MEDICAL GENETICS AND GENOMICS

MSc / PGDip / PGCert
Department of Biological and Medical Sciences

Be a part of the global medical revolution in personalised medicine
ABOUT THE COURSE

The advent of affordable rapid genome sequencing will produce enormous amounts of genetic data on both individuals and populations, and the challenge for scientists is to unlock the potential of this ‘big data’. Doing so requires a new generation of scientists who can combine genetics and bioinformatics to understand how genomic changes cause diseases such as cancer, thus enabling the development of novel treatments, through drugs and gene therapy, and prevention strategies. With the huge expansion in number of individual genomes being sequenced, this is one of the fastest growing areas of biomedical science as we embrace the era of personalised medicine.

You will develop skills and knowledge in human genetics and genome analysis for employment in the medical biotechnology/pharma and genomics sector, and those wishing to go on to do research degrees.

WHY CHOOSE BROOKES?

- Our lecturers conduct first-class research, with over 95% of Biological Science research internationally recognised in the 2014 REF.
- You will be taught by Oxford Brookes staff, with specialist lectures provided by staff of other partners in the Oxford Academic Health Sciences Centre, and will have a range of project opportunities using human genome data.
- The course will prepare you for entry into a career in medical genetics and genomics.
- The Faculty will invest over £8M in Bioscience facilities from 2015, with funding from HEFCE.
- Projects may be linked to specific needs and interests in the work-place, at Brookes or within other genomics laboratories under Brookes supervision. We also have strong links with local industry.
- We will develop your transferable skills, particularly communication, organisation and research planning, which will assist you when carrying out your research project and can provide a basis for application for a research degree or career in genomics research.

LEARNING AND ASSESSMENT

The taught programme will be available with options for full-time and part-time MSc (180 credits), as well as individual CPD modules. Postgraduate Certificate and Diploma qualifications are also possible, requiring 60 and 120 credits, respectively.

Assessment methods used within the course are varied and are designed to be stimulating as well as academically rigorous. They are based on your learning needs, individual aims and the academic standards expected for the course.

You will receive unparalleled support from tutors and have access to state-of-the-art learning technologies via our Moodle platform. Our tutors have reputations for excellence and have established links with colleagues, organisations and institutions at national and international levels.

Embedded throughout the curriculum are skills that are essential to achieve quality outcomes for genomic medicine in practice. This will develop skills culminating in the research project, which will enable students to undertake research and evaluate new findings. The aim will be to implement in patient diagnosis, treatment and care, problem-based learning, work-based learning and inter-professional learning. You will develop skills for working in specialist and interdisciplinary teams.

The development of skills in bioinformatics and use of genomic data will be a key outcome, so the programme has a large proportion of hands-on experience.
CAREER OPPORTUNITIES

You will develop the in-depth knowledge and specialised skills required to apply genetics and genomics theory to practical problems in the biomedical and pharmaceutical industries, and to undertake research in genetics and genome analysis.

During the course of this programme you will develop a network of colleagues and experts from this field. Students will acquire knowledge and skills for employment or PhD positions in the expanding fields of genomics, bioinformatics, or other medically-related research, and academia. Career routes could include:

- Research Degree/ PhD
- Pharmaceutical Industry
- Biomedical Industry
- NHS Scientist
- Medical Research
- Academia

KEY FACTS

DEPARTMENT
Department of Biological and Medical Sciences

COURSE LENGTH
Full-time: 12 months
Part-time: up to 36 months for all awards

TEACHING LOCATION
Headington Campus, Gipsy Lane

START DATE
September

UKPASS CODE
52309

STAFF PROFILE

Professor Nicky Ragge

Professor Nicky Ragge works on understanding the nature and genetic basis for human developmental eye disorders, particularly anophthalmia, microphthalmia and coloboma. Her research aims to identify and characterise early eye developmental genes.

She leads a national eye developmental anomalies study based at Wessex Regional Genetics Service, Oxford University Hospitals Trust and Oxford Brookes University.

With a network of collaborators both in the UK and abroad, this group has been able to identify new genes and pathways responsible for eye developmental anomalies in humans.

Her research uses a variety of approaches, including candidate gene, homozygosity mapping, whole genome sequencing, zebrafish modelling and functional studies and includes the identification and characterisation of anophthalmia syndromes caused by genetic alterations in SOX2, OTX2, BMP4, BMP7, VSX2, FOXE3, STRA6 and TFAP2A.
ENTRY REQUIREMENTS
You should normally have (or be about to attain) at least a second class undergraduate honours degree in a relevant scientific subject from a recognised institute of higher education. EU and international applicants’ qualifications will be evaluated on a case by case basis before any offer of a place on the course is made.

If your first language is not English, then you must satisfy our English language requirement by providing us with evidence of an IELTS score of 6.5 in all elements. If you need a student visa to enter the UK you will need to meet the UK Visas and Immigration minimum language requirements as well as the university’s requirements.

For more information, visit our website: www.brookes.ac.uk/international/how-to-apply/postgraduate/postgraduate-entry-requirements

COURSE FEES
Information about fees can be found on the course webpage: www.brookes.ac.uk/postgraduate/courses/mgg

If you have a query, please contact Student Finance:

Tel: +44 (0)1865 483088
Email: finance-fees@brookes.ac.uk
Website: www.brookes.ac.uk/finance

HOW TO APPLY
If you meet the criteria detailed in the specific entry requirements section, and you are ready to apply, your next step is to complete an application form.

Application is made online through UKPASS at www.ukpass.ac.uk

UKPASS COURSE CODE
52309

CONTACT DETAILS
If you would like more information about the course, please contact:

PROGRAMME ADMINISTRATOR
Tel: +44 (0)1865 482787
Email: genomics@brookes.ac.uk

FUNDING
Please contact the Programme Administrator to find out whether funding is available to assist with costs.

Self-funding applicants are also welcome to apply.

All applicants (UK, EU and international) will be required to provide details of their funding arrangements prior to enrolment on the course.

All information is correct at the time of going to press. Please refer to the University’s website for the most up-to-date details.

Oxford Brookes University actively supports equality in education and welcomes applications from all people representative of our diverse community. For more details please visit www.brookes.ac.uk/services/hr/eod or phone +44 (0) 1865 485929.

3 December 2015