THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF MEDICAL AND HUMAN SCIENCES
INSTITUTE OF POPULATION HEALTH

RESEARCH TECHNICIAN

Vacancy ref: M&HS-06165

Salary:	Grade 3 (£19,632 – £21,391 p.a., pro rata depending on appointment)
Hours:	35 or 17.5 per week, depending on appointment
Start/duration:	Immediate / 30 September 2015
Based at:	Centre for Integrated Genomic Medical Research (CIGMR) Institute of Population Health
Responsible to:	Debbie Payne

BACKGROUND

The University of Manchester

The University of Manchester is Britain's largest and most popular university, with a distinguished history of academic achievement and an ambitious agenda for the future. The University, with income in excess of £780 million, has four Nobel Prize winners amongst its current academic staff, and has embarked on an exciting and bold course which aims to make us one of the top 25 universities in the world, as set out in the University's strategic vision for 2020: Strategic Vision 2020.

The University of Manchester was established in 1824, bringing together The Victoria University of Manchester and UMIST to form The University of Manchester. It has an excellent track record in research, as demonstrated by a research power exceeded only by Oxbridge in the RAE 2008 and specifically by the award of two Nobel prizes in physics in 2010. The University's research strategy can be found via the following link: UoM Research Strategy.

The academic structure of The University of Manchester is made up of Faculties and Schools. There are four Faculties and further information about each Faculty and its related Schools can be found at UoM Faculties and Schools.

Faculty of Medical and Human Sciences

The Faculty of Medical and Human Sciences is a leading international centre for research and education in medicine and a spectrum of health-related professions including nursing, midwifery, social work, pharmacy, dentistry, psychology, audiology and speech and language therapy.

A major review in 2011/12 led to a new strategy and structure intended to enhance our research and teaching performance. A key component of the new approach is the creation of a matrix structure linking five Faculty Schools with six Faculty Institutes. The objective is to ensure that the Faculty achieves a major international academic profile in each priority area within a period of five years.

The new strategy will focus our research effort in six priority areas:

- Human Development including Women's and Children's Health
- Cardiovascular Sciences
- Cancer Science
- Inflammation and Repair
- Brain, Behaviour and Mental Health
- Population and Health Sciences

Details of the structure can be found at: FMHS Structure.

FMHS has a total income of £210 million, around 6,500 undergraduate students and 2,500 post graduate students.

The Faculty has strong relationships with outstanding NHS partners which are critical in achieving our mission.

Manchester Academic Health Science Centre (MAHSC) (www.mahsc.ac.uk)

The University, and in particular the Faculty of Medical and Human Sciences, is a key member of the Manchester Academic Health Science Centre (MAHSC). Formed in 2008, MAHSC is a Federation of Equal Partners enabled by a Company Limited by Guarantee. The partners involved in the MAHSC are: The University of Manchester, Central Manchester University Hospitals NHS Foundation Trust, Manchester Mental Health and Social Care Trust, Salford Primary Care Trust (NHS Salford), Salford Royal NHS Foundation Trust, The Christie NHS Foundation Trust and University Hospital of South Manchester NHS Foundation Trust.

MAHSC is one of only five Department of Health designated AHSCs in the UK. The designation is a mark of excellence across research, innovation, education and patient service, and recognition of the potential to excel in translational medicine. MAHSC's vision is to *be a leading global centre for the delivery of innovative applied health research and education into healthcare*. As with other AHSCs, MAHSC has a dual role: to act as a beacon of international excellence for UK plc and to provide leadership and early adoption for our local health system. This will be delivered via a tripartite approach encompassing: research and innovation; education and training and clinical service.

Institute of Population Health

Population Health is home to approximately 300 staff across six Centres: Biostatistics, Epidemiology, Health Economics, Health Informatics, Imaging Sciences and Primary Care. Staff are based largely on the University campus, but also at the Wolfson Molecular Imaging Centre (Withington) and Salford Royal NHS Foundation Trust (formerly Hope Hospital). The Institute's goal is to enable The University of Manchester to reach its full potential as an internationally esteemed centre for research and education in population health and health sciences. This knowledge can then be translated into improved health and wellbeing for people locally, nationally and internationally.

The Institute's areas of international expertise include: ***methodological research*** including advanced methodology in biostatistics, health economics, informatics and imaging; ***health policy and practice*** focused broadly on: analysing government policy as it affects health and health care; exploring the impact of changing policy; describing, explaining and evaluating variations in health care organisation and delivery; and developing and evaluating strategies to improve care, ranging from policy interventions to trials of complex interventions to improving patient outcomes; and ***population health*** which investigates areas such as the factors determining disease risk, variation in treatment response, clinical progression and outcome. It also applies ***epidemiological approaches*** to the analysis of biological samples and clinical data generated through the University's bio-banking facilities (CIGMR) and the Northwest e-Health e-Lab (NIBHI). Similar methodologies are deployed to describe, explain and evaluate variations in care provision, exploiting the unique database resources generated by NDEC (drug misuse), TARN (trauma) and COEH (occupational health).

JOB DESCRIPTION

Context

The Centre for Integrated Genomic Medical Research (CIGMR) is part of The Institute of Population Health, Faculty of Medical and Human Sciences, and it is located across three geographical sites namely the Stopford Building on Oxford Road; Salford NHS Trust, Hope Hospital Salford; and UK Biobank, Cheadle, Stockport. Together, the centres provide gold standard state of the art resources to researchers and clinicians investigating the genetic basis of diseases affecting population health.

Job purpose

To provide technical laboratory support for all aspects of the biobanking operations at CIGMR. This will involve working across all three geographical sites at Cheadle, Salford Royal and The University of Manchester, to process samples and support biobanking projects.

You will receive on the job training enabling you to become expert in working with a sophisticated Laboratory Information Management Systems (LIMS) database and robotic sample handling workstations to process and track samples designated for the biobank. A main component of these positions is to provide a service for reception of biological samples into the biobank and organising cherrypicking and withdrawal of samples according to customer requests. This will involve working in our state-of-the-art sample processing facilities at The University of Manchester and Salford NHS Trust as well as our liquid nitrogen storage facility located within UK Biobank. Following training, you will be expected to contribute as required to operations on all sites. CIGMR operates a quality system compliant with the ISO9001:2008 standard, all processes relating to archiving are required to be carried out to a standard compliant with this guideline.

The Biobank supports a number of academic projects; at this time we are recruiting technical staff to support the following two projects:

UK Myositis Network
Unexplained inflammation in muscle, known as myositis, represents a difficult group of related diseases, affecting about 10,000 people in the UK. Delays in diagnosis may lead to irreversible muscle damage; affected individuals therefore often remain weak and disabled, leading to a significant health burden. Treatments for myositis can have several side effects and are not always effective. Interstitial lung disease (ILD) can lead to significant morbidity and mortality through reduced lung volumes and respiratory insufficiency. There are no effective pharmacological therapies, and the

median survival time after diagnosis is very poor. The causes of myositis and interstitial lung disease are largely unknown, but both genetic and environmental factors have been implicated.

The overall objective of the UK Myositis Network (UKMYONET) and interstitial lung disease genetic and serological studies is to gain better understanding of disease pathogenesis and clinical heterogeneity, in order to improve the way we treat affected individuals and to identify new therapeutic targets. Through UKMYONET we have collected basic clinical and demographic details and plasma/DNA samples from over 1,400 cases from 70 sites throughout the UK. The UKMYONET genetic and serological study is currently funded through an Arthritis Research UK programme grant.

REQUITE
Validating predictive models of radiotherapy toxicity to improve quality-of-life and reduce side-effects in cancer survivors.
Long-term side-effects of radiotherapy impact on the quality-of-life (QoL) of cancer survivors. These side-effects could be reduced if predicted in advance. Previous work identified clinical and biological predictors but a major, coordinated approach is needed to validate them so they can be used clinically. The EU has ~17.8 million people living with a prior diagnosis of cancer of whom ~7 million received radiotherapy. In the long-term, potentially 20% of those suffering with mild to severe side-effects (~1.4 million) might benefit from alleviation of symptoms, with resulting reductions in the cost of care in the EU.

REQUITE aims to develop validated clinical models and incorporate biomarkers to identify before treatment cancer patients at risk of side-effects and use the models to design interventional trials aimed at reducing side-effects and improving QoL in cancer survivors who underwent radiotherapy.

Key accountabilities

Laboratory procedures associated with the biobank
Assisting with all aspects of processing, organising and managing samples within the biobank which includes:

- Ensuring the -80OC freezers are well organised and maintained
- Data input of sample information into the LIMS system
- Logging and handling of frozen samples
- Manual and automated purification of DNA and RNA from human blood samples
- Measurement of DNA and RNA concentration
- QC of extracted DNA and RNA using relevant molecular biology techniques
- Normalisation of DNA using the liquid handling robotic workstations
- Inventory control
- Withdrawal and dispatching of samples from the biobank
- Extracting serum from plasma and bloods
- Making and manually labelling bespoke sample collection packs according to project demand
- Summarising and reporting on biobanking activities by written reports and oral presentations
- Carrying out test plans when required as directed by the LIMS Database Manager
- Ability and flexibility to be trained in new techniques as they become a requirement to the biobank as new sample types are received
- Entering anonymised clinical and demographic patient data into a secure database
- Liaising with internal and external research collaborators
- Attending regular CIGMR and myositis/ILD team meetings, as required

Other duties

- Cleaning and tidying the laboratory
- Responsible for ensuring communal solutions are made up and available for general use
- Placing consumables orders and checking receipt of deliveries to laboratory
- Stock taking of laboratory consumables
- Environmental monitoring of –80°C freezer systems
- Assisting CIGMR and UK Biobank quality assurance personnel in aspects of quality system implementation such as procedure inspection audits and writing SOPs where appropriate
- Assisting during training sessions for new staff members and students

PERSON SPECIFICATION

Essential

- A qualification at QCF level 6 (such as a first degree) in a relevant biological science subject
  OR
- QCF level 2 passes (such as GCSEs) in English and Mathematics and at least one Science subject and some relevant experience of working in a research laboratory
- Demonstrable awareness of, and compliance with, relevant Health and Safety regulation, the Data Protection Act, Standard Operating Procedures and risk assessments including COSHH risk assessments
- Relevant experience of biological/medical laboratory environments and procedures including working within a class 2 environment
- Excellent organisational skills
- Ability to work as part of a team
- Ability to complete agreed tasks with a minimum of supervision
- Ability to plan and prioritise own workload on a day-to-day basis, and to complete agreed tasks with a minimum of supervision
- Ability to work to tight deadlines
- Willingness to attend and contribute to research group meetings
- Willingness to learn new techniques
- Computer literate
- Experience in the use of MS Excel for the storage and analysis of data
- Excellent verbal, written and numeracy skills
- Excellent interpersonal communication skills
- Flexibility as regards working hours
- Flexibility as regards working site

Desirable

- Knowledge of working with databases, eg, Nautilus Laboratory Information Management System for recording day to day work related activities
- Familiarity with working to ISO9001:2008 standards
- Experience of working with liquid nitrogen sample storage facilities