

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
FACULTY OF BIOLOGY, MEDICINE & HEALTH
SCHOOL OF MEDICAL SCIENCES
CANCER SCIENCES
RESEARCH ASSOCIATE - BIOINFORMATICIAN

VACANCY REF: BM&H-14335

Salary:	Grade 6 £32,236 to £34,189 per annum (according to relevant experience)
Hours:	Full Time
Duration:	1 September 2019 until 30 April 2021
Location:	Oglesby Cancer Research Building

Enquiries about the vacancy, shortlisting and interviews:

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Faculty of Biology, Medicine and Health

Introduction to the University of Manchester and the Faculty of Biology, Medicine and Health

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 aim to become one of the top 25 research universities in the world by 2020 and 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 Faculty of Biology, Medicine and Health (FBMH)

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.

Our strategic partnerships

The new Faculty inherited a number of key strategic partnerships that underpin its ambitions to develop ground-breaking research.

Working alongside six local NHS Trusts, the Faculty is a key member of the [Manchester Academic Health Science Centre \(MAHSC\)](#) - a federation of equal partners that unites leading healthcare providers with world-class academics and researchers. It aims to be a global centre for the delivery of applied health research and education and provide leadership for our local and regional health systems.

The Faculty also play a leading role in [Health Innovation Manchester \(HInM\)](#), which was launched in September 2015, as part of the UK Government's decision to devolve health and social care responsibilities to Greater Manchester. HInM offers a unique opportunity to bring together health and social care, academic and life science related business resources across the region to deliver an innovative health ecosystem that can help accelerate innovation into our local health and social care systems, enhance our global scientific standing and act as a magnet for inward investment.

Key partnerships in the charitable sector include Cancer Research UK; Diabetes UK; and the Wellcome Trust; and the Faculty will also have research and funding links to a number of commercial organisations including Unilever, AstraZeneca, GlaxoSmithKline and Boots, who will help us to bring new drugs and products to the market.

Working for the University of Manchester

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 a number of other practical considerations.

Division of Cancer Sciences

The Division of Cancer Sciences is one of six divisions within the School of Medical Sciences. It is largely based on the Withington campus which also houses the Cancer Research UK Manchester Institute and The Christie Hospital, providing a focus for cancer research activity that combines an international reputation for cancer research with the largest scale cancer clinical service in the UK. Other activity in the Institute is based either on the University's Oxford Road site or in key Manchester Academic Health Science Centre (MAHSC) partner sites at Central Manchester University Hospitals NHS Foundation Trust, University Hospital of South Manchester NHS Foundation Trust and Salford Royal NHS Foundation Trust. The large patient base found in Greater Manchester and linked to the research network provides major opportunities for the growth of clinical and translational research, a key objective of the Trusts and the University. The new Faculty Institute will play a key role in taking advantage of this opportunity to seamlessly link basic and clinical science. Professor Taylor was appointed Head of Division in January 2019.

The Mitosis and Cancer Pharmacology Group

Professor Taylor's laboratory has a strong track record studying the cell cycle and mitosis, with a particular emphasis on understanding the mode of action underpinning clinically relevant anti-mitotic drugs. More recently, the Taylor lab has started to apply this expertise to ovarian cancer. The lab, which focuses on cell biology and cancer pharmacology, is currently comprised of four post-docs, a research assistant, two PhD students and a clinical fellow. Further information about the research group can be found at www.bub1.com.

Overall Purpose of the Job:

A postdoctoral bioinformatician is required to collaborate with bench-scientists and clinicians in the MCP group to provide knowledge and expertise in the analysis and interpretation of data arising from our various "omics" projects, in particular data derived from next generation sequencing (exome sequencing, RNA-seq, single cell transcriptomics and single cell WGS karyotyping) and mass spectrometry experiments. Consequently, the post will provide an opportunity to be involved with a wide range of research projects spanning discovery science, translation and clinical research. The Bioinformatician will also have the opportunity to develop a web-based bioportal to facilitate interrogation of these datasets by end users, both with the MCP group and the wider community.

Key Responsibilities, Accountabilities or Duties:

Data analysis and storage

- Analysis of data from high-throughput sequencing experiments, including RNA-Seq, DNA-seq, ChIP-seq, micro-RNASeq and metagenomics
- Storage, annotation and archiving data in public databases

- Recording and documenting data analysis work-flows in order to allow other researchers to reproduce results and publish work-flows
- Providing support for secondary analysis and biological interpretation of genomics data (e.g. IPA, GO databases, KEGG pathways etc.)
- Keeping abreast of the latest advances in data analysis, including statistical aspects

Support for customized data analysis

- Development of custom tools and pipelines for data analysis as required
- Supporting staff/students in design of experiments tailored to the biological question at hand
- Contribution to writing of papers, articles and presentations with appropriate acknowledgement
- Training staff/students in the use of software developed locally or externally
- Provision of training in analysis methods (experimental design, data interpretation, visualisation tools, etc.) through courses, workshops etc.

Additional contributions

- Generate web-based portal to enable access to and analysis of datasets
- Contributing to regular meetings held to integrate bioinformatics efforts and facilitate knowledge/expertise sharing across the University
- Teaching, supervising and advising UG and Masters students
- Keep skills up-to-date and develop research knowledge further by attending local and external meetings

PERSON SPECIFICATION

Essential Knowledge, Skills and Experience:

- PhD or equivalent in a relevant discipline
- Good working knowledge of high-throughput sequencing data analysis methods
- Good working knowledge and experience with programming languages used in bioinformatics (knowledge of at least one of these essential: R, C/C++, Python, Java)
- Good communication and team-working skills, enabling work with staff, students and other team members on research projects
- Be able to embed in research projects quickly and maintain clear channels of communication between researchers and Professor Taylor
- Good time management skills
- Good recording and curation skills to enable high project throughput

Desirable Knowledge, Skills, Experience and Qualifications:

- Relevant postdoctoral research experience
- Advanced statistical data analysis skills
- Good presentation skills (including writing scientific reports and documents)
- Experience of proteomics data analysis and data management
- Experience of developing and delivering training materials
- Experience of biology and issues relating to biological sample preparation