Faculty of Biology, Medicine and Health

The Faculty of Biology, Medicine and Health was created on 1 August 2016 when the Faculty of Life Sciences and the Faculty of Medical and Human Sciences will be brought together in a new, integrated structure to deliver a truly translational approach to the life sciences, ensuring smooth research pathways - from pure discovery science through to clinical application and patient care. With a total annual income of over £300 million, and over 3,000 members of staff, the new Faculty is comparable in size to a medium-sized UK university. Thirty undergraduate and 90 postgraduate programmes offer our 11,000 students opportunities to develop the skills and knowledge they need for a successful career.

The faculty's matrix structure facilitates interdisciplinary working and enables us to learn from each other and share best practice; and our eight, strategic Research Domains help to articulate our research strengths, drive large-scale, collaborative research activities and strengthen relationships with our research and healthcare partners. The integration of discovery biology, clinical application, and patient care within a single Faculty, particularly in a region with notable health inequality, provides us with a real opportunity to have a very significant and positive impact on people's lives.

Working for the University of Manchester

The University of Manchester is the largest single-site university in the UK with around 38,000 students and more than 11,000 staff. We are committed to delivering an outstanding teaching and learning experience; contributing to the social and economic success of local, national, and international communities; producing the highest calibre graduates; and developing our staff to be amongst the very best of their peers.

To achieve our ambitious goals, we aim to attract and retain the very best people to work across a range of academic disciplines and support functions.

The University of Manchester strives to make our community a welcoming, caring and enthusiastic one, fuelling ambition with opportunities and support to help us all achieve our personal and professional goals. Our diverse job opportunities include an attractive [benefits package](#) with family-friendly policies that provide for flexible working. We care deeply about career and personal development, offering a structured induction programme for new staff, an annual performance and development review, staff training for all career stages and mentoring opportunities to support your career development. We have a genuine commitment to [equality of opportunity](#) for our staff and students and are proud to employ a workforce that reflects the diverse community we serve.

As a global institution, situated at the heart of a lively, [culturally diverse city](#), we welcome applicants of all nationalities. To help international job applicants plan for life in the UK, we have put together some useful [information on passports and visas](#), travel to the UK, accommodation and several other practical considerations.

Key Responsibilities, Accountabilities or Duties

- Receive, securely store and manage genomic data in line with University, NHS and study governance requirements.
- Perform genotype and imputed-data quality control, including sample-level and variant-level checks, ancestry and population-structure assessment, allele harmonisation and preparation of analysis-ready datasets.
- Use appropriate genetic analysis tools, such as PLINK/PLINK2 and imputation server outputs, to clean, process and analyse genomic data.
- Calculate and validate a 451-SNV prostate cancer polygenic risk score, including harmonisation of variants, application of published effect sizes and assessment of score distribution.
- Evaluate additional genomic markers or PRS approaches relevant to clinically significant prostate cancer detection.
- Analyse associations between genomic risk measures and GP-TEST-Pro outcomes, including clinically significant prostate cancer and other diagnostic or risk-stratification endpoints.
- Work with clinical, biomarker, imaging and statistical colleagues to integrate genomic analyses with wider GP-TEST-Pro data.
- Develop clear, reproducible analysis scripts and maintain well-documented data-processing and analysis pipelines.
- Contribute to interpretation of findings, preparation of reports, conference outputs and peer-reviewed publications.
- Plan and manage day-to-day research activity, attend project meetings and communicate technical findings to multidisciplinary collaborators.

Additional duties may include:

- Work with the Patient & Public Involvement (PPI) co-investigator and PPI group members
- Develop research objectives and proposals for own or joint research, with the assistance of a mentor if required
- Conduct individual and collaborative research projects
- Continually update knowledge and understanding in field or specialism
- Translate knowledge of advances in the subject area into research activity
- Deal with routine communication using a range of media
- Communicate complex information, orally, in writing and electronically

- Prepare proposals and applications to external bodies, e.g. for funding and contractual purposes
- Communicate material of a specialist or highly technical nature
- Liaise with colleagues and external organisations
- Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration
- Join external networks to share information and identify potential sources of funds
- Work with colleagues on joint projects, as required
- Collaborate with academic colleagues on areas of shared research interest
- Use new research techniques and methods
- Use initiative and creativity to identify areas for research, develop new research methods and extend the research portfolio
- Use creativity to analyse and interpret research data and draw conclusions on the outcomes.
- Contribute to collaborative decision making with colleagues in areas of research
- Balance with help the competing pressures of research and administrative demands and deadlines
- Be aware of the risks in the work environment and their potential impact on their own work and that of others

Person Specification

Essential

- Have, or be about to obtain, a PhD (or equivalent) in a relevant discipline, such as genetic epidemiology, statistical genetics, bioinformatics, cancer genomics, epidemiology, data science or a related quantitative discipline
- Experience in cancer genomic medicine research, including hands-on analysis of genetic or genomic datasets
- Experience cleaning, quality-controlling and managing genotype or imputed genomic data, including pre- and post-imputation quality checks
- Experience calculating, validating or applying polygenic risk scores using genetic variant effect sizes and appropriate ancestry or population-structure adjustment
- Experience with statistical software and reproducible analytical workflows, such as STATA, R, Python, Bash/Linux command line or equivalent
- Experience using genetic analysis software such as PLINK/PLINK2 and/or equivalent tools for genotype data processing and analysis
- Understanding of key genetic epidemiology concepts, including SNVs, alleles, imputation, linkage disequilibrium, ancestry, population structure and principal components
- Excellent communication and interpersonal skills
- Publications or research outputs involving quantitative, genetic, genomic, epidemiological or cancer-related data analysis
- Experience handling sensitive health, clinical or genomic research data securely and in line with governance and confidentiality requirements
- Excellent time management and organisational skills
- Ability to work independently and as part of a team
- Ability to liaise confidently and effectively with a range of individuals
- Flexible approach to dealing with research problems as they arise
- Willingness to learn and develop

- Ability to present in both written and oral publications
- Ability to meet deadlines
- Ability to contribute to broader management and administrative processes.
- Ability to assess and organise resources
- Understand equal opportunity issues as they may impact on areas of research content.

Desirable

- First or co-author publications in cancer detection research
- Experience with prostate cancer genetics, cancer risk prediction, diagnostic accuracy studies, calibration/discrimination or multivariable risk modelling
- Experience integrating genomic data with clinical, epidemiological, biomarker or imaging data
- Experience of working with PPI groups and co-investigators
- Expertise in cancer screening or early detection research
- Experience of recruiting patient participants for research studies