

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
FACULTY OF BIOLOGY, MEDICINE & HEALTH
SCHOOL OF HEALTH SCIENCES
DIVISION OF INFORMATICS, IMAGING AND DATA SCIENCE
LECTURER MEDICAL IMAGING AND AI
VACANCY REF: BMH-023619

Salary: £45,585-£56,021 per annum depending on experience

Hours: Full Time (1 FTE)

Duration: Permanent

Location: Oxford Road

Enquiries about the vacancy, shortlisting and interviews:

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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 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

The integrated structure of our faculty enables a truly translational approach to biology, medicine and health - from pure discovery science through to clinical application and patient care. It also encourages collaborative working, enabling staff to deliver innovative, world-leading research that has a very real and positive impact on people's lives, as well as high-quality education and training to over 11,000 undergraduate and postgraduate students.

Our Strategic Partnerships

The faculty has established 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 <https://mft.nhs.uk/withington/research/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.

We also play a leading role in <https://healthinnovationmanchester.com/>, 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 also has research and funding links to a number of commercial organisations including Unilever, AstraZeneca, GlaxoSmithKline and Boots, who 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 <https://www.staffnet.manchester.ac.uk/people-and-od/benefit/> 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 <http://www.manchester.ac.uk/connect/jobs/equality-diversity/awards/> 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, <http://www.manchester.ac.uk/study/experience/student-life/city/>, we welcome applicants of all nationalities. To help international job applicants plan for life in the UK, we have put together some useful <http://www.staffnet.manchester.ac.uk/employment/joining-the-university/international-staff/> travel to the UK, accommodation and a number of other practical considerations.

Artificial Intelligence, Computational Medicine and Data Sciences at Manchester

Manchester has an engaged data science community of over 400 investigators, with methodologists embedded in Schools across the University and connected through the University's [Institute for Data Science and Artificial Intelligence](#). Our expertise covers the complete data science life-cycle: from information management through analytics to practical applications.

A key feature of our approach is very close coupling between methodologists and translational scientists, drawing on strength-in-depth in real-world data science applications. This creates a virtuous circle, where challenging real-world problems drive the methodology research agenda whilst providing a natural route to exploiting new algorithms and methods. We believe this profoundly multidisciplinary approach is one of Manchester's distinctive data science features. Manchester is a member of [The Alan Turing Institute](#): the UK's National Institute for Data Science, and researchers at Manchester lead a Turing research programme in health.

Within the Division of Informatics, Imaging and Data Science (School of Health Sciences), where this post will be based, we cover broad-spectrum research, including medical and biological imaging and image computing, health informatics and aspects of systems biology. The post will be based on the Centre for Computational Imaging and Modelling in Medicine led by Professor Frangi, which has an international reputation with a broad portfolio in computational imaging and image-driven biomechanics. We are interested in methods and technology to enable digital phenotyping, digital and imaging biomarkers identification, and new computational approaches to regulatory science. From a methodological standpoint, our research includes representation learning in multimodal medical imaging and other data sources, generative AI methods for building virtual patient populations, causality and fairness in ML for in silico trials, and knowledge-informed ML for computational physiology. We are engaged in the Christabel Pankhurst Institute for Healthcare Technologies and collaborate closely with the Faculty of Science and Engineering, various NHS Hospitals in Greater Manchester, and Health Innovation Manchester. We combine solid foundations in ML/AI with an interdisciplinary understanding and clear purposes driven by societal, regulatory, and industry needs in healthcare. We have strong links with the UK and international industry in medical devices, computational modelling and simulation, and national and international regulators. We collaborate closely with our NHS partners and industry to apply our research and deliver impact.

Teaching within the Division includes an MSc in Medical Imaging Science, an MSc in Health Data Science, and a joint MSc in Health Informatics in collaboration with University College London. We also offer accredited short courses, a MOOC in Clinical Bioinformatics and commissioned programmes for industry and the public sector. We have a vibrant international community of postgraduate research students who contribute to undergraduate programmes at Manchester Medical School and the School of Computer Sciences.

Key Responsibilities, Accountabilities or Duties

In general, these are:

- To deliver world-leading independent research, as judged by high-quality publications, in some aspects of health data science
- To deliver outstanding teaching and learning to our undergraduate and postgraduate students through lectures, online and blended teaching, small group teaching and laboratory classes, and through supervision of individual and group research projects
- To contribute to the efficient management of the Department, helping to maintain and grow the collegiate and supportive environment we have established.

Person Specification

Essential Criteria

- Holder of, or about to obtain, a PhD (or equivalent) in Artificial Intelligence, Machine Learning, Computer Vision, Data Science, Statistics or related fields.
- The ability to manage independent research, teaching and administrative activities.
- A track record of writing up research for publication.
- Previous relevant experience in academia or industry encompassing a strong image computing and data science - with experience in the application to complex healthcare problems.
- Experience with curriculum design and delivery of teaching material to a range of students and professionals.
- An ability to obtain external funding from various sources – including research councils, industry and international organisations – to support research activities.
- The ability to develop an international profile in imaging science, artificial intelligence and computational medicine, and the potential to become a world-leading researcher.
- An ability to develop collaborations across the University and externally with national and international researchers, as appropriate, to advance research.
- A willingness to become an excellent and committed teacher, showing adaptability and imagination in designing and delivering excellent data science teaching, particularly on-line and blended teaching.
- A commitment to working in a collegial and supportive way to maximise the Division, School and Faculty performance.
- Experience of teamwork and the ability to liaise with colleagues and students on joint projects.
- A willingness to always maintain a safe working environment for themselves and students.
- Excellent time management, organisational and communication skills.
- The experience and proven ability to supervise and train postgraduate students and final-year undergraduate masters students.
- A commitment to develop and further the careers of members of their research group.
- Balance, with help, the competing pressures of research, teaching and administrative demands and deadlines.
- Understand equal opportunity issues.
- Ability to explain complex data science issues to a non-technical audience.

Desirable Criteria

- A track record of obtaining funding to support research
- Proven ability to conceive, undertake and direct research.
- Evidence of successful interdisciplinary and/or multidisciplinary research experience
- Excellent presentation skills

- Experience with manipulating and analysing large and complex health/medical datasets.